

# H2Teesside Project

## Environmental Statement

Volume III – Appendices

Appendix 12D: Reptile Survey Report

Document Reference: 6.4.21

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(a) and 5(2)(l)



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## 12D.0 REPTILE SURVEY REPORT

### 12D.1 Introduction

#### Background

12D.1.1 This report details the approach and findings of the reptile surveys undertaken within the Proposed Development Site and has been prepared by AECOM on behalf of H2Teesside Ltd (hereafter referred to as the Applicant). Baseline data presented in this Appendix has been used to inform the assessment within Chapter 12: Ecology and Nature Conservation (ES Volume I, EN070009/APP/6.2).

12D.1.2 The aim of the Proposed Development is to deliver up to 30% of the UK's 2030 target for hydrogen production as a part of the current clean energy goals.

12D.1.3 This technical appendix is supported by the following figures provided in Annex 1:

- Figure 12-D-1: The Proposed Development Site and the reptile Survey Areas;
- Figure 12-D-2: Survey Area A;
- Figure 12-D-3: Survey Area B;
- Figure 12-D-4: Survey Area C;
- Figure 12-D-5: Survey Area D;
- Figure 12-D-6: Survey Area E;
- Figure 12-D-7: Survey Area F;
- Figure 12-D-8: Survey Area G;
- Figure 12-D-9: Survey Area H; and
- Figure 12-D-10: Desk Study Results.

12D.1.4 This report makes reference to the relevant wildlife legislation and planning policy, summarised in Annex 2, and is consistent with the requirements of *British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development*.

#### The Proposed Development

12D.1.5 The Proposed Development comprises the construction, operation (including maintenance where relevant) and decommissioning of 1.2-Gigawatt Thermal (GWth) Lower Heating Value (LHV) Carbon, Capture and Storage (CCS) enabled Hydrogen Production Facility (the 'Hydrogen Production Facility') located in Teesside, along with the pipeline infrastructure required to supply hydrogen (H<sub>2</sub>) to offtakers (customers) and the necessary utility connections. Carbon captured by the Proposed Development will be transported by pipeline to the separately consented Northern Endurance Partnership infrastructure on the adjacent Net Zero Teesside site for high-pressure compression and offshore transport and underground storage. A description of the Proposed Development and Terms of Reference are provided in Chapter 4: Proposed Development (ES Volume I, EN070009/APP/6.2).

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12D.1.6 The Proposed Development's purpose is the conversion of methane, from the North Sea storage sites, into hydrogen (with carbon dioxide byproduct captured and stored), for the increased provision of hydrogen supplies as the UK aims to expand its hydrogen energy targets and decarbonise heavy industry and transport.

#### Scope of the Report

12D.1.7 The aims of the survey work undertaken, and the subsequent report presented are to:

- outline the legislation, planning policy and guidance relevant to reptiles;
- determine suitability of habitats within the Proposed Development Site to support reptiles; and
- report on the presence/likely absence of reptiles within the Proposed Development Site.

12D.2 Method

12D.2.1 The reptile surveys, including desk-based and field-based collection of data, have been undertaken with reference to current good practice guidelines (Natural England, 2022; Froglife, 1999; Gent and Gibson, 1998). Desk study records were collated in August 2022 and field surveys were undertaken in July, August, September and October 2023. The purpose of the surveys was to provide data on the presence/likely absence of all reptile species within the Proposed Development Site.

#### Desk Study

12D.2.2 A desk study was carried out as part of the Extended Phase 1 Habitat Survey. The information was collected prior to the undertaking of reptile surveys and was used to inform the scoping of suitable areas to undertake reptile surveys.

12D.2.3 Data was requested from the Environmental Records Information Centre North East (ERIC NE) on 24 August 2022. The search requested all records of reptiles, and other protected species, within 2 km of the Proposed Development Site (Figure 12-D-1) within the last ten years.

12D.2.4 Reports from previous ecological surveys within or within close proximity of the Proposed Development Site were also reviewed for relevant data, and the results summarised to assist with the conclusions and evaluation where appropriate. Data considered included the Net Zero Teesside - Environmental Statement Appendix 12E Reptile Survey Report (bp, 2021). This report detailed reptile surveys undertaken in the Redcar Steelworks and Coatham Sands areas in 2018 and 2020, respectively.

#### Habitat Suitability Assessments

12D.2.5 Walkover surveys conducted as part of Extended Phase 1 Habitat Surveys were used to assess habitats for their potential to support reptiles as described in guidance (Froglife, 1999; Edgar, Foster and Baker, 2010). Eight areas (hereby referred to as



Areas A-H) were identified as suitable habitat and were surveyed to assess presence/likely absence. The location of each area is detailed in Figure 12-D-1.

Presence/Likely Absence Surveys

- 12D.2.6 Reptile surveys were undertaken following good practice guidance as detailed in Froglife (1999) and Gent and Gibson (1998). The chosen survey method included the deployment of artificial refugia. A total of seven visits were undertaken per Survey Area (i.e. Areas A-H) during the active season for reptiles (July, August, September and October).
- 12D.2.7 For the purposes of the reptile refugia surveys, 189 artificial reptile refuges (roofing felt tiles measuring approximately 0.5 m<sup>2</sup>) were placed in suitable reptile habitat. Artificial refuges were placed to ensure a minimum density of five to ten refuges per hectare of suitable habitat was met.
- 12D.2.8 Artificial refuges were positioned where they would receive direct sun in the morning to warm up. The locations of the refuges are shown in Figures 12-D-2 to 12-D-9. The refuges were set out at least two weeks prior to the first survey visits, to allow them to bed in prior to the first reptile survey being undertaken. The refugia deployment dates are presented in Annex 3.
- 12D.2.9 A total of seven survey visits were undertaken between July and October 2023, during suitable weather conditions where possible (ideally with temperatures between 9 and 20 °C, and sunny with no rain or strong winds) (Froglife, 1999). The surveys were undertaken by suitability qualified ecologists to ensure all refugia were inspected on each visit while temperatures and weather conditions remained optimal for survey where possible. The mats were inspected for both live reptiles and signs of reptile presence such as sloughed skin.

Population Size

- 12D.2.10 Twenty surveys would be required to fully determine population size, however only five or seven surveys were completed during 2023. Despite this, an initial estimate of reptile population size can still be determined based on peak adult counts recorded by surveyors during a single Area visit (based on Froglife, 1999).
- 12D.2.11 Reptile populations can be allocated into three broad groups- low population, good population, and exceptional population. Table 12D-1 below provides the criteria for each category.

Table 12D-1: Froglife (1999) Criteria for Assessing Reptile Population Status Using Survey Peak Counts

SPECIES	LOW POPULATION	GOOD POPULATION	EXCEPTIONAL POPULATION
Adder ( <i>Vipera berus</i> )	<5	5-10	>10
Grass snake ( <i>Natrix helvetica</i> )	<5	5-10	>10

SPECIES	LOW POPULATION	GOOD POPULATION	EXCEPTIONAL POPULATION
Slow worm ( <i>Anguis fragilis</i> )	<5	5-10	>20
Common lizard ( <i>Zootoca vivipara</i> )	<5	5-10	>20

### 12D.3 Limitations

#### Desk Study Limitations

12D.3.1 Information obtained from a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a species does not necessarily mean that those species do not occur within the Proposed Development Site. Likewise, the presence of desk study records for species does not automatically mean that these still occur within the or are relevant in the context of the Proposed Development.

#### Survey Limitations

12D.3.2 In the months of July and August higher air temperatures mean reptiles are likely to bask less and are more likely to spend more time in tall grass making them more difficult to observe and identify (Gent and Gibson, 1998). All surveys were completed when air temperatures were between 9 and 18°C as recommended by Froglife (1999), therefore this is not considered to be a significant limitation.

12D.3.3 Long periods of warm, dry weather also reduce the need for reptiles to bask (Gent and Gibson, 1998). During the survey period there was an extended dry and warm period of weather in early June, before the first visit. This beneficial weather for reptiles, may have reduced the possibility of observations. Surveys in Areas A, B and C were delayed because of land access restrictions. This then required the seven survey visits to be undertaken in a smaller survey window (July, August, and September) towards the latter part of the reptile survey season. This limitation was not significant as the surveys were completed within ideal weather conditions and a total number of seven survey visits were completed (Froglife, 1999). Access to Survey Area B was prevented after survey visit four as it was fenced off, and as a result both survey visits five and six could not be carried out on the grounds of health and safety. The final survey visit was undertaken on 5 October 2023 once the ecologists were given safe and suitable access.

12D.3.4 Additionally, the survey results for Survey Area B may have been affected by the ongoing demolition clearance works within close proximity of the reptile refugia and suitable reptile habitat. This may have included both vibration and noise disturbance, and could have contributed to the lack of sightings during the 7th visit. This limitation is not significant however, as reptile presence was already recorded within this survey area and therefore mitigation will be recommended.

## 12D.4 Results

### Desk Study

12D.4.1 The desk study results from ERIC NE and Net Zero Teesside (bp, 2021) are mapped in Annex 1, Figure 12-D-10. There were 17 records of common lizards and 1 record of slow worm recorded within 2 km of the Proposed Development within the last 10 years.

12D.4.2 Desk study records from the previous reptile surveys undertaken in 2018 and 2020 for the Net Zero Teesside - Environmental Statement Appendix 12E: Reptile Survey Report (bp, 2021), resulted in the confirmation of common lizard presence only. A summary of all observations of reptiles from both surveys is detailed in Table 12D-2 below and shown in the attached Figure 12-D-10 in Annex 1.

Table 12D-2: Net Zero Teesside Reptile Results

YEAR	VISIT	SPECIES	NUMBER OF INDIVIDUALS	REPTILE LOCATION
2018	6	Common lizard	1	Plot C (Grid Reference: NZ 5736 2452)
2020	2	Common lizard	1	Under refuge 136 (approximate NGR NZ 57446 25652)
2020	3	Common lizard	2	Under refuges 2 (approximate NGR NZ 56329 26179) and 89 (approximate NGR NZ 57168 25769)
2020	5	Common lizard	2	Under refuge 139, and on top of 141 (approximate NGR NZ 57495 25563)
2020	7	Common lizard	1	Under refuge 154 (approximate NGR NZ 57422 25407)

12D.4.3 As the peak observation counts are <5, the NZT surveys indicate a 'low' indicative population size. In addition to the above results, one common lizard was observed basking in the sand dunes at South Gare Beach during other protected species surveys. This area is connected to both Survey Area A and Survey Area B.

### Field Survey

12D.4.4 The eight Survey Areas were chosen for reptile surveys based on desk study records and the presence of suitable habitat identified during the Phase 1 habitat surveys. Each area was selected after careful consideration of documented data and the identification of habitats conducive to reptile habitation. This methodical approach ensured that the survey areas encompassed a diverse range of environments where reptiles are likely to reside. By integrating desk study findings with on-the-ground assessments of habitat suitability, these survey areas offer comprehensive coverage for the identification and assessment of reptile populations within the designated study area.

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- 12D.4.5 Dates and weather conditions for each of the eight Survey Areas during the seven survey visits are detailed in Annex 4.
- 12D.4.6 Presence of common lizard only was confirmed in both Survey Area B and Survey Area C. Tables 12D-3 and 12D-4 provide further detail of the common lizard observations with supporting photographs provided in Table 12D-14, Annex 5.
- 12D.4.7 No reptiles were observed in Survey Area A. However, Survey Area A is within close proximity to Survey Area B and is connected to Survey Area B by the coastal sand dunes which is suitable habitat for reptiles. Therefore, a precautionary approach should be taken to any works that are to be undertaken in this area should reptiles colonise the area.
- 12D.4.8 No reptiles were recorded in Survey Areas D to H and therefore reptiles are presumed absent. There is no suitable habitat providing connectivity to other areas of confirmed presence.

Table 12D-3: Results of the Reptile Presence/Likely Absence Surveys for Survey Area B

VISIT	DATE	REPTILES SEEN (Y/N)	SPECIES	NUMBER OF INDIVIDUALS	AGE	BEHAVIOUR	REPTILE LOCATION (AS SHOWN ON FIGURE 12-D-3)
1	01/08/2023	Y	Common lizard	2	Juvenile x1 Adult x1	Basking	Under refuge 19 and 22
3	15/08/2023	Y	Common lizard	5	All juveniles	Basking	Under refuge 11, 13, 16, 19, 23
4	24/08/2023	Y	Common lizard	2	All juveniles	Basking	Under refuge 22

Table 12D-4: Results of the Reptile Presence/Likely Absence Surveys for Survey Area C

VISIT	DATE	REPTILES SEEN (Y/N)	SPECIES	NUMBER OF INDIVIDUALS	AGE	BEHAVIOUR	REPTILE LOCATION (AS SHOWN ON FIGURE 12-D-4)
7	25/09/2023	Y	Common lizard	1	Juvenile	Basking	On refuge 2

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### Population Size

- 12D.4.9 Based on the survey findings, the indicative population size is 'good' (peak observation count 5-10) for Area B, and 'low' (peak observation count <5) for Area C.
- 12D.5 Conclusions
- 12D.5.1 All UK native reptile species are protected against intentional killing or injuring under Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended). Following the Extended Phase 1 Habitat Surveys undertaken by AECOM in 2022 and 2023, the Proposed Development Site was found to contain suitable habitats including grassland, scrub and bare ground mosaics with refugia that have the potential to support reptiles.
- 12D.5.2 Desk study records from ERIC NE and the Net Zero Teesside - Environmental Statement Appendix 12E: Reptile Survey Report (2021) suggest common lizard are present within the Proposed Development Site and within close proximity to the proposed Main Site.
- 12D.5.3 No common lizards were observed at Survey Area A or Survey Areas D to H during the seven visits and therefore reptiles are assumed absent. However, as mentioned in the results section, Survey Area A is connected to Survey Area B with suitable coastal sand dune habitat and Survey Area A could potentially be colonised by common lizard in the near future.
- 12D.5.4 Common lizard were observed on 3 out of the 5 visits conducted at Survey Area B (with a 'good' indicative population size) and on 1 of the 7 visits conducted at Area C (with a 'low' indicative population size). No other reptiles were recorded during the visits at these two Survey Areas.
- 12D.5.5 The limitations of access restriction at Survey Area B did not impact survey outcomes as common lizard had been previously identified and therefore mitigation will be recommended. This limitation may, however, have affected the population estimates presented within this report.



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## 12D.6 References

- bp (2021). *Net Zero Teesside DCO Document 6.4 ES Volume III Appendix 12E: Reptile Survey Report*.
- British Standards Institute (2013). *British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development*.
- Department of Energy and Climate Change (2011a). *Overarching National Policy Statement for Energy (EN1)*.
- Department of Energy and Climate Change (2011b). *National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN4)*.
- Department of Energy and Climate Change (2011c). *National Policy Statement for Electricity Networks Infrastructure (EN-5)*.
- Department for Energy Security and Net Zero (2023a). *Overarching National Policy Statement for Energy (EN-1)*.
- Department for Energy Security and Net Zero (2023b). *National Policy Statement for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)*.
- Department for Energy Security and Net Zero (2023c). *National Policy Statement for Electricity Networks Infrastructure (EN-5)*.
- Durkin, J. L. (2016). *Reptile Atlas of North-East England 2016*.
- Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook*.
- Froglife (1999). *Reptile Survey: An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation*. Froglife, Halesworth.
- Gent, A. H., and Gibson, S. D., eds. (1998). *Herpetofauna Workers' Manual. Peterborough, Joint Nature Conservation Committee*.
- Hartlepool Borough Council (2018). *Hartlepool Local Plan*.
- HM Government (1981). *Wildlife and Countryside Act 1981 (as amended)*.
- HM Government (2006). *Natural Environment and Rural Communities Act 2006 (SI 2006/16)*.
- HM Government (2017). *The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019*.
- Ministry of Housing, Communities and Local Government (2021). *National Planning Policy Framework*.
- Natural England & Defra (2022). *Reptiles: Survey and Mitigation for Development Projects*.
- Redcar and Cleveland Borough Council (2018). *Local Plan- Adopted May 2018*.
- Stockton-on-Tees Borough Council (2019). *Local Plan- Adopted 30 January 2019*.

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- Tees Valley Nature Partnership (2012). *Priority habitats and species in the Tees Valley*.
  - Tees Valley Nature Partnership (2018). Tees Valley Local Biodiversity Species – updated 09-2018.

## 12D.7 ANNEX 1: Figures

Figure 12-D-1: Proposed Development Site and Reptile Survey Area

Figure 12-D-2: Field Survey Results Reptile Area A

Figure 12-D-3: Field Survey Results Reptile Area B

Figure 12-D-4: Field Survey Results Reptile Area C

Figure 12-D-5: Field Survey Results Reptile Area D

Figure 12-D-6: Field Survey Results Reptile Area E

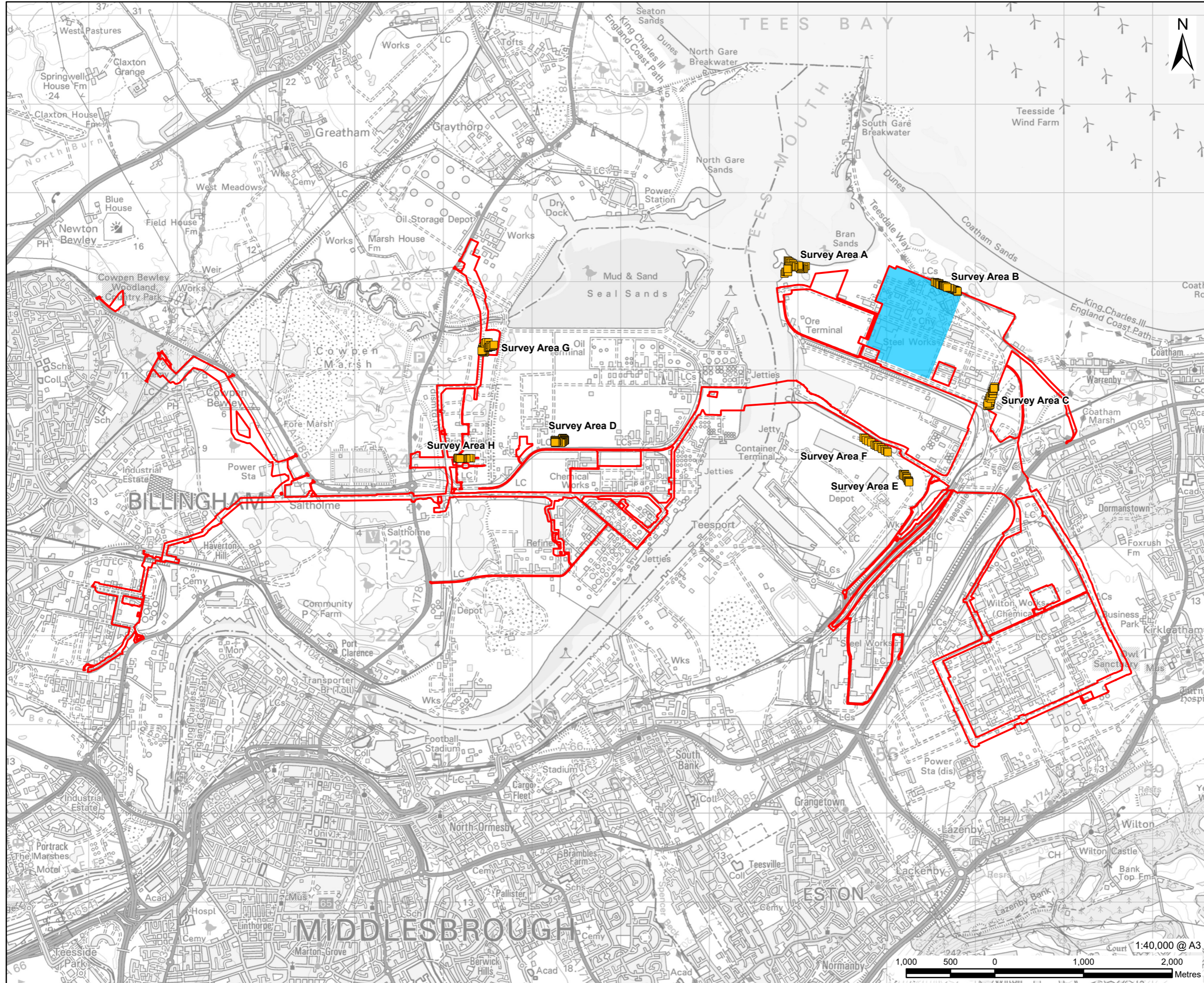
Figure 12-D-7: Field Survey Results Reptile Area F

Figure 12-D-8: Field Survey Results Reptile Area G

Figure 12-D-9: Field Survey Results Reptile Area H

Figure 12-D-10: Desk Study Results Reptile





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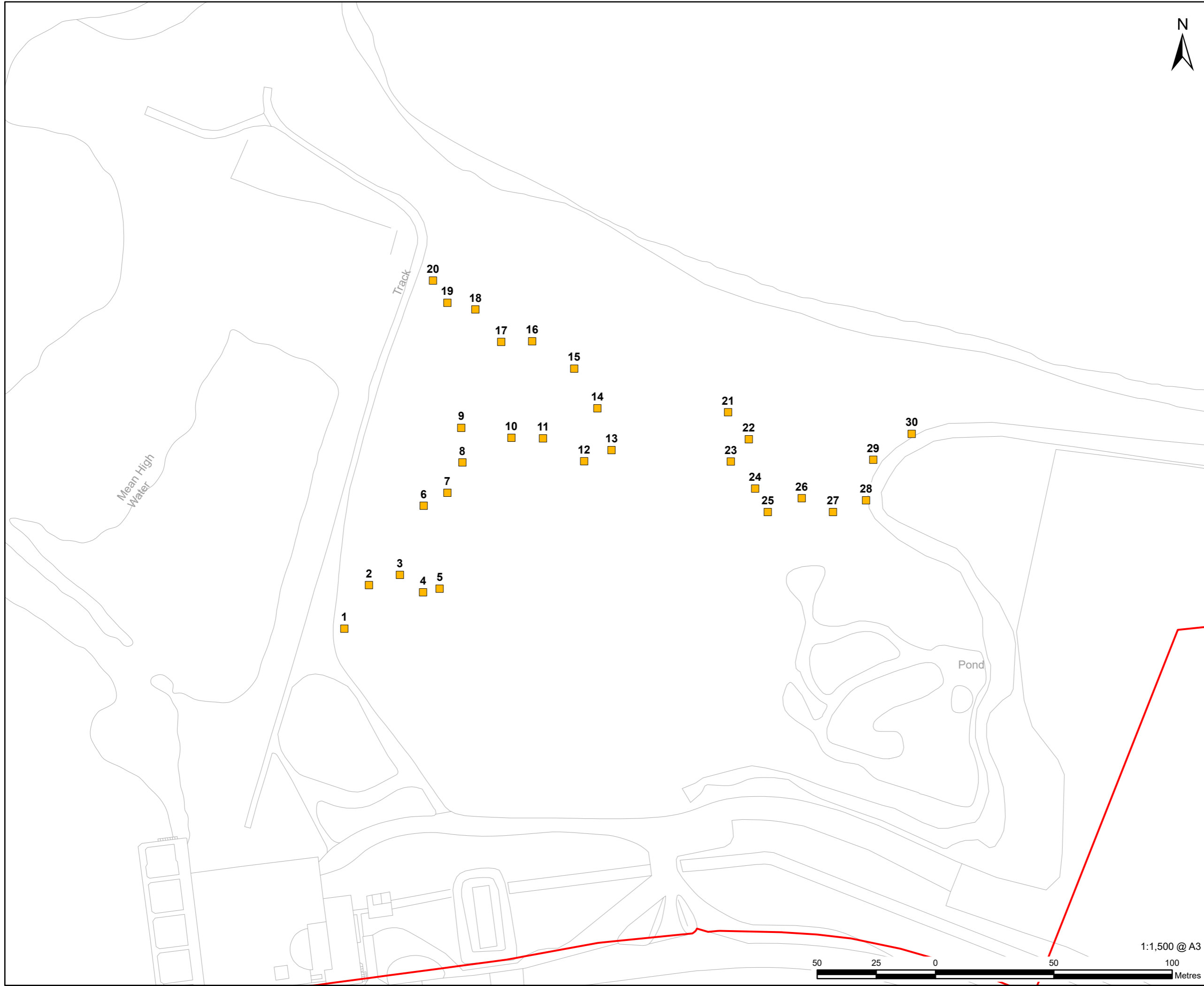
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**FIGURE TITLE**  
Proposed Development Site and  
Reptile Survey Areas

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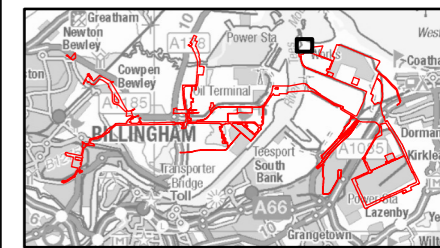
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- LEGEND**
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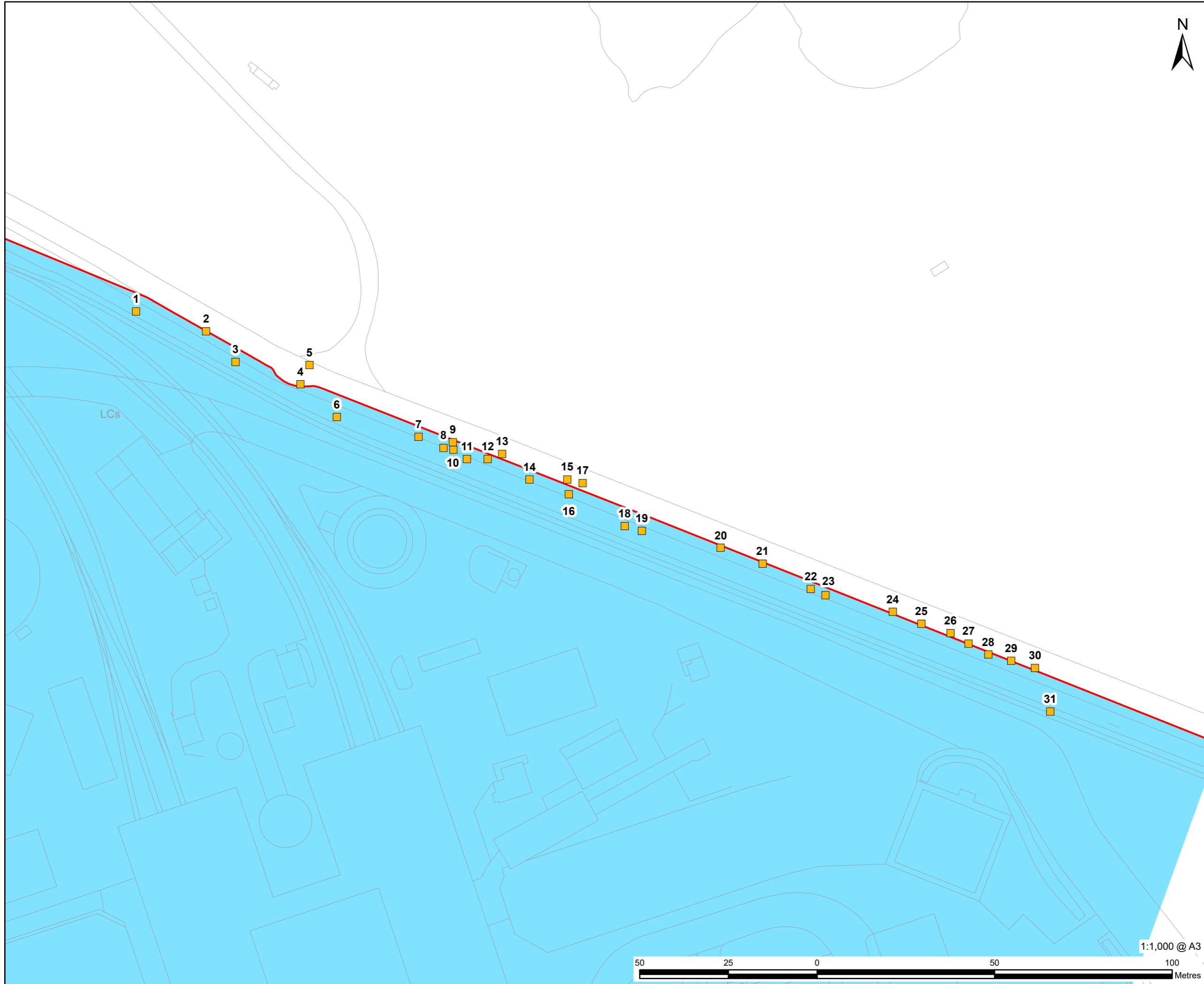
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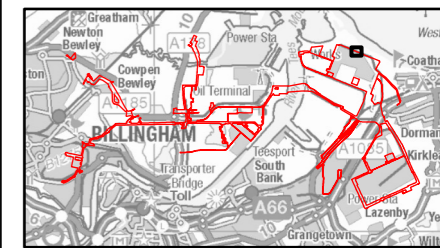
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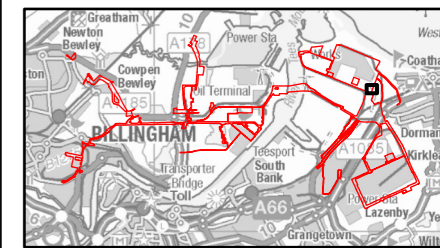
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Reptile Area B

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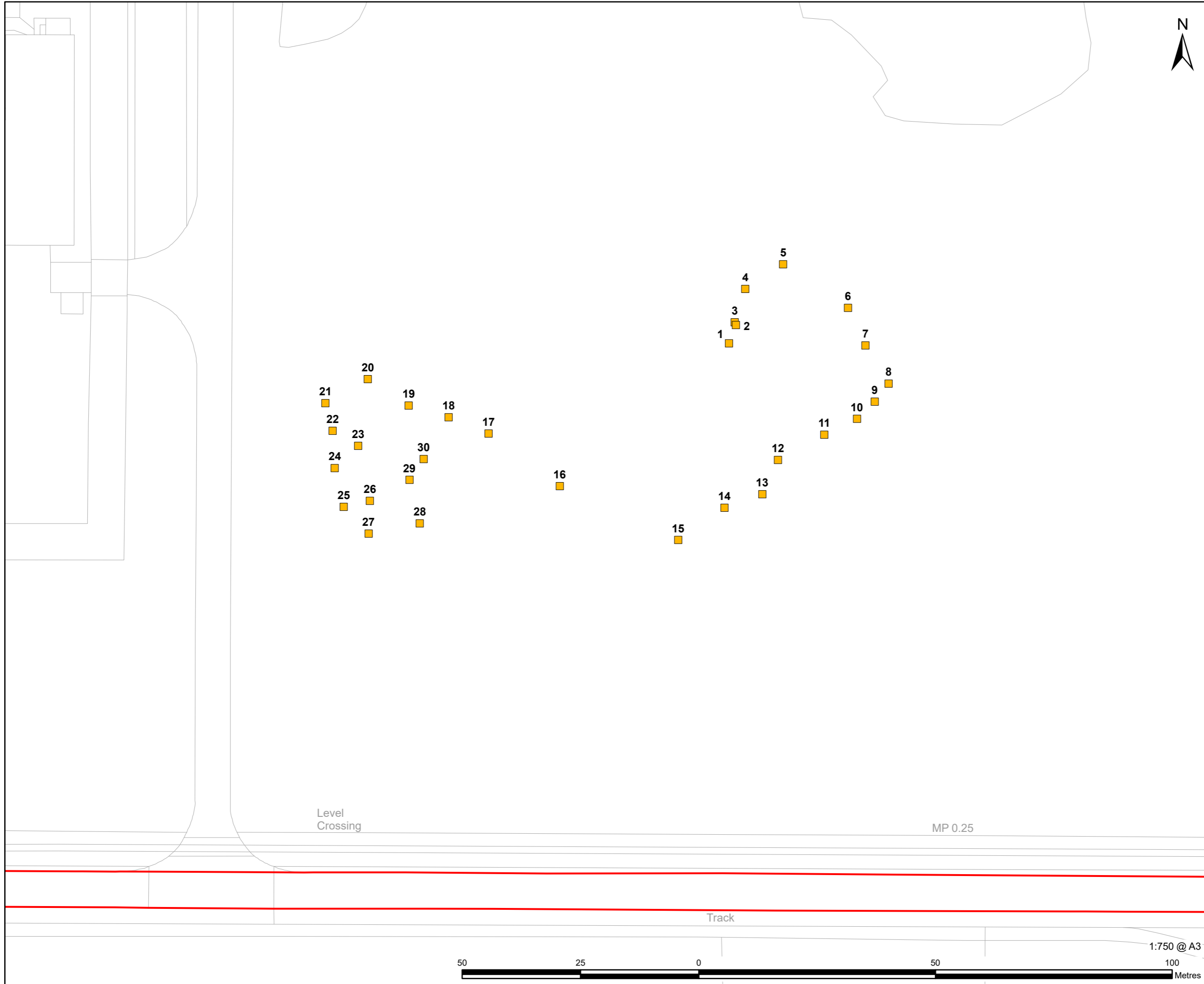
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Figure 12-D-4

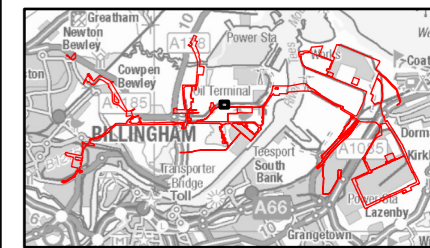
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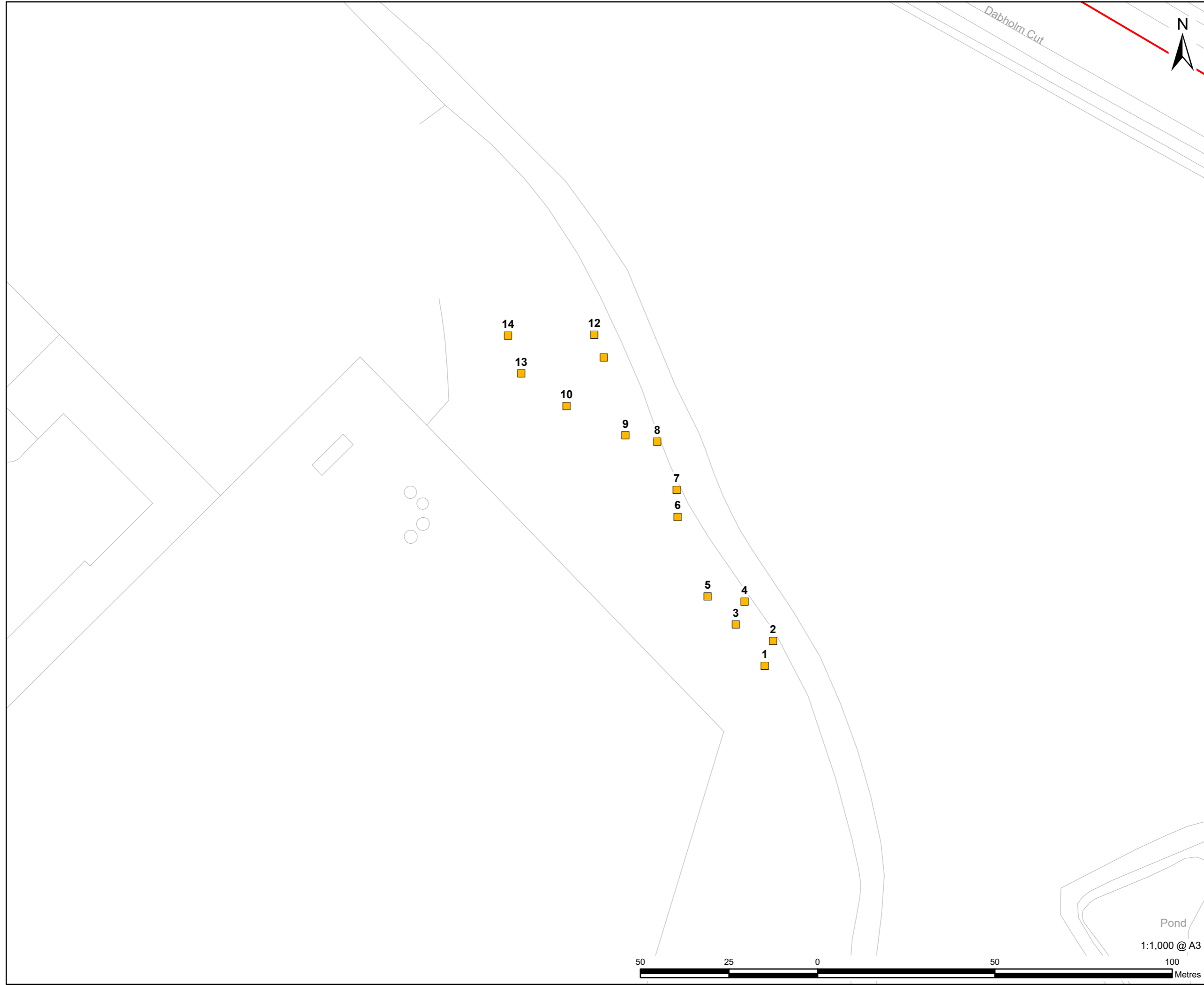
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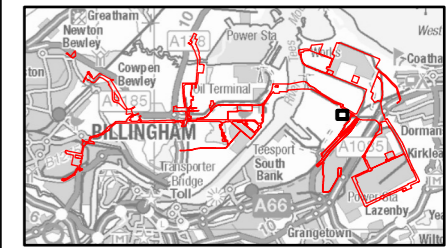
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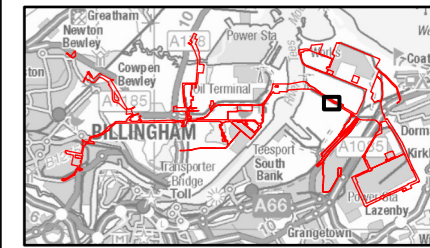
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Field Survey Results  
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**FIGURE NUMBER**  
Figure 12-D-7



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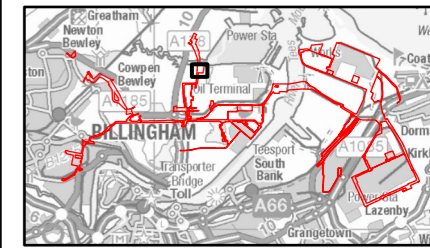
# AECOM

**PROJECT**  
H2Teesside DCO

**APPLICANT**  
H2 Teesside Limited

**CONSULTANT**  
AECOM Limited  
100 Embankment,  
Cathedral Approach,  
Manchester, M3 7FB  
www.aecom.com

**LEGEND**  
 Proposed Development Site  
 Felt Tile



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**ISSUE PURPOSE**  
Environmental Statement

**PROJECT NUMBER**  
60689030

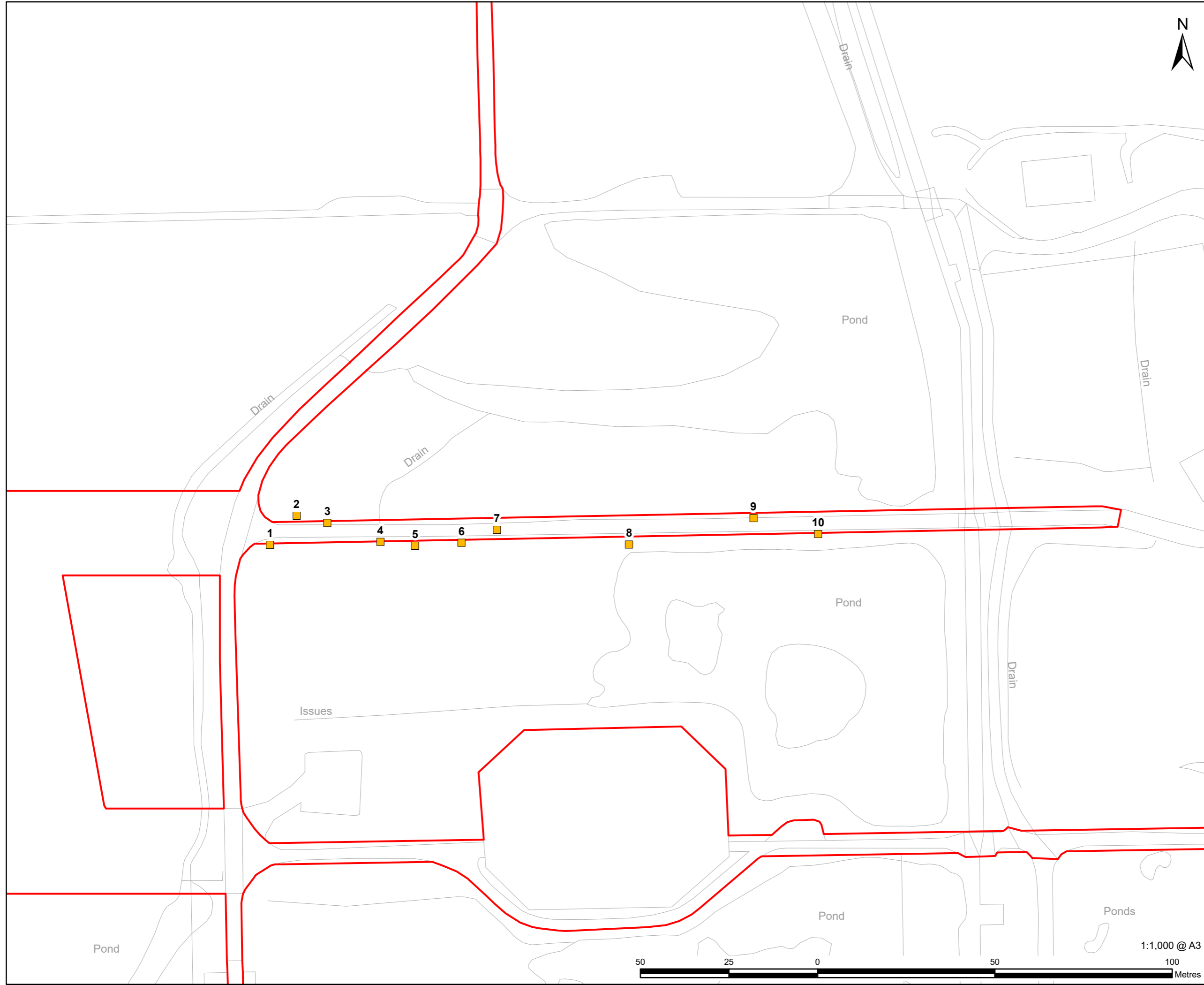
**FIGURE TITLE**  
Field Survey Results  
Reptile Area G

**FIGURE NUMBER**  
Figure 12-D-8



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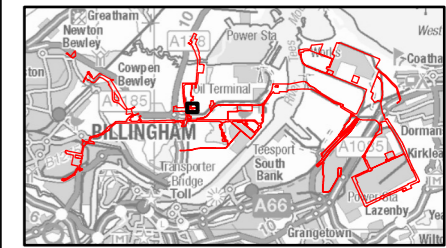


**PROJECT**  
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- LEGEND**
- Proposed Development Site
  - Felt Tile



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**ISSUE PURPOSE**  
Environmental Statement

**PROJECT NUMBER**  
60689030

**FIGURE TITLE**  
Field Survey Results  
Reptile Area H

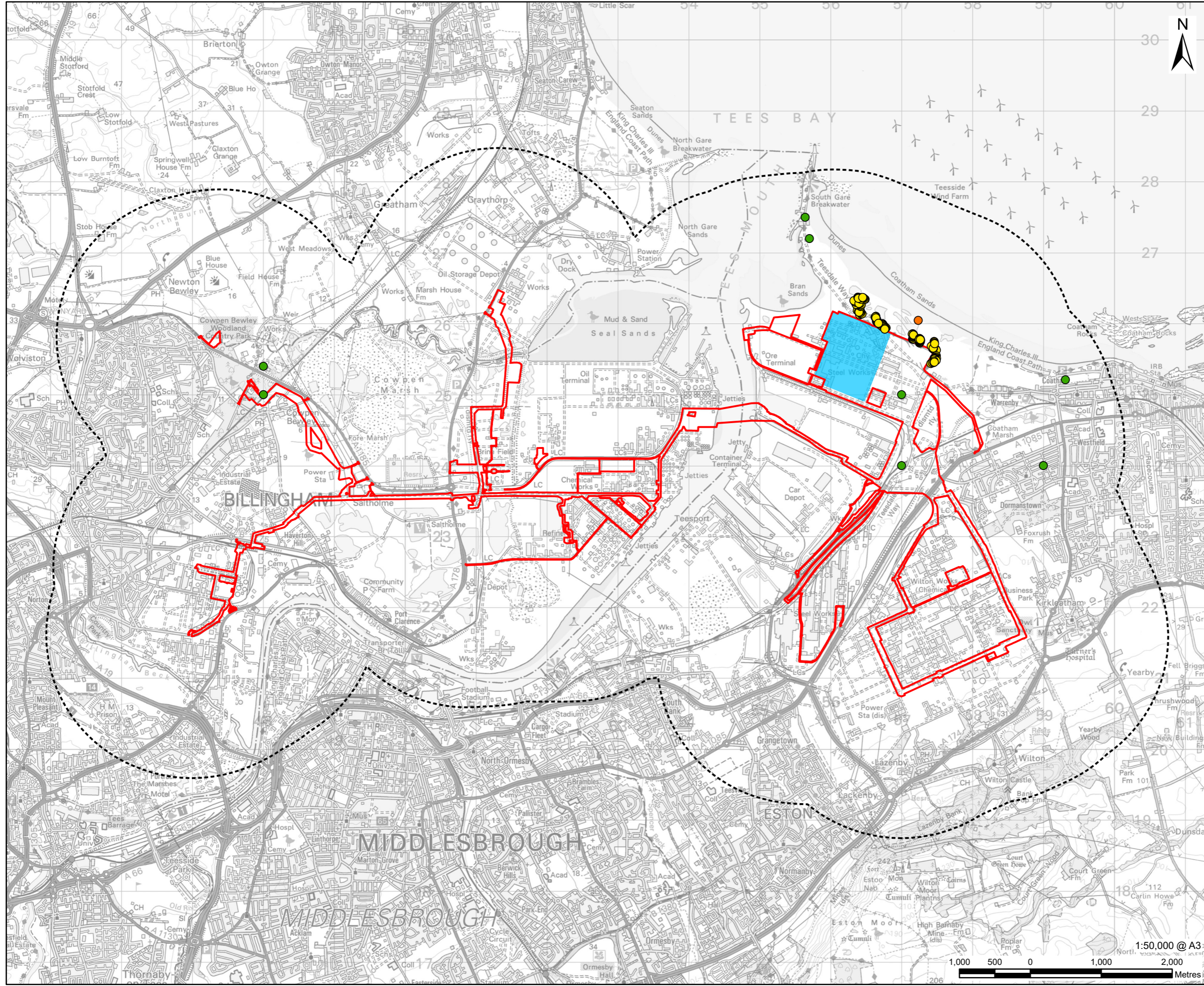
**FIGURE NUMBER**  
Figure 12-D-9

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H2 Teesside DCO

**APPLICANT**  
H2 Teesside Limited

**CONSULTANT**  
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100 Embankment,  
Cathedral Approach,  
Manchester, M3 7FB  
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- LEGEND**
- Proposed Development Site
  - Proposed Development Site - 2 km Buffer
  - Main Site
- Evidence of Reptile Presence**
- H2Teesside
  - Net Zero Teesside
  - Environmental Records Information Centre North East (From 2012 to 2021)

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**ISSUE PURPOSE**  
Environmental Statement

**PROJECT NUMBER**  
60689030

**FIGURE TITLE**  
Desk Study Results  
Reptile

**FIGURE NUMBER**  
Figure 12-D-10

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12D.8 ANNEX 2: Relevant Legislation, Planning Policy and Guidance

12D.8.1 A summary of the relevant international, national, and local legislation, planning policy, and guidance is set out below.

Legislation

12D.8.2 The following legislation is relevant to this report:

- WCA 1981 (as amended); and
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

12D.8.3 Four widespread reptiles are present in the north-east region of England and are considered in the report, including: adder (*Vipera berus*), common lizard (*Zootoca vivipara*), grass snake (*Natrix helvetica*), and slow worm (*Anguis fragilis*). These four species are the only ones to occur naturally within the Tees Valley. All four of the common reptiles are protected under Schedule 5 of the WCA 1981, under this legislation it is an offence to intentionally or recklessly:

- kill, injure, or selling of individuals;
- damage to their shelters;
- disturb an occupied structure; and
- block access to a shelter.

12D.8.4 However, as they are not European protected species their habitats do not receive legal protection.

12D.8.5 Two rare species of reptiles in the UK are sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). Previously sand lizards have been released on both sides of the river at Teesmouth, though these multiple releases have been unsuccessful with the populations failing to survive in the long-term (Durkin, 2016). In the potential incidence that another release has been undertaken, with the remains of sand lizards' populations present then further consideration will be given to the species due to the strict legal protections afforded to the species under the Wildlife and Countryside Act 1981, NERC 2006, and as a European Protected Species they are also protected under Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Protections are also extended to their habitats with these habitats designated Special Areas of Conservation (SAC).

12D.8.6 Natural England (2022) has also published guidance for Local Planning Authorities (LPAs) in determining planning decisions, for proposals which have the potential to affect reptiles alongside other protected species. The guidance sets out responsibilities and minimum requirements for reptile survey and mitigation required.

NERC 2006

12D.8.7 The NERC Act (2006), as amended, put an obligation on public bodies to have regard, so far as is consistent with the proper exercise of their functions, to the

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purpose of conserving and enhancing biodiversity. Under the terms of the NERC Act, conserving biodiversity includes restoring or enhancing populations and/or habitats. The Local Planning Authority (LPA) or other determining authority must therefore consider the effects of planning applications upon biodiversity and how it can be mitigated for or enhanced.

- 12D.8.8 A list of species and habitats 'of principal importance for the purpose of conserving biodiversity' is published under Section 41 of the NERC Act (2006). All named species of native reptile are listed as a priority species on the NERC Act, 2006. Section 40 of the NERC requires that local planning authorities have regard to the conservation of biodiversity in England, when carrying out their normal functions.

#### Biodiversity Action Plans

- 12D.8.9 The UK Biodiversity Action Plan (BAP) was withdrawn in March 2011 with the lists of Priority Species and Habitats being superseded by those within Section 41 NERC Act (2006).
- 12D.8.10 Local Biodiversity Action Plans (LBAPs) are no longer used as a formal expression of delivery of biodiversity targets but identify sub-regional priorities for nature conservation and propose agreed actions to conserve, maintain, enhance and increase local Priority Species and Habitats.
- 12D.8.11 The Tees Valley Biodiversity Action Plan (Tees Valley Nature Partnership, 2012) is the relevant LBAP for the defined Study Area) and was updated in in 2012. The LBAP outlines biodiversity conservation objectives within the region and identifies priorities for action for priority habitats, species, locally important wildlife, and sites. Slow worm, common lizard and adder are considered species of local importance, requiring greater consideration during planning and mitigation processes (Tees Valley Nature Partnership, 2018).

12D.9 ANNEX 3: Refugia Deployment Dates

Table 12D-5: Reptile Refugia Deployment Dates

SURVEY AREA	DEPLOYMENT DATE	NUMBER OF REFUGIA
A	12/06/2023	30
B	13/06/2023	31
C	13/06/2023	29
D	30/05/2023	30
E	30/05/2023	14
F	30/05/2023	15
G	30/05/2023	30
H	30/05/2023	10

12D.10 ANNEX 4: Survey Visit Dates and Weather

Table 12D-6: Survey Area A Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	01/08/2023	18	0	4	Dry, warm and scattered clouds	11:30-12:00
2	09/08/2023	18	3	4	Dry, warm and scattered clouds	11:00-11:30
3	15/08/2023	17	2	6	Dry, warm and scattered clouds	09:30-10:00
4	24/08/2023	17	1	8	Dry, warm, overcast with recent rain	09:00-10:00
5	06/09/2023	18	2	8	Dry, warm and overcast	09:00-09:30
6	19/09/2023	12	5	8	Wet, cool and overcast	08:30-09:00
7	25/09/2023	18	2	8	Dry, warm and overcast	10:00-10:30

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

Table 12D-7: Survey Area B Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	01/08/2023	18	0	4	Dry, warm and scattered clouds	12:00-12:30
2	09/08/2023	18	3	3	Dry, warm and a few clouds	11:30-12:00
3	15/08/2023	17	1	6	Dry, warm and broken clouds	10:00-10:30
4	24/08/2023	17	0	6	Dry, warm, broken clouds with recent rain	10:00-10:30
5	N/A*	-	-	-	-	-
6	N/A*	-	-	-	-	-
7	05/10/2023	15	1	3	Dry, mild, scattered clouds with recent light rain	10:00-10:30

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

\*Access not available – refer to Section 3.0 Limitations.



Table 12D-8: Survey Area C Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	01/08/2023	18	0	0	Dry, warm and clear skies	12:30-13:00
2	09/08/2023	19	1	2	Dry, warm and few clouds	12:00-12:30
3	15/08/2023	17	2	6	Dry, warm and broken clouds	10:30-11:00
4	24/08/2023	17	1	7	Dry, warm, broken clouds with recent rain	10:30-11:00
5	06/09/2023	18	2	8	Dry, warm and overcast	09:30-10:00
6	19/09/2023	12	5	8	Wet, cool and overcast	09:00-09:30
7	25/09/2023	16	5	0	Dry, warm and clear skies	10:30-11:00

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

Table 12D-9: Survey Area D Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	05/07/2023	15	3	5	Dry, mild and scattered clouds	08:50-09:30
2	31/07/2023	19	2	5	Dry, warm and scattered clouds	08:00-09:30
3	08/08/2023	18	3	3	Dry, warm and a few clouds	08:30-09:00
4	16/08/2023	17	2	4	Dry, warm and scattered clouds	09:00-09:30
5	25/08/2023	15	2	1	Dry, mild and a few clouds	09:30-10:00
6	07/09/2023	18	1	2	Dry, warm and a few clouds	08:30-09:00
7	15/09/2023	14	1	8	Dry, mild, overcast with recent rain	10:00-10:30

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

Table 12D-10: Survey Area E Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	05/07/2023	16	3	5	Dry, warm and scattered clouds	10:00-11:00
2	31/07/2023	18	0	7	Recent rain, warm and heavy clouds	10:00-11:00
3	08/08/2023	18	2	3	Dry, warm and a few clouds	09:30-10:30
4	16/08/2023	18	2	3	Dry, warm and scattered clouds	10:00-11:00
5	25/08/2023	13	0	0	Dry, cool and clear skies	10:00-11:00
6	07/09/2023	18	1	2	Dry, warm and a few clouds	09:30-10:30
7	15/09/2023	14	1	8	Dry, mild, overcast with recent rain	11:00-12:00

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

Table 12D-11: Survey Area F Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	05/07/2023	16	3	5	Dry, warm, scattered clouds	10:00-11:00
2	31/07/2023	18	0	7	Recent rain, warm, heavy clouds	10:00-11:00
3	08/08/2023	18	2	3	Dry, warm, few clouds	09:30-10:30
4	16/08/2023	18	2	3	Dry, warm, scattered clouds	10:00-11:00
5	25/08/2023	13	0	0	Cool, dry, clear	10:00-11:00
6	07/09/2023	18	1	2	Dry, warm, few clouds	09:30-10:30
7	15/09/2023	14	1	8	Dry, mild, overcast, recent rain	11:00-12:00

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

Table 12D-12: Survey Area G Dates and Weather Conditions

VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	06/07/2023	17	5	7	Dry, warm, broken/heavy clouds	09:00-10:00
2	07/08/2023	15	3	5	Dry, scattered clouds	09:00-10:00
3	10/08/2023	20	1	7	Dry, humid, heavy clouds	09:00-10:00
4	16/08/2023	17	2	4	Dry, scattered clouds, warm	08:00-09:00
5	25/08/2023	15	1	4	Dry, scattered clouds, mild	08:00-09:00
6	05/09/2023	17	1	0	Dry, warm, clear skies	09:00-10:00
7	18/09/2023	18	2	6	Dry, warm, heavy clouds	09:00-10:00

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

Table 12D-13: Survey Area H Dates and Weather Conditions


VISIT	SURVEY DATE	MAXIMUM TEMPERATURE (°C)	WIND SPEED (BEAUFORT)	CLOUD COVER (OKTAS)	WEATHER DESCRIPTION	SURVEY TIMES
1	06 July 2023	17	5	7	Dry, warm, broken/heavy clouds	09:00-10:00
2	07 August 2023	15	3	5	Dry, scattered clouds	09:00-10:00
3	10 August 2023	20	1	7	Dry, humid, heavy clouds	09:00-10:00
4	16 August 2023	17	2	4	Dry, scattered clouds, warm	08:00-09:00
5	25 August 2023	15	1	4	Dry, scattered clouds, mild	08:00-09:00
6	05 September 2023	17	1	0	Dry, warm, clear skies	09:00-10:00
7	18 September 2023	18	2	6	Dry, warm, heavy clouds	09:00-10:00

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.


Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = sky completely covered (overcast).

12D.11 ANNEX 5: Photographs

Table 12D-14: Survey Photographs for Survey Area B

VISIT NUMBER	DATE	DESCRIPTION	PHOTOGRAPH OF COMMON LIZARD SIGHTING
3	15 August 2023	Juvenile common lizard basking under refuge number 19.	



4	24 August 2023	Juvenile common lizard basking on refuge number 12.	
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