



Gravity

Smart Campus

Gravity LDO Environmental Statement
Volume 2 – Appendices
Appendix 12.8
Water Vole 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. Habitat Survey Report

- 1.3.1. This document describes the results of ecological baseline habitat 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.

¹CIEEM (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 Water Vole survey work can be split into two areas, a desk study and specific faunal survey work. These are discussed in more detail below.

2.2 Desk Study

2.2.1 In order to compile background information on the use of the Site and its immediate surroundings by Water Voles, Ecology Solutions contacted Somerset Ecological Records Centre (SERC). The records received are collated data from a number of sources and provide information on an array of species (covering a 3km search radius from the Site).

2.2.2 Information provided by SERC is referred to where relevant.

2.3 Water Vole Survey

2.3.1 Surveys involved careful searching along the banks of suitable aquatic habitat within the Site, using the standard methodology as advocated within The Water Vole Conservation Handbook and The Water Vole Mitigation Handbook². Wherever possible, access was obtained to both banksides and a thorough search was possible to complete.

2.3.2 The basis of the surveys undertaken was to determine the presence / absence, and where necessary distribution and abundance of Water Voles within suitable habitat within the Site through the detection of signs such as burrows, feeding stations, latrines, faeces, lawns, footprints, and potentially from sightings of the animals themselves.

2.3.3 All survey visits were undertaken to coincide with stable weather conditions and timed to ensure coverage of the habitats across the optimum periods for Water Vole surveys. Multiple visits were undertaken throughout the survey period to ensure coverage of any seasonal / management related changes to habitats on site.

² Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) *The Water Vole Mitigation Handbook* (the Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

3. SURVEY RESULTS

- 3.1 Evidence of Water Vole activity, in the form of physical sightings, burrows, feeding remains, prints and latrines, was recorded along a number of rhynes within the Site.
- 3.2 **Previous surveys.** Specific surveys were undertaken for Water Voles in 2008/09 by EPI with further surveys undertaken in 2011, 2013, 2015 and 2016 by Ecology Solutions. The species has been recorded in association with the northern and north-eastern part of the Site, including rhynes associated with cattle grazed pastures. More isolated drainage ditches in the central part of the Site were noted to support Water Voles. There were also a number of ditches to the west and south-west of the Site which supported Water Voles.
- 3.3 Over the course of the surveys undertaken the population levels and extent have been known to vary. This is possibly a result of the widespread variations in water levels within the ditches at the Site. Following a long dry spell in 2011 the water levels within many of the ditches within the Site (including ditches supporting Water Voles) were very low. This situation was followed by very wet weather in early 2012 which resulted in extensive flooding. These effects continue to effect the Site. As such the Water Voles may have been forced to vacate ditches within the Site. In addition, predation by Mink *Neovison vison* is also a likely key factor.
- 3.4 **Update surveys.** A full suite of update surveys were undertaken in 2020. The distribution of Water Vole is considered to remain broadly similar to recent years, with the rhynes in the west and north east providing the greatest extent of suitable habitat, with other isolated populations elsewhere.
- 3.5 A range of evidence of their presence was recorded across the Site, with some rhynes containing little more than old signs of feeding whilst others contained fresh evidence including active burrows. The greatest concentration of signs was in the north of the Site, associated with the Puriton Rhynes and Ponds Local Wildlife Site (LWS). The reed bed is considered to offer limited opportunities for Water Vole, due to the lack of fresh growth of vegetation and open water, although the species is present in this area to a limited extent. The adjoining rhynes offer more suitable habitat.
- 3.6 Other localised populations are located in the southwest of the Site where burrows, feedings signs and latrines were recorded in short lengths of permanent rhynes. The remaining records are considered to show small isolated populations made of a small number of individuals that have been forced into less suitable habitat as a result of habitat change (e.g. the overshadowing of rhynes) or through predation.
- 3.7 The distribution of Water Vole evidence across the Site is shown graphically on plan ECO7.

- 3.8 Mink continues to be observed onsite. Their continued presence is considered to be a cause of the dispersion of small populations of Water Vole across the Site.
- 3.9 **Background records.** The desk study undertaken with SERC returned five records of Water Vole from within the Site the most recent from 2015 as well as records six records of Otter *Lutra lutra* from within the Site most recently 2000.
- 3.10 The nearest records of Water Vole are from a location approximately 0.16km east of the Site, recorded in 1994.

4. SUMMARY

3.11 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.

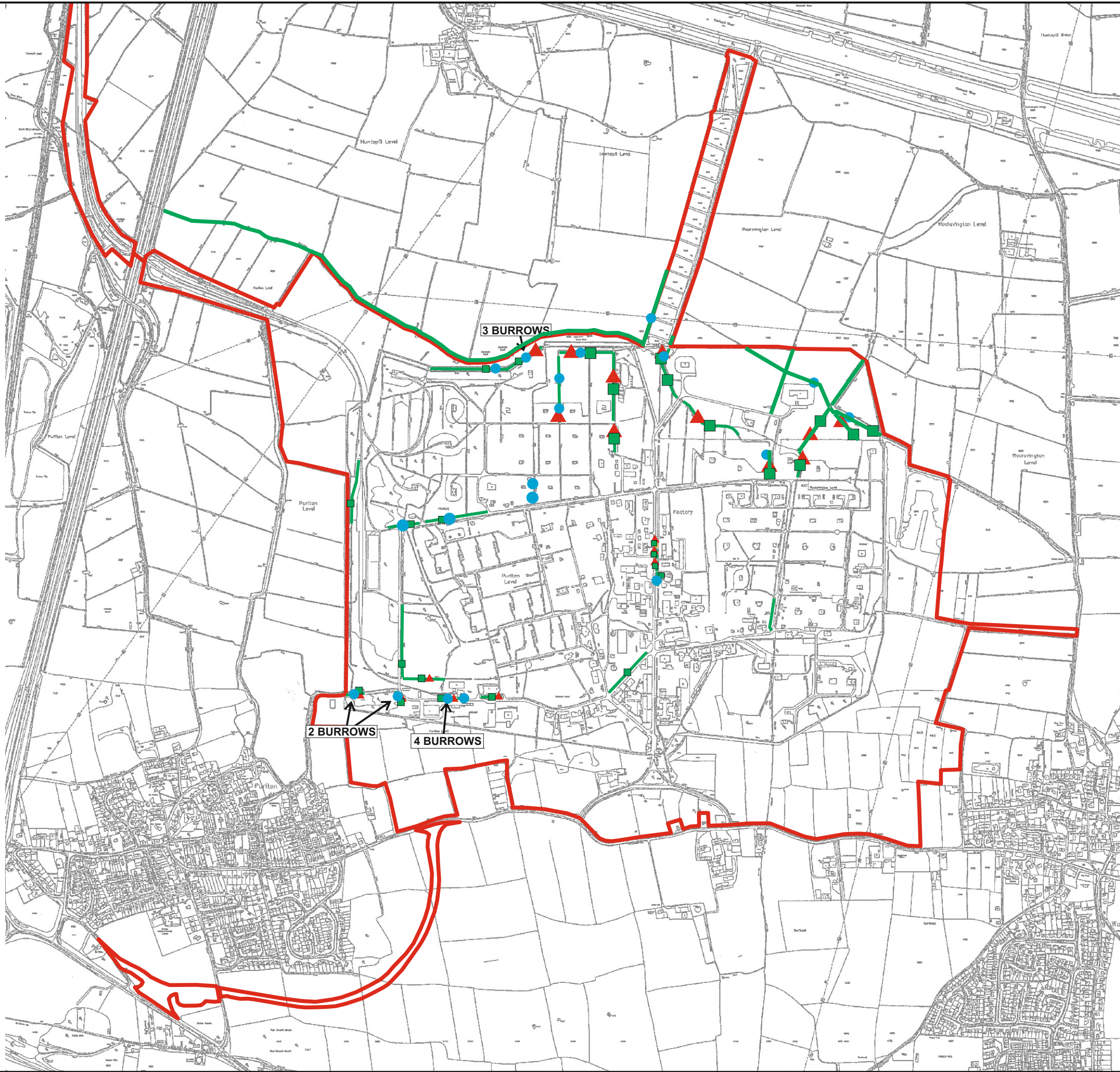
3.12 The results of the survey work undertaken are present within this report and it is considered that an extensive ecological baseline for Water Voles has been established that can fully inform any assessment / evaluation of the Site in ecological terms.

3.13 The survey work has informed the LDO process and the related Environmental assessment process.





PLANS

PLAN ECO1

Water Vole Survey Results



KEY:

-  DITCHES WITH RECORDED EVIDENCE OF WATER VOLE
-  BURROW
-  FEEDING SIGNS
-  LATRINE PRESENT



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PLAN ECO1: WATER VOLE
SURVEY RESULTS

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