Gravity

Smart Campus

Gravity LDO Environmental Statement

Volume 2 – Appendices

Appendix 12.4

Badger Survey Report

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1. INTRODUCTION

1.1. Background

1.1.1. Ecology Solutions Ltd was commissioned on behalf of This Is Gravity in March 2020 to undertake a comprehensive programme of ecology survey work for This is Gravity Ltd (TIGL), at the site known as Gravity, at Puriton, near Bridgwater, Somerset; hereafter referred to as the 'Site'.

1.1.2. Survey work undertaken at the Site includes a range of habitat and species-specific surveys covering the 2020 survey period. This report has been produced in order to detail the methodologies and findings of the habitat survey work undertaken.

1.1.3. It should also be recognised that the Site has already been subject to previous extensive ecological survey and assessment work as part of the decommissioning and remediation works which have planning consent, as well as to inform the extant hybrid planning permission for the Site redevelopment and Natural England licence applications.

1.1.4. The majority of the Site has been the subject of numerous ecological surveys since 2008. EnvironPlus International Limited (EPI) undertook an initial suite of surveys in 2008, with Ecology Solutions having undertaken regular update work since 2011. The results of the survey works are detailed in the Environmental Statement (2013) and ES Addendum (2017) produced by Ecology Solutions in support of the extant planning permission.

1.1.5. The majority of the site and the previous surveys on it, did not include the 'full' Site, therefore as well as updating previous surveys, surveys of the additional land to be contained in the LDO were included.

1.1.6. The extensive historic survey information available has been used to inform the update survey work and is referenced, where necessary, within this report.

1.2. Site Characteristics

1.2.1. The main component of the Site is located to the north east of Puriton. In addition, the Site includes a railway spur to the north west, a road connection from Junction 23 of the M5 motorway to the south west of the Site and a reedbed system that connects the Site to the River Huntspill to the north. The Site is within an agricultural setting, and is located between the villages of Puriton (to the west) and Woolavington (to the east).

1.2.2. Broadly, the Site comprises grasslands, woodland, scrub, hedgerows, tall ruderal and ephemeral vegetation along with standing water, reed bed, wet and dry ditches as well as buildings and hardstanding. There are also areas of disturbed / bare ground.

1.3. Badger Survey Report

1.3.1. This document describes the results of badger survey work undertaken and provides a broad assessment of the current ecological interest of the Site

as a whole, based upon field and desk-based studies. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM) [1].

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

2. SURVEY METHODOLOGY

2.1 The methodology utilised for the survey work undertaken can be spilt into two areas, a desk study and specific faunal surveys. These are discussed in more detail below.

2.2 The Site has been subject to regular survey and surveillance for Badger throughout 2020 with specific search of the Site undertaken in June 2020 and October 2020. Surveys comprised two main elements. The first of these was a thorough search for evidence of Badger setts. For any setts encountered each sett entrance would be recorded and plotted, even if the entrance appeared disused. The following information was recorded if appropriate:

i). The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.

ii). The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance.

iii). The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3 Secondly, evidence of Badger activity, such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs, was also searched for in order to build up a picture of the use of the Site and surrounding area by Badgers.

3. SURVEY RESULTS

3.1 The Site has been subject to regular monitoring for the presence of Badgers. Indeed, Badger field signs have been recorded and historically, several Badger setts have been recorded within the Site.

3.2 **Previous surveys**. A number of Badger setts had been identified within the Site during surveys undertaken by EPI in 2008 and 2009. Ecology Solutions carried out further surveys of the Site in 2011 and 2012 to establish the use of the Site by Badgers.

3.3 Additional update survey work was undertaken by Ecology Solutions to a inform two Badger sett closure licence applications that were granted in 2012 and 2013. Temporary sett closure works were completed in 2012 in the north of the Site in order to support remediation work.

3.4 A main sett located in the west of the Site, under the footprint of the proposed landscape mound was the subject of an aborted sett exclusion undertaken in 2013. The works in relation to the latter licence were undertaken in 2018 to complete the aborted works to exclude Badgers and this process was accompanied by update survey work.

3.5 This update survey work recorded that of the 21 setts previously reported within the Site, 19 no longer display signs of current use and accordingly they are no longer considered to be setts. The details of each sett (including former setts) as recorded during the survey in June 2018 are given below and shown graphically at Appendix 12.4A.

3.6 S1 was formerly recorded as a two entrance outlier sett located in dense scrub to the west of the Site. The sett was last recorded as being active in 2008, but has consistently been recorded as inactive since that time, including in June 2018. The two entrances have now collapsed.

3.7 S2, located to the west of S1, was previously recorded throughout the surveys in 2008, 2009, 2011 and 2012 as a disused three entrance sett occupied by rabbits. Evidence in July 2013 indicated Badgers had recolonised this sett. Evidence of use was also recorded in June 2018. It was considered to be an annex sett. A single active entrance was present and a large spoil pile was recorded at its front. Two disused entrances are also present, while a further two entrances recorded in previous surveys were noted to have collapsed.

3.8 S3 was recorded in 2008 and 2009 as being a main sett with four entrances. However, evidence recorded during the 2011 and 2012 surveys indicated that activity levels had reduced here, while nearby sett S4 (described below) showed higher levels of use, more indicative of use as the main sett for this social group. S3 was subsequently recorded as disused in 2013 with all four entrances being overgrown and subject to collapse. No signs of current use were recorded in June 2018 and it therefore considered that S3 is no longer a sett.

3.9 S4 was a large sett which lies adjacent to S3. The sett was recorded as active in 2008, 2009, 2011 and 2012 with higher levels of use in the 2011 and 2012 surveys. Following the survey in 2013 it was considered that S4 constituted a main sett. The survey in June 2018 recorded 11 active entrances, 12 inactive entrances and 2 possibly active entrances. A number of other blocked, collapsed or disused entrances were also present in the vicinity. Evidence of rabbit activity was also recorded across the area.

3.10 S5 was formerly recorded as an annex sett to the north of S4 with at least five entrances. The sett was recorded as active in 2008, with all five entrances in use. No evidence of Badger activity was recorded in the 2011, 2012 or 2013 surveys. Accordingly, S5 was no longer considered to be a sett at that time. Only a single inactive entrance was recorded in June 2018.

3.11 S6 was formerly a four entrance sett located north of S5. No evidence of regular activity was recorded through any of the surveys leading up to 2013. S6 was recorded as inactive June 2018 and has since been closed under licence.

3.12 S7 was previously recorded as a five entrance subsidiary sett to the north of S6. The sett was active in 2008. However, the surveys undertaken in 2009, 2011 and 2012 recorded a decline in activity. The entrances had collapsed by the 2013 survey and no recent evidence of Badger activity was recorded in the immediate vicinity. No evidence of Badger activity was recorded in June 2018. As such S7 is no longer considered present.

3.13 S8 was initially recorded as an active single entrance sett located to the north of S7 in an old boiler ash mound. Surveys undertaken in 2009, 2011 and 2012 reported that the sett was occupied by Rabbits and no evidence of Badger use was recorded. Furthermore, no evidence of Badger use was recorded in 2013 or June 2018, and so S8 is no longer deemed to be a sett.

3.14 S9 is a former five entrance sett located in the northern part of the Site. It was partially active in 2008, but disused and occupied by rabbits in 2009, 2011, 2012. The entrances were recorded to have collapsed in 2013 and no evidence of Badger activity was recorded in June 2018. Accordingly, S9 no longer represents a sett.

3.15 S10 was previously a two entrance sett located within dense scrub. The sett was recorded as active in 2008, 2009 and 2011, but not in 2012 or 2013 when the entrances had collapsed and were blocked by debris. No evidence of Badger activity was recorded in June 2018 and S10 is no longer considered to be a sett.

3.16 S11 was previously recorded in surveys undertaken in 2008, 2009 and 2011 as a single disused entrance occupied by Rabbits. In 2012 the sett appeared to be in use by Badgers again and new spoil was present. It was at that time considered to be an outlier sett associated with main sett S20 (described below). Activity levels had increased at the time of the 2013

survey. No Badger activity was recorded in June 2018 and the sett was instead occupied by Rabbits. Consequently, S11 is no longer considered to be a sett.

3.17 S12 was previously considered to be a main sett for the social group in this area of the Site in 2008, 2009 and 2011. However, surveys undertaken in 2012 recorded a new sett in the vicinity of S12 (sett S20) which exhibited far greater levels of use and it was considered that the new sett (S20) had become the new main sett. It was identified at the time that S12 then constituted an active annex or subsidiary sett to the new main sett. It was subject to a temporary exclusion exercise under licence (Licence ref: WLM/2012/2179) which allowed for demolition works to be undertaken in respect of a building on top of the concrete slab above the sett. Following this exercise the Badger gate was removed from the sett entrance. It was considered Badger had recolonised the sett in July 2013, but no evidence of use was recorded in June 2018. The area had scrubbed over and no evidence of Badger activity was recorded in the vicinity. Consequently S12 is no longer considered to be an active sett.

3.18 S13 was a single entrance sett. The sett was recorded as partially active in 2008 but was occupied by Rabbits in 2009. Following subsidence in 2009, the S13 is disused / collapsed and no longer considered a sett.

3.19 S14 was previously recorded as a single entrance sett below a steel tank, situated to the south of S13. The sett was recorded as possibly active in 2008; however since this date no evidence of use by Badgers has been recorded and it no longer constitutes a sett.

3.20 S15 was formerly a single entrance sett located in the south-eastern part of the ROF site. The sett was recorded as partially active in 2008 but was occupied by Rabbits in 2009, 2011 and 2012. In 2013 and June 2018 it exhibited no signs of use by Badger and is therefore no longer considered to be a sett.

3.21 S16 was recorded in 2008 as an active two entrance sett located to the east of S15 in the south-eastern part of the ROF site. It was occupied by Rabbits only in 2009, 2011 and 2012, while in 2013 the entrances had collapsed and were blocked by debris. No evidence of Badger activity was recorded in the vicinity in June 2018 and S16 is no longer considered to be a sett.

3.22 S17 is a former sett located to the east of S11 and S12. It was not in use by Badger from 2008 to 2012, although one entrance appeared to be used by a Fox *Vulpes vulpes* as an earth in 2012. Fresh digging and a guard hair indicated the sett was in use by Badger in 2013, but there was no evidence the sett was in use by Badger in the most recent survey in June 2018 with rabbits noted to have colonised the area. Accordingly, it is no longer considered to be a sett.

3.23 S18 was recorded in 2008 as a single entrance sett located in the south-eastern part of the ROF site adjacent to the security fence. Despite being

situated within an area of high Badger activity, with latrines and foraging signs close by, S18 has not been recorded as active in any of the subsequent surveys. As of 2013 the entrances had collapsed. S18 is considered to be disused and no longer represents a sett.

3.24 S19 was a single entrance sett located adjacent to the southern boundary of the ROF site. The sett was recorded as partially active in 2008; however, it was recorded as being used by Rabbits only in 2009. Subsidence / collapse was recorded in June 2009 and as of 2013 the former entrance had completely collapsed and was overgrown. No evidence of Badger activity was recorded in June 2018. Accordingly S19 is no longer a sett.

3.25 S20 was a four entrance sett located at the top of the blast bund close to S12. It was discovered in 2012 and a significant level of activity was recorded at that time, indicating it had become the main sett for the Badger social group in the area. Results from the July 2013 surveys found that the activity level of S20 had reduced. No evidence of use by Badger was recorded in June 2018, with the sett instead occupied by Rabbit. S20 is no longer considered to be a sett.

3.26 S21 was first recorded in 2013. It was considered to be a three entrance subsidiary sett, but no evidence of use was recorded in June 2018. Like S11, S12 and S20, it is currently occupied by Rabbits. Accordingly, it is no longer considered to be a sett.

3.27 Following the closure of the active setts as part of the licenced procedure, no active setts were considered to be present within the central part of the Site, except for the artificial badger sett.

3.28 **Update surveys**. The Site has been subject to regular surveillance for Badger since 2018 with update surveys undertaken in June 2020, October 2020 and July 2021. As has been described above, there has been a notable decline in activity over recent years. Of the setts historically recorded across the ROF site, currently none are considered to be active, with several having collapsed and no longer present.

3.29 Notwithstanding this, recent evidence of badgers, including latrines and foraging signs and visual sightings, have been recorded in areas near the ROF site boundaries (in the north west, south west and south east), confirming that this species continues to utilise the Site.

3.30 In 2018 the scrub which had grown around AS1 was subject to small scale clearance and baiting with peanuts and golden syrup to encourage badgers. However, further update survey work in 2021 found no evidence that the sett was active.

3.31 Sett BS1 is a main sett located in the west of the Site within an area of woodland and scrub. Sett BS1 is comprised of five entrances all of which were deemed as active during the latest survey in 2021. Evidence of high

levels of use were found around this sett with well worn paths and a latrine nearby.

3.32 Sett BS2 is located in the north-west of the development site along the disused railway corridor (see Plan ECO1). This sett is comprised of 7 entrances (4 deemed active and 3 inactive). Sett S2 is deemed to be a subsidiary sett for the social group.

3.33 Sett BS3 is located in the north-west of the development site along the disused railway corridor approximately 0.02km north-west of Sett BS2. Sett S3 was first recorded in 2020. This sett is composed of 8 entrances (4 deemed active and 4 inactive). Badger hairs were found at the entrance of three of the active entrances during the 2021 survey. Sett BS3 is deemed to be a subsidiary sett for the social group.

3.34 Sett BS4 is also located along the railway corridor, although on the opposite side of the M5 motorway to Setts S2 and S3. Sett S4 is comprised of 6 active entrances. Whilst the sett entrances are deemed to be active the level of activity is significantly lower than that seen at Sett BS1, with paths being less well defined and no other evidence presence of activity within the area.

3.35 The M5 is deemed to be a significant barrier to dispersal for badger and as such it is considered that BS4 is a sett constructed and inhabited by a different social group to Setts AS1, BS1, BS2 and BS3. BS4 as described above was recorded as having low levels of activity during survey undertaken in 2021 and is considered to be of low importance to the social group.

3.36 The entrances of Setts BS2, BS3 and BS4 are dug into the railway embankment, the soil here is particularly loose and a number of the tunnels are likely to have collapsed due to this. This explains the high number of entrances recorded for setts BS2, BS3 and BS4. None of the setts within the railway corridor exhibits signs of regular use, like that seen at Sett BS1.

Sett Status

3.37 The artificial sett AS1 is deemed to be an annexe sett. No evidence of AS1 being regularly inhabited by badgers has been recorded since its construction in 2013.

3.38 Sett BS1 is deemed to be the main sett for the social group, evidence of high levels of activity are noted around this sett including latrines and well worn paths

3.39 Setts BS2 and BS3 are both deemed to be subsidiary setts for the social group.

3.40 Sett BS4 is deemed to be a sett of low significance for a separate social group of Badgers that inhabit the western side of the M5.

3.41 As part of the pending Badger licence application, a new sett has been constructed in order to maintain opportunities for Badgers within the Site. A new artificial sett (NS1 on Plan ECO1) will be provided in the north-western part of the Site, in an area which is to remain unaffected by the proposals. The location and design of the sett has been agreed with Natural England.

3.42 The artificial sett comprises four chambers, multiple opportunities to expand the sett from the original structure will be available. The specification for the artificial sett is included at Appendix 12.4B.

3.43 The artificial sett will compensate primarily for the loss of sett S1, which is the most active sett. No specific alternative sett provision is considered necessary for setts S2, S3 and AS1 under the development proposals given the status of the setts and their limited use. However, the provision of a new sett will ensure that opportunities remain following future development of the Site for the social group.

3.44 The new sett location is being baited with trails of food to attract Badgers to the area and promote use of the sett prior to any licenced exclusion works taking place.

3.45 **Background records**. The data search undertaken with SERC returned one record of Badger recorded within the Site from 1998. The next closest record was from 0.2km north of the Site in 2018 where a dead badger was recorded.

3.46 As part of the work undertaken as part of the Hinckley C Power Connection, a number of Badger setts were identified in the wider areas to the south and east of the Site. Those setts in proximity to the Site were closed under licence in 2019. The locations are shown at Appendix 12.4B.

4. SUMMARY

4.1. Ecology Solutions Ltd was commissioned on behalf of This Is Gravity in April 2020 to undertake a suite of ecology survey work at the site known as the Gravity Smart Campus, Puriton, Somerset.

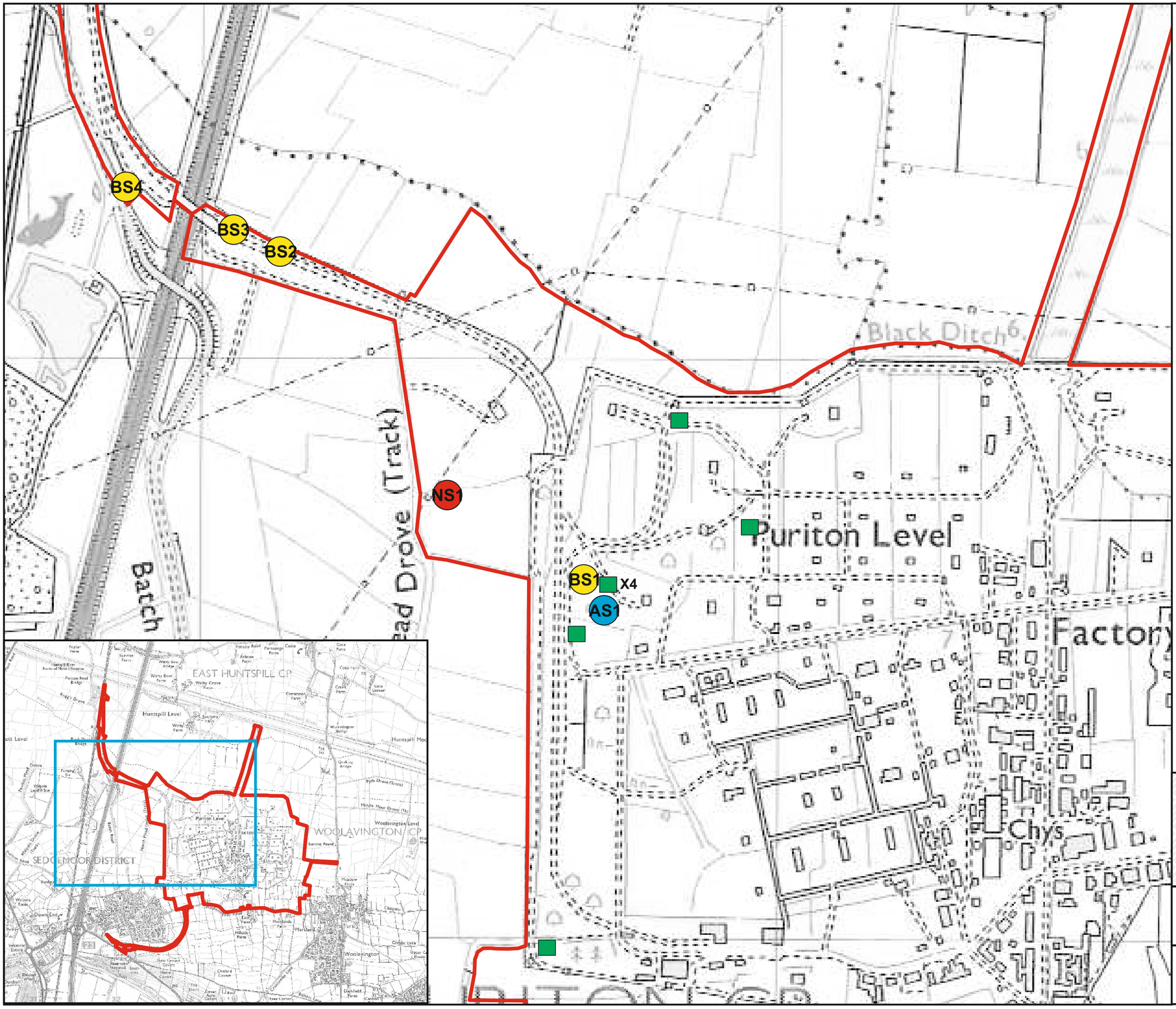
4.2. The Site was surveyed for Badgers in 2020 and 2021. The results of the survey work undertaken are present within this report and it is considered that an extensive ecological baseline has been established that can fully inform any assessment / evaluation of the Site in ecological terms.

4.3. The survey work has inform the LDO process and the related Environmental assessment process.

PLANS

PLAN ECO1

Badger Survey Results



SITE LOCATION

ACTIVE SETT LOCATION

ARTIFICIAL SETT LOCATION

NEW ARTIFICIAL SETT LOCATION

LATRINE

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7761: GRAVITY SMART CAMPUS

PLAN ECO1: BADGER SURVEY RESULTS

Rev: A

Sept 2021

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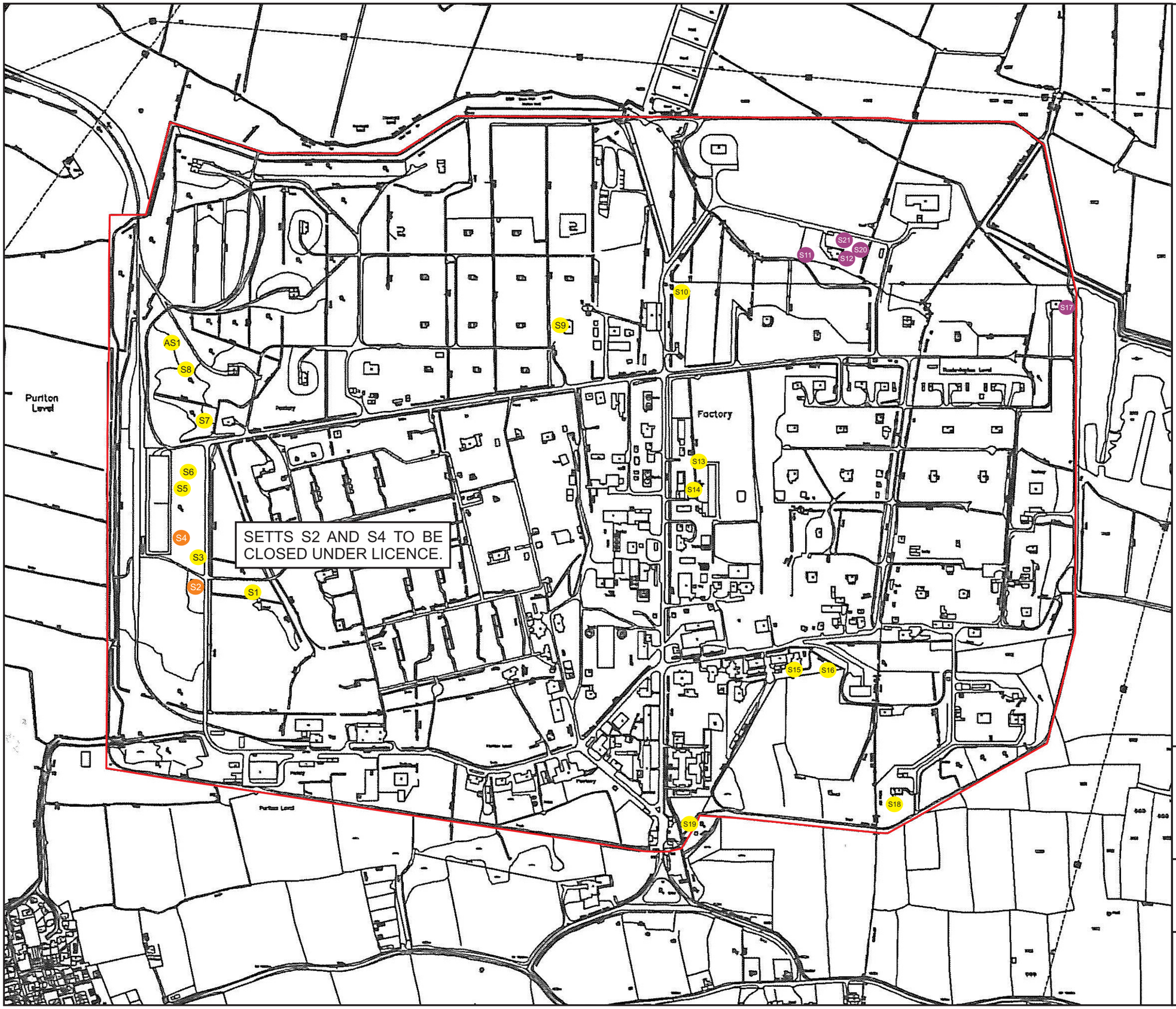
APPENDICES

APPENDIX 12.4A

Historic Badger Survey Results



KEY:

- BOUNDARY OF SITE
- S4 — ACTIVE BADGER SETT JULY 2013 NOW DISUSED
- S9 — DISUSED BADGER SETT JULY 2013 & JUNE 2018
- S4 — ACTIVE BADGER SETT JULY 2013 & JUNE 2018

N

ecology solutions ltd

5106: BAE PURITON, PURITON, SOMERSET

PLAN ECO2:
SITE WIDE BADGER SURVEY RESULTS

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APPENDIX 12.4B

Records of Other Badger Setts

KEY:

SITE BOUNDARY

SETTS IDENTIFIED AR PART OF HINKLEY POINT C CONNECTION:

INACTIVE SETT (CLOSED 2019)

ACTIVE SETT (CLOSED 2019)

N

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7761: GRAVITY

PLAN ECO2: RECORDS OF OTHER SETTS

Rev: A

Sept 2021

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