



## **Ecological Impact Assessment**

Proposed new vehicle access to serve existing  
commercial operation at GD Environmental Ltd,  
Nash Road Yard

Client: GD Environmental Ltd

Date: February 2024

### **Richard Green Ecology Ltd**

The Natural Selection

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9C, Mill Park Industrial Estate, White Cross Road, Woodbury Salterton, Exeter, EX5 1EL

01395 239234

office@richardgreenecology.co.uk

[www.richardgreenecology.co.uk](http://www.richardgreenecology.co.uk)

Reg no. 07287436



| Version | Date       | Prepared by                             | Checked and approved by                 |
|---------|------------|-----------------------------------------|-----------------------------------------|
| 1       | 14/02/2024 | Richard Green BSc (Hons)<br>CEnv MCIEEM | Richard Green BSc (Hons)<br>CEnv MCIEEM |

**Survey date:** 06/02/2024

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## Executive summary

It is proposed to construct a new vehicle access to serve the existing commercial operation at GD Environmental Ltd, Nash Road Yard, Leeway Industrial Estate, Newport, Wales, NP19 4QU. NGR ST 34040 85992. The access would involve culverting an existing reen between the industrial site and Nash Road.

Richard Green Ecology Ltd was commissioned to carry out an ecological impact assessment of the proposal. An extended UK Habitat Classification survey, water vole and otter survey were undertaken on 6<sup>th</sup> February 2024. Great crested newt eDNA survey of the reen was undertaken in May 2023.

The proposed development would affect water voles and their habitat and could potentially sever habitats for water voles, otters, reptiles and amphibians, as well as result in pollution of the reen, which could affect these species and the nearby Solutia Site SINC.

It is recommended that a box culvert be used, providing a minimum of 200 mm headroom above the maximum reen water level, so that wildlife can safely cross under the vehicle access through the reen.

Pollution prevention and control measures should be put in place during construction and the culvert should be designed to avoid any drainage of run-off into the reen.

Because water voles and their burrows are protected, a licence will be required for the proposed work from Natural Resources Wales. A working method for water vole displacement is included in Appendix D. This will be subject to NRW licensing and ecological supervision.

# 1 Introduction

## 1.1 Introduction

It is proposed to construct a new vehicle access to serve the existing commercial operation at GD Environmental Ltd, Nash Road Yard, Leeway Industrial Estate, Newport, Wales, NP19 4QU. NGR ST 34040 85992. The access would involve culverting an existing reën between the industrial site and the road (refer to Drawing 1 and extracts).

Richard Green Ecology Ltd was commissioned to carry out an ecological impact assessment of the proposal. An extended UK Habitat Classification survey, water vole and otter survey were undertaken on 6<sup>th</sup> February 2024. Great crested newt eDNA survey of the reën was undertaken in May 2023.

This report includes the findings of the surveys and makes recommendations for ecological mitigation and enhancement, in accordance with national and local planning policy and BS 42020:2013 Biodiversity - Code of practice for planning and development.

## 1.2 Site location

The site is located to the south-east of Newport within an area of industrial estates, agricultural land, and woodlands. The area is interspersed by a network of reëns and hedgerows, which connect the site to the wider landscape (refer to Figure 1-1).



**Figure 1-1. Aerial image of the site location (red circle) in the context of the surrounding landscape**

## 1.3 Site description

The site comprised a short section of open reën between an industrial site and a road. Vegetation within and either side of the reën showed evidence of recent and regular maintenance (Plates 1, 2 & 5).

## 2 Planning considerations

### 2.1.1 *The National Development Framework: Future Wales – the National Plan 2020-2040*

The National Development Framework for Wales outlines that the Biodiversity and Resilience of Ecosystems Duty (the Section 6 duty) set out in the Environment (Wales) Act 2016 requires planning authorities to seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions, and in so doing, promote the resilience of ecosystems.

### 2.1.2 *Newport local development plan 2011 - 2026*

The Newport Local Development Plan 2011 to 2026 (adopted in January 2015) contains the following relevant strategy and policies:

#### **SP13 – Planning Obligations**

Development will be required to help deliver more sustainable communities by providing, or making contributions to, local and regional infrastructure in proportion to its scale and the sustainability of its location. This list is not exhaustive, but the following are infrastructure priorities that developments will be expected to provide or contribute to in order to mitigate any negative consequences of development:

- Educational facilities and/or their upgrades;
- Affordable housing;
- Improvements to the highway network, including walking and cycling routes and public transport;
- Outdoor recreation;
- Protection, enhancement and management of the natural, historic and built environments;
- Community facilities and/or their upgrades; and
- Improvements to the public realm.

#### **GP1 – General Development Principles – Climate Change**

Development proposals should:

- i. Be designed to withstand the predicted changes in the local climate and to reduce the risk of flooding on site and elsewhere by demonstrating where appropriate that the risks and consequences of flooding can be acceptably managed, including avoiding the use of non-permeable hard surfaces;
- ii. Be designed to minimise energy requirements and incorporate appropriate renewable, low or zero carbon energy sources, including on site energy provision where practicable;
- iii. Be designed to reuse or recycle existing construction materials present on the site;
- iv. Meet the relevant BREEAM or code for sustainable homes level.

#### **GP5 – General Development Principles – Natural Environment**

Development will be permitted where, as applicable:

- i. The proposals are designed and managed to protect and encourage biodiversity and ecological connectivity, including through the incorporation of new features on or off site to further the UK, Welsh and/or Newport biodiversity action plans;
- ii. The proposals demonstrate how they avoid, or mitigate and compensate negative impacts to biodiversity, ensuring that there are no significant adverse effects on areas of nature conservation interest including international, European, national, Welsh section 4232 and local protected habitats and species, and protecting features of importance for ecology;
- iii. The proposal will not result in an unacceptable impact on water quality;
- iv. The proposal should not result in the loss or reduction in quality of high quality agricultural land (grades 1, 2 and 3a);
- v. There would be no unacceptable impact on landscape quality;
- vi. The proposal includes an appropriate landscape scheme, which enhances the site and the wider context including green infrastructure and biodiversity networks;
- vii. The proposal includes appropriate tree planting or retention where appropriate and does not result in the unacceptable loss of or harm to trees, woodland or hedgerows that have wildlife or amenity value.

#### **CE8 – Locally Designated Nature Conservation and Geological Sites**

Proposals affecting locally designated sites will only be permitted where:

- i. There would be no overall loss of the nature conservation resource for which the site has been designated;
- ii. There would be no significant adverse effect on the geological interest of the site;
- iii. Appropriate mitigation or compensatory measures can be achieved.

## 3 Methods

### 3.1 Desk study

Designated site and protected/notable species data within 1 km of the application site was obtained from South East Wales Biodiversity Records Centre (SEWBReC).

### 3.2 Scoping

Consideration was made of the potential for protected and notable species to be present. Where it is considered that certain species are unlikely to be present (e.g., no suitable habitat is present or the site is outside of their known range), these were scoped out and no further consideration is made herein.

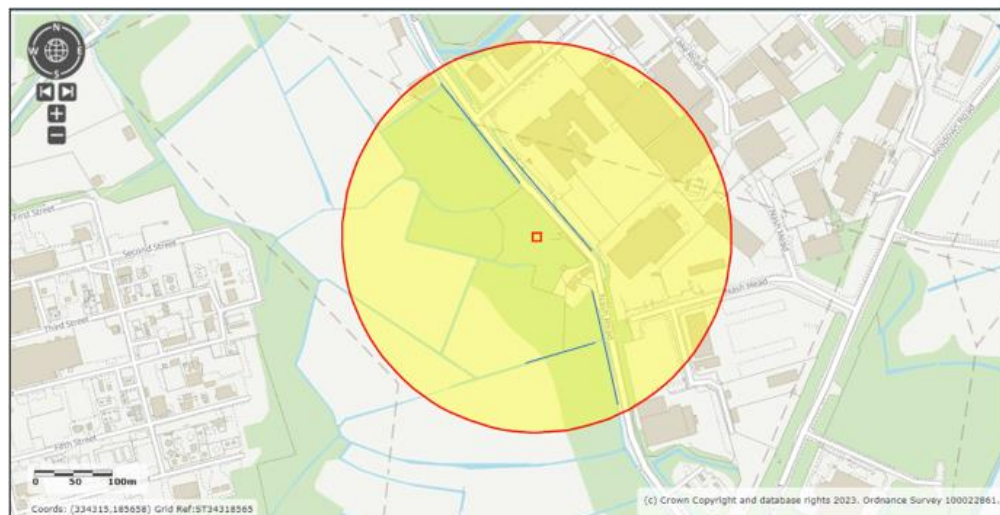
### 3.3 Field survey

#### 3.3.1 Extended UK Habitats Classification Survey

An extended UK Habitat Classification Survey of the site was undertaken on 6<sup>th</sup> February 2024 by Richard Green, combining recommendations made by the former Institute of Environmental Assessment (1995) and the UK Habitat Classification System. The weather was dry, with full cloud and no wind. Note was taken of the more conspicuous flora, and any evidence of, or potential for the presence of protected and alien invasive species was recorded.

#### 3.3.2 Great crested newt (GCN) eDNA survey

As part of an ecological assessment of a separate nearby site, water samples were taken from the reens, along with three others (refer to Figure 3-1), on 31 May 2023 by Marie Pugh and analysed for GCN eDNA, following SureScreen Scientifics survey protocol.



**Figure 3-1. Map showing reens (in bold blue) that were sampled for GCN eDNA**

#### 3.3.3 Water vole survey

A search for water vole field signs, including burrows, feeding remains, grazed lawns, latrines and droppings was made along both sides of the reens during the habitat survey.

#### 3.3.4 *Otter survey*

A search for otter field signs, including spraint, footprints, pathways, and feeding signs was made along both sides of the reen during the habitat survey.

#### 3.3.5 *Invasive non-native species (INNS)*

The reen was surveyed for INNS, including Japanese knotweed *Reynoutria japonica* and Himalayan balsam *Impatiens glandulifera* during the habitat survey.

#### 3.3.6 *Personnel*

Richard Green BSc (Hons) CEnv MCIEEM has over 30 years' professional ecological experience, and is accomplished in UKHabs, INNS, otter, water vole and great crested newt surveys.

Marie Pugh holds a Natural Resources Wales (NRW) great crested newt survey licence and has experience conducting ecological surveys.

#### 3.3.7 *Survey limitations*

The Extended UK Habitats Classification Survey was carried out during the winter, when some botanical species may not be evident. However, Google Streetview includes images from July 2023, which were reviewed and are included in Appendix A, for consideration of what the reen is like during the summer. It is considered that sufficient vegetation was identified during the survey to provide an understanding of the site and any potential implications this may have on the proposal.

## 4 Survey results

### 4.1 Desk study

#### 4.1.1 Designated sites

Designated sites present within 1 km of the application site are shown in Table 4-1.

**Table 4-1. Designated sites within 1 km of the application site**

| Designated site name and designation                             | Key features                                                                                                                                                                                                                                                                                                                                                                                                                       | Distance from site (km) |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Non-statutory sites</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |
| Solutia Site - Site of Importance for Nature Conservation (SINC) | A series of improved and semi-improved grasslands with traditional ditches and ponds; site supports a range of species including nesting birds such as Cetti's warbler <i>Cettia cetti</i> , and invertebrates including hairy dragonfly <i>Brachyton prantense</i> .                                                                                                                                                              | 0.03                    |
| Alpha Steel Site SINC                                            | Area of former Levels, scrub and other habitats which support a range of species including scarce moth species, birds such as Cetti's warbler, and plants including orchids (marsh helleborine <i>Epicactis palustris</i> , <i>Ophrys apifera</i> , pyramidal orchid <i>Anacamptis pyramidalis</i> , and marsh orchids <i>Dactylorhiza</i> spp.)                                                                                   | 0.93                    |
| Former Steel Works Site off Queensway Meadow SINC                | Dragonflies, as well as mosaic habitat (H20) for freshwater, grassland, and woodland                                                                                                                                                                                                                                                                                                                                               | 0.9                     |
| Pye Corner Ancient Semi-natural Woodland                         | Broadleaved woodland comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years. The ground vegetation will reflect the naturalness of these woodlands and will frequently feature species which provide clear indication of long and continued woodland cover. They will have been woodland for centuries and contribute substantially to our natural and cultural heritage. | 0.95                    |
| B-line                                                           | Insect pathway                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.5                     |

The Solutia Site SINC borders the GD Environmental Ltd, Nash Road Yard to the north, south and west. All other sites are sufficiently distant from the site not to be affected by the proposed work, i.e., they are outside of the zone of influence and there are no impact pathways by which they could be affected.

#### 4.1.2 *Protected and notable species*

SEWBRc species records within 1 km of the site include mammals, amphibians, reptiles, birds, and plants. Relevant species records are included in the species sections below.

### 4.2 *Field survey*

#### 4.2.1 *Habitats*

The results of the extended UK Habitat Classification (UKHab) survey are described below. The UKHab survey code (e.g., h2a) that the habitat is attributed to is given with a description and secondary code where appropriate.

#### 4.2.2 *Ditch (r1e 191)*

The roadside reen/ditch was approximately 3 m wide and 100 m long. It extended north as far as the car park of Nash Road Yard and south to the Solutia SINC, where a further ditch extended into the SINC perpendicular to the road. The reen contained no submerged aquatic vegetation but contained lots of woody debris, i.e., dead branches/sticks. Marginal vegetation was present on both sides of the reen, dominated by common reed *Phragmites australis*, and including rush *Juncus* sp. and willow *Salix* sp. shrubs.

Either side of the reen was a narrow strip of modified grassland, approximately 1-2 m wide (see 4.2.3). Beyond the grassland was a road on the east side and an industrial yard on the west side.

#### 4.2.3 *Modified grassland (g4 66)*

A narrow, mown grass verge was present between the reen and the road on the east side, with similar habitat between the reen and the yard on the west side, which also included a recently excavated trench. This was dug after the boundary fence was blown down in a recent storm. Services that were attached to the fence are to be buried in the trench and a new fence installed to replace the old one.

#### 4.2.4 *Developed land, sealed surface (u1b)*

The road to the east and the yard to the west are developed land; sealed surface. The proposals would not impact this habitat, which has no ecological value, and it is not discussed further.

### 4.3 *Protected species*

#### 4.3.1 *Water vole*

Water voles *Arvicola amphibius* are protected under the Wildlife and Countryside Act 1981 (as amended) and are a species of principle importance under Section 7 of the Environment (Wales) Act, 2016.

There are three records of water vole within 1 km of the application site. These are between 0.9 and 1 km to the north-east of the application site, on the other side of Leeway Industrial Site (refer to Appendix B).

Water vole presence was confirmed along the reen, including the presence of burrows, runs, droppings and latrines (refer to Appendix A).

#### 4.3.2 Otter

Otters *Lutra lutra* are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) and are a species of principle importance under Section 7 of the Environment (Wales) Act, 2016.

There are three records of otter within 1 km of the site, the closest being approximately 950 m from the site (refer to Appendix B).

No signs of otter were found along the reen and it is unlikely that otters use it regularly, as the reen ends approximately 90 m to the north of the proposed culvert.

#### 4.3.3 Amphibians

Great crested newts *Triturus cristatus* (GCN) are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). GCN and common toad *Bufo bufo* are species of principal importance under Section 7 of the Environment (Wales) Act 2016.

There are nine records of GCN and one record of common toad within 1 km of the application site. These are all located to the south of the site, with the closest being approximately 630 m away (refer to Appendix B).

The results of the eDNA analysis were negative, i.e., it was concluded that GCN were absent from the reens sampled, including the one where the new access is proposed. Refer to Appendix C for GCN eDNA survey results.

Common toad could potentially breed in the reen, although suitable adjacent terrestrial habitat is very limited in value.

#### 4.3.4 Reptiles

Common reptiles, such as slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* and grass snake *Natrix helvetica* are protected under the Wildlife and Countryside Act 1981 (as amended) against killing and injury and are species of principal importance under Section 7 of the Environment (Wales) Act 2016.

There are several records of grass snake and common lizard within 1 km of the application site, the closest being a grass snake approximately 570 m to the south of the application site (refer to Appendix B).

The narrow strips of mown modified grassland were considered too short to be used by reptiles, although the image from Google Streetview showed the vegetation to be taller and more suitable in July 2023. However, the site is very isolated from other suitable reptile habitats and it is considered that reptiles are absent from the site,

except perhaps for the occasional grass snake, which are semi-aquatic and therefore could be present within the reed.

#### *4.3.1 Invasive species*

It is an offence under Section 14(2) of the Wildlife and Countryside Act 1981 (as amended) to plant or cause the spread of any plant listed under Schedule 9 of the Act.

There are several records of invasive non-native plant species within 1 km of the application site. However, no Schedule 9 species were observed within the application site.

## 5 Assessment, recommendations, and mitigation

### 5.1 *Designated sites*

#### 5.1.1 *Impacts*

The proposal has the potential to impact the Solutia Site SINC via pollution of the reen during construction and via run-off during the operational phase.

#### 5.1.2 *Mitigation*

Pollution prevention and control measures should be put in place during construction and the culvert should be designed to avoid any drainage of run-off into the reen.

### 5.2 *Habitats*

#### 5.2.1 *Impacts*

The proposal would result in the culverting of a 6-8 m length of reen and loss of adjacent vegetated banks. The adjacent reen could be impacted by pollution during the construction of the culvert (see 5.1).

#### 5.2.2 *Mitigation*

It is recommended that a box culvert be used, providing a minimum of 200 mm headroom above the maximum reen water level, so that water vole and otter can safely cross under the access road through the reen.

Marginal and bankside vegetation along the length of the reen in front of the GD Environmental site should be left unmanaged, or only managed occasionally if there is an overriding need, such as highway maintenance, to enhance habitat for water voles and other wildlife, i.e., provide more cover and foraging opportunities.

### 5.3 *Water vole*

#### 5.3.1 *Impacts*

The construction of the culvert would destroy approximately 6 m of water vole habitat on the west bank and 8 m of habitat on the east bank of the reen, likely affecting only one water vole territory. The culvert has the potential to sever the water vole habitat and territory.

#### 5.3.2 *Mitigation*

Refer to 5.2. Because water voles and their burrows are protected (4.3.1), a licence will be required for the proposed work from Natural Resources Wales. A working method for water vole displacement is included in Appendix D. This will be subject to NRW licensing and ecological supervision.

## **5.4 Otter**

### **5.4.1 Impacts**

Whilst the reen is not considered likely to be used very often by otters, the culvert has the potential to cause any otters travelling along the reen to exit the reen to cross over it, potentially causing them to cross the adjacent road and putting them at risk of road traffic mortality.

### **5.4.2 Mitigation**

Refer to 5.2.

## **5.5 Amphibians**

### **5.5.1 Impacts**

Whilst GCN are considered to be absent from the reen, other amphibians using the reen, such as common toad, could be affected by pollution associated with the construction and operation of the access (refer to 5.1.1).

### **5.5.2 Mitigation**

Refer to 5.1.2.

## **5.6 Reptiles**

### **5.6.1 Impacts**

Vegetation clearance of the application site could disturb, injure or kill any grass snakes present in the reen. The culvert has the potential to create a barrier to grass snakes using the reen.

### **5.6.2 Mitigation**

The vegetation clearance would need to be done under ecological supervision as part of a NRW water vole licence. The ecologist should also search for any grass snakes present and relocate them out of then construction area. Once vegetation has been down, grass snakes are unlikely to return to the area until after construction is complete. Providing 200 mm headroom under the culvert (refer to 5.2.2) would allow grass snakes to pass under the access road through the culvert.

## **5.7 Invasive species**

### **5.7.1 Impacts**

No INNS were recorded on the site, so there would be no impacts.

## **5.8 Ecological enhancement**

Marginal and bankside vegetation should be left unmanaged, or only managed occasionally if there is an overriding need, such as highway maintenance, to enhance habitat for water voles and other wildlife, i.e., provide more cover and foraging opportunities.

## 6 Conclusions

The proposed development would affect water voles and their habitat and could potentially sever habitats for water voles, otters, reptiles and amphibians, as well as result in pollution of the reen, which could affect these species and the nearby Solutia Site SINC.

It is recommended that a box culvert be used, providing a minimum of 200 mm headroom above the maximum reen water level, so that wildlife can safely cross under the access road through the reen.

Pollution prevention and control measures should be put in place during construction and the culvert should be designed to avoid any drainage of run-off into the reen.

Because water voles and their burrows are protected, a licence will be required for the proposed work from Natural Resources Wales. A working method for water vole displacement is included in Appendix D. This will be subject to NRW licensing and ecological supervision.

## 7 References and bibliography

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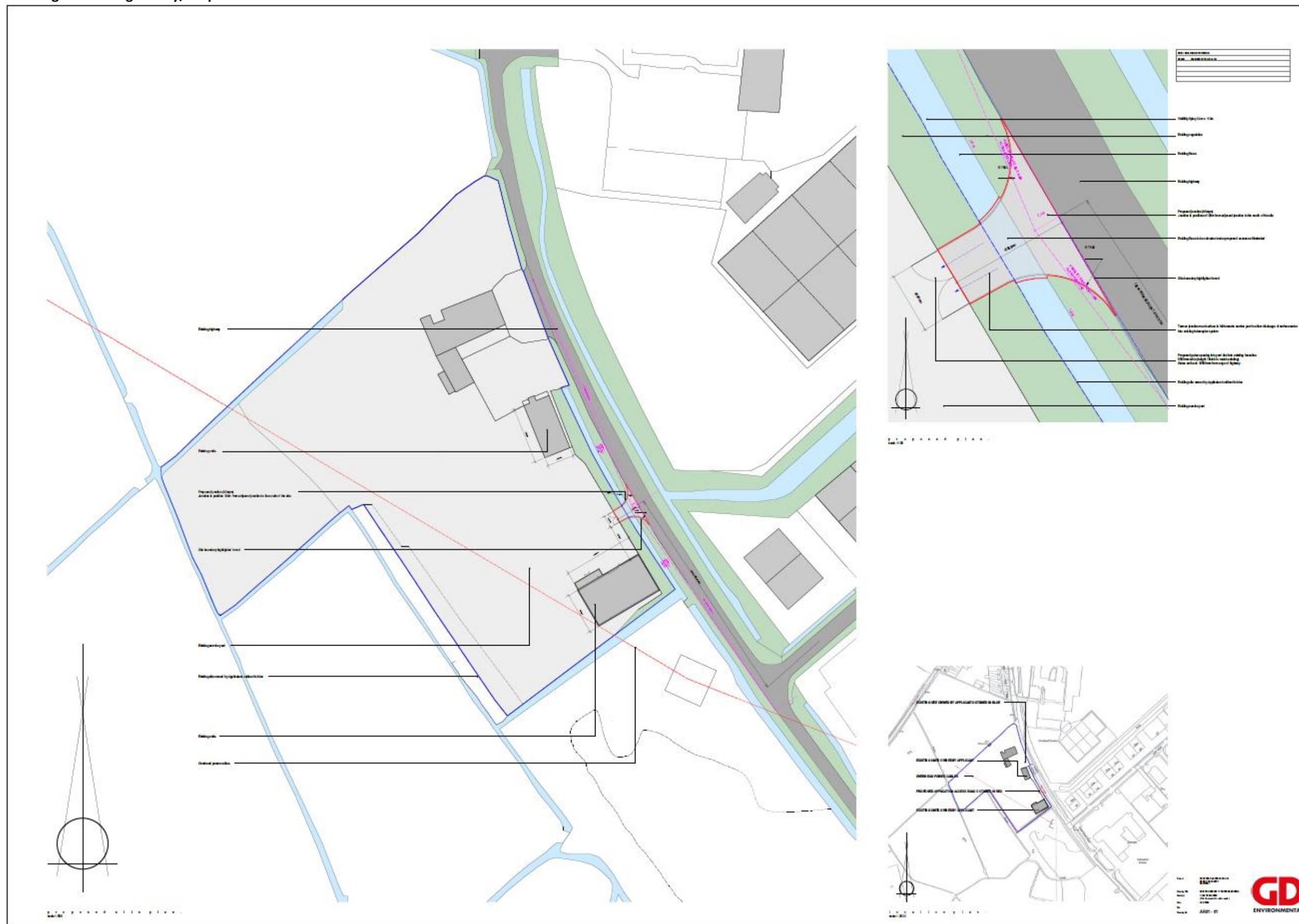
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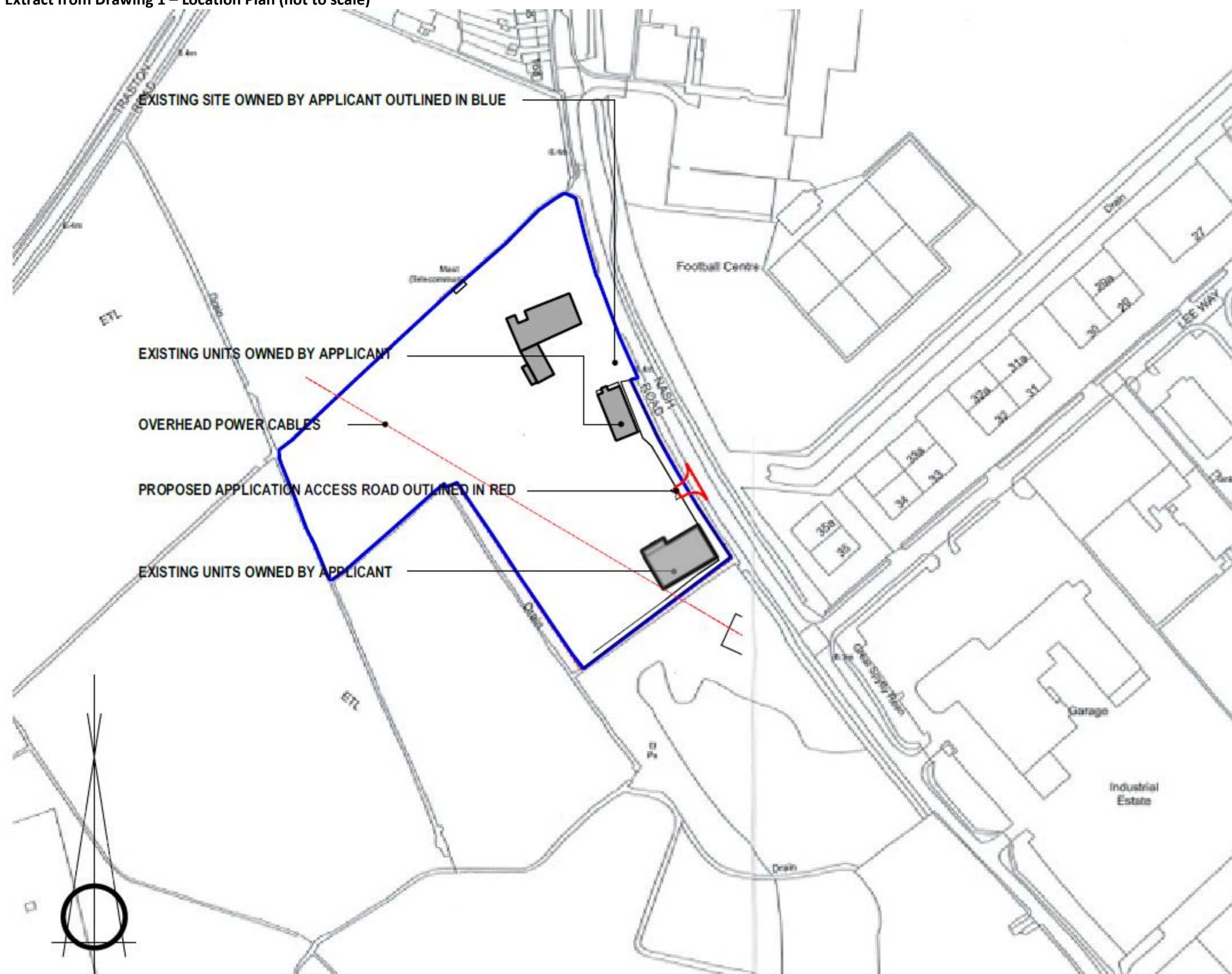
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## Drawings

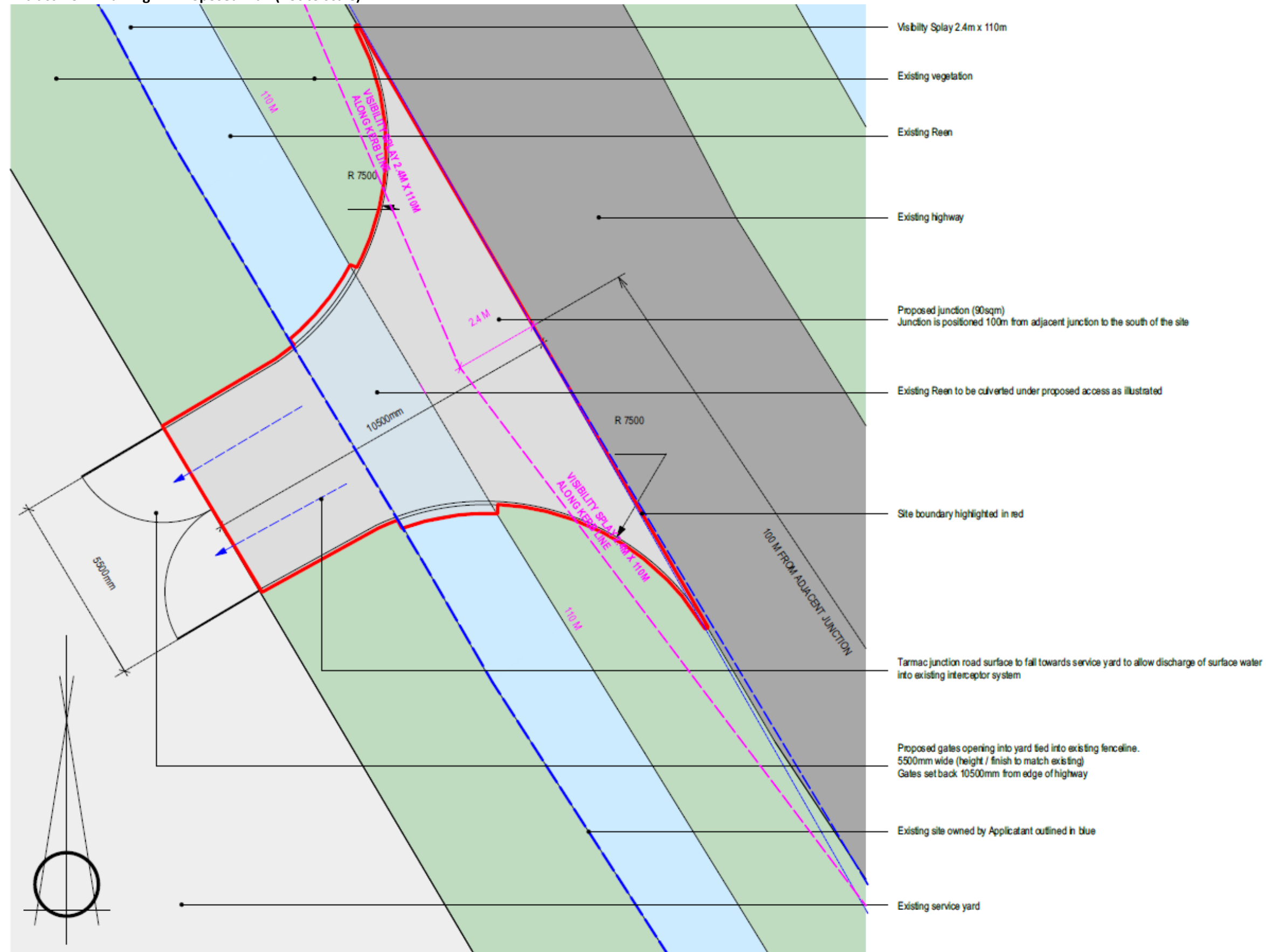
### Drawing 1 – Existing Survey/Proposed Scheme



Extract from Drawing 1 – Location Plan (not to scale)



Extract from Drawing 1 – Proposed Plan (not to scale)



# Appendices

## A Plates

**Plate 1. Reen at proposed location of culvert (looking south)**



**Plate 2. Reen (looking north from proposed location of culvert)**



**Plate 3. Water vole burrows on west bank top**



**Plate 4. Water vole droppings/latrine**



**Plate 5. Water vole burrows on east bank top**



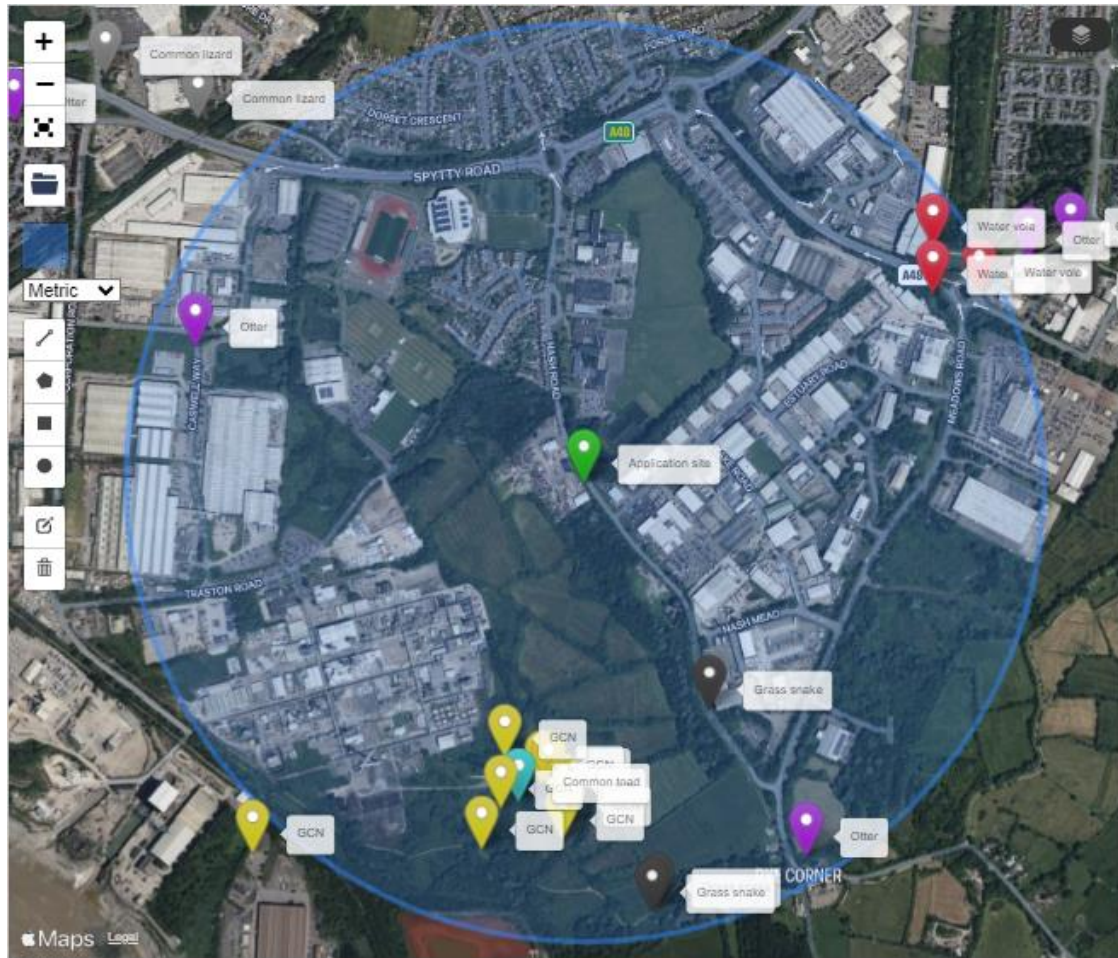
**Plate 6. Water vole run through reeds on west bank of reen**



Plate 7. Google Streetview image of application site, captured July 2023



## B Relevant species records within 1 km of the application site



## C GCN eDNA survey results



Folio No: E18012  
Report No: 1  
Purchase Order: EG-EG-1024  
Client: RICHARD GREEN ECOLOGY LTD  
Contact: Philip Wilson

### TECHNICAL REPORT

#### ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*)

##### SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

##### RESULTS

Date sample received at Laboratory: 14/06/2023  
Date Reported: 21/06/2023  
Matters Affecting Results: None

| Lab Sample No. | Site Name                   | O/S Reference  | SIC  | DC   | IC   | Result   | Positive Replicates |
|----------------|-----------------------------|----------------|------|------|------|----------|---------------------|
| 3924           | Land at Ford House, Newport | ST 34212 85785 | Pass | Pass | Pass | Negative | 0                   |

If you have any questions regarding results, please contact us: [ForensicEcology@surescreen.com](mailto:ForensicEcology@surescreen.com)

Reported by: Chris Troth

Approved by: Jackson Young

## **D Water vole displacement method**

### **Removal of vegetation including marginal vegetation to displace water voles**

1. Before vegetation cutting takes place, the locations of known water vole burrows must be identified using flags or canes.
2. The removal of vegetation including marginal vegetation should take place and be completed during the period 15 February to 15 April, inclusive.
3. Cutting of vegetation can take place concurrently on both banks of the same watercourse and must be limited to the construction area only. The unaffected habitat must be sufficient in terms of both quantity and quality to accommodate the displaced animals and those outside the footprint of the works.
4. Removal of vegetation including marginal vegetation after the period specified in item 2 must only take place where the vegetation has initially been removed between 15 February and 15 April, and where it is necessary to maintain a previously cut area. Any re-growth must be removed and maintained as short as possible, through cutting or herbicide use, at a height no greater than 10cm (4 inches) above ground level.
5. All vegetation on the bank face within the working area must be cut, along with an appropriate 'buffer' around it. Any emergent aquatic vegetation located along the water margin should also be cut.
6. Cut vegetation, weed cuttings and arisings need to be raked off from the cut area, and must not be deposited or burned on the bank where there are retained water vole refuge areas or be left where they will prevent access to water vole burrows.
7. Where water draw-down / removal is to be used in parallel with vegetation cutting, this must be limited to the construction area, and the same time of year specified in item 2.

### **Destructive search of burrows**

8. Following vegetation removal in accordance with items 1 to 7, the cut area must be left intact, for a minimum period of five consecutive days and a maximum period of ten consecutive days before a destructive search is carried out.
9. Prior to undertaking the destructive search, the cut area must be surveyed for evidence of the continued presence of water voles. Monitoring can include the use of an endoscope. Where this survey records no evidence that the burrows in the cut area are still occupied by water voles, each burrow affected must be carefully excavated and searched, and destroyed once the search is completed. This will minimise the risk that any water voles remaining in burrows will be harmed.
10. Any water voles found during excavation of burrows must either be allowed to escape to an adjacent refuge area or be captured and kept in a suitable animal container, with suitable bedding material and food provided, for release at an adjacent refuge area on the same day.
11. Works should commence within 5 days of completing the destructive search, where this is not possible water voles must be deterred from return to the area by maintaining the works area as bare ground until the works have taken place. This is likely to require repeat scraping /smoothing of the banks or covering the ground with a suitable matting to ensure that vegetation regeneration cannot occur.
12. In these situations, the site will require continued monitoring to ensure that water voles do not return prior to the development works commencing.