

Habitats Regulations Assessment: February 2023

Planning reference 22/P/0459/OUT: Outline planning application for the erection of up to 90 no. dwellings (including 30% affordable housing), public open space, children's play area, landscaping, sustainable urban drainage system and engineering works, with vehicular access off Mulberry Road. All matters reserved except for means of access. | Land North Of Mulberry Road Congresbury BS49 5HD.

European Site – North Somerset and Mendip Bats Special Area of Conservation (SAC).**Qualifying interest species present on site:**

Rhinolophus hipposideros; Lesser horseshoe bat

Rhinolophus ferrumequinum; Greater horseshoe bat

This Shadow HRA provides the information that North Somerset Council may reasonably require to determine whether there is a Likely Significant Effect of the Proposed Development, and to undertake an Appropriate Assessment, where a Likely Significant Effect has been identified. This assessment has been informed by, and undertaken in accordance with methods detailed within the North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development Version 2.1 (Somerset County Council (2019); from here on referred to as the 'NSMB SAC guidance'). Whilst this updated guidance document has not been adopted by North Somerset Council as an SPD, it has been used to inform the assessment presented in this document, as it represents the most up to date evidence base and guidance with respect to the bat populations of the North Somerset and Mendip Bats SAC. It is an updated version of North Somerset Council's SPD 'North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development (adopted January 2018). An Ecological Impact Assessment Report (EAD Ecology, 2021) and subsequently a Technical Note (EAD Ecology, 2022) have been prepared separately in relation to the Proposed Development and submitted to North Somerset Council and should be read in conjunction with this Shadow HRA.

1. Details of scheme:

The proposals involve the development of approximately 3.3 hectares of land to the north of Mulberry Road, Congresbury. The proposed development comprises an outline application for up to 90 residential units, with all matters reserved save for access off Mulberry Road. The development will include associated infrastructure and drainage, including SuDS basin and attenuation features, as well as public open space and associated landscaping (refer to Appendices 1 and 2), hereafter referred to as 'the site'.

2. Designated Sites to be considered:

The HRA considers potential adverse effects on bat populations of the North Somerset and Mendip Bats Special Area of Conservation (SAC) (hereafter 'the SAC'). No other European Designated Sites are considered.

The SAC is designated for its habitats and for the presence of maternity and hibernation roosts for greater and lesser horseshoe bats (refer to Appendix 3 for the Conservation Objectives). The NSMB SAC guidance identifies areas outside of the SAC boundary that

are of potential habitat value to the greater horseshoe and lesser horseshoe bats that roost within the SAC. These areas comprise three Bat Consultation Zones (A, B and C) (with Zone A being the closest to the SAC and considered the most sensitive), and a Juvenile Sustenance Zone. The site is within the greater horseshoe 'Consultation Zone A' around the SAC. The site is outside of any Consultation Zones for lesser horseshoe bat. 'Consultation Zone C' for lesser horseshoe bats is located approximately 500m to the north of the site.

The following component units of the SAC are within 10km of the proposed development site¹:

- King's Wood and Urchin Wood SSSI (0.8km to the northeast) designated in part for the presence of greater horseshoe maternity and hibernation roosts.
- Brockley Hall Stables SSSI (4.7km to the northeast)
- Banwell Ochre Mine SSSI (5km to the southwest)
- Banwell Caves SSSI (7.2km to the southwest)
- The Cheddar Complex SSSI (7.4km to the southeast)

3. Survey, approach extent and results:

Approach

The ecological baseline data that informed the EclA was determined through desk study and site survey.

Desk study

This HRA is based on the baseline bat survey data that informed the 2021 Ecological Impact Assessment Report (EclA – EAD Ecology, 2021). The EclA was informed by a desk study; biodiversity information was requested from a study area of 2km radius around the site boundary (extended to 4km for bats) from Bristol Regional Environmental Records Centre (BRERC) in September 2019. Information requested included the location and details of the following:

- Designated sites of nature conservation importance (statutory and non-statutory; extended to 10km for European statutory designated sites and 5km for other statutory sites using the Defra MAGIC website); and
- Previous records of protected and/or notable species, including Priority Species (Species of Principal Importance for Conservation in England listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) and Local Biodiversity Action Plan (BAP) Priority Species.
- Information was also obtained from the following websites (August 2019):
- <https://magic.defra.gov.uk/MagicMap.aspx> – Information on protected sites;
- <http://jncc.defra.gov.uk> – information on protected sites, Priority Habitats and Species; and
- <https://www.gov.uk/government/organisations/natural-england> – information on protected sites and standing advice.

Refer to Appendix 3 for the European Designated Sites plan.

¹ Distances are measured 'as the crow flies'.

Site survey – bats

The bat surveys that informed the HRA (as detailed in the 2021 EclA (EAD Ecology, 2021)) consisted of:

- Monthly bat activity transect surveys from September – October 2019 and April – August 2020. Refer to Table 3.1.
- Static detector deployment from September – October 2019 and April – August 2020, for a cumulative total of at least 50 nights per detector. Refer to Table 3.1.
- Bat tree roost assessment undertaken in September 2019.

The bat activity surveys were undertaken in accordance with NSMB SAC guidance (Burrows, 2019) and current BCT guidelines (Collins [ed.] 2016). For full details refer to the 2021 EclA (EAD Ecology, 2021), and Appendix 4.

Table 3.1: Bat survey methodology

Month	Transect survey	Automated survey (Titley Electronics Anabat Express)
April (2020)	Yes (3 hr dusk survey)	Yes (2 x units 8 x nights)
May (2020)	Yes (3 hr dusk survey)	Yes (2 x units x 10 nights)
June (2020)	Yes (2 x 3 hr dusk survey)	Yes (2 x units for 7 x nights)
July (2020)	Yes (2 x 3 hr dusk surveys)	Yes (2 x units for 9 x nights)
August (2020)	Yes (2 x 3 hr dusk survey)	Yes (2 x units for 8 x nights)
September (2019)	Yes (3 hr dusk survey)	Yes (2 x units for 7 x nights)
October (2019)	Yes (3 hr dusk survey)	Yes (2 x units for 7 x nights)
Total	10 surveys	Total calendar nights- 56 per unit.

Baseline lighting assessment

In accordance with NSMB SAC guidance, a baseline lighting assessment of the site was undertaken. The assessment was carried out by Illume Design (2021).

Site survey and assessment of proposed offset sites

A habitat survey of the proposed offset site was undertaken, by a suitably qualified surveyor on 23 January 2023, for the purpose of determining the existing habitat types; refer to Appendix 8. In addition, information regarding the land management of the proposed site over the last 5 years was sought from the landowner, and through analysis of historic aerial imagery. In addition, a search for Priority Habitat designations was carried out using the Defra MAGIC website.

Document review

The HRA has been informed by relevant reports/documents that were submitted with the Outline Application. These were:

- The masterplan of the development (M7 Planning Limited, 25/02/2021) (Refer to Appendix 2).

- External/Street Lighting Strategy (The Lighting Bee Ltd: July 2022) (refer to Appendix 5). This shows the general arrangement of external lighting, with lighting specifications and lux contour lines.

Results

Habitat assessment to include land use

The site comprised a single field of poor semi-improved grassland, which was used for haylage production with occasional grazing (mainly by sheep) after the haylage crop was taken. The field was bordered by species-poor and species-rich hedgerows, some with trees. A pond was present within the northeast corner and a dry ditch ran parallel with the eastern boundary. The site had residential development adjacent to the southern and western boundaries and part of the northern boundary. There were agricultural fields adjacent on the remaining boundaries (refer to Appendix 6 for a Phase 1 habitat plan).

Summary of bat activity survey findings

Full details of bat survey results are provided in Appendix 4; also refer to Appendix 11 of the EclA. Overall, at least ten species of bat, including greater and lesser horseshoe were recorded. The remaining species were soprano pipistrelle, common pipistrelle, noctule, serotine, barbastelle, and Nathusius' pipistrelle, with a further five genera recorded but not identified to species level (*Myotis* sp., *Eptesicus* sp., *Nyctalus* sp., *Plecotus* sp., and *Pipistrellus* sp.). Activity of non-Annex II species over the course of the manual activity transects and the static activity surveys was considered typical of the range of habitats present within the site and the wider local area.

Horseshoe bat activity (transects)

Both lesser and greater horseshoe registrations were recorded during bat activity transect surveys. In summary, there were a total of two greater horseshoe registrations. One was recorded along the mature willow tree line in the north-east corner of the site and the other registration was recorded along the western boundary. One lesser horseshoe bat registration was recorded among the mature ash trees in the south-west corner of the site. Refer to Table 3.2 and Appendix 4.

Table 3.2 Greater and lesser horseshoe bat transect survey results

Survey	Species recorded	Summary of activity
Transect 1 – September 2019	No horseshoe bats	-
Transect 2 – October 2019	No horseshoe bats	-
Transect 3 – April 2020	No horseshoe bats	-
Transect 4- May 2020	Lesser horseshoe	1 x registration at 23:59 among the mature ash trees in the south-west corner of the site.
Transect 5 – June 2020	Greater horseshoe	1 x registration at 22:28 in the north-east corner of the site.
Transect 6 – June 2020	No horseshoe bats	-
Transect 7 – July 2020	No horseshoe bats	-
Transect 8 – July 2020	No horseshoe bats	-
Transect 9 – August 2020	Greater horseshoe	1 x registration at 21:40 along western boundary of the site.

Table 3.2 Greater and lesser horseshoe bat transect survey results

Survey	Species recorded	Summary of activity
Transect 10 – August 2020	No horseshoe bats	-

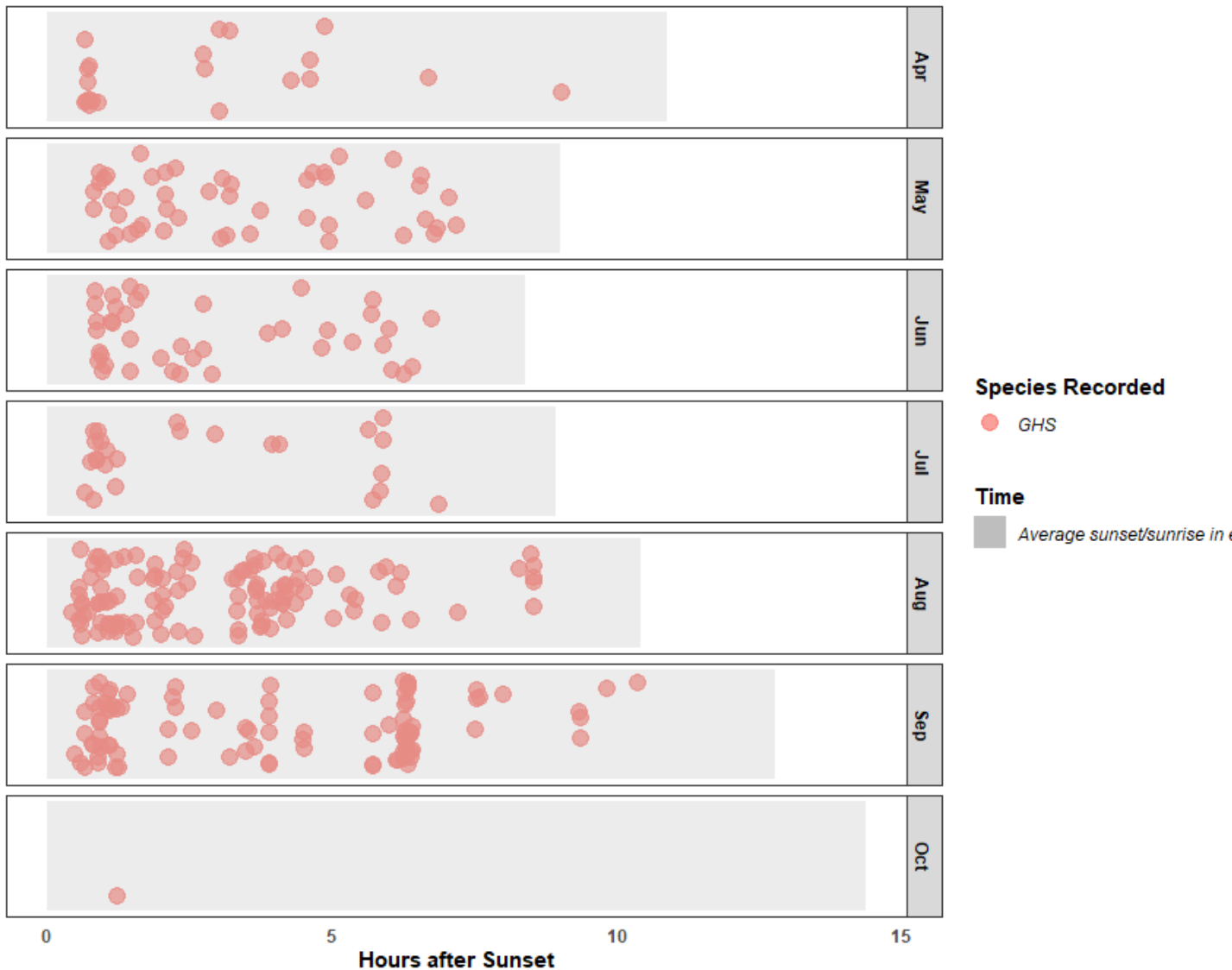
Horseshoe bat activity (static detector surveys)

Greater horseshoe bat (GHS) activity was recorded on site at both static detectors in all surveyed months (April to October) except during October at Position 2. There was no obvious peak of activity during the maternity period (June and July) to indicate that the site was of particular importance for juvenile sustenance (refer to Table 3.3). A total of 351 GHS registrations was recorded on static detectors. GHS activity was highest at Position 2 in the south west corner of the site, with 211 registrations compared with 140 registrations at Position 1 in the north east. GHS activity was highest at both static positions in August; Position 1, located in the north east corner of the site, recorded 38 registrations, whereas Position 2 recorded 80 registrations. Greater horseshoe activity levels were very low in October with only one registration recorded at Position 1. Refer to Appendix 4, and Appendix 11 of the EclA.

The earliest greater horseshoe bat registration was recorded at approximately 26 minutes after sunset, at 21:01 on 15 August 2020, when sunset was at 20:35. On average, across both static detectors for the whole survey period, greater horseshoe bat activity was distributed fairly evenly throughout the night (refer to Figure 3.1). This suggests that the site does not form a key commuting route.

Figure 3.1 greater horseshoe bat registrations recorded at all static locations across the entire survey period, in relation to sunset.

Greater horseshoe registrations recorded across the Site



Lesser horseshoe bats were recorded at both static positions. Position 1 (north east corner of site) recorded higher levels of lesser horseshoe bat activity than Position 2 (south west corner); a total of 549 registrations and 204 registrations were recorded respectively (refer to Appendix 4, and Appendix 11 of the EclA). Monthly lesser horseshoe bat activity levels varied between positions; activity levels at Position 1 were highest in April and September, whereas higher activity levels recorded at Position 2 were in October. No lesser horseshoe bats were recorded in July or August at Position 2 and in June at Position 1. There was no obvious peak of activity during the maternity period (June and July) to indicate that the site was of particular importance for juvenile sustenance (refer to Table 3.3).

The earliest lesser horseshoe registration was recorded approximately 27 minutes after sunset, at 20:41 on 18 April 2020, when sunset was at 20:13.

Table 3.3 Summary of the number of greater horseshoe and lesser horseshoe bat registrations recorded during the static detector surveys.

Static Detector Location	Survey Month	Greater Horseshoe Bat	Lesser Horseshoe Bat
Position 1	April	19	325
	May	28	13
	June	18	0
	July	15	9
	August	38	2
	September	21	188
	October	1	12
	Total	140	549
Position 2	April	2	6
	May	20	15
	June	23	30
	July	10	0
	August	80	0
	September	76	32
	October	0	121
	Total	211	204

Further analysis of the data set for GHS and LHS bats was undertaken to determine whether foraging activity had occurred, as defined by NSMB SAC guidance which states:

‘Call sequences (ultrasonic registrations) with a negative minute on either side of the (i.e., a minute in which the species was not recorded) are judged to be commuting contacts, whereas contacts in two consecutive minutes or more are judged to be foraging contacts. Foraging is defined as 6 or more such minutes over any three nights in the five nights on any one automated detector during the recording period.’

The analysis consisted of a manual search of the GHS and LHS static detector data set for patterns of activity which fitted the above definition of ‘foraging’.

There were no incidences of GHS foraging as defined above, but there were incidences of LHS foraging.

Baseline lighting assessment results

The baseline lighting assessment found the majority of the site to be dark (<0.5 lux), and thus favourable for greater horseshoe bats (and other light sensitive bat species) which are considered to be broadly intolerant of light levels exceeding 0.5 lux. The assessment found that illuminance along all of the site boundaries did not exceed 0.02 lux, with the exception of the access lane adjacent to Mulberry Road on the southern site boundary, where illuminance levels exceeding 0.5 lux extended approximately 7m into the access lane.

Summary of site value for horseshoe bats

The overall results for greater and lesser horseshoe bats were considered typical of a dark (predominantly <0.5 lux) site comprising agricultural grassland in close proximity (0.8km) to

a component site of the North Somerset and Mendips Bats SAC (King's Wood and Urchin Wood SSSI). The results illustrate usage of the site by both species of horseshoe bat, but do not indicate a particular importance for juvenile/maternal horseshoe bats during the maternity period (June and July). Whilst both species of horseshoe bats were recorded on site, it is considered less likely that the lesser horseshoe bats are those associated with the SAC, given that the site does not lie within or adjacent to consultation zones for the species.

The site provides suitable foraging habitat for greater horseshoe bats (i.e., agricultural grassland with hedgerows) in an important strategic area with connectivity to the wider landscape. However, it does not represent optimal habitat for greater horseshoe or lesser horseshoe bat (i.e., cattle grazed pasture and woodland, respectively; Ransome, (1996); Bontadina *et al*, (2002); and Knight, (2006)). The location of the site adjacent to the built-up area of Congresbury with residential development on two sides means that from a functional perspective it represents peripheral habitat, rather than a commuting pinch point or land that provides a potentially important commuting corridor for horseshoe bats.

Habitat assessment results at offset site

The proposed offset comprised semi-improved grassland, bound to the south by the Congresbury Yeo River with associated marginal vegetation, and on all other boundaries by ditches with adjacent marginal vegetation and scrub. A ditch with associated marginal vegetation and scrub, bisected the grassland, and a native hedgerow was present along the eastern boundary adjacent to the ditch. A search for Priority Habitats using the Defra MAGIC website identified that the offset was in an area classified as 'coastal and floodplain grazing marsh' within the Priority Habitats Inventory. The field is managed for hay/silage production and is not used for grazing.

STAGE 1: SCREENING OF LIKELY SIGNIFICANT EFFECTS

4. Potential Impacts:

Scope

This section presents a Screening Assessment of the development against the Conservation Objectives of the SAC. The aim of the screening exercise is to:

- 'Screen-out' impacts that would not have a risk or probability of a Likely Significant Effect (LSE) and do not require further assessment.
- 'Screen-in' impacts where there would be a risk or probability of an LSE so that these impacts can be assessed further.

The following impact pathways have been considered within the Screening Assessment:

- Loss of greater horseshoe bat foraging habitat.
- Fragmentation of greater horseshoe bat commuting routes/flyways.

These potential impacts are considered further in the following sections; as per the 2021 EclA, all other impact pathways have been assessed as unlikely and have not, therefore, been included within the screening assessment. Given the distance of the site from the closest component part the SAC, no direct effects on the habitats within the SAC as a result of the proposed development are predicted.

Whilst lesser horseshoe bats were recorded more frequently than greater horseshoe bats, the site is located within Consultation Zone A for greater horseshoe bats and is not within a Consultation Zone for lesser horseshoe bats, and so the focal species of this assessment is the greater horseshoe bat. The impact of removing seasonally grazed pasture has greater potential adverse effect to greater horseshoe bats (as this is the primary foraging habitat for mothers and juvenile bats during the maternity period; Duvergé and Jones, 2003). Although this assessment does not specifically focus on lesser horseshoe bats, the proposed mitigation measures detailed later in the document would offset any impacts to this species.

Potential avoidance / mitigation measures have not been considered at this stage, in accordance with the European Court judgement [C-323/17 (12 April 2018)]; this concludes that it is not appropriate, at the Screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the project on that site.

Screening of potential effects

Loss of greater horseshoe bat foraging habitat

Construction effects

Site clearance would result in a loss of approximately 3.3ha of suitable greater horseshoe foraging habitat (grassland managed for haylage with subsequent sheep grazing, with matrix habitats of tall ruderal). Given that the site is located within Consultation Zone A around the SAC, which has been identified as an area with high potential value as greater horseshoe bat habitat, and that surveys have corroborated that the site is used by the species, without the incorporated mitigation measures, the risk of a Likely Significant Effect on the integrity of the SAC as a result of construction cannot be discounted.

Post-construction effects

Lighting associated with the development also has potential to degrade the value of adjacent horseshoe bat foraging habitat. Without the incorporated mitigation measures, the risk of a Likely Significant Effect on the integrity of the SAC as a result of the development cannot be discounted.

Disruption and isolation/fragmentation of habitats that support commuting and foraging activities of horseshoe bats.

Construction effects

Without mitigation, construction/construction lighting has the potential to disrupt greater and lesser horseshoe bats commuting through and along the site boundaries. Given that the site immediately abuts the built-up area of Congresbury, and does not represent a commuting pinch point, construction/construction lighting is not considered likely to impact habitat connectivity within the wider landscape, or cause habitat fragmentation outside of the site boundary. As such, the risk of a Likely Significant Effect on the integrity of the SAC as a result of construction causing isolation and fragmentation of habitats, over and above the impact of the habitat loss itself, is considered very low; however, on a precautionary basis in the absence of avoidance and mitigation measures concerning lighting, it cannot be discounted.

Post-construction effects

The change from a pastoral land use to urban land use (including lighting) is likely to reduce the overall permeability within the site for horseshoe bats, and could potentially disrupt the function of the site boundaries as commuting routes. Without mitigation, this could occur

through the effects of habitat removal, change of land use, introduction of built form and lighting during operation.

Isolation of suitable habitat outside of the site boundary as a result of the completed development is considered unlikely given the location of the development, adjacent to the urban landscape of Congresbury, which is considered unsuitable/impermeable for greater horseshoe bats. As such, the risk of a Likely Significant Effect on the integrity of the SAC as a result of construction causing isolation and fragmentation of habitats, over and above the impact of the habitat loss itself, is considered very low, however, on a precautionary basis in the absence of avoidance and mitigation measures with regard to lighting, it cannot be discounted.

LSE Screening Assessment

Based on the survey results and development proposals, without mitigation, there could be a Likely Significant Effect from the following:

- Potential loss of horseshoe bat foraging and commuting habitat (through removal of habitat or degradation of habitats from increased lighting).
- Disruption and isolation/fragmentation of habitats that support commuting and foraging activities of horseshoe bats.

LSE Screening Conclusions

The HRA Screening concludes that there is a risk or probability of a Likely Significant Effect of the Development on greater horseshoe bats associated with the SAC. An Appropriate Assessment of the development, considering associated mitigation measures, is therefore required.

STAGE 2: APPROPRIATE ASSESSMENT

Both the integral design/avoidance measures and the mitigation measures associated with the development have been assessed in accordance with the NSMB SAC guidance.

5. Incorporated Mitigation Measures (e.g. guidance C.5 of 'The Habitats Regulations Assessment Handbook' (DTA Publications):

Mitigation measures proposed to ensure no disruption of and loss/fragmentation of habitats that support commuting and foraging bats during operation

Design and avoidance measures (Integral mitigation)

Substantial 'green/dark corridors', facilitated by a sensitive lighting design (refer to Appendix 5), are integral design features of the proposed development, incorporated to minimise the impact of the development on the greater horseshoe bats associated with the SAC. The corridors will be located along the northern and eastern boundaries of the site, with minimum widths of approximately 13m and 15m respectively (substantially wider in places), and will remain dark (i.e., < 0.5 lux); refer to Appendix 5 and 7.

Habitat creation within the 'dark corridors' will include approximately 0.62ha of non-amenity, neutral grassland with scattered scrub and trees, 0.22ha of amenity grassland, a 0.14ha SuDS pond, and 150 lin. m of native species-rich hedgerow planting; refer to Appendix 7.

All wildflower grassland (non-amenity grassland) within the 'dark corridors' would be managed to have a long sward to maximise the abundance of moths, thus maximising the quality of the habitat as a foraging resource. The meadow-mix would include food plants for noctuid moths known to be preferred by greater horseshoe bats e.g., large yellow underwing, heart and dart, and dark arches moths (Ransome, 1996).

To maximise the chances that the proposed habitats function as intended for horseshoe bats, paths would be concentrated within the amenity grassland (and within POS outside of the dark zones) to discourage walking/trampling within the wildflower grassland, and a robust management and monitoring strategy will be implemented. The strategy will include monitoring surveys, with remedial action when surveys indicate that the created habitats are not as intended. Interpretation boards, wildlife leaflets, and web-based information will be provided to inform residents of the purpose of the neutral grassland, and encourage users to stick to paths and use the POS areas responsibly. Detailed, in-perpetuity management and monitoring proposals for POS will be specified in a LEMP, which could be approved by North Somerset Council and secured via condition.

Mitigation

The following mitigation measures are proposed, in addition to the design and avoidance measures outlined above.

Construction phase

The retained hedgerows within the site would be protected from potential damage during construction through the use of temporary barriers (e.g., Heras fencing). Construction would be undertaken in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction-Recommendations'.

All contractors' compounds would be located away from retained hedgerows and trees, and outside of the 'dark corridors', to minimise potential lighting and disturbance impacts. Between April and October no lighting will be left on outside of construction periods. Any security lighting will be positioned at low height and motion-activated on short timers.

A Construction and Ecological Management Plan (CECoMP) will be produced to detail measures to ensure habitat and species protection during construction, which could be approved by North Somerset Council and secured via condition.

Post-construction Phase

Management of retained and new on-site landscape features for horseshoe bats (as summarised under 'Design and avoidance measures' above) will be detailed within the LEMP. The LEMP will also detail management objectives and actions to ensure appropriate long-term habitat management for the benefit of bats. The LEMP will also include a suitable monitoring strategy for habitats and greater horseshoe bats. Results would be summarised in a monitoring report, issued to North Somerset Council and used to inform the LEMP review.

Off-site measures

The impact to greater horseshoe bats, in terms of the net change in the quantum of suitable foraging habitat as a result of the loss associated with development, and the integral habitat creation measures within the 'dark corridors' summarised above, was assessed in line with

the metric provided in the NSMB guidance, referred to as the Habitat Evaluation Procedure (HEP).

The HEP is used to calculate the amount of habitat required to replace that lost to a horseshoe bat population due to development. This method uses Habitat Suitability Indices (HSIs) assigned to each habitat type lost, along with the habitat area, and other considerations such as the SAC Consultation Zone in which the site lies, and habitat management practices, to calculate the number of Habitat Units for each habitat type lost as a result of the proposed development. The HEP metric is then used to calculate the area (ha) of 'equivalent hectares provided' by the landscape strategy. This is done by taking the area of each habitat provided and factoring these by the HSI and scores applied with respect to 'delivery risk' and 'temporal risk' to account for the relative difficulty and time lag associated with establishing the new habitats; areas of created habitat subject to light levels greater than 0.5 lux are not included within the calculation. The value for 'equivalent hectares provided' is then subtracted from the value for 'hectares required' to determine whether there is a loss or gain of horseshoe bat foraging habitat.

HSI values for different habitats and their management are provided within the NSMB guidance. However, there is scope to alter these codes if deemed appropriate. Paragraph A5.26 of the NMDB guidance states: *'In this study HSI have initially been researched and scored by the author. However, the scores can be varied through review, further research findings or to reflect local conditions based on survey. Where varied by consultants the reason for the variation should be given and supported by evidence.'*

For the purpose of the current HEP calculation, the habitat management HSI value for the onsite grassland was altered because the agricultural management of the development site did not fit any of the pre-set management types provided in the guidance; this change was agreed with the Somerset Ecologist (Larry Burrows) in October 2020. Similarly, whilst the offset site grassland was within an area identified as 'coastal floodplain and grazing marsh' (within the Priority Habitats Inventory), as the grassland as not subject to grazing, the HSI management code of 1 was reduced to 0.7, to reflect the potential uplift in habitat suitability for horseshoe bats associated with changes to the current management practices. This change was discussed and agreed via on-site consultation with Natural England (Alison Howell 20/02/2023). Refer to Appendix 9.

The default HSI values within the guidance were used for all other habitat/ management practices as identified during the site surveys and desk study (development site and offset site).

An initial HEP assessment was undertaken and indicated that the habitat creation associated with the on-site integral design/avoidance measures was insufficient to mitigate for the loss greater horseshoe foraging habitat associated with the development, indicating the risk of a Likely Significant Effect on the integrity of the SAC in the absence of additional mitigation. To mitigate for the shortfall in habitat mitigation, an off-site habitat creation area (off-set site) was identified where habitat enhancement will be undertaken to fully mitigate the on-site loss of greater horseshoe bat habitat.

The proposed offset site (Site A) is located inside Zone A of the North Somerset and Mendip Bats SAC, around King's Wood and Urchin Wood SSSI; refer to Appendix 8 for the proposed offset site locations.

The offset site is located approximately 475m to the north of the proposed development site, in close proximity to mitigation land associated with a Strongvox development at Furnace Way, that has been managed by Yatton and Congresbury Wildlife Action Group (YACWAG) for the benefit of greater horseshoe bats.

The site is considered suitable as an offset because it is located in Consultation Zone A and likely to be used by bats from the same SAC roost as those impacted by the development. In addition, it has connectivity to the wider landscape, that is accessible to greater horseshoe bats associated with the SAC. Furthermore, the location is considered to be strategically sound and in alignment with advice provided in a planning response from Natural England (dated: 13 April 2022; ref: 388391) which stated:

'It is our advice that, due to the location of this site, an opportunity is presented for habitat creation in a strategic location for bats from the SAC. Bats from the SAC are very likely to use the Congresbury Yeo as an important dispersal route. Juvenile bats from the SAC are very likely to forage in suitable habitat between Urchin Wood and Congresbury Yeo. Identifying land which would provide a direct connection between Congresbury Yeo and the land to the east of Furnace Way, Congresbury, would link Urchin Wood to the Congresbury Yeo and secure a strategic route for bats in long term favourable management. A site in this location would be in line with the requirements of Local Plan policy DM8 and policy EH4 (a) of the Congresbury Neighbourhood Development Plan.'

The proposed offset site is located adjacent to the Congresbury Yeo, which is considered by Natural England in their planning response, as an important dispersal route for bats from the SAC. It is also located in close proximity to an existing mitigation site, to the east of Furnace Way, which together could contribute towards a more secure, viable foraging area for bats associated with the SAC. It is considered that the offset site would secure and improve for horseshoe bats, a substantial area of land between Congresbury Yeo and King's Wood and Urchin Wood SSSI to the east.

Detailed, in-perpetuity management and monitoring proposals for the offset site will be specified in a Greater Horseshoe Bat Management Plan, which would be submitted for approval by North Somerset Council and secured through S.106 agreement. The principles for this in-perpetuity management are detailed below. Implementation of management would commence prior to or concurrently with commencement of development.

The existing site is currently accessible and used by walkers/dog walkers via a Public Right of Way (PRoW). To maintain a level of public access to the offset site, two habitat enhancement prescriptions are proposed within separate areas of the site.

To the east of the existing footpath/ PRoW, habitat enhancement through conservation grazing is proposed; this area will be fenced off. Enhancement within this area will be implemented through low intensity conservation grazing, and retention/enhancement of the boundary habitats, including planting of scattered shrubs and trees adjacent to the northeast boundary so as to provide sheltered habitat for invertebrates.

To the west of the existing footpath/PRoW, the grassland will be enhanced through management to produce a long sward to support an abundance of noctuid moths and other invertebrate prey species for horseshoe bats. Public access will be retained in this area with

existing footpaths maintained, and signage provided, to discourage walkers from trampling the conservation grassland.

Habitat management/enhancement measures in both areas will be undertaken in accordance with the habitat creation prescriptions detailed within Annex 6 of the NSMB guidance.

Suitable monitoring would be undertaken to ensure i) that measures were implemented; and, ii) that they deliver the required ecology objectives.

For the purpose of the HEP assessment, the proposed habitat enhancement at the offset site has been described/categorised as follows (refer to Appendices 8 and 9). In both areas of the offset site (east and west of footpath/PRoW), the composition of the grassland will be diversified, either through scarification and overseeding if necessary, or through management (grazing/mowing) to enhance the sward to a 'neutral' composition (HEP habitat code: GN0) from its current 'semi-improved' composition (HEP habitat code: GU0). For the HEP assessment, the current management at the proposed offset site has been classified as 'coastal floodplain and grazing marsh' (HEP management code: CF1), as this is how the land is classified within the Priority Habitats Inventory. However, as previously mentioned, it is understood that the site is not currently grazed/managed specifically for horseshoe bats, and is managed for hay production, and therefore is considered to have potential for additional enhancement through the introduction of an appropriate grazing/grassland management regime; to account for/describe this this management enhancement within the HEP calculation, an additional code has been included alongside to the 'coastal and floodplain grazing marsh' code, to describe the proposed changes in management in the two areas of the proposed offset site ('GL2 - Non-amenity grassland' for the publicly accessible area, and 'GM1 - Grazed' for the grazed area). To account for the potential detrimental impact of public access within the western area of the proposed offset site, within the HEP calculation, only 90% of the area mapped within Appendix 8 as publicly accessible, has been included within the 'Replacement Habitat' tab of the HEP metric spreadsheet.

The quantum of off-site land required to offset the on-site greater horseshoe habitat loss was informed by the HEP metric calculations. The HEP assessment detailed in Appendix 9 illustrates that the proposed habitat enhancement measures at the offset site detailed above would be sufficient to mitigate for the loss/degradation of greater horseshoe foraging habitat as a result of the proposed development; the calculation shows a net-gain of 0.51 equivalent hectares of greater horseshoe habitat.

All of the design, avoidance and mitigation measures outlined above are considered to be 'incorporated mitigation measures' which are capable of being delivered, as proposed, to avoid, cancel or reduce adverse effects of the development on SAC bats.

6. Potential effects on the Conservation Objectives of the North Somerset and Mendip Bats SAC:

Loss of greater horseshoe bat foraging habitat

Assuming the timely provision of replacement greater horseshoe bat foraging habitat, both on and off-site, in accordance with the quantum of habitat detailed in the HEP calculations (refer to Appendix 8), adverse effects on the North Somerset and Mendip Bats SAC

associated with loss of foraging habitat would be avoided. It is concluded that there would be no risk or probability of a Likely Significant Effect on the integrity of the North Somerset and Mendip Bats SAC as a result of this impact.

Loss, fragmentation and isolation of flight paths and commuting corridors for greater horseshoe bats

The survey results indicate that the development site boundaries are likely to be used by greater horseshoe bats as flight paths, and the development is likely to isolate the southern and western boundaries from greater horseshoe bats. However, the southern and western boundaries are already located adjacent to built-up areas (enclosed by development on two sides), and given the peripheral location of the site, and the fact that it does not represent a habitat 'pinch-point', the isolation of these boundaries is not considered likely to impact habitat connectivity within the wider landscape, or cause habitat fragmentation outside of the site boundary.

The maintenance and enhancement of 'dark corridors' along the northern and eastern boundaries, during and post-construction, will ensure connectivity with the remaining on-site greater horseshoe habitat and habitat in the wider landscape. It is concluded that there would be no risk or probability of a Likely Significant Effect on the integrity of the North Somerset and Mendip Bats SAC as a result of this impact.

The following to be completed by Competent Authority (LPA) ecologists:

7. Further checks and measures to ensure implementation and success of avoidance and mitigation measures:

8. Potential likely significant effect alone:

The proposed development design, sensitive lighting strategy and off-site habitat enhancement would ensure that there was no detrimental effect on the horseshoe bats associated with the SAC. Connectivity with the wider landscape would be maintained, and habitat creation and enhancement measures would offset the greater horseshoe habitat loss associated with the development. There would be no Likely Significant Effect of the development alone on the Conservation Objectives associated with horseshoe bats within the North Somerset and Mendip Bats SAC.

9. 'In combination' assessment:

Assuming timely provision of replacement foraging habitat for SAC bats, there would be no predicted residual loss of foraging habitat to contribute to a cumulative effect on the North Somerset and Mendip Bat SAC. Furthermore, given that the local supplementary planning guidance relating to the North Somerset and Mendip Bats SAC, stipulates the timely provision of sufficient horseshoe bat foraging habitat to offset losses associated with development, it is assumed that all other developments in the vicinity would be required to offset foraging habitat loss accordingly. In addition, given the peripheral location of the proposed development site, with existing urban development on two sides, and the planned retention of the northern and eastern boundaries as functional horseshoe habitat, there is considered to be no risk of the site contributing to an adverse effect on bat commuting.

10. Potential likely significant effect 'in combination':

It is considered that there would be no risk of a Likely Significant Effect on North Somerset and Mendip Bats SAC as a result of the development of the site in combination with other development.

11. HRA Conclusion:

It is considered that there would be no Likely Significant Effect on the integrity of North Somerset and Mendip Bats SAC as a result of the development, either alone or in combination with other development.

Signed (Competent Authority Ecologist):

Natural England consultation response to screening conclusion (Natural England Officer; and date/reference of correspondence)

The following Advice Notes should be added to the planning consent.

Note 1.

The applicant is advised that the North Somerset and Mendip Bats Special Area of Conservation is a highly protected suite of sites for wildlife and ecology of international importance.

Note 2. Qualifying Features

- Semi-natural dry grassland and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)
- *Tilio-Acerion* forests of slopes, screes and ravines
- Caves not open to the public
- Lesser horseshoe bat *Rhinolophus hipposideros*
- Greater horseshoe bat *Rhinolophus ferrumequinum*

References:

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NORTH SOMERSET COUNCIL HRA SCREENING TEMPLATE (SS/SB 2016)

Appendices:

Appendix 1: Site location plan

Appendix 2: Proposed development masterplan

Appendix 3: European designated sites plan and Conservation Objectives for North Somerset and Mendips Bats SAC

Appendix 4: Bat survey

Appendix 5: External/street lighting strategy

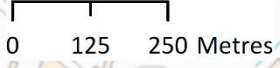
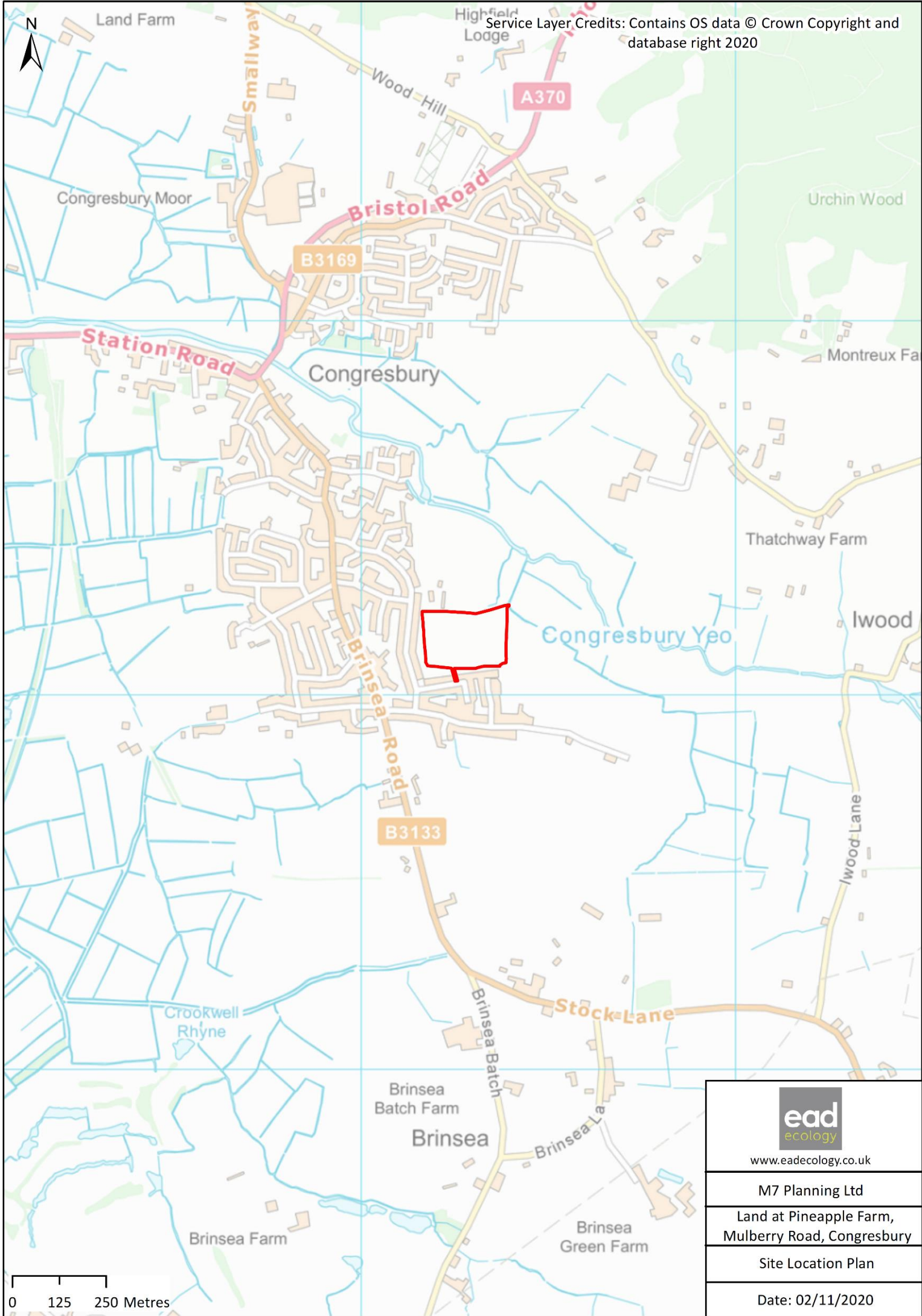
Appendix 6: Phase 1 habitat plan

Appendix 7: Ecological constraints and opportunities plan

Appendix 8: Off-site HEP Habitat Plan

Appendix 9: HEP assessment

Appendix 1: Site location plan



 www.eadecology.co.uk
M7 Planning Ltd
Land at Pineapple Farm, Mulberry Road, Congresbury
Site Location Plan
Date: 02/11/2020

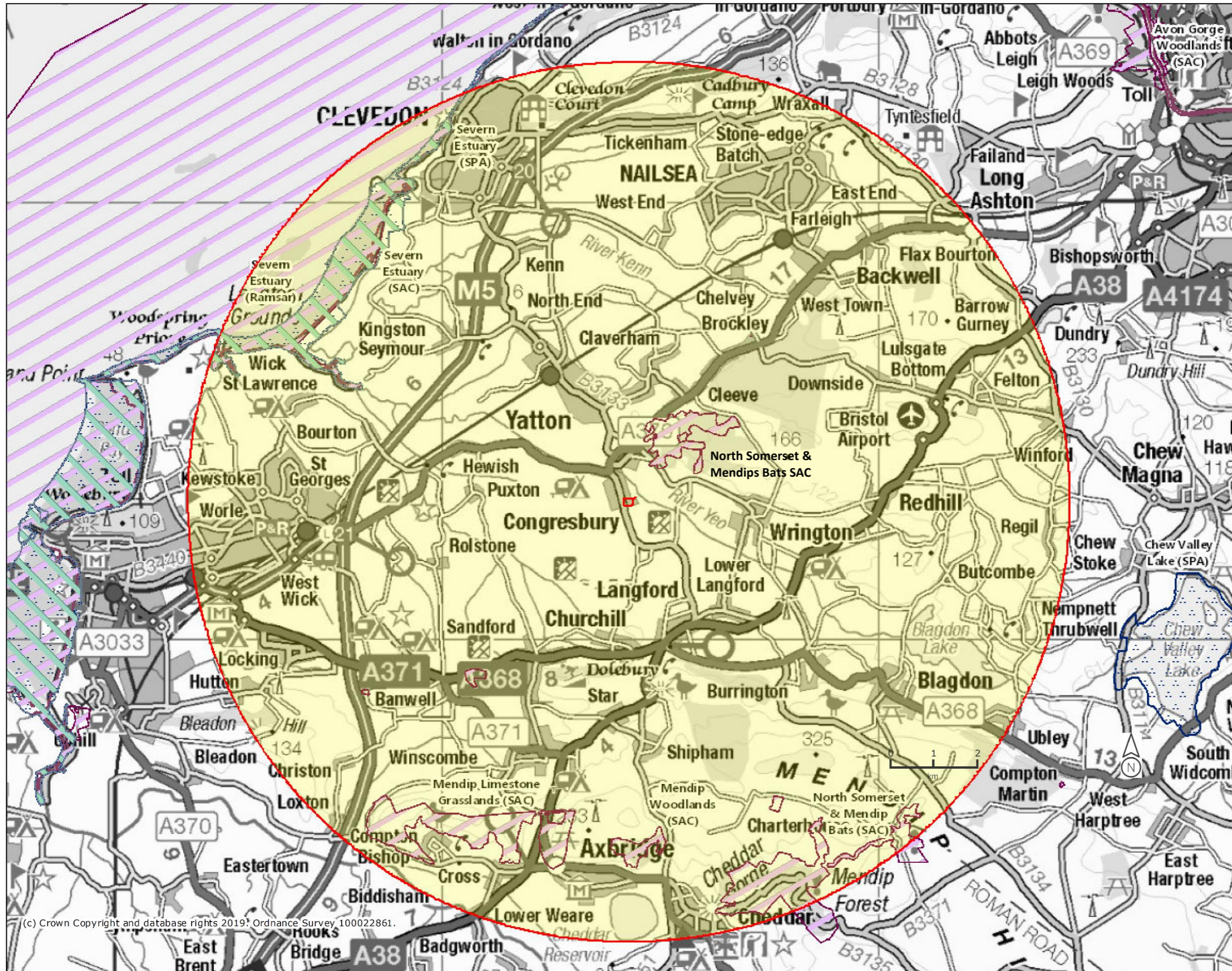
Appendix 2: Proposed development masterplan

MR50001
Pineapple Farm, Mulberry
Farm, Congresbury

Masterplan



Appendix 3: European designated sites plan and conservation objectives for North Somerset and Mendips Bats SAC



Legend

- Ramsar Sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36
 xmin = 321800
 ymin = 152100
 xmax = 366400
 ymax = 174800



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European Site Conservation Objectives for North Somerset and Mendip Bats Special Area of Conservation Site Code: UK0030052

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*); Dry grasslands and scrublands on chalk or limestone

H8310. Caves not open to the public

H9180. *Tilio-Acerion* forests of slopes, screes and ravines; Mixed woodland on base-rich soils associated with rocky slopes*

S1303. *Rhinolophus hipposideros*; Lesser horseshoe bat

S1304. *Rhinolophus ferrumequinum*; Greater horseshoe bat

* denotes a priority natural habitat or species (supporting explanatory text on following page)

* Priority natural habitats or species

Some of the natural habitats and species listed in the Habitats Directive and for which SACs have been selected are considered to be particular priorities for conservation at a European scale and are subject to special provisions in the Directive and the Habitats Regulations. These priority natural habitats and species are denoted by an asterisk (*) in Annex I and II of the Directive. The term 'priority' is also used in other contexts, for example with reference to particular habitats or species that are prioritised in UK Biodiversity Action Plans. It is important to note however that these are not necessarily the priority natural habitats or species within the meaning of the Habitats Directive or the Habitats Regulations.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") and Article 6(3) of the Habitats Directive. They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment', including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features as required by the provisions of Article 6(1) and 6(2) of the Directive.

These Conservation Objectives are set for each habitat or species of a [Special Area of Conservation \(SAC\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term 'favourable conservation status' is defined in Article 1 of the Habitats Directive.

Publication date: 30 June 2014 – version 2. This document updates and replaces an earlier version dated 29 May 2012 to reflect Natural England's Strategic Standard on European Site Conservation Objectives 2014.

Appendix 4: Bat survey

Bat survey

1 Methodology

Preliminary roost assessment

All trees within the survey area were subject to a ground-based inspection and assessment of their potential to support roosting bats on 26 September 2019, following Bat Conservation Trust (BCT) Guidelines (Collins [ed.]2016; refer to Table A4.1). This involved a detailed inspection of each tree using binoculars to record potential bat roosting features such as rot holes, woodpecker holes and hazard beams. Trees assessed as having ‘Negligible bat roost suitability were not recorded. There were no buildings or structures within the site.

Table A4.1 Guidelines for assessing the potential suitability of proposed development sites for bats (adapted from Collins, 2016)

Suitability	Description of Roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of the species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Activity survey

The bat activity survey was undertaken in accordance with *North Somerset and Mendip Bats SAC Guidance on Development Version 2.1* (Burrows, 2019) and current BCT guidelines (Collins [ed.] 2016). The survey comprised two elements: transect survey and static detector survey.

Activity survey – transect survey

A transect survey was carried out on 10 occasions between September and October 2019, and April and August 2020 in appropriate weather conditions; refer to Table A4.2. On each occasion, two surveyors walked a pre-determined transect route at a constant pace; refer to Bat Activity Plan for transect route. Surveys began at sunset and continued for at least three hours. Surveyors carried Anabat Express (Titley Electronics Ltd) bat detectors in order to record and GPS tag bat registrations for later analysis, and Batbox Duet bat detectors to aid bat identification during the survey. Notes on the presence of early bats, multiple bats and observations of behaviour including the height, direction and pattern of commuting/ foraging activity were made where possible. In order to facilitate the production of a kernel density estimate plot of bat activity along the transect/transects, the start point of each transect was randomised between surveys. All surveys were carried out by suitably qualified ecologists.

Table A4.2: Weather conditions during bat transect surveys

Date	Data at start/end of survey period	Sunset	Cloud (Oktas)	Wind speed (Beaufort)	Temperature (C)
26.09.2019	Start: 19:04	19:04	3	1	16
	End: 22:04		2	2-3	15
21.10.2020	Start: 18:06	18:06	8	0-1	10
	End: 21:06		6	0-1	9
22.04.2020	Start: 20:19	20:19	4	0-1	18
	End: 23:19		0	0-1	14
28.05.2020	Start: 21:14	21:14	1	1	20
	End: 00:14		0	1	16
16.06.2020	Start: 21:30	21:30	2	3	15
	End: 00:30		0	2	14.5
13.07.2020	Start: 21:23	21:23	8	1	17
	End: 00:23		8	1	17
27.07.2020	Start: 21:06	21:06	1	1	18
	End: 00:06		0	2	15
11.08.2020	Start: 20:40	20:40	2	0-1	23
	End: 23:40		2	0-1	21
25.08.2020	Start: 20:11	20:11	8	8-9	19
	End: 23:11		6	8-9	18

Activity survey – static detector survey

In accordance with *North Somerset and Mendip Bats SAC Guidance on Development Version 2.1* (Burrows, 2019), two static bat detectors (Anabat Express, Titley Electronics) were deployed within the site on 20 September 2019, 14 October 2019, 14 April 2020, 19 May 2020, 17 June 2020, 13 July 2020 and 11 August 2020, for a cumulative total of 50 nights per detector.

Analysis

General

All bat registrations recorded during transect and static detector surveys were downloaded and analysed to species level, where possible, using ‘AnalogW’. Species identification was carried out using data from known bat roosts, as well as stock recordings from other bat workers, and relevant literature (Russ, 2012). For both the transect and static detector surveys, ‘registrations’ for each species were defined as the series of pulses within a single Anabat Express Zero Crossing (ZC) file. The Anabat Express hardware imposes a limit of 15 seconds per file, but also a limit of 32k for the total file length and 16384 transitions within in the file (Chris Corben, Titley Electronics, pers. comm. 12/06/2017). Whilst this results in files of different length, consideration of a file as a single registration provides a consistent measure of relative activity for each species and total bat activity to enable comparison across the dataset.

Transect survey

The geotagged bat registrations recorded during the transect survey were processed, using the kde2d function from the MASS package (Venables & Ripley 2002) in R version 3.5.2 (R Core Team, 2018), to produce a kernel density estimate plot of overall bat activity along the transect route; refer to Bat Survey Plan. The locations of individual bat registrations for species of particular interest were overlain on to the kernel density plot. The kernel density plot enables a visual comparison of the estimated density of bat registrations along the transect, via a colour gradient. The kernel density plot is provided to aid the

visualisation of the density of bat registrations recorded along the transect, rather than as a means to estimate bat activity where recordings weren't made. The estimated density of bat registrations, as represented by the colour gradient, is relative only to the analysed dataset and should not be compared to other kernel density plots.

Static detector survey

The dataset from static detector surveys were processed to provide 'Bat Activity Index (BAI)' scores. The BAI was calculated as the number of registrations recorded per hour during the time the detectors were operational each night (bat detectors started recording half an hour before sunset to half an hour after sunrise). The BAI was calculated using R version 3.5.2 (R Core Team, 2018).

Results

Species name abbreviations used in the results hereafter are provided in Table A4.3.

Table A4.3 Bat species recorded

Common name	Scientific name	Species code
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Pp
Soprano pipistrelle	<i>P. pygamaeus</i>	Ppyg
Nathusius' pipistrelle	<i>P. nathusii</i>	Pn
Pipistrelle	<i>Pipistrellus sp.</i>	Pip
Noctule	<i>Nyctalus noctula</i>	Nn
Nyctalus bat	<i>Nyctalus sp.</i>	Ny sp.
Myotis bat	<i>Myotis sp.</i>	My sp.
Serotine	<i>Eptesicus serotinus</i>	Es
Serotine, Leisler's or noctule	<i>Eptesicus, serotinus or Nyctalus sp.</i>	EorNy
Long-eared bat	<i>Plecotus sp.</i>	PI sp.
Greater horseshoe	<i>Rhinolophus ferrumequinum</i>	GHS
Lesser horseshoe	<i>Rhinolophus hipposideros</i>	LHS
Barbastelle	<i>Barbastelle barbastellus</i>	Bb

Roost survey

The results of the tree assessment are provided in Table A4.4. Within the survey area, six trees were assessed as having 'Moderate' roost suitability and one tree was assessed as having 'Low' roost suitability. A further three trees, located just outside the site boundary and within residential gardens, were assessed as having 'Moderate' roost suitability. Refer to Bat Tree Roost Assessment Plan for tree locations.

None of the trees within the site would be affected by the development therefore no further surveys were carried out.

Table A4.4 Preliminary roost assessment of trees - results

Tree	Species	Description of tree and features	% Ivy cover	Bat roost suitability
1	Ash	Mature, pollarded within garden. Three holes on northern side of trunk.	0	Moderate
2	Ash	Mature, within garden boundary. Poor visibility for thorough assessment of tree; appropriate age for potential suitable features.	0	Low
3	Ash	Mature, within garden boundary. Hollow, rotten trunk.	2	Moderate

Table A4.4 Preliminary roost assessment of trees - results

Tree	Species	Description of tree and features	% Ivy cover	Bat roost suitability
4	Ash	Mature. Knot hole on southwest elevation and hole on the end of a broken limb on the north-west side.	0	Moderate
5	Willow	Mature, multi-stemmed. Multiple cracks, holes and crevices throughout.	0	Moderate
6	Willow	Mature, multi-stemmed. Multiple cracks, holes and crevices throughout.	0	Moderate
7	Willow	Mature, multi-stemmed. Multiple cracks, holes and crevices throughout.	0	Moderate
8	Willow	Mature, multi-stemmed. Multiple cracks, holes and crevices throughout.	0	Moderate
9	Willow	Mature, multi-stemmed. Multiple cracks, holes and crevices throughout.	20	Moderate

Activity survey – transect survey

At least seven bat species were recorded during the ten transect survey sessions. Soprano pipistrelle was the most common bat recorded comprising 45% of all registrations, followed by common pipistrelle (30%). Other bat species included noctule (8.0%), *Myotis* species (6.0%) serotine (6.0%) and serotine/*Nyctalus* species (4.0%). Greater horseshoe, lesser horseshoe and *Nyctalus* bat species were also recorded and accounted for less than 1.0% of registrations.

Bat activity was predominantly concentrated along the mature willow tree line in the north east corner of the site and among mature ash trees in the south-west corner of the site; refer to the Bat Transect Survey Results Plan. Activity in these areas was dominated by common and soprano pipistrelle. *Myotis* activity was also concentrated along the mature willow tree line.

A concentration of common pipistrelle activity was recorded along the access track on the southern boundary of the site, with serotine and noctule also recorded in this area. Serotine and serotine/*Nyctalus* bat activity was concentrated within the south east corner of the site and visual observations were made of multiple bats foraging along hedgerows and between fields. Noctule bat activity was greatest in the centre of the field. Bat activity in the north-west corner of the site was very low and comprised a few common and soprano pipistrelle bat registrations.

Two greater horseshoe bat registrations were recorded during the ten transect survey sessions; one registration was recorded along the mature willow tree line in the north-east corner of the site and the other registration was recorded along the western boundary. One lesser horseshoe bat registration was recorded among the mature ash trees in the south-west corner of the site.

Activity survey – static detector survey

At least ten bat species were recorded during the static detector survey with an overall total of 27,852 registrations. Soprano pipistrelle and common pipistrelle were the most abundant species comprising 44% and 41% of all recordings respectively, followed by *Myotis* species (8.0%), lesser horseshoe (3.0%), greater horseshoe (1.26%) and noctule (1.02%). Other species recorded on static detectors but accounting for less than 1% of registrations were serotine/*Nyctalus* species, serotine, unidentified pipistrelle species, long-eared bat species, *Nathusius'* pipistrelle, barbastelle and *Nyctalus* species.

The highest overall levels of bat activity were recorded at Position 1, located along the mature willow tree line in the north-east corner of the site, which recorded a BAI of 26.47. Position 2, located within species-

poor hedgerow in the south-west corner of the site, recorded 20.69 bat registrations per hour on average (refer to Table A4.5 and Graph A4.1). Soprano pipistrelle was the most common species recorded at Position 1, followed by common pipistrelle and *Myotis* species. Common pipistrelle was the most common species recorded at Position 2, followed by soprano pipistrelle and *Myotis* species. Monthly bat activity level varied between positions; activity levels at Position 1 were highest in April, whilst activity levels at Position 2 were more consistent throughout the season with lower bat activity levels present in July and August (refer to Table A4.5 and Graph A4.2).

Greater horseshoe bat (GHS) activity was recorded on both static detectors in all surveyed months (April to October) except during October at Position 2. A total of 351 GHS registrations was recorded on static detectors, with a resultant BAI of 0.3. GHS activity was highest at Position 2. GHS activity was highest at both static positions in August; Position 1 recorded 38 registrations whereas Position 2 recorded 80 registrations. Greater horseshoe activity levels were very low in October with only one registration recorded at Position 1. Refer to Table A4.6, Graph A4.3, and Graph A4.4.

Lesser horseshoe bats were recorded at both static positions. Position 1 recorded higher levels of lesser horseshoe bat activity than Position 2; a total of 549 registrations (BAI 0.93) and 204 registrations (BAI 0.35) were recorded, respectively (refer to Table A4.6 and Graph A4.3). Monthly lesser horseshoe bat activity levels varied between positions; activity levels at Position 1 were highest in April and September, whereas higher activity levels recorded at Position 2 were in October. No lesser horseshoe bats were recorded in July or August at Position 2 and in June at Position 1 (refer to Table A4.6 and Graph A4.5).

Further analysis of the data set for GHS and LHS bats was undertaken to determine whether commuting or foraging activity had occurred, as defined by NSMB SAC guidance which states:

‘Call sequences (ultrasonic registrations) with a negative minute on either side of the (i.e. a minute in which the species was not recorded) are judged to be commuting contacts, whereas contacts in two consecutive minutes or more are judged to be foraging contacts. Foraging is defined as 6 or more such minutes over any three nights in the five nights on any one automated detector during the recording period.’

The analysis consisted of a manual search of the GHS and LHS static detector data set for patterns of activity which fitted the above definition of ‘foraging’. There were no incidences of GHS foraging as defined above, but there were incidences of LHS foraging.

References

Burrows, L (2019) *North Somerset and Mendip Bats Special Area of Conservation (SAC). Guidance on Development (Version 2.1)*.

Collins J (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

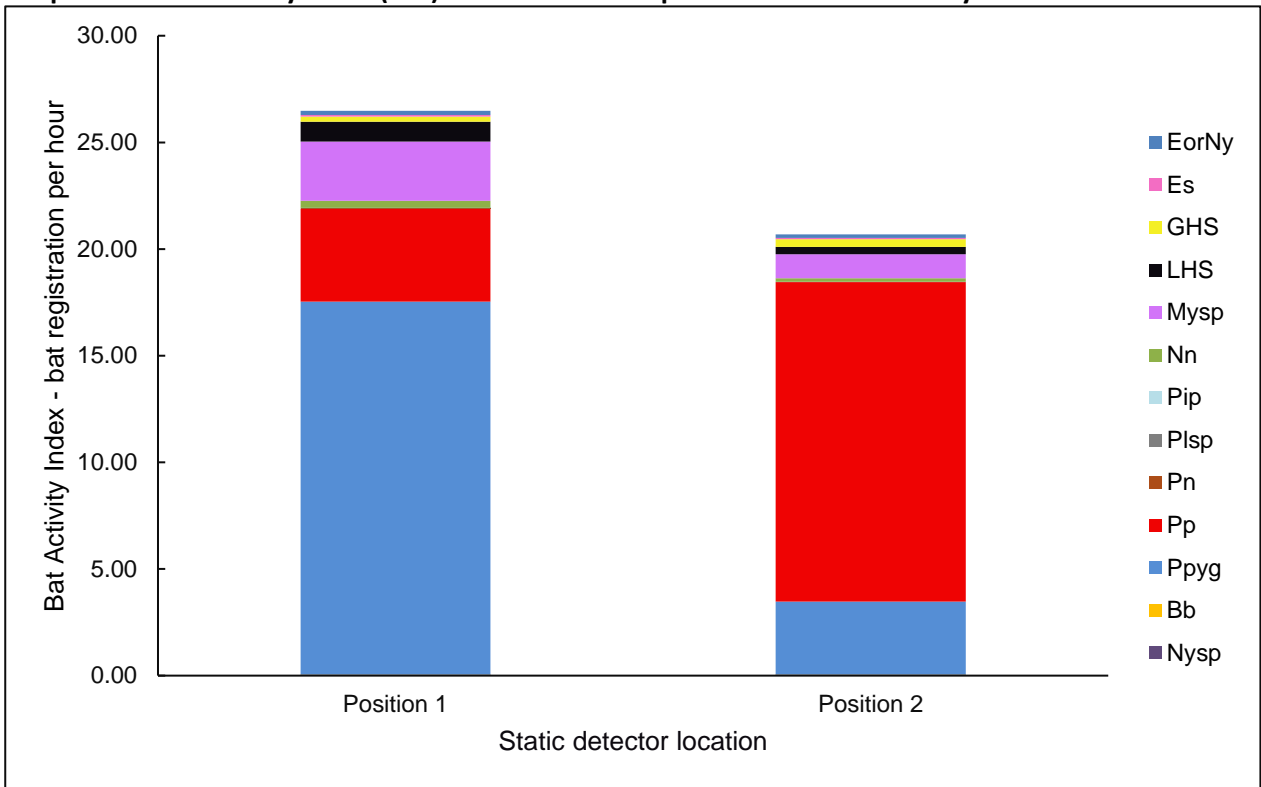
English Nature (2004) *Species Conservation Handbook*. English Nature, Peterborough.

Russ J (2012) *British Bat Calls: A guide to Species identification*. Pelagic Publishing, Exeter.

Table A4.6. Bat Activity Index (BAI) at static detector positions

Static Detector Location	Month	EorNy	Es	GHS	LHS	Mysp	Nn	Pip	Plsp	Pn	Pp	Ppyg	Bb	Nysp
1	Apr	0.18	0.02	0.22	3.71	10.57	0.13	0.01	0.06	0.02	14.97	58.65	0.00	0.00
	May	0.33	0.00	0.31	0.14	2.85	0.76	0.00	0.01	0.00	1.26	7.66	0.00	0.01
	Jun	0.29	0.00	0.31	0.00	0.73	0.02	0.02	0.00	0.00	1.36	3.69	0.00	0.00
	Jul	0.15	0.02	0.19	0.11	1.64	0.60	0.01	0.00	0.00	5.40	9.65	0.00	0.11
	Aug	0.16	0.01	0.46	0.02	0.23	0.60	0.00	0.01	0.00	2.72	8.18	0.01	0.17
	Sep	0.16	0.47	0.23	2.09	2.92	0.13	0.00	0.04	0.00	4.36	25.21	0.00	0.01
	Oct	0.07	0.00	0.01	0.12	0.08	0.00	0.00	0.00	0.00	0.25	5.66	0.00	0.00
	Total	0.18	0.08	0.24	0.93	2.79	0.32	0.01	0.02	0.00	4.37	17.49	0.00	0.04
2	Apr	0.10	0.01	0.02	0.07	1.26	0.14	0.00	0.01	0.00	22.20	1.09	0.00	0.03
	May	0.53	0.07	0.22	0.17	0.41	0.32	0.00	0.11	0.00	12.44	4.10	0.00	0.12
	Jun	0.32	0.00	0.39	0.51	1.84	0.39	0.00	0.02	0.00	17.19	1.00	0.00	0.05
	Jul	0.09	0.00	0.12	0.00	0.07	0.12	0.00	0.00	0.00	0.10	12.00	0.00	0.02
	Aug	0.06	0.01	0.96	0.00	0.54	0.16	0.00	0.00	0.00	1.54	2.12	0.01	0.08
	Sep	0.04	0.36	0.85	0.36	2.09	0.09	0.00	0.00	0.00	19.81	2.37	0.00	0.00
	Oct	0.04	0.01	0.00	1.20	1.70	0.00	0.00	0.00	0.00	28.36	1.42	0.00	0.00
	Total	0.16	0.07	0.36	0.35	1.13	0.16	0.00	0.02	0.00	14.98	3.42	0.00	0.04

Graph A4.1: Bat Activity Index (BAI) at static detector positions - overall activity



Graph A4.2: Bat Activity Index per month for Static Positions

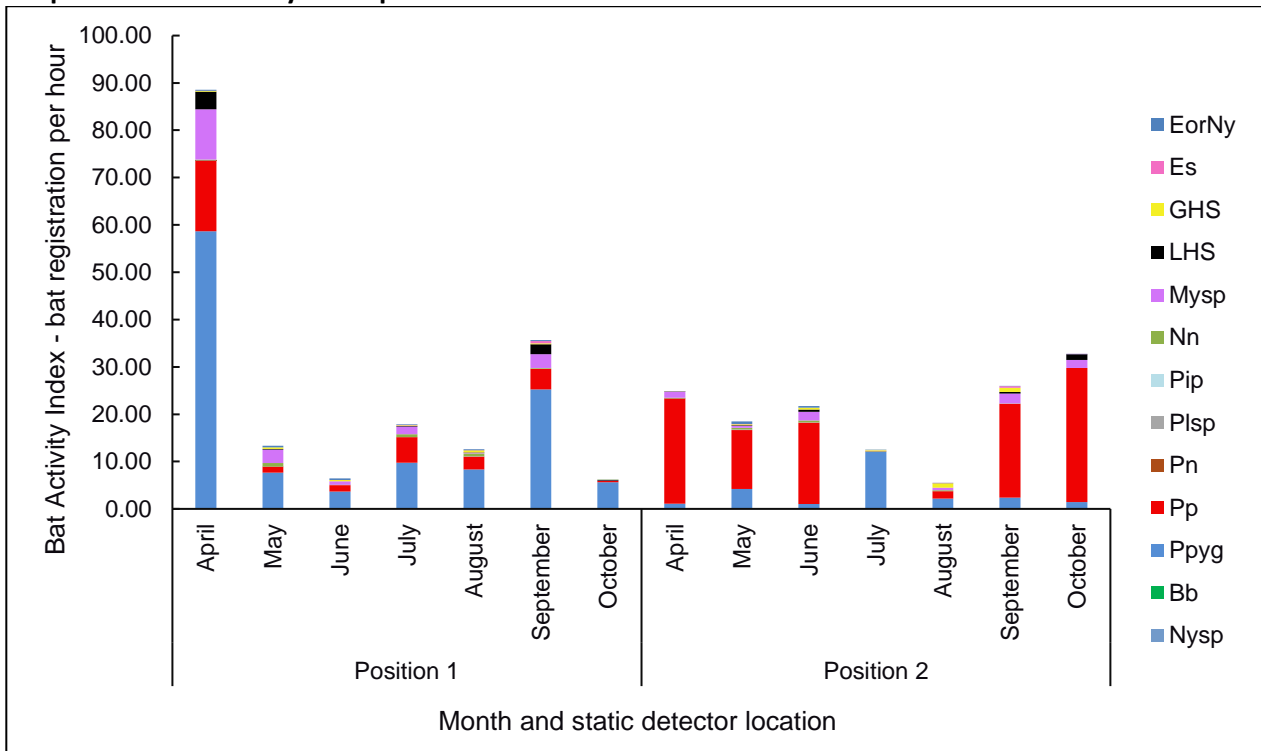
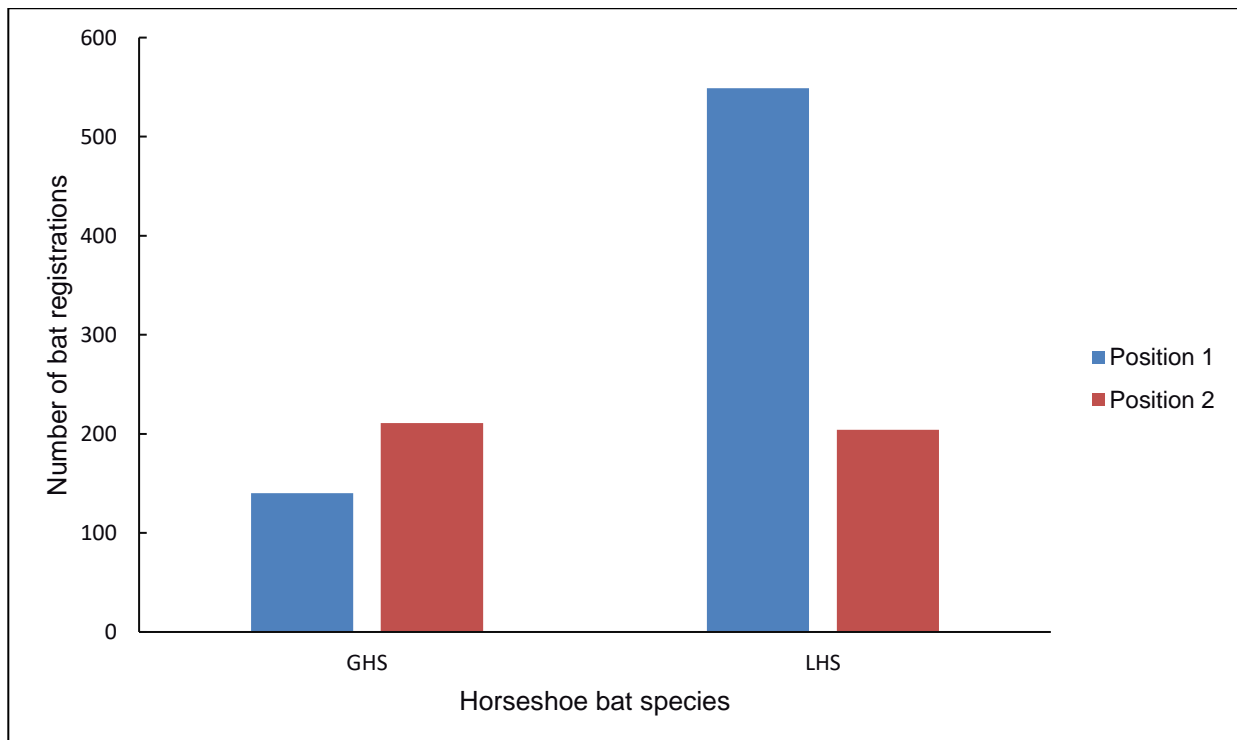


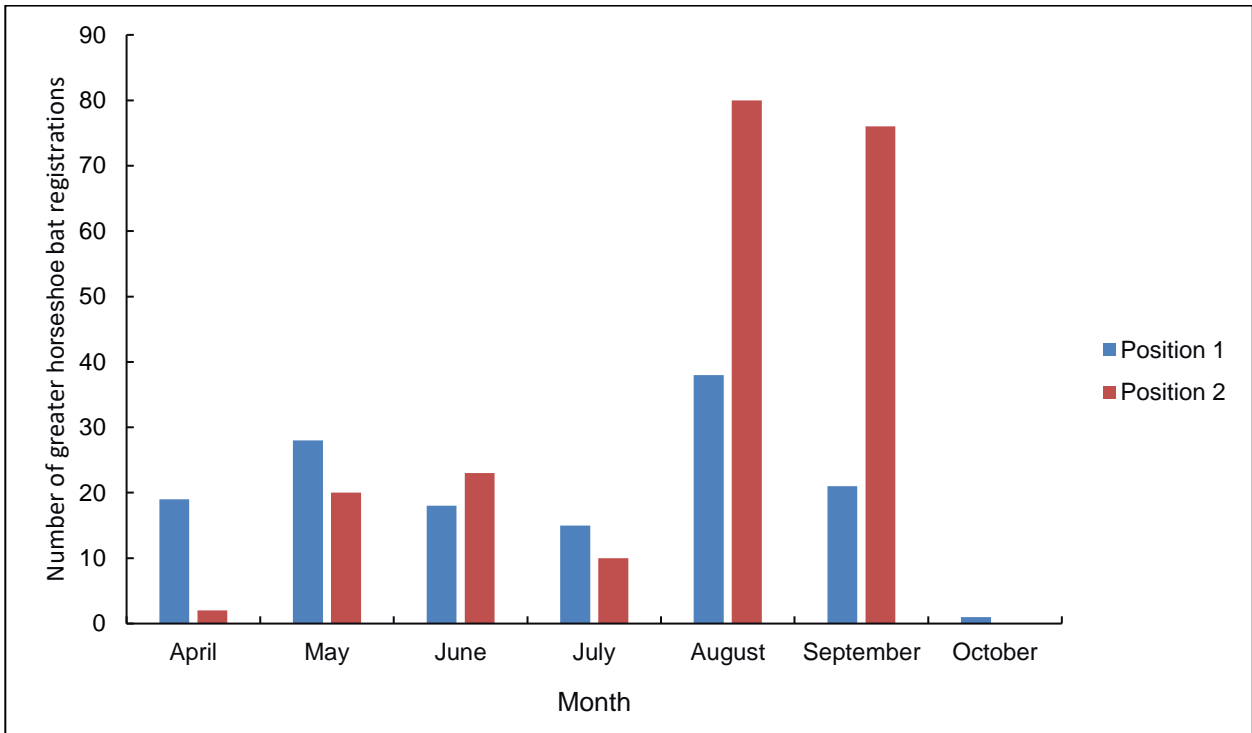
Table A4.7: Summary of the number of greater horseshoe and lesser horseshoe bat registrations recorded during the static detector surveys.

		Greater Horseshoe Bat	Lesser Horseshoe Bat
Position 1	April	19	325
	May	28	13
	June	18	0
	July	15	9
	August	38	2
	September	21	188
	October	1	12
	Total	140	549
Position 2	April	2	6
	May	20	15
	June	23	30
	July	10	0
	August	80	0
	September	76	32
	October	0	121
	Total	211	204

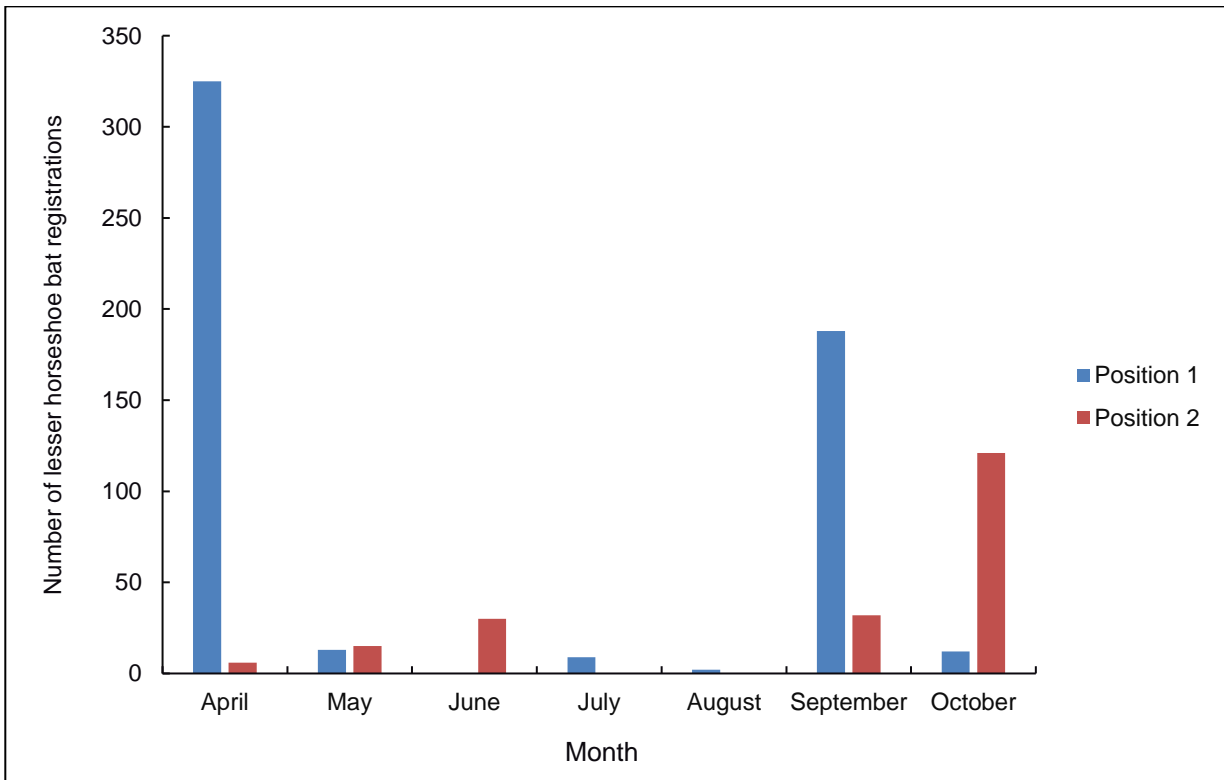
Graph A4.3: Total number of greater horseshoe and lesser horseshoe bat registrations at static detector positions – overall activity

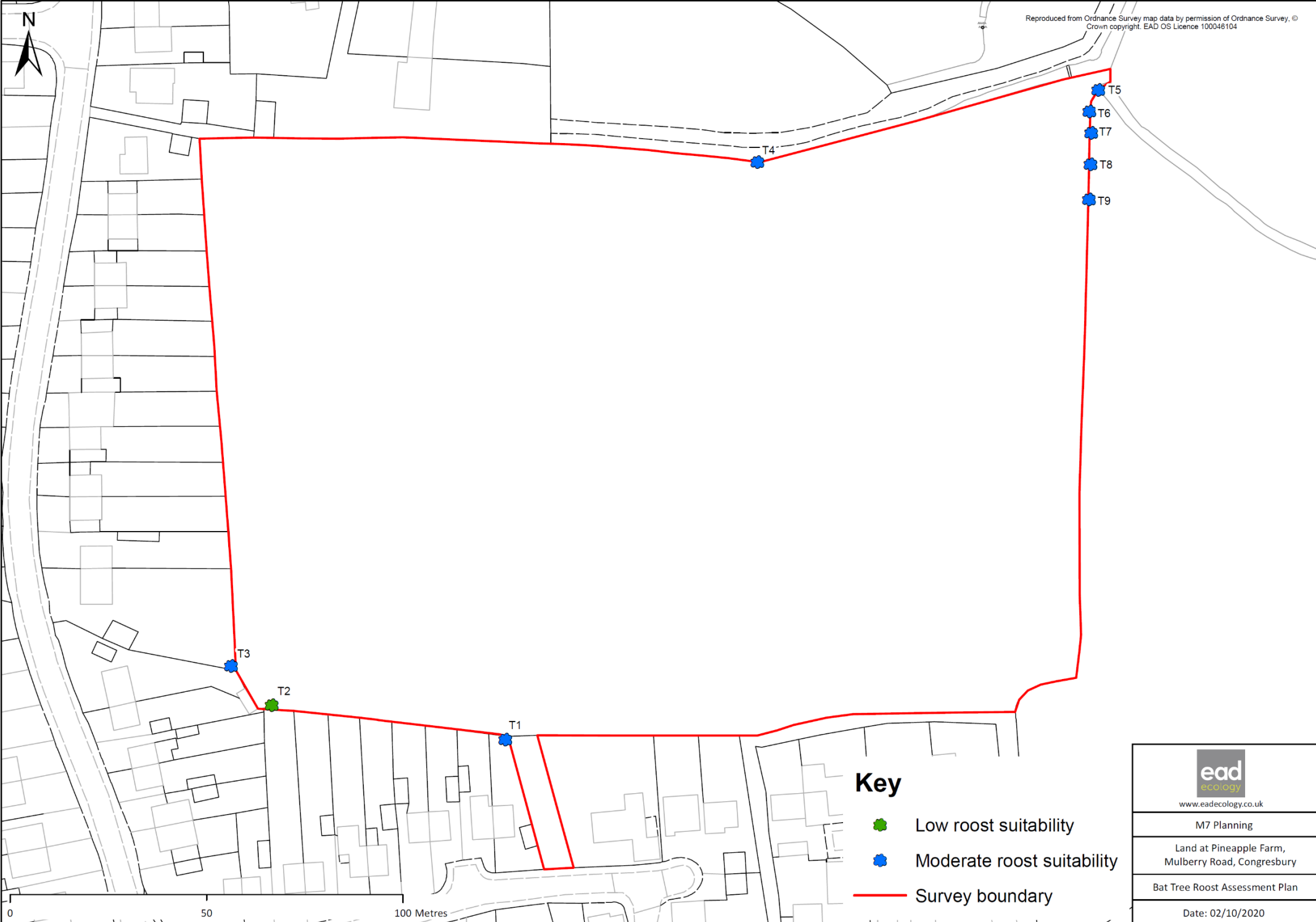


Graph A4.4: Greater horseshoe bat registrations per month for Static Positions






Graph A4.5: Lesser horseshoe bat registrations per month for Static Positions





Key

-  Low roost suitability
-  Moderate roost suitability
-  Survey boundary



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Land at Pineapple Farm,
Mulberry Road, Congresbury

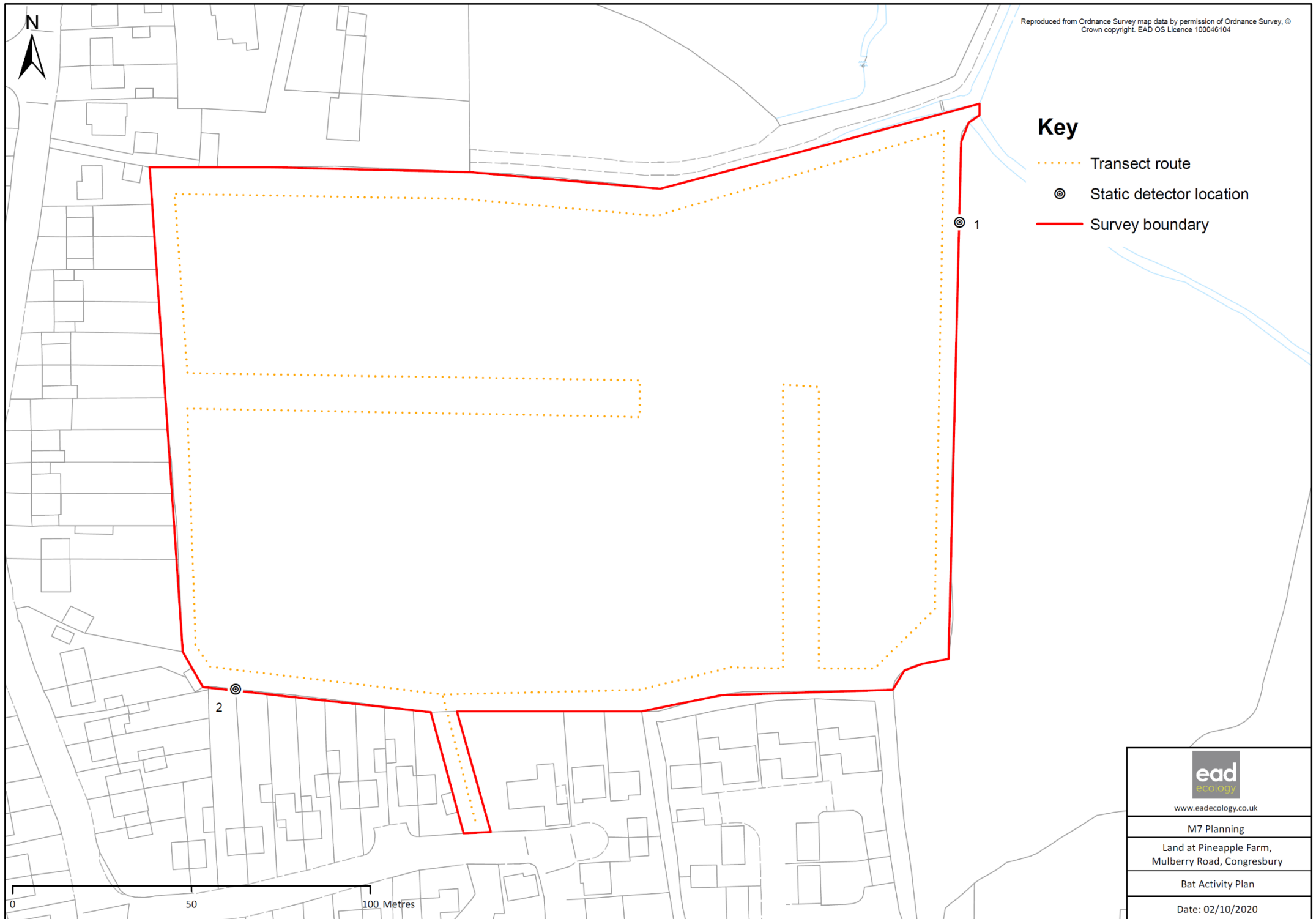
Bat Tree Roost Assessment Plan

Date: 02/10/2020



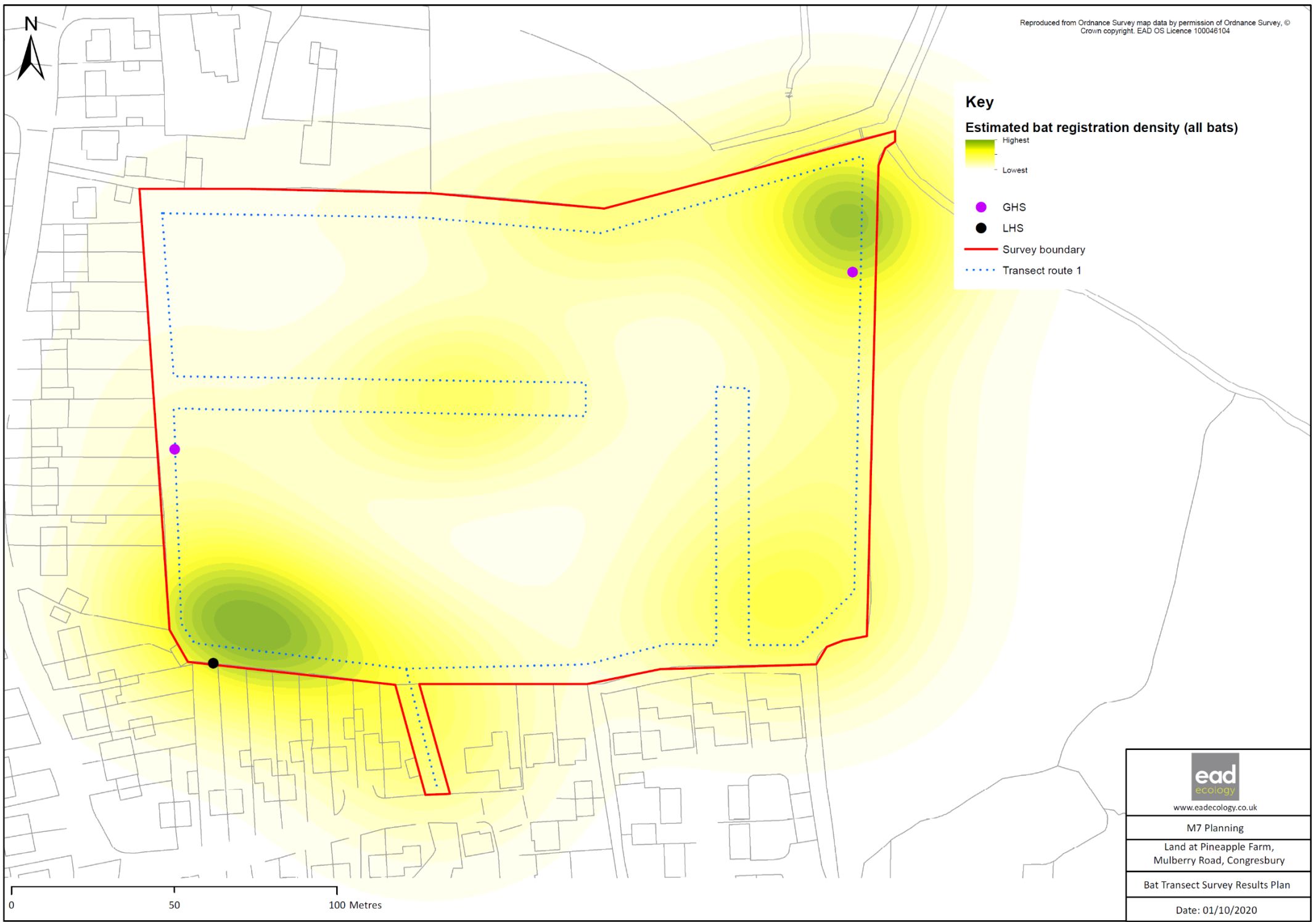
Key

-  Transect route
-  Static detector location
-  Survey boundary



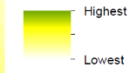
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M7 Planning
Land at Pineapple Farm, Mulberry Road, Congresbury
Bat Activity Plan
Date: 02/10/2020



Key

Estimated bat registration density (all bats)



- GHS
- LHS
- Survey boundary
- ⋯ Transect route 1



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M7 Planning

Land at Pineapple Farm,
Mulberry Road, Congresbury

Bat Transect Survey Results Plan

Date: 01/10/2020

Appendix 5: External/Street Lighting Strategy (The Lighting Bee Ltd: July 2022)

DATE: 22 July 2022
DESIGNER: The Lighting Bee Lyd
PROJECT No: 1034-LB-EX-XX-CA-E-7080-51
PROJECT NAME: Mulberry Road, Congresbury



S38 Street Lighting Strategy

Layout Report

General Data

Dimensions in Metres Angles in Degrees
 Grid Origin 51.8m x 16.8m
 Area 276.9m x 225.8m
 Sample Spacing 1.50m x 1.50m

Luminaires

Luminaire A Data

Supplier	
Type	AXIA 3.1 5266 8 OSLOL SQUARE GIANT @700mA WW 730 230V 01-37-041
Lamp(s)	8 OSLOL SQUARE GIANT@700mA WW 730 230V 01-37-041 [CJOIO4STDA],
Lamp Flux (klm)	2.48
File Name	AXIA 3.1 5266 8 OSLOL SQUARE GIANT 700mA WW 730 19.4W 7x4 II-Medium 4290...
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	1019.6, 171.9, 0.0
No. in Project	11

Luminaire B Data

Supplier	
Type	AXIA 3.1 5266 8 OSLOL SQUARE GIANT @700mA WW 730 230V 01-37-041
Lamp(s)	8 OSLOL SQUARE GIANT@700mA WW 730 230V 01-37-041 [CJOIO4STDA],
Lamp Flux (klm)	2.48
File Name	AXIA 3.1 5266 8 OSLOL SQUARE GIANT 700mA WW 730 19.4W 7x4 II-Medium 4576...
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	856.4, 119.2, 0.0
No. in Project	4

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	173.32	84.34	5.00	180.00	0.00	0.00	0.40			
2	A	163.08	110.58	5.00	275.00	0.00	0.00	0.40			
3	A	129.01	99.71	5.00	92.00	0.00	0.00	0.40			
4	A	203.84	113.06	5.00	274.00	0.00	0.00	0.40			
5	A	241.47	115.37	5.00	275.00	0.00	0.00	0.40			
6	A	271.37	117.27	5.00	272.00	0.00	0.00	0.40			
7	B	289.30	116.23	5.00	183.00	0.00	0.00	0.40			
8	A	132.43	126.93	5.00	184.00	0.00	0.00	0.40			
9	A	121.57	166.08	5.00	4.00	0.00	0.00	0.40			
10	B	118.36	194.30	5.00	274.00	0.00	0.00	0.40			
11	B	156.28	196.61	5.00	273.00	0.00	0.00	0.40			
13	A	183.95	168.79	5.00	5.00	0.00	0.00	0.40			
14	B	193.23	198.84	5.00	274.00	0.00	0.00	0.40			
16	A	194.87	134.02	5.00	183.00	0.00	0.00	0.40			
15	A	169.67	49.92	5.00	15.00	0.00	0.00	0.40			

Horizontal Illuminance (lux)

Grid 1



Results

Eav	4.83
Emin	0.60
E _{max}	27.65
E _{min} /E _{max}	0.02
E _{min} /E _{av}	0.12



Notes

1. Do not scale from this drawing.
2. All measurements are in millimeters unless stated otherwise.
3. This drawing is provided for planning purposes to show the external lighting strategy and should be developed at technical design stage. The design indicating luminaire positions is indicative and will be subject to final site layout and detailed design. S38 street lighting will be subject to final site layout and North Somerset County Council approval.
4. Isolines contours represent values of illuminance calculated in lux.
5. Levels of illuminance are calculated and shown at ground level with a maintenance factor of 1 to represent the worst case scenario.
6. The model is based on calculations on a flat ground plane. No topography or proposed levels have been built into the calculation model.
7. S38 street lighting luminaires, columns, controls and equipment to be provided in accordance with North Somerset County Council requirements. For full section 38 street lighting specification refer to North Somerset County Council documentation.
8. Private lighting design provided in accordance with the clients requirements, consultation and risk assessment.
9. Bollards and wall mounted luminaires intended to aid in wayfinding only - and not to provide task illumination.
10. Luminaires have been selected that have 3000K warm white LED light sources as this will minimise the impact on bats. Downward directional luminaires have been selected, with minimal upward light output to limit the impact on bats.
11. All building mounted luminaires to operate via a PIR motion sensor indicator on a short 1 min. rise time.
12. All bollard luminaires operate via photocell and 7 day programmable time switch so that the bollards operate from till dawn and dusk until midnight.
13. Refer to accompanying Designers Risk Assessment for details of design risks identified.



The drawings created by Lighting Bee will be accurate to any form of lighting system that is approved by the client. Lighting Bee will not be responsible for any errors or omissions in the drawings. The client is responsible for ensuring that the drawings are used in accordance with the relevant regulations and standards. The client is also responsible for ensuring that the drawings are used in accordance with the relevant regulations and standards. The client is also responsible for ensuring that the drawings are used in accordance with the relevant regulations and standards.

Section 38 Luminaire Legend

- X1A 1768 3000K LED luminaire post top mounted on a 5m column. As Utric Area 2.1 - 6.1 FFH AT 700lm (2.48lm) CW 5/16 optic.
- X1B 1768 3000K LED luminaire post top mounted on a 5m column. As Utric Area 2.1 - 6.1 LED AT 700lm (2.48lm) CW 5/16 optic and integral rear louvre.

Private Luminaire Legend

- X2 1968 3000K 1m high downward directional 1 FFD bollard luminaire. As DW Windsor Phoenix US (1.51lm).
- X3 1744 angled downward directional wall luminaire mounted at 1.8m above wall integrated PIR movement sensor. WALL E PIR manufactured by Aurora Lighting or equal and approved. Fitted with a GU10 lamp holder. Developer to provide an 1 FFD 3000K (375 Lumens) Maximum 6.5W lamp to be installed.

Legend

- 10 Lux
- 5 Lux
- 4 Lux
- 2 Lux
- 1 Lux
- 0.5 Lux
- 0.2 Lux
- Site Boundary

Rev	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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M7 Design
A Division of M7 Planning Limited

Mulberry Road Congressbury

External Lighting Strategy
Levels of Horizontal Illuminance at Ground Level
Full Output Shown (MF=1)
SCALE: 1:500
DATE: 10/10/2023
PROJECT: 1034-LB-EX-XX-DR-E-7080-41
ISSUE: P01



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- Section 38 Luminaire Legend**
- X1A 1766 3000K LED luminaire posttop mounted on a 5m column. As Lites Area 2 - 81 FFD AT 700mm (2.48m), CW 5/150 optic.
 - X1B 1766 3000K LED luminaire posttop mounted on a 5m column. As Lites Area 2 - 81 ED AT 700mm (2.48m), CW 5/150 optic and integral rear louve.

- Legend**
- 10 Lux
 - 5 Lux
 - 4 Lux
 - 2 Lux
 - 1 Lux
 - 0.5 Lux
 - 0.2 Lux
 - Site Boundary

- Notes**
1. Do not scale from this drawing.
 2. All measurements are in millimetres unless stated otherwise.
 3. Section 38 street lighting has been designed to BS 5489 class P5 (3.0 Lux 5' and 0.65 Lux 6' min).
 4. Luminaires, columns, controls and equipment to be provided in accordance with North Somerset County Council requirements.
 5. For full section 38 street lighting specification refer to North Somerset Council consultation.
 6. This drawing represents a lighting strategy prepared for the planning application stage. Luminaire column positions are indicative and will be subject to final site layout and North Somerset County Council approval.
 7. Levels of illumination are calculated and shown horizontally at ground level.
 8. This drawing shows the luminaires at full output with a maintenance factor of 1 to represent the worst case scenario for assessment purposes.
 9. Refer to accompanying Designers Risk Assessment for details of design risks identified.

REV	Technical Notes	TC 33	20/22
1	Issue	5/1/2021	Issue



M7 Design
A Division of M7 Planning Limited

PROJECT TITLE
**Mulberry Road
Congresbury**

DRAWING TITLE
**Street Lighting Strategy - Section 38
Levels of Horizontal Illuminance
at Ground Level
Full Output Shown (MF=1)**

SCALE
1:500

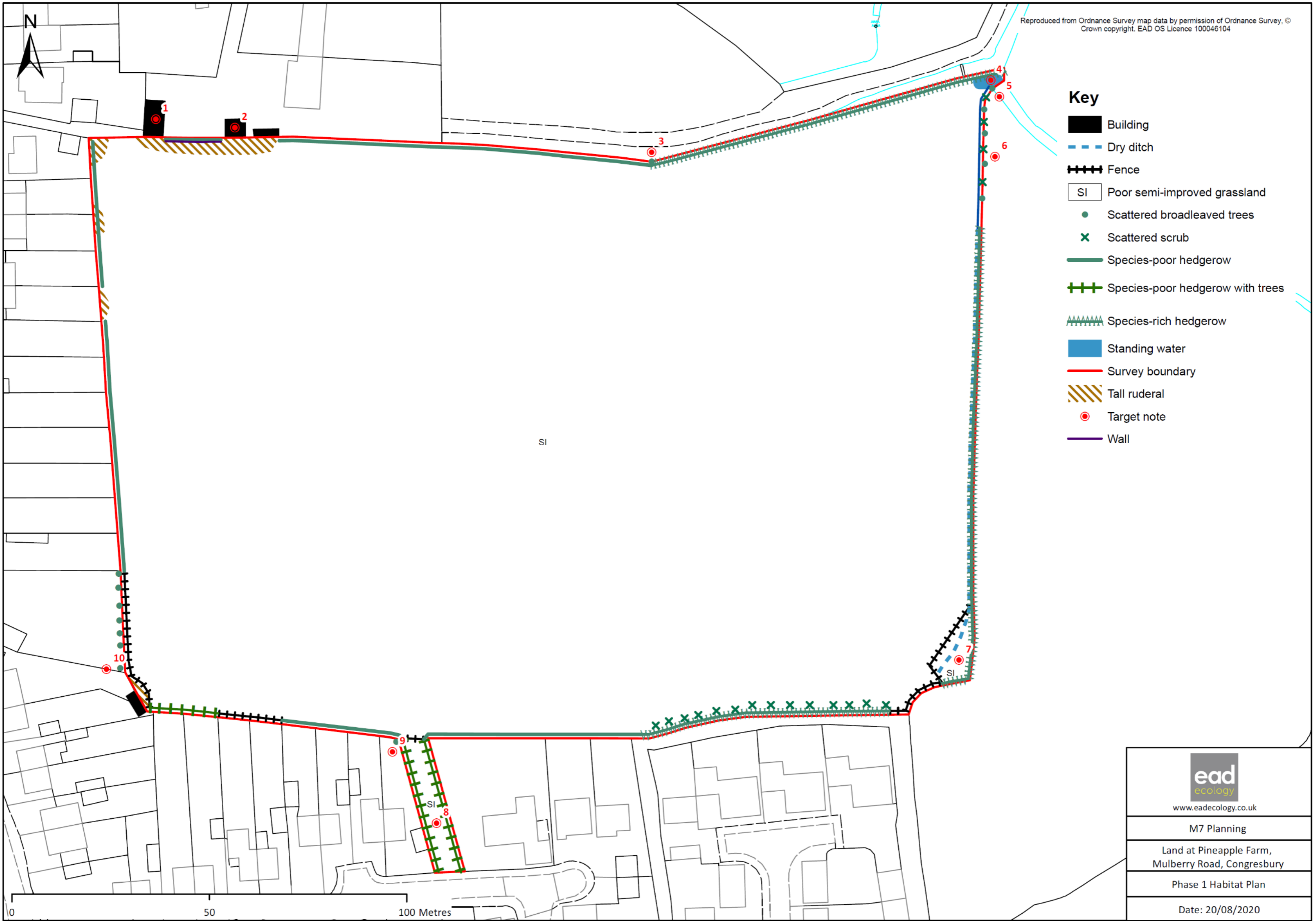
DATE
Lighting

DRAWING NUMBER
1034-LB-EX-XX-DR-E-7080-61














PROJECT - Originator - Zone - Level - Type - Ref - NEP Status - Sequence Number

PRELIMINARY P01

Appendix 6: Phase 1 habitat plan



Key

-  Building
-  Dry ditch
-  Fence
-  Poor semi-improved grassland
-  Scattered broadleaved trees
-  Scattered scrub
-  Species-poor hedgerow
-  Species-poor hedgerow with trees
-  Species-rich hedgerow
-  Standing water
-  Survey boundary
-  Tall ruderal
-  Target note
-  Wall



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M7 Planning

Land at Pineapple Farm,
Mulberry Road, Congresbury

Phase 1 Habitat Plan

Date: 20/08/2020

Appendix 7: Ecological constraints and opportunities plan



Offsite habitat creation and management actions implemented to offset loss of horseshoe bat habitat.

Creation of 'green corridors' along northern and eastern boundaries of the site to maintain commuting routes for horseshoe bats, buffer retained hedgerows and provide the opportunity for significant habitat creation.

Sensitive lighting design to minimise light spill on northern and eastern boundaries and ensure dark corridors retained (<0.5lux).

Provision of bird and bat boxes within fabric of new buildings at a minimum ratio of one box per dwelling.

Hedgehog passes to be incorporated into garden fences (13cm x 13cm) to allow dispersal and foraging within the site.

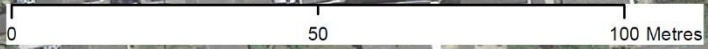
Mature trees on site boundary to be retained and protected (including trees with moderate bat roost suitability).

Construction measures to be implemented to ensure badger welfare.




Habitat creation to include wildflower meadow managed specifically to maximise its foraging value to greater horseshoe bats; native hedgerow, tree and shrub planting; and, wetland/wet grassland creation as part of the drainage proposals.

Reptile mitigation to be implemented to ensure legal compliance. Grassland to be subject to habitat manipulation under ecological supervision and translocation. Reptile hibernacula to be constructed within POS.

Retained hedgerows managed to maximise their function as flyways for greater horseshoe bats; allowed to grow to height and width of 3m.



Key

-  Dark corridor (<0.5lux)
-  Proposed native hedgerow planting
-  Reptile receptor area (to be retained and protected throughout construction)



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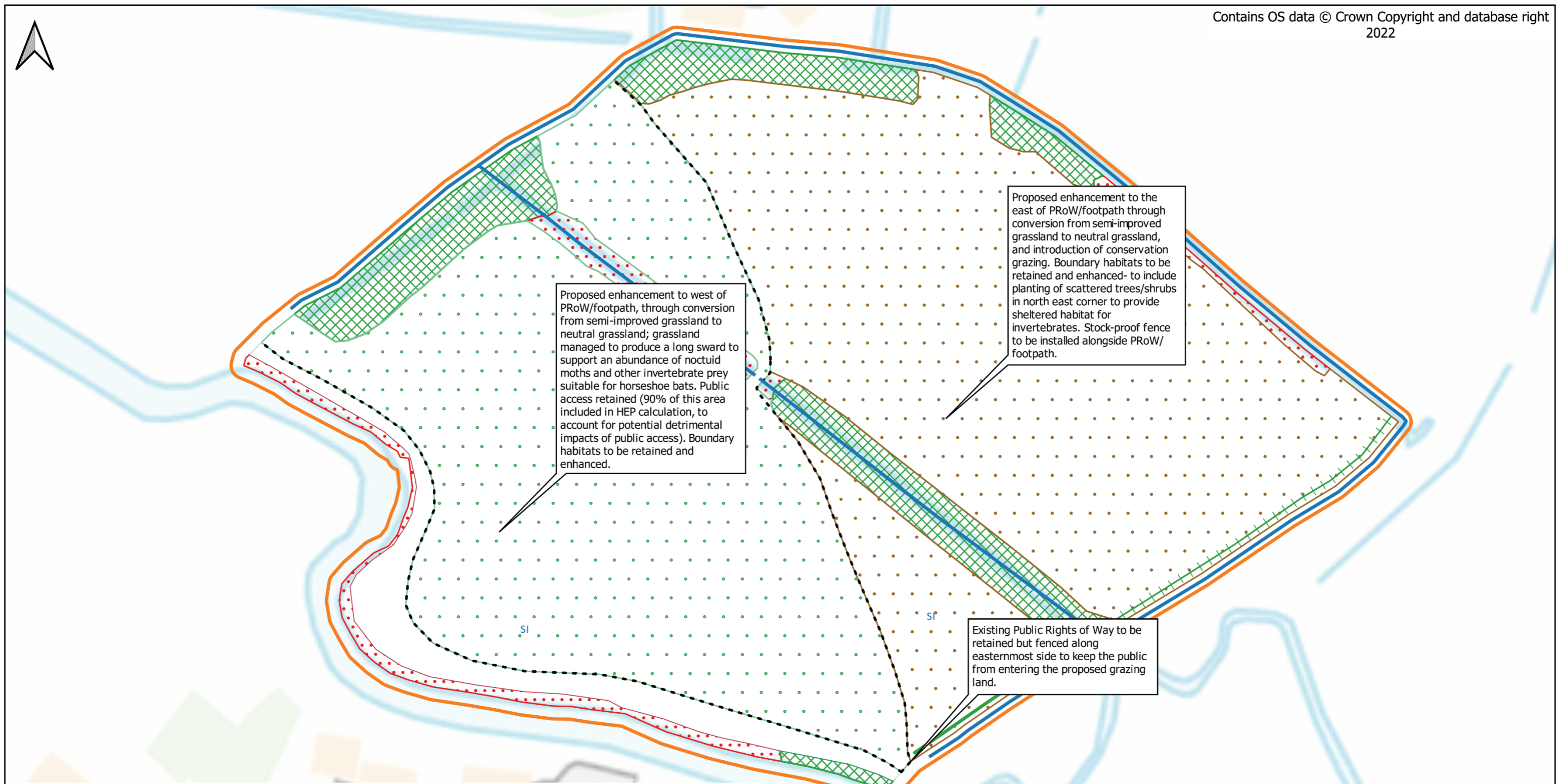
M7 Planning

Land at Pineapple Farm,
Mulberry Road, Congresbury

Ecological Constraints and
Opportunities Plan

Date: 11/08/2022

Appendix 8: Off-site HEP Habitat Plan



Proposed enhancement to west of PRoW/footpath, through conversion from semi-improved grassland to neutral grassland; grassland managed to produce a long sward to support an abundance of noctuid moths and other invertebrate prey suitable for horseshoe bats. Public access retained (90% of this area included in HEP calculation, to account for potential detrimental impacts of public access). Boundary habitats to be retained and enhanced.

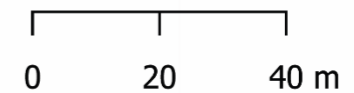
Proposed enhancement to the east of PRoW/footpath through conversion from semi-improved grassland to neutral grassland, and introduction of conservation grazing. Boundary habitats to be retained and enhanced- to include planting of scattered trees/shrubs in north east corner to provide sheltered habitat for invertebrates. Stock-proof fence to be installed alongside PRoW/footpath.

Existing Public Rights of Way to be retained but fenced along easternmost side to keep the public from entering the proposed grazing land.

Key

- Area of grassland managed to produce a long sward to support an abundance of noctuid moths, and other prey species for horseshoe bats. (public access retained).
- Area of grassland subject to enhancement with conservation grazing (public access restricted).
- Hedgerow (LF11) - Overgrown (LM3)
- Hedgerow (LF11) - Uncut (LM2)
- Standing open water and canals (AS0) - Drains, rhynes and ditches formation (AC11)
- Offset Site boundary
- Marginal vegetation (EM21)
- SI Semi-improved grassland (GU0) - Coastal and floodplain grazing marsh (CF1) - Matrix habitats of scattered trees (TS0), and tall ruderal (OT3)
- Dense scrub

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M7 Planning
Land at Pineapple Farm, Mulberry Road, Congresbury
Off-site HEP Habitat Plan
Date: 21/02/2023



Appendix 9: HEP assessment

Receptor Habitat: Off-site baseline habitat information.

Habitat	Primary Habitat		Matrix		Formation		Management / Land use			HSI Score	Development site	Receptor Site	Hectares	Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score	Density Band Score		Density Band Score			
Offset site	GU0 (Semi-improved grassland)	4	TS0 (Scattered trees - 0) OT3 (Tall ruderal - 0)	0	N/A	1.00	CF21 (Coastal and floodplain grazing marsh - Management HSI score adjusted down from 1 to 0.7 to reflect the fact that the site is not grazed, but managed for hay/silage)	0.70	2.80	3.00	3.00	4.010	1.87	
											Equivalent Value of Habitat on Receptor Site		1.87	
Use this sheet where some or all of the replacement habitat is not provided within the development site. The value of the existing off site habitat needs to be taken away from the value of that provided.														

Replacement Habitat: On-site and off-site habitat creation/enhancement

Habitat	Primary Habitat		Matrix		Formation		Management / Land use					Spatial Risk		Equivalent Hectares	Notes	
	IHS Code	Score	Code	Score	Code	Score	Code	Score	HSI Score	Hectares	Delivery Risk	Temporal Risk	Development Site Band Score			Replacement Site Band Score
Neutral grassland	GN0	6	SC21 (Open/scattered scrub/native shrubs) TS0 (Scattered trees) BG1 (Bare ground)	1	-	1.00	GL2 (Non-amenity)	1.00	6.00	0.620	1.00	0.83	3.0	3.0	3.09	Non-amenity, neutral grassland with scattered scrub and trees: 70% of dark POS (excluding SuDS and where external lighting strategy indicates illuminance of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Bare ground matrix code included to account for pathways. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Improved grassland	GI0	3	BG1 (Bare ground)	0	-	1.00	GL1 (Amenity grassland)	0.10	0.30	0.222	1.00	0.83	3.0	3.0	0.06	Improved, amenity grassland: 25% of dark POS (excluding SuDS and where external lighting strategy indicates illuminance of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Bare ground matrix code included to account for pathways. Remaining 5% of POS is considered to be play areas/hard surfaces unavailable for bats. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of modified grassland in moderate condition.
Other standing open water and canals	ASZ	2	-	0	AP1Z (Other pond)	0.10	LT15 (Canal-side with grassland)	0.50	0.10	0.138	0.67	0.83	3.0	3.0	0.01	SUDs pond (other standing open water and canals with other pond formation code, and canal-side with grassland) - lighting strategy indicates illuminance at SuDS of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of sustainable urban drainage feature in good condition.
Hedgerow	LF11	6	-	0	-	1.00	Uncut hedge (height 2-3m) (LM2)	0.90	5.40	0.045	1.00	0.71	3.0	3.0	0.17	150m of native species-rich hedgerow (3m width assumed for calculation of area). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of native species-rich hedgerows in good condition.
Offset- Semi-improved grassland - Neutral grassland with introduction of conservation grazing (Public access restricted).	GN0	6	-	0	-	1.00	CF1/GM1 (Coastal and floodplain grazing marsh/conservation grazing)	1.00	6.00	2.300	1.00	0.83	3.0	3.0	11.45	Enhancement through conversion from semi-improved grassland to neutral grassland, and introduction of conservation grazing. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Offset- Semi-improved grassland - Neutral grassland managed to produce long sward (public access retained)	GN0	6	-	0	-	1.00	CF1/GL2 (Coastal and floodplain grazing marsh/non-amenity grassland)	1.00	6.00	1.710	1.00	0.83	3.0	3.0	8.52	Enhancement through conversion from semi-improved grassland to neutral grassland, managed to produce a long sward to support an abundance of Noctuid moths and other invertebrate prey suitable for horseshoe bats - area included within calculation is 90% of the area mapped on offset sites plan (this is to account for the potential detrimental impacts of public access in localised areas). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Value of Habitat Provided in Hectares														3.883		