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ECOLOGICAL IMPACT
ASSESSMENT
**PHASE 2B, SMART SYSTEMS, YAT-
TON, NORTH SOMERSET**
SMART SYSTEMS

| July 2021 | BR0532/EcIA/Phase2B/A |



COMPANY PHILOSOPHY

Burton Reid Associates are a multi-disciplinary consultancy specialising in providing high quality ecological and landscape design and advice related to the provision of embedded green and blue infrastructure and biodiversity net gains. We have a simple philosophy, designing with nature in mind supports the long-term health and wellbeing of us all. We work with clients who share this philosophy.

We can help you to achieve biodiversity net gains and deliver high-quality green infrastructure at a local and strategic level. We provide expert ecological services, undertaking surveys for protected species and habitats and supporting you to create on and off-site mitigation with our dedicated habitat management team. Our services include landscape architecture and production of high quality graphics that clearly communicate information and data.

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"As we rekindle our imagination, we discover our power to act. And that is the point at which we become unstoppable."

George Monbiot, journalist and author

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DECLARATIONS OF COMPLIANCE

The report which we have prepared and provided is in accordance with the Chartered Institute for Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

This report has been produced in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development" and the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Report Writing (CIEEM, 2017).

DATA VALIDITY

Please note that unless otherwise stated, the contents of this report will remain valid for a maximum period of 12 months from date of issue. Beyond this updated survey work may be required to establish any changes in baseline conditions.

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Nothing in this report constitutes legal advice or opinion. If legal opinion is required a qualified legal professional should be contacted for advice.

NON-TECHNICAL SUMMARY

An Ecological Appraisal was carried out in November 2020 with an update in June 2021 by Burton Reid Associates in order to assess the potential wildlife value of the site and the presence or likely presence of protected or priority species. The proposals at the site include the extension (known as Phase 2B) of an existing factory that manufactures aluminium doors and a car park.

A field survey and desk study were undertaken in order to assess the ecological implications of the above proposals, involving an assessment of the likelihood for protected species to be present at the site or within any adjacent habitats which could be impacted by the proposals. A UK Habitat Classification map of the site was compiled as part of the work.

The table below provides a summary of recommendations made within this report, broken down into the development stage at which the work should be undertaken.

STAGE	RECOMMENDATIONS
<i>PRE-PLANNING/ PLANNING (RIBA Stages 0 to 2)</i>	<ul style="list-style-type: none"> Continue ecological surveys being undertaken at the Application Site and surrounding area associated with this and future phases of development proposals.
<i>POST-PLANNING PRE- CONSTRUCTION (RIBA Stages 3 & 4)</i>	<ul style="list-style-type: none"> Produce a retrospective Construction and Environmental Management Plan. Produce an overarching Landscape and Ecology Management Plan of the Application Site and compensation area. Hera fence with mesh to be installed adjacent to new stock proof fence between the construction zone and the retained grassland to the north of the Application Site to provide a screen between these areas.

*CONSTRUCTION PHASE
(RIBA Stages 4 & 5)*

- Strict Pollution Prevention measures to be implemented during the construction phase to avoid water quality impacts on the Biddle Street SSSI and the Congresbury Yeo, adjacent Land and Rhynes LWS. Where these have not already been implemented they should be done so with immediate effect.
- Wastewater discharge should be carefully considered so that water quality impacts on the Biddle Street SSSI or the Congresbury Yeo, adjacent Land and Rhynes LWS are avoided once the Application Site is operational.
- Heras fencing with an attached mesh material to provide a protected corridor during construction should be erected along the N boundary of the Application Site with immediate effect.
- Strict Pollution Prevention measures to be implemented during the construction phase to prevent impacts to the rhynes adjacent to the Application Site. Where these have not already been implemented, they should be done so with immediate effect.
- No storage of materials to be permitted within adjacent retained grassland habitat.
- Rerouting of rhyne along NW boundary of Application Site should be implemented as soon as possible to replace the infilled rhyne along the SE boundary.
- Excavated earth from field A should be used to create a bank to screen the retained field to NW of the Application Site from noise and light during construction and operational phases.
- Planting of a native species-rich hedgerow on top of earth bank which should be managed for the benefit of wildlife.
- Enhancement of the species-rich meadow in Field B to compensate for the loss of area of modified grassland on the Application Site.
- Night-time construction work during the active bat season (April to November) should be avoided. Where unavoidable, lighting should be directional and on a timer, to limit light spill onto the remaining hedgerows and rhynes.

*POST DEVELOPMENT
(RIBA Stages 6 & 7)*

- Operational lighting should be avoided on the NW elevation of the new unit. If external lighting is proposed a lighting strategy for the Application Site will be produced that ensures no increase in light levels along the hedgerow and rhyne features which could potentially be used by bats (including those associated with the North Somerset and Mendip SAC).
- Wastewater discharge should be carefully considered so that water quality impacts on the Biddle Street SSSI or the Congresbury Yeo, adjacent Land and Rhynes LWS are avoided once the Application Site is operational.
- Installation of 5 bird boxes on trees within the hedgerows to the NE of the Application Site.
- Installation of 5 bat boxes on trees within the hedgerows to the NE of the Application Site.
- Production of a site wide landscape and ecology strategy for all phases of development at the industrial site to provide a coordinated and consistent management plan in the short, medium and long-term for the benefit of wildlife.

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1 INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

This document has been prepared by Burton Reid Associates on behalf of Smart Systems Ltd who intend to submit a planning application to North Somerset Council for the construction of an extension to an existing industrial manufacturing building and a car park.

The need to carry out an ecological assessment was identified in order to highlight any potential ecological constraints and ecological opportunities on the Site (hereafter referred to as the 'Application Site') associated with proposals being developed for a planning application.

The Application Site is centred on National Grid Reference ST 41459 66136 with the area originally surveyed in November 2020 comprising a single sheep-grazed pasture, surrounded on all sides by species-poor Blackthorn hedgerows bordered rhynes with occasional mature Crack-willow and a small section of the existing industrial site. During an update survey completed in June 2021 it was noted that the baseline within the Application redline boundary had been considerably altered and this has been referenced within the report where appropriate.

A description of the survey methods used is provided together with descriptions of habitats present on and around the Application Site during the initial baseline surveys. Potential impacts of the development on habitats / species together with avoidance, mitigation and biodiversity enhancement measures are also included.

1.2 WILDLIFE LEGISLATION AND PLANNING POLICY

This report has been written with reference to the following wildlife legislation, links to the full text of which can be found in Appendix I:

- Conservation of Habitats and Species Regulations 2017 (as amended);
- Wildlife and Countryside Act 1981 (as amended);
- Countryside Rights of Way Act 2000;
- Natural Environment and Rural Communities Act 2006.

A summary of relevant specific species legal protections derived from the above legislation is also given in Appendix I for ease of reference.

Furthermore, the following planning policies, guidance and local plans have been taken into account and referred to where appropriate:

- Yatton Neighbourhood Development Plan for the Period 2017-2026;

- North Somerset Council Core Strategy (2017);
- ODPM Circular 06/2005: Biodiversity and Geological Conservation;
- UK Post-2010 Biodiversity Framework;
- National Planning Policy Framework (NPPF);
- CIEEM Biodiversity Net Gain – Good Practice Principles for Development (CIEEM 2016);
- CIEEM Biodiversity Net Gain – Good Practice Principles for Development, A Practical Guide (CIEEM 2019).

2 METHODS

2.1 SCOPE OF ECIA ASSESSMENT

The Ecological Impact Assessment (EcIA) has been undertaken following the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment (CIEEM, 2018). These guidelines represent current best practice when assessing the impacts of development on biodiversity.

In summary, the guidelines provide a framework for describing the potentially significant effects of a proposed development on ecology and for setting out mitigation and enhancement measures to avoid/minimise impacts and create positive outcomes for biodiversity.

In the first instance, ecological features of importance are identified using a geographical frame of reference. For the purposes of this report the following geographical frame of reference has been used.

- International,
- National (England)
- Regional (South West England)
- County / local authority area (North Somerset)
- Local (e.g. Yatton)
- Site (the Site boundary and immediate surrounds)
- Negligible (of very low/limited ecological value).

The next step in EcIA involves predicting the likely impacts of a development (both positive and negative) on ecological features of importance and taking into account avoidance and mitigation measures. In EcIA any significant impacts which remain after taking into consideration mitigation/compensation measures are used to determine the overall ecological implications of the scheme in terms of legislation, planning policy and development control.

2.3 SURVEY APPROACH

2.2.1 Desk Study

A data search from Bristol Regional Ecological Records Centre (BRERC) was requested in March 2021, in order to carry out a desk study into the presence of protected and priority species in the wider area. A search area of 2km surrounding the Site was requested to the large scale of the development. Additional resources used are listed below:

- Phase 4, Smart Systems, Yatton Ecological Appraisal by Wild Service in October 2016

- Phase 5, Smart Systems, Yatton Ecological Appraisal by Wild Service in October 2016
- Bat Assessment for Smart Systems Ltd, The Landmark Practice, 2013
- Ecological Assessment for Smart Systems Ltd, The Landmark Practice, 2012

Protected species are those which are afforded legal protection. Priority habitats and species are those which have some level of nature conservation importance due to factors such as rarity, vulnerability or declining population/status and are considered as priorities for nature conservation. They may be of importance at a national scale, or at a more local level and include 'Habitats/Species of Principal Importance' as listed under the under Section 41 of the NERC Act (2006).

The presence of nearby statutory and non-statutory designated sites and priority habitats was established using the following resources:

- MAGIC map tool (www.magic.gov.uk);
- North Somerset policies map tool ([Policies Map \(n-somerset.gov.uk\)](http://Policies Map (n-somerset.gov.uk)));
- North Somerset and Mendip Bats SAC Guidance on Development.

Statutory sites are those which are protected under current UK/European legislation and include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites and Local Nature Reserves (LNR).

Non-statutory sites include Local Wildlife Sites (LWS). They are designated on account of the flora and fauna they support and represent some of the best wildlife sites in the County.

The location of the Application Site in relation to the North Somerset and Mendip Bats Special Area of Conservation (SAC). Consultation Zone was also established. The North Somerset and Mendip SAC is a site of European importance for wildlife and is important for two bat species. The Greater Horseshoe bat *Rhinolophus ferrumequinum* and the Lesser Horseshoe bat *Rhinolophus hipposideros*. The landscapes around the SAC are important in providing foraging habitat needed to maintain the favourable conservation status of the horseshoe bats. Developments falling within a bat consultation zone must therefore demonstrate that proposals will not adversely impact on the designated bat populations.

The results of the desk study are provided in Section 3 below.

2.2.2 Field surveys

2.2.2.1 Survey Visit

Field surveys of the Application Site were carried out in November 2020 and June 2021 by Burton Reid Associates in order to assess the potential wildlife value of the Application Site and to assess the presence or likely presence of protected or priority species / habitats. All habitat types on the Application Site were mapped with target notes describing particular features of interest. Photographs were also taken for reference. Changes to the original baseline as it was in November 2020 were recorded during the June 2021 survey and these have been presented below where relevant.

The Application Site was assessed using the UK Habitat Classification System (UKHAB). This system for habitat classification allows for clear interpretation of data as it takes into account important habitat types such as Priority and Annex I habitats¹. The system also allows for translation between existing classifications including the Phase I Habitat methodology (JNCC 2010) and the National Vegetation Classification (Rodwell et al. 1991-2000). It comprises a principle hierarchy (primary habitats) which include ecosystems, broad habitats, priority habitats and Annex I Habitats together with a suite of more detailed secondary codes which can be used to record further information on habitat features, land use, landscape context and management practices.

An assessment was also made of the potential for the habitats on the Application Site to support protected or priority species. Species groups considered during this assessment of habitat suitability are provided below. Please note that this list is not exhaustive, and only covers species which are commonly found on development sites and receive some form of legal protection.

- Mammals - including bats (all species), Hazel Dormouse *Muscardinus avellanarius*, Badger *Meles meles*, Water Vole *Arvicola amphibius* and Otter *Lutra lutra*;
- Amphibians - including Great Crested Newt *Triturus cristatus*;
- Reptiles - including Slow-worm *Anguis fragilis*, Common Lizard *Zootoca vivipara*, Barred Grass Snake *Natrix helvetica*, and Adder *Vipera berus*.
- Birds (all species). Particular emphasis given to bird species listed under Schedule 1 of the Wildlife and Countryside Act (1981) as amended, species listed on Section 41 of the NERC Act (2006) and Red and Amber listed Birds of Conservation Concern (Eaton et al., 2015).

A Habitat Suitability Index (HSI) assessment was carried out in November 2020 on one pond located 300m to the east of the Application Site (within the ownership of the Applicant) to assess its suitability for Great Crested Newts. The pond was assessed against the following ten suitability indices in accordance with the methods set out in Oldham et al. (2000):

¹ A natural habitat listed under Annex I of the European Habitats Directive for which Special Areas of Conservation can be selected.

1. Geographic location
2. Pond area
3. Pond permanence
4. Water quality
5. Shading by bankside trees and trees
6. Presence of waterfowl
7. Presence of fish
8. Pond density in the area
9. Terrestrial habitat quality
10. Macrophyte cover in pond

An HSI value was then calculated through which the level of suitability of a waterbody for Great Crested Newts can be determined along with a predicted percentage of the likelihood of Great Crested Newts being present within a waterbody. These values are provided in Table 1 below:

Table 1: Pond Suitability Classification for Great Crested Newts (ARG UK, 2010)

Habitat Suitability Index (HSI) Score	Pond Suitability	Proportion of Ponds Occupied by Great Crested Newts (%)
< 0.5	Poor	0.03
0.5 - 0.59	Below Average	0.2
0.6 - 0.69	Average	0.55
0.7 - 0.79	Good	0.79
> 0.8	Excellent	0.93

2.2.2.2 Weather Conditions and Surveyors

The date the HSI survey was undertaken along with the prevailing weather conditions are provided in 2 below.

Table 2: Survey date and weather conditions

DATE	WEATHER CONDITIONS
25/11/2020	Temp: 12.6°C Wind ¹ : 2-3 Cloud ² : 5/8 Rain: None

1: Wind as per Beaufort scale

2: Cloud cover given in Oktas (/8)

The HSI survey was undertaken by Ella Dangerfield (Qualifying member of CIEEM) and Jenni Reid CEnv MCIEEM in November 2020.

eDNA surveys were also completed in April 2021 of two locations within the survey area. Full details of these are provided in Appendix VII.

2.2.2.3 Constraints

A pond located approximately 400m from the Application Site (outside of the Applicant ownership) and several rhynes were not accessible during the survey and as such no HSI assessment could be undertaken on these waterbodies. Prior ecological reports and survey data were however used to inform the current assessment and these confirmed that Great Crested Newt were not present within the locality.

During the update survey in June 2021 changes to the baseline were identified on the Application Site. For the purposes of this report the baseline has been used from the November 2020 surveys as it was considered that this was a more suitable baseline from which to measure impacts of the proposals against the habitats that were present at that time. Where necessary, these changes have also been identified within the context of this report

The Application Site was too small to apply Breeding Bird Survey or Common Bird Census methodologies and so a Vantage Point method was applied. The survey slowly walked the perimeter of the field and spent five minutes at each point, watching and listening for birds.

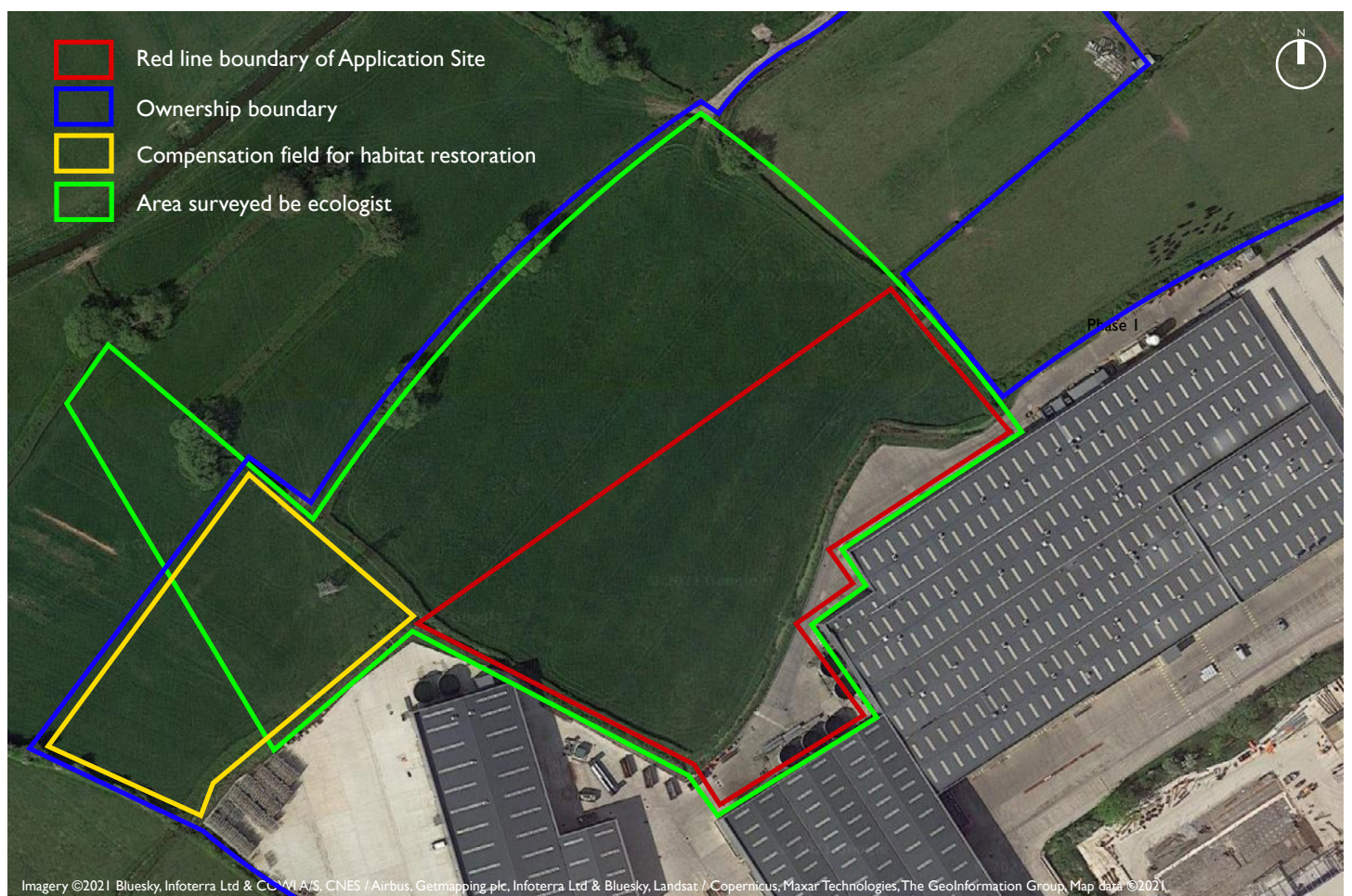
3 ECOLOGICAL BASELINE

This section describes the ecological baseline as it was in November 2020 within the area surveyed (the green line boundary of Figure 1 below). Additional data was gathered in June 2021 for the purposes of the proposed compensation area associated with the proposals and this is also discussed where deemed relevant.

A map of the areas surveyed during the November 2020 and June 2021 habitat survey is provided on Figure 1 below. Please note the following:

- Redline - the Application Site boundary
- Green line - the area surveyed during surveys in November 2020 and June 2021
- Orange line - the field proposed for off-site enhancements
- Blue line - the Applicants land holdings.

Figure 1: Approximate map of site boundaries and areas surveyed.



3.1 DESIGNATED SITES

Three statutorily designated sites were identified within 1km of the Application Site. This included Biddle Street Yatton SSSI (530m SSE of the Site), designated for its aquatic plant assemblages and invertebrate species and Cheddar Valley Railway Walk LNR which lies 750m approx. to the ESE of the Site. The Application Site also falls within Consultation Zone C of the North Somerset and Mendips Bats SAC² which lies 3.3km to the E.

The pasture on the Application Site is classified by the Priority Habitat Inventory as Coastal Floodplain and Grazing Marsh and are surrounded to the N, W and S by further areas of this priority habitat. It should be noted that these Priority Habitat zones were mapped historically and remotely and are not necessarily a result of ground truth surveys as can be evidenced by the fact that the wider industrial site owned by the Applicant which consists almost entirely of hardstanding and built environment also falls under this Priority Habitat.

The Application Site lies within several SSSI Impact Risk Zones, with the development proposals meeting the criteria for Natural England consultation (large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m²). These are listed in table 3 below.

Non-statutory sites in the area include Congresbury Yeo, Adjacent Land and Rhynes LWS which lies approximately 300m to the SSE of the Site and Horsecastle Pond LWS 570m to the ESE.

Table 3: Statutory designated sites within 4km and consultation zones

RECORD	LOCATION	DESCRIPTION
North Somerset and Mendips Bats SAC, Consultation Zone C	Within Zone C	The "Bat Consultation Zone" is where horseshoe bats may be found and is divided into bands A, B and C, reflecting the likely importance of the habitat for the bats and proximity to maternity and other roosts.
Biddle Street SSSI	530m to the S of Site	Network of rhynes and waterways designated for its aquatic plant assemblages and invertebrate species.
Tickenham, Nailsea & Kenn Moors SSSI	1.15km to the E of Application Site	Network of rhynes and waterways designated for its aquatic plant assemblages and invertebrate species.
Puxton Moor SSSI	2.3km to the S of the Application Site	Network of rhynes and waterways designated for its aquatic plant assemblages and invertebrate species.
King's Wood & Urchin Wood Site SSSI	3.4km to the E of the Application Site	Ancient woodland with important populations of greater horseshoe bat and hazel dormouse.
Cheddar Valley Railway Walk LNR	750m to the E of Site	Following a disused railway line, this site supports birds, bats, reptiles, and amphibians.
Cadbury Hill LNR	2.4km to the SE of the Application Site	Ancient semi-natural woodland.

² As shown on the North Somerset Planning Constraints Portal [Planning map | North Somerset Council \(n-somerset.gov.uk\)](https://www.n-somerset.gov.uk/planning-map/)


3.2 HABITATS

A map of habitats as described below can be found in Appendix II. Full species lists of the UK Habitat Classification surveys are provided in Appendix III at the end of this report. For ease of reading this report the habitats surveyed within the orange line area (field B) proposed for off-site compensation have also been included in the results section below.

3.2.1 Red boundary results – Application Site (includes green line area immediately to the north of the Application Site)


u1b Developed land: sealed surface

An area adjacent to existing large manufacturing buildings in the SW corner of the Application Site was dominated by hardstanding. Materials were stored in this area and 5no. rainwater storage tanks were situated along the walls of the manufacturing building. No vegetation was present in this habitat. No notable changes between the November 2020 visit and the June 2021 visit were identified.

UKHAB Primary	UKHAB Secondary	Phase I translation
u1b – Developed land; sealed surface	n/a	Built up areas
	<p><i>P – Area of hardstanding used for storage of materials and where rainwater storage tanks are situated.</i></p>	

u1b5 Buildings




5no. rainwater storage tanks were situated along the walls of the manufacturing building to the SE of the Application Site boundary. No vegetation was present in this habitat. No notable changes between the November 2020 visit and the June 2021 visit were identified.

UKHAB Primary	UKHAB Secondary	Phase I translation
u1b5 – Buildings	n/a	Buildings
 <p><i>P – Rainwater storage tanks</i></p>		

g4 Modified Grassland (field A)

A sheep-grazed field which was bordered on all sides by hedgerows and rhynes. The grassland was dominated by grass species such as Yorkshire Fog *Holcus lanatus*, Perennial Rye-grass *Lolium perenne*, Meadow Foxtail *Alopecurus pratensis*, and Cock’s-foot *Dactylis glomerata*. Herbaceous species within the grassland included Creeping Buttercup *Ranunculus repens*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, and less frequently Tufted Vetch *Vicia cracca*, Dandelion *Taraxacum* agg., and Cut-leaved Crane’s-bill.



During the update survey in June 2021 it was noted that construction activities had already commenced in part of this area. Grassland had been stripped and the carparking area ground preparations had commenced.

UKHAB Primary	UKHAB Secondary	Phase I translation
g4 – Modified grassland	16 – Tall herb 60 – Sheep-grazed 64 – Mown	Improved grassland
	<p><i>P – View SE side of field – photo November 2020</i></p>	
	<p><i>P – View of NW side of field – photo November 2020</i></p>	
	<p><i>P – View of field A from SW corner – photo June 2021</i></p>	

h2a Hedgerow (priority habitat)

Field A was bordered on all sides by hedgerows. These were dominated by Blackthorn, with occasional other species, such as Hawthorn *Crataegus monogyna*, Dog Rose *Rosa canina*, Elder, Ash *Fraxinus excelsior*, and a local abundance of Goat Willow *Salix caprea* in the W corner of the field. Bramble and Hedge Bindweed *Calystegia sepium* were intertwined with the hedgerows and Common Reed *Phragmites australis* grew up through the hedgerows and the bases were dominated by Hemlock Water-dropwort, Tufted Vetch, Cleavers *Galium aparine*, and Common Nettle. Three mature multi-stemmed Crack Willows were situated along the NE hedgerow, two about a third of the hedgerow length from the W and the other about a third of the length of the hedgerow from the E. The shape of all the hedgerows indicated regular cutting.

During the update site visit in June 2021 it was noted that the hedgerows along the SE boundary and part of the SW boundary had been removed as part of the carparking ground works underway.

UKHAB Primary	UKHAB Secondary	Phase I translation
h2a – Hedgerow (priority habitat)	47 – Native 81 – Flailed Hedgerow	Native species-poor intact hedge
	<p><i>P – Hedgerow on NW boundary of field A – photo June 2021</i></p>	
	<p><i>P – Hedgerow along SW boundary in field A which is shared with field B – photo June 2021</i></p>	



P - Hedgerow along SE boundary of field A - photo November 2020



P - Location of hedgerow along SE boundary of field A - June 2021



r1a Eutrophic standing waters

Rhynes are man-made ditches used to aid drainage of wetlands to create pasture and a network of rhynes can be found around the Application Site and in adjacent habitats. All the rhynes surveyed in November 2020 apart from that on the SE boundary of field A were choked by hedgerows and difficult to assess due to excessive vegetation growth and inaccessibility. A small opening in the hedgerow approximately half-way along the NE boundary of field A allowed a view of the rhyne. The water at this point was very shallow (<5cm), not flowing and constituted a thick slurry.

The rhyne on the SE boundary of field A was flanked on the NW side by a hedgerow but vegetation had been cleared on the SE side. The rhyne appeared to be shallow and the surface was covered in floating Duckweed *Lemna sp.* indicating a state of eutrophication.

During the update site visit in June 2021 it was noted that the rhynes along the SE boundary and part of the SW

boundary had been removed as part of the carparking ground works underway.

UKHAB Primary	UKHAB Secondary	Phase I translation
r1a – Eutrophic standing waters	40 – Freshwater – heavily modified	Eutrophic standing open waters
 <p data-bbox="655 577 1378 611"><i>P – Rhyne on SE boundary of field A – photo November 2020</i></p>		
 <p data-bbox="655 1283 1401 1317"><i>P – Location of rhyne along SE boundary of field A – June 2021</i></p>		

3.2.2 Orange boundary results – proposed compensation field (field B)

g3c Other neutral grassland

The grassland was dominated by Yorkshire Fog and Cock’s-foot with abundant Meadow Foxtail, Perennial Rye-grass, Creeping Bent *Agrostis stolonifera*, and Meadow Barley *Hordeum secalinum*. Herbaceous species within the grassland included Red Clover, Creeping Buttercup, White Clover, Meadow Vetchling *Lathyrus pratensis*, Bird’s-foot Trefoil *Lotus*

corniculatus, Meadow Buttercup *Ranunculus acris*, and Common Knapweed *Centaurea nigra*.

An electricity pylon was situated within the W corner of the field around the base of which a stand tall herbs grew, including Hemlock Water-dropwort *Oenanthe crocata*, Common Nettle *Urtica dioica*, Bramble *Rubus fruticosus agg.*, and a young Elder *Sambucus nigra*, as well as Yorkshire Fog, Cock's-foot, and False Oat-grass *Arrhenatherum elatius*.

The NE margin of the field consisted of a linear patch of bare ground leading from the NE hedgerow to a solitary mature Crack Willow *Salix fragilis*. This joined a circular area of bare ground to the S of the Crack Willow. Satellite imagery confirmed that the bare ground coincided with the previous position of a hedgerow-edged rhyne, which has since been removed and infilled. Other hedgerows and rhyne which formed part of this network had been similarly removed and infilled at the time of survey, allegedly during works by Western Power and the Internal Drainage Board (IDB). The margins of the bare ground were dominated by tall herbs, such as Creeping Thistle *Cirsium arvense*, Broad-leaved Dock *Rumex obtusifolius*, Cock's-foot, Yorkshire Fog, Dandelion, and Blackthorn *Prunus spinosa* suckers.

3no. gentle grass-covered undulations, thought to be drainage furrows (ridge and furrow), ran approximately E-W from the Crack Willow towards the centre of the field. No changes in vegetation were noted within these features.

UKHAB Primary	UKHAB Secondary	Phase I translation
g3c – Other neutral grassland	16 – Tall Herb 60 – Sheep-grazed 64 – Mown 119 – Seasonally wet 137 – Ridge and furrow 1191 – Bioswale	Semi-improved grassland



P – Field viewed from S corner at intersection of fence and hedgerow, with electricity pylon and Crack Willow in background – photo June 2021



P – View towards SE from NW intersection of fence and hedgerow- photo June 2021







P – View from Crack Willow across fence towards fenced-off area of field, including tall ruderal species stand at the edge of bare ground in foreground- photo June 2021



P – Stand of tall herbs at base of electricity pylon- photo June 2021



h2a Hedgerow (priority habitat)

In field B, the hedgerows along the NE and SE boundaries were composed of the same species as those in field A, with the addition of Black Bryony *Tamus communis*, Ivy *Hedera helix*, Creeping Thistle, Rosebay Willowherb *Chamerion augustifolium*, Ground Ivy *Glechoma hederacea*, and False Oat-grass. The Hedgerow along the NE boundary was dominated by Blackthorn and was additionally composed of Bramble, Hawthorn, and Dog Rose, with Cleavers, Common Nettle and Sheep's Sorrel dominating the base. Two mature multi-stemmed Crack Willows dominated the N end of the hedgerow. The shape of those hedgerows surrounding field A that were assessed during the survey indicated regular cutting.

UKHAB Primary	UKHAB Secondary	Phase I translation
h2a – Hedgerow (priority habitat)	47 – Native 81 – Flailed Hedgerow	Native species-poor intact hedge
	P – Hedgerow along NW boundary of field B – photo June 2021	
	<i>P – Hedgerow along SE boundary of field B – photo June 2021</i>	
	<i>P – SW boundary hedgerow – photo June 2021</i>	
	<i>P – NE boundary hedgerow – photo June 2021</i>	

u1c Artificial unvegetated, unsealed surface

The area of bare ground resulting from the clearance of a hedgerow and rhyne in field B led from approximately 3m from the hedgerow at the W corner of field A to the Crack Willow. This area of bare ground joined a second, circular area of bare ground to the S of the Crack Willow. In this area a small number ruderal/ephemeral plant species had begun to colonise the bare ground. Comparison with satellite imagery and the North Somerset Policies Map Tool indicates that hedgerows and rhyne were previously situated here. The hedgerows have been removed and the rhyne infilled with earth, leading to the patches of bare ground encountered during the survey. Further patches of bare ground where hedgerows and rhyne were previously situated were recorded in the field adjacent to field B.

UKHAB Primary	UKHAB Secondary	Phase I translation
u1c – Artificial unvegetated, unsealed surface	17 – Ruderal/ephemeral 73 – Bare ground	Bare ground
	P – Linear area of bare ground	
	P – Circular area of bare ground next to tree	

u1e Built linear features

A fence had been erected across field B In the direction N-S.

UKHAB Primary	UKHAB Secondary	Phase I translation
u1e – Built linear features	6g - Fence	Fence
	<i>P – Fence across field B – photo June 2021</i>	

3.3 SPECIES

Plants

No records of plants of priority status or conservation concern within 1km of the Application Site were returned during the desk study, nor were any recorded during the survey visits.

No invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded at the Application Site during the survey. Therefore, this species group is not considered further within this report.

Bats

Bat transect and automated surveys are currently being completed at the Application Site and within the wider area to gather a strategic baseline for the Applicant to inform future development proposals and therefore a full data set cannot be referenced at this point. Detailed results of the bat activity and automated surveys completed to date are however provided in IV and Appendix V respectively at the end of this report and any previously completed survey information available has been included within the desk study and results sections.

The Application Site falls within the North Somerset and Mendips Bats SAC, Consultation Zone C. According to SAC guidance, potential development sites within this zone must be give due consideration to impacts on commuting and foraging bats.

Desk study

An ecological report produced by Landmark Practice in 2012 identified the following species using the wider site within the ownership of the Applicant:

- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- *Myotis sp*
- Noctule *Nyctalus noctula*
- Nathusius pipistrelle *Pipistrellus nathusii*
- Serotine *Eptesicus serotinus*
- Leisler's *Nyctalus leislerii*
- Long-eared *Plecotus sp.*
- Greater horseshoe
- Lesser horseshoe

Results from the BRERC data search revealed records of the following species within 2km of the Site (distance of closest records to the Application Site are given in brackets), as well as records of known bat roosts, which are noted alongside the relevant species. Please note that bat roost sites are given at a resolution of 1km² and thus, the distance from the Application Site may be greater or smaller depending on the exact location of roost within the quadrat.



- 12 records of Common pipistrelle (720m E)
- 21 records of Greater horseshoe bat (1400m SE); 2.4km SW
- 26 records of Noctule (340m E); roost 1.2km SE
- 10 records of Lesser horseshow bats (930m E); roost 470m E
- 1 record of Whiskered bat *Myotis mystacinus* (1270m E)
- 5 records of Brown long-eared bat *Plecotus auritus* (730m E)
- 5 records of Daubenton's bat (1300m E)
- 3 records of Leisler's bat (1300m E)
- 14 records of Serotine (560m E); roost 1.8km N
- 21 records of *Myotis sp.* (2400m S)
- *Pipistrelle species roost* (870m NW)

Roosting Bats

No suitable bat roosting features for bats were present within the Application Site. The industrial buildings are constructed with closed metal sheeting and have no suitable access points for bats. No trees were located within the Application Site boundary (redline boundary on Figure 1 above).

Trees located within the wider area in hedgerows adjacent to the Application Site (within the green line boundary

on Figure 1 above) offer low potential for roosting bats (BCT, 2016). Knotholes were recorded in the base of one of the Crack-willow in the hedgerow running along the northern boundary of the wider field parcel of Field A but these holes were located very close to the ground (approximately 1m) which is considered to reduce their suitability for roosting bats.

Tree with low potential for bats	Photo
	<p><i>P1 – Crack-willow on N boundary of field A (outside of current Application Site)– photo November 2020</i></p>
	<p><i>P2 – knotholes on Crack-willow approximately 1m from the ground.</i></p>

Foraging/Commuting Bats

The hedgerows and adjacent rhydes noted on the Application Site during the November 2020 survey offer suitability for commuting and foraging bats. However, lighting is used extensively along the length of the buildings on the existing industrial site along the NW elevation of the buildings which would act as a deterrent to light-sensitive species of bats (e.g. horseshoe and Myotis bats). Therefore, those features situated within close proximity to the building were

considered to offer sub-optimal foraging or commuting opportunities for bats.

In addition, the sheep grazed pasture and species-poor hedgerows within the Application Site and the immediately adjacent areas were considered to offer sub-optimal foraging opportunities for bats, being closely cropped by grazing and heavily managed, lowering potential for invertebrate prey species.

Bat activity surveys carried out by Burton Reid Associates in April, May and June 2021 confirmed the presence of low numbers of Common Pipistrelle and Soprano Pipistrelle bat bats commuting and foraging along the hedgerows in field A. No Greater Horseshoe bats were recorded during the transect surveys.

Automated bat detectors deployed during April, May and June recorded a total of 2379 bat passes³ in these months combined. 23% were recorded at location 1 off-site along the western hedgerow boundary, 77% of recordings were at location 2 (see map in Appendix V) on the north-east boundary of the Application Site.

Common Pipistrelle made up 2243 passes or 94.28% of all bats recorded. Other species recorded during the surveys at this location included Noctule (102 passes or 4.29%), Soprano pipistrelle (20 passes or 0.84%) *Nyctalus sp.* (7 passes or 0.29%), *Myotis sp.* (3 passes or 0.13%), Greater horseshoe bat (3 pass or 0.13%) and Long-eared bat (1 pass or 0.04%).

No Greater Horseshoe bat were recorded within the Application Site during these surveys.

During the survey period habitats on the Application Site were consistently being altered as a result of groundworks associated with these proposals. It is considered likely that these works have influenced the movements of any bats within the Application Site. However, it is considered that the results within the wider survey area are a reasonable reflection of the baseline throughout the Application Site as it was in November 2020 prior to the commencement of surveys, given that the habitats were demonstrably the same throughout the site and wider area.

In addition, previous bat activity surveys completed by The Landmark Practice (2013) in relation to a prior development on the wider land parcel under the ownership of the Applicant found that only low numbers of Greater Horseshoe bats were utilising the Application Site and wider site.

It is therefore considered that the results contained within this report can be used to inform the assessment provided below within this document.

Otter/Water Vole

The BRERC data search returned 3no. records of Water Vole. The closest was recorded within a rhyne located approximately 370m S of the Application Site associated with the Congresbury Yeo, adjacent land and rhyne LWS.

The banks of the rhyne on the Application Site were not considered to be suitable for Water Vole being dominated

³ Please note that number of passes cannot be relied upon to provide an estimate of numbers of bats as it can just be a reflection of one bat flying past a detector numerous times

and overshadowed by woody species and containing very little herbaceous vegetation. The rhynes themselves were shallow and appeared heavily eutrophic with no herbaceous vegetation in the channel (Dean et al, 2016). No evidence (burrows, feeding remains or droppings) were identified during the site visits.

43no. records of Otter were returned during the data search. The closest Otter was recorded 900m to the S of the Application Site. It is considered possible that Otter might occasionally use the rhynes for movement/dispersal within the wider area. The high level of cover, deep banks and root systems provided potentially suitable habitat for Otter holts and resting places, however, the rhyne closest to the existing industrial units (in the SE of the Application Site) was considered to have negligible potential for Otter holts or resting places or refuges. due to the limited extent of vegetative cover present on one bank and high levels of disturbance and noise associated with its proximity to a manufacturing unit (Chanin, 2003).

It is considered reasonably unlikely that Water Vole and Otter are present on the Application Site and so these species have not been considered further within this report.

Hazel Dormouse

No records of Hazel Dormouse within the desk study area were returned during the data search.

The hedgerows on the Application Site were considered to be sub-optimal for Hazel Dormouse, being dominated by Blackthorn. The nearest area of woodland occurs approximately 600m to the east at Cheddar Valley Railway Walk LNR but connectivity between the Application Site and the LNR is poor with the industrial estate, roads and limited woody vegetation connecting these areas. Overall, the risk of Hazel Dormouse being present is considered reasonably unlikely due to the lack of suitable habitat, and therefore this species is not considered further within the report.

Badgers

The data search returned 16no. records of Badger within the desk study area. The closest recorded badger was 1.35 km to the S of the Application Site.

No Badger setts or signs of Badger foraging were identified on the Application Site. Fields A and B provide some potential for foraging. It is considered that this species could occasionally forage within the grassland of both fields. However, risks of impacts on Badgers as a result of works within the Application Site itself are considered reasonably unlikely and therefore this species has not been considered further within this report.

Reptiles

The data search returned 1 record of Common Lizard, 27 records of Barred Grass Snake and 20 records of Slow-worm within the 2km desk study area.

Habitats within the Application Site were considered to be sub-optimal for Slow-worm and Common Lizard consisting mostly of closely cropped grass. Some small areas of longer grass were present in isolated areas and so it is considered reasonably unlikely that these species will be present within the Application Site. The rhynes however do provide potentially suitable habitat for Barred Grass Snake, in particular for foraging and dispersal.

Amphibians


The rhynes on the Application Site are considered to provide sub-optimal aquatic habitat for Great Crested Newts (GCN) being shallow, covered in Duckweed, lacking in suitable vegetation for egg laying and heavily shaded by the adjacent overgrown hedgerows.

Potential terrestrial habitat for amphibians, including GCNs, is present within the hedgerows on the Application Site which could provide some cover for amphibian dispersal and hibernation, however this is considered to be sub-optimal due to the lack of tussocky grassland for foraging and basking habitat

Two ponds are located within 350m of the Application Site, including a pond 300m to the NE and a pond (with several interconnected waterbodies) located 320m to the south of the Application Site, situated beyond numerous industrial units and carparks, on land outside of the Applicants ownership. A Habitat Suitability Index survey was completed on the one accessible pond (Pond 1) to determine suitability for GCN. The results are provided in the Table 1 below.

Table 1: Great Crested Newt HSI Assessment Results of Pond 1

HSI Category	Assessment Notes	Score
SI1 - Location	Zone A	1
SI2 - Pond area	765m ²	1
SI3 - Pond drying	Never	0.9
SI4 - Water quality	Moderate	0.67
SI4 - Shade	0%	1
SI6 - Fowl	Minor	0.67
SI7 - Fish	Possible	0.67
SI8 - Density of ponds in wider area	3 ponds within 1km radius.	0.6
SI9 - Terrestrial habitat quality	Moderate	0.67
SI10 - Macrophytes	80% (at time of survey)	1
HSI Score		0.80 (Excellent)

HSI Category	Assessment Notes	Score
<p><i>Pond 1</i> <i>to the NE of the Application Site</i></p>		

Ecological reports produced by The Landmark Practice (2012) in relation to prior phases of development adjacent to the current Application Site, confirmed that no evidence of GCN was identified during presence/absence surveys carried out on Ponds 1 and 2 mentioned above. It is recognised that data from the report is out of date, however, it is still considered noteworthy. Also, due to increased levels of development in the surrounding area in recent years and the Application Site's unsuitability for amphibians (i.e. comprised entirely of hardstanding) habitats adjacent to the Site offer only very limited potential for GCNs.

According to the ecological report produced by Wild Services (2016), the nearest GCN records are from over 1km away in Tickenham Moors.

Burton Reid Associates undertook eDNA surveys of the rhynes in two locations within the survey area which were considered to offer some suitability in terms of GCN breeding. This was carried out on 15 April 2021. Both locations were confirmed negative for GCN eDNA.

Breeding & Overwintering Birds

The desk study returned records of bird species within 2km. The records included some Birds of Conservation Concern (BoCC) Red-listed species such as House Sparrow *Passer domesticus*, Starling *Sturnus vulgaris*, Grey Wagtail *Motacilla cinerea*, Lapwing *Vanellus vanellus*, Mistle Thrush *Turdus viscivorus*, Skylark *Alauda arvensis*, Linnet *Carduelis cannabina*, Woodcock *Scolopax rusticola*, Fieldfare *Turdus pilaris* and Grasshopper Warbler *Locustella naevia*, a number of these being associated with open farmland. A number of BoCC Amber-listed birds associated with wetland and aquatic habitats were also returned during the desk study, such as Kingfisher *Alcedo atthis*, Redshank *Tringa totanus*, Snipe *Gallinago gallinago* Shelduck *Tadorna tadorna* and Reed Bunting *Emberiza schoeniclus*. Furthermore, a number of records of species listed species on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) were returned within the desk study. These included Redwing *Turdus iliacus*, Green Sandpiper *Tringa*

ochropus, Kestrel *Falco tinnuculus*, Merlin *Falco columbarius*, Hobby *Falco subbuteo*, and Barn Owl *Tyto alba*.

Winter bird surveys were carried out by Burton Reid Associates between December 2020 and March 2021. Breeding bird surveys were completed between May and June 2021. Birds are highly mobile species and rarely restricted to the use of just one site, thus winter bird surveys encompass an area extending beyond the Application Site. Detailed results of the winter bird surveys undertaken at the Application Site are provided in Appendix VI at the end of this report with a summary provided below.

Table 2: Bird species recorded during winter bird surveys along with their conservation status

COMMON NAME	SYSTEMATIC NAME	CONSERVATION STATUS*
Goldfinch	<i>Carduelis carduelis</i>	BoCC Green
Carrion Crow	<i>Corvus corone</i>	BoCC Green
Chaffinch	<i>Fringilla coelebs</i>	BoCC Green
Meadow Pipit	<i>Anthus pratensis</i>	BoCC Amber
Song Thrush	<i>Turdus philomelos</i>	BoCC Red; S41
Magpie	<i>Pica pica</i>	BoCC Green
Blue Tit	<i>Cyanistes caeruleus</i>	BoCC Green
Blackbird	<i>Turdus merula</i>	BoCC Green
Great Tit	<i>Parus major</i>	BoCC Green
Wren	<i>Troglodytes troglodytes</i>	BoCC Green
Pied Wagtail	<i>Motacilla alba</i>	BoCC Green
Robin	<i>Erithacus rubecula</i>	BoCC Green
Dunnock	<i>Prunella modularis</i>	BoCC Amber; S41
Woodpigeon	<i>Columba palumbus</i>	BoCC Green
Redwing	<i>Turdus iliacus</i>	BoCC Red; Sch1
Buzzard	<i>Buteo buteo</i>	BoCC Green
Fieldfare	<i>Turdus pilaris</i>	BoCC Red; Sch1
Herring Gull	<i>Larus argentatus</i>	BoCC Red; S41
House Sparrow	<i>Passer domesticus</i>	BoCC Red; S41
Brent Goose	<i>Branta bernicla</i>	BoCC Amber; S41
Mute Swan	<i>Cygnus olor</i>	BoCC Amber
Long-tailed Tit	<i>Aegithalos caudatus</i>	BoCC Green
Rook	<i>Corvus frugilegus</i>	BoCC Green
Grey Heron	<i>Ardea cinerea</i>	BoCC Green
Green Sandpiper	<i>Tringa ochropus</i>	BoCC Amber; Sch1
Great Spotted Woodpecker	<i>Dendrocopos major</i>	BoCC Green
Starling	<i>Sturnus vulgaris</i>	BoCC Red; S41

Long-eared Owl	<i>Asio otus</i>	BoCC Green
Stonechat	<i>Saxicola torquatus</i>	BoCC Green
Kingfisher	<i>Alcedo atthis</i>	BoCC Amber; Sch1
Skylark	<i>Alauda arvensis</i>	BoCC Red; S41
Cormorant	<i>Phalacrocorax carbo</i>	BoCC Green
Stock Dove	<i>Columba oenas</i>	BoCC Amber
Lesser Black-backed Gull	<i>Larus fuscus</i>	BoCC Amber
Mallard	<i>Anas platyrhynchos</i>	BoCC Amber

* Sch1: listed on Schedule 1 of The Wildlife and Countryside Act (1981)

S41: listed on Section 41 of the NERC Act (2006) as a species of principal importance

BoCC: Birds of Conservation Concern (Eaton et al., 2015) – green, amber or red listed

Burton Reid Associates completed breeding bird surveys in May and June 2021. Pied wagtail and Jackdaw were recorded in the Application Site during the breeding bird surveys, foraging around the puddles on the disturbed ground. Swallow were recorded foraging over the meadow. Three linnet were also recorded in the late June survey foraging in the meadow.

Of the species listed above singing males were seen or heard for: Wren, Robin and Blackbird. Breeding could not be confirmed but the consistency of records for Wren suggest that they were breeding in the hedgerows within the survey area. A summary of results has been provided below, with figures representing the surveys provided in Appendix VI. Detailed results are yet to be produced and these will be provided in an Addendum report once finalised.

Table3: Bird species recorded during breeding bird surveys along with their conservation status

COMMON NAME	SYSTEMATIC NAME	CONSERVATION STATUS*
Goldfinch	<i>Carduelis carduelis</i>	BoCC Green
Carrion Crow	<i>Corvus corone</i>	BoCC Green
Jackdaw	<i>Corvus monedula</i>	BoCC Green
Swallow	<i>Hirundo rustica</i>	BoCC Green
Blue Tit	<i>Cyanistes caeruleus</i>	BoCC Green
Blackbird	<i>Turdus merula</i>	BoCC Green
Wren	<i>Troglodytes troglodytes</i>	BoCC Green
Pied Wagtail	<i>Motacilla alba</i>	BoCC Green
Linnet	<i>Linaria cannabina</i>	BoCC Red; S41
Robin	<i>Erithacus rubecula</i>	BoCC Green

* Sch1: listed on Schedule 1 of The Wildlife and Countryside Act (1981)

S41: listed on Section 41 of the NERC Act (2006) as a species of principal importance

BoCC: Birds of Conservation Concern (Eaton et al., 2015) – green, amber or red listed

Invertebrates

The Application Site is considered to offer negligible potential for a range of invertebrates as the habitats present did not contain the types of mosaics normally associated with notable invertebrate assemblages. Therefore, this species group is not considered further within this report.

3.4 ECOLOGICAL EVALUATION

Table 6 below provides an analysis of the value of ecological receptors described above. The valuation of the receptor takes into account factors such as legal protection, local and national conservation status, population trends, range and distribution, diversity, connectivity and rarity. Importance is defined using a geographical frame of reference as per CIEEM guidelines (2018).

HABITAT	VALUE	REASON
<i>Designated Sites and priority habitats</i>		
North Somerset and Mendip Bats SAC Site occurs within Band C.	<i>International</i>	<i>European Designated Site.</i>
<i>Biddle Street Yatton SSSI</i>	<i>National</i>	<i>Designated under national legislation (530m to the S).</i>
<i>Tickenham, Nailsea & Kenn Moors SSSI</i>	<i>National</i>	<i>Designated under national legislation but is located 1.15km to the E. No impact pathways identified therefore, not considered further in this report.</i>
<i>Puxton Moor SSSI</i>	<i>National</i>	<i>Designated under national legislation but is found 2.3km to the S. No impact pathways identified therefore, not considered further in this report.</i>
<i>King's Wood & Urchin Wood Site SSSI</i>	<i>National</i>	<i>Designated under national legislation but is found 3.4km to the E. Forms part of the North Somerset and Mendip Bats SAC and therefore impacts assessed in the context of the SAC designation and bats. Other impacts on this SSSI not anticipated therefore, not considered further in this report.</i>
<i>Cheddar Valley Railway Walk LNR</i>	<i>National</i>	<i>Designated under national legislation but is found 700m away to the E and impacts are unlikely. Therefore, not considered further in this report.</i>
<i>Cadbury Hill LNR</i>	<i>National</i>	<i>Designated under national legislation but is found 2.4km away and impacts unlikely. Therefore, not considered further in this report.</i>

HABITAT	VALUE	REASON
Congresbury Yeo, Adjacent Land and Rhynes LWS	County	Local wildlife sites are designated on account of designated on account of the flora and fauna they support and represent some of the best wildlife sites in the County.
Horsecastle Pond LWS	County	Local wildlife sites are designated on account of designated on account of the flora and fauna they support and represent some of the best wildlife sites in the County. However, this site falls 580m away and impacts unlikely. Therefore, not considered further in this report.
Coastal Floodplain and Grazing Marsh Priority Habitat	Local	Widespread habitat in the surrounding landscape and across Somerset.
<i>Habitats</i>		
u1c Artificial unvegetated, unsealed surface	Negligible	No intrinsic wildlife value.
u1b Developed land; sealed surface	Negligible	No intrinsic wildlife value
h2a Hedgerow (Priority Habitat)	Local	Provides habitat for nesting birds and shelter for small mammals, offers some connectivity to surrounding habitats and landscape but limited somewhat as located on the edge of an industrial estate.
g3c Other neutral grassland	Negligible	Common and widespread habitat.
g4 Modified grassland	Negligible	Common and widespread habitat
r1 Standing open water and canals	Local	Watercourses provide habitat connectivity and have the potential to support a range of species.
<i>Protected/priority species</i>		
Plants	Negligible	No notable plants found to be present.
Bats (roosting)	Site	Trees adjacent to Application Site offer some potential for low number of roosting bats. However, they are sub-optimal due to the size and location of features.
Bats (commuting and foraging habitat only)	Site	Hedgerows and grassland offers some potential for foraging and commuting but is sub-optimal due to location adjacent to an industrial environment and closely cropped and well managed nature of the habitats present.
Water Vole and Otter	Negligible	Presence unlikely due to unsuitability of habitat. Not considered further in this report other than for mitigation during construction.
Amphibians	Site	Some potential within hedgerows and rhynes and edges of grassland.

HABITAT	VALUE	REASON
<i>Reptiles</i>	<i>Site</i>	<i>Some potential within hedgerows and rhynes and edges of grassland</i>
<i>Hazel Dormouse</i>	<i>Negligible</i>	<i>Presence unlikely due to unsuitability of habitat. Not considered further in this report.</i>
<i>Badgers</i>	<i>Negligible</i>	<i>Badgers could potentially use the hedgerows and adjacent vegetation for foraging. However, most of the features suitable for badgers are being retained. The species is therefore not considered further.</i>
<i>Birds</i>	<i>Site</i>	<i>Potential for nesting birds within the hedgerows. Given its location in farmland it is considered likely that the Site may support some protected farmland bird species.</i>
<i>Invertebrates</i>	<i>Negligible</i>	<i>Presence of notable invertebrate assemblages unlikely due to unsuitability of habitat. Not considered further in this report.</i>

4 IMPACT ASSESSMENT AND AVOIDANCE/MITIGATION MEASURES

This section takes into account the works on the Application Site that have already occurred, including the removal of the hedgerow and associated rhynes on the SE boundary of field A, a section of hedgerow and rhyne on the SW boundary of field A, and the clearance on the grassland within the red-line boundary of the Application Site.

4.1 DESIGNATED SITES

RECOMMENDATIONS		
<ul style="list-style-type: none"> • Strict Pollution Prevention measures to be implemented during the construction phase to avoid water quality impacts on the Biddle Street SSSI and the Congresbury Yeo, adjacent Land and Rhynes LWS. Where these have not already been implemented they should be done so with immediate effect. • Wastewater discharge should be carefully considered so that water quality impacts on the Biddle Street SSSI or the Congresbury Yeo, adjacent Land and Rhynes LWS are avoided once the Application Site is operational. 		
Requires additional work pre-planning		NO
Requires action during construction	YES	
Requires action post-development		NO

Please note that impacts and mitigation measures in relation to the North Somerset and Mendip bat SAC are discussed separately in section 4.4.1 below.

Construction

Direct impacts to the Biddle Street SSSI and Congresbury Yeo, Adjacent Land and Rhynes LWS are considered unlikely as a result of the proposed works. However, ordnance survey mapping suggests that the rhynes on the Application Site could be connected to the network of waterbodies associated with these designated sites. Therefore, there are potential water quality impacts (e.g. run-off from the Application Site) on the important aquatic communities present within the SSSI and LWS. Strict precautionary measures should therefore be adopted during construction following standard Pollution Prevention guidelines. If these have not already been implemented, they should be done so with immediate effect.

Operation

Similarly, inappropriate discharge of wastewater could impact upon Biddle Street SSSI and Congresbury Yeo, Adjacent Land and Rhynes LWS and therefore careful consideration should be given to wastewater discharge to avoid impacts on these designations once the Application Site is operational.

No impacts as a result of the proposals are anticipated to any of the other designated sites mentioned earlier in this report (both statutory and non-statutory) given their distance from the Application Site.

Coastal Floodplain and Grazing Marsh Priority Habitat forms part of the Application Site. Biddle Street SSSI and Congresbury Yeo, Adjacent Land and Rhynes LWS encompass this habitat and have been discussed separately above. Loss of a small area of this habitat will be compensated for by the enhancement and long-term management of a species-rich meadow in Field B. No other impacts on the Coastal Floodplain and Grazing Marsh habitat are anticipated as a result of the proposed development.

The Application Site lies within several SSSI Impact Risk Zones, with the development proposals meeting the criteria for Natural England consultation (large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m²). It is therefore likely that North Somerset Council will look to consult Natural England on this matter.

4.2 HABITATS

RECOMMENDATIONS	
<ul style="list-style-type: none"> • Heras fencing with an attached mesh material to provide a protected corridor during construction should be erected along the N boundary of the Application Site with immediate effect. • Strict Pollution Prevention measures to be implemented during the construction phase to prevent impacts to the rhynes adjacent to the Application Site. Where these have not already been implemented, they should be done so with immediate effect. • No storage of materials to be permitted within adjacent retained grassland habitat. • Rerouting of rhyne along NW boundary of Application Site should be implemented as soon as possible to replace the infilled rhyne along the SE boundary. • Excavated earth from field A should be used to create a bank to screen the retained field to NW of the Application Site from noise and light during construction and operational phases. • Planting of a native species-rich hedgerow on top of earth bank which should be managed for the benefit of wildlife. • Enhancement of the species-rich meadow in Field B to compensate for the loss of area of modified grassland on the Application Site. 	
Requires additional work pre-planning	NO
Requires action during construction	YES
Requires action post-development	YES

Construction

The proposals include removal of the hedgerows and associated rhynes on the SE and SW boundaries of the Application Site and rerouting the rhyne along the NW Site boundary. It should be noted that the hedgerows and rhynes along this boundary have already been removed as part of works.

Hera fence with an attached wire mesh should be erected with immediate effect along the northern boundary of the Application Site in order to provide a sheltered corridor for commuting bats and to provide a screen between the Application Site and the retained grassland habitat.

A new rhyne will be created along the northern boundary of the Application Site connecting it to the wider network of rhynes and the Little River. A management strategy should be agreed between the Applicant and the Internal Drainage Board and detailed within a Landscape and Ecology Management Plan to manage this feature for the benefit of wildlife, in particular Water Vole.

Excavated earth from construction works should be used to create an earth bank on the northern boundary of the Application Site on which a native species-rich hedgerow should be planted and managed for the benefit of wildlife. These measures are designed to maintain the integrity of the rhyne and hedgerow networks that may be utilised by bats, otters, water vole reptiles, badgers and amphibians to forage and find refuge.

All retained hedgerows within close proximity to the area of works should be protected from accidental damage through the use of appropriate protective fencing during the construction phase.

No materials or machinery should be stored on adjacent grassland habitats.

Strict Pollution Prevention measures to be implemented during the construction phase to avoid water quality impacts on the Biddle Street SSSI and the Congresbury Yeo, adjacent Land and Rhynes LWS. Where these have not already been implemented they should be done so with immediate effect.

Wastewater discharge should be carefully considered so that water quality impacts on the Biddle Street SSSI or the Congresbury Yeo, adjacent Land and Rhynes LWS are avoided once the Application Site is operational.

A species-rich meadow should be created via appropriate management in Field B to compensate for the loss of grassland in field A. This will create a food source for invertebrates and other ground-foraging species, which in turn can support species such as Greater Horseshoe bat.

Please note that protected species could potentially use habitats considered to be of low intrinsic ecological value. Where this is the case recommendations have been provided in the relevant species sections below.

Operation

The retained hedgerows and rhynes on the Application Site and the enhanced species-rich meadow in field B to be

used as compensation for the loss of modified grassland on the Application Site should be maintained in perpetuity.

No residual impacts upon habitats are anticipated once the Application Site is operational.

4.3 BATS

RECOMMENDATIONS		
<ul style="list-style-type: none"> Erection of Heras fencing with an attached mesh material to provide a protected corridor along the northern Application Site boundary adjacent to the stock proof fence. Night-time construction work during the active bat season (April to November) should be avoided. Where unavoidable, lighting should be directional and on a timer, to limit light spill onto the remaining hedgerows and rhynes. Operational lighting should be avoided on the NW elevation of the new unit. If external lighting is proposed a lighting strategy for the Application Site will be produced that ensures no increase in light levels along the hedgerow and rhyne features which could potentially be used by bats (including those associated with the North Somerset and Mendip SAC). 		
Requires additional work pre-planning		NO
Requires action during construction	YES	
Requires action post-development	YES	

All bats and their roosts are protected under UK and European Legislation including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Further information is provided in . No impacts to roosting bats are anticipated.

North Somerset and Mendip bats SAC

The Application Site falls within Consultation Zone C of the North Somerset and Mendip SAC. A Supplementary Planning Document (SPD) has been produced to provide guidance to developers should a site fall within this zone (North Somerset Council 2018).

Within the SPD the following is stated:

'Proposed developments with minor impacts

4.17 In circumstances of overall less potential impact, especially in Band C, mitigation may be put forward without the need for a full season's survey. (See Annex 3). This approach will only be suitable where it can be clearly demonstrated that the impacts of a proposed development are proven to be minor and can be fully mitigated without an impact upon the existing (& likely) SAC bat habitat. In order to adopt this approach, it will be necessary for a suitably qualified

ecologist to visit the site and prepare a report with an assessment of existing (& likely) SAC bat habitat. The information from this report should provide the basis to determine appropriate mitigation measures associated with the proposed development. The proposed mitigation should clearly demonstrate that there will be no interruption of suitable SAC bat commuting habitat. Replacement of foraging habitat may be required as appropriate.

The Bat Assessment report produced by The Landmark Practice (2013) for a wider survey area encompassing the current Application Site concluded that the site does not appear to be used regularly by horseshoe bats (Greater or Lesser), nor does it provide them with an important foraging resource. Further ongoing surveys conducted by Burton Reid Associates have so far confirmed these findings. As the Application Site is bordered by a noisy and well-lit industrial complex and is well managed and it is therefore considered unlikely that the Application Site supports the functionality of the horseshoe bat population associated with the SAC. Therefore it is considered unlikely that the proposals and associated loss of habitats will have a significant impact on horseshoe bat populations associated with the SAC due to interruption of foraging or commuting habitat.

Construction

There is potential for bats to use the hedgerows and rhynes to the NW of the Application Site for commuting and foraging, however no direct impacts (clearance/removal) on these features are anticipated as a result of the proposals. It is recommended that a dark buffer zone between the construction zone and the adjacent hedgerows is established during the active bat season (April to November) by the erection of a Heras fence with attached mesh material.

Where construction phase lighting is unavoidable a sensitive lighting strategy should be devised under guidance from an ecologist to limit impacts to ensure that any commuting bats, if present, can continue to use the hedgerows and rhynes as a linear commuting feature and for foraging.

Operation

Operational lighting should be avoided on the NW elevation of the new unit. Should external lighting be required once the Application Site is operational, a sensitive lighting strategy should be produced and implemented which ensures that any introduced light levels will not affect the linear features to above 0.5 lux or above existing baseline levels.

Retaining a dark buffer zone between the Application Site and the adjacent hedgerows/rhynes will ensure that any commuting bats, if present, can continue to use the hedgerows and rhyne as a linear commuting feature and for foraging. The creation of a new rhyne and hedgerow along the northern boundary will provide a screen and a linear commuting feature and foraging habitat and this will be connected to the compensation field to the west of the Application Site.

On the basis of these measures, there are not anticipated to be any significant impacts on horseshoe bat populations

associated with the SAC or the functionality of the roost due to the proposals and that in the medium to long-term the newly created and enhanced habitats will provide more suitable features for foraging and commuting bats and result in an overall benefit to this species group.

4.4 AMPHIBIANS AND REPTILES

RECOMMENDATIONS	
<ul style="list-style-type: none"> No additional storage of materials within adjacent grassland habitats. Retained hedgerows and grassland within close proximity to the area of works should be protected from accidental damage through use of appropriate protective fencing during the construction phase. 	
Requires additional work pre-planning	NO
Requires action during construction	YES
Requires action post-development	NO

Great Crested Newt and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) and all species of reptile in the UK are afforded protection under the Wildlife and Countryside Act 1981 (as amended). Further information is provided in Appendix I.

Construction

Habitats located on the Application Site offer sub-optimal terrestrial habitat for these species' groups. Therefore, the following precautionary recommendations should be followed to ensure no impacts to these species during construction;

- No additional storage of materials to be permitted within adjacent grassland;
- Retained hedgerows and grassland within close proximity to the area of works should be protected from accidental damage through use of appropriate protective fencing during the construction phase.

Operation

No impacts upon amphibians and reptiles are anticipated once the Application Site is operational. Newly created habitats in the form of a new rhyne, species-rich hedge and enhanced semi-improved meadow grassland will provide optimal terrestrial opportunities for these species in the medium to long-term resulting in an overall benefit.

4.5 BREEDING BIRDS

RECOMMENDATIONS		
<ul style="list-style-type: none"> No storage of materials to be permitted within adjacent grassland habitat. Night-time construction work during the breeding bird season (March to August) will be avoided where possible. 		
Requires additional work pre-planning		NO
Requires action during construction	YES	
Requires action post-development		NO

All birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). Further information is provided in Appendix I.

Impact

Winter bird surveys show that while birds use the wider area, especially fields to the N and W of the Application Site, their presence is limited. Breeding bird surveys have identified low levels of breeding bird activity within the survey area.

Construction

- In order to avoid impacts on breeding birds the following precautionary measures are recommended: No removal of hedgerow vegetation during the breeding bird season (March to September inclusive) – it is understood that the hedgerow removal along the SE boundary was undertaken outside of this period.
- No storage of materials to be permitted within adjacent grassland habitat.
- Night-time construction work during the breeding bird season (March to August) will be avoided where possible.

Operation

No impacts upon breeding birds are anticipated once the Application Site is operational. It is considered that birds will benefit from the planting of a species-rich hedgerow along the northern boundary of the Application Site and the enhancement of a species-rich meadow in the compensation field which will offer a greater variety of food sources and nesting opportunities.

5 COMPENSATION HABITATS & BIODIVERSITY ENHANCEMENTS

Loss of hedgerow and rhyne within the Application Site as a result of the proposals will be compensated by the replacement and enhancement of these features elsewhere.

It is proposed that a new rhyne will be created along the northern boundary of the Application Site and this will be connected to rhyne in the wider area, including the Little River. It will be managed for the benefit of wildlife, including Water Vole and in the medium to long-term should provide suitable habitat for this species, and others.

A species-rich hedgerow will be created to the south of the new rhyne. This will be managed to create a tall and bushy structure which should provide suitable habitat for breeding birds and foraging and commuting bats and screening from the proposed development.

In addition, a field to the NW of the Application Site will be managed to create an enhanced semi-improved grassland which will provide opportunities for a range of wildlife including invertebrate, amphibians, reptiles, birds and bats to compensate for the loss of grassland on the Application Site.

Figure 2 below shows the locations of these compensation habitats.



The National Planning Policy Framework (NPPF 2019) states that the planning system should '*contribute to and enhance the natural and local environment by ...minimising impacts on and providing net gains for biodiversity...*'.

The following enhancements are recommended for inclusion at the Application Site post-development.

Table : Recommended ecological enhancements

Invertebrate-friendly planting

Development proposals could include areas of wildlife-friendly planting using nectar-/pollen-rich species of flowers and shrubs within the planting scheme for the development in order to maximise its value for a range of species. These could be created in containers or trellis planting.

These areas would provide enhanced opportunities for pollinating insects which in turn can benefit local bird and bat populations.



Native-focussed planting schemes

We recommend creating areas of wildflower meadow in the areas of grassland that you currently have. This would be beneficial to invertebrates and, in turn birdlife, on site and which require little maintenance once established.

Steps to take in March/April 2022:

Cut the grass down to ground level and make sure all the clippings are removed (this will help to reduce the fertility);

'Disturb' / scarify the existing grassland as much as possible so that areas of bare earth appear. This could be done using a hard toothed rake or similar;

Dampen the grassland down;

The best time to sow the new seeds is in April.

The use of grassland seed mixture or wildflower turf (such as WFT-Species-Rich-26 Lawn Turf by Wildflower Turf Ltd) in areas of public or shared open space would benefit wildlife.



Bat and bird roosting provisions

Smaller bird species such as blue tits, robins and sparrows are more likely to make use of the site where there is some cover so that they don't feel too exposed. Bird boxes could be installed within trellis planting once it has established or in trees within retained hedgerows.



A minimum of 4no. of the following selection of provisions for roosting bats should be made within the development scheme.

- Schwegler 2F/2FN/1FF (or equivalent) boxes suitable for a range of bat species that are known to be present in the area. These should be mounted at least 3m high on south- to west- facing aspects of mature trees along the boundaries of the Application Site and adjacent areas.



Water features

Old containers such as water butts cut in two can be turned into wildlife friendly water features. The introduction of aquatic plants such as Irises and Water Lilies would bring colour to the feature which, in turn, would attract a variety of wildlife such as birds and invertebrates. The addition of a water pump would increase the water's oxygen content and make for a healthier feature. These can theoretically be connected to existing rainwater down pipes.



6 MANAGEMENT PLANS

6.1 CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN (CEMP)

A retrospective CEMP should be produced with immediate effect to ensure that mitigation measures as described within this report are delivered during the construction phase.

The CEMP should include details of measures to be implemented in advance of (or at the immediate commencement of) the main construction period (such as works associated with any advanced vegetation clearance) and measures which must be implemented throughout the main construction phase.

The following should also be included within the CEMP:

- Identification of ecological protection zones where works are to be restricted;
- Areas where protective fencing is to be installed and maintained;
- Procedures to avoid pollution incidents;
- Ecological working methodologies to avoid/minimise impacts on sensitive ecological receptors;
- Timing of works to avoid/minimise impacts on sensitive ecological receptors;
- Where and when ecological supervision and/or toolbox talks to site personnel are required;
- Method statements for installation of enhancement features (e.g. bat and bird boxes);
- Responsible persons.

6.2 LANDSCAPE AND ECOLOGY MANAGEMENT PLAN (LEMP)

The long-term management of ecological resources across the Application Site and within the compensation area should be implemented through a Landscape and Ecology Management Plan (LEMP). The following should be included within the LEMP:

- Description of features to be managed;
- Management aims and objectives;
- Management prescriptions taking into account any legal requirements associated with protected species on Site;
- Work schedules and annual work plans;
- Body or personnel responsible for implementation of the plan;
- Monitoring and remedial measures;
- Funding resources and mechanisms for long term delivery.

This document should be prepared prior to the operational phase of the proposals.

7 REFERENCES

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