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PENTLAND HOMES AND JARVIS HOMES

KINGSNORTH, ASHFORD

REPTILE SURVEY REPORT

APRIL 2023

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PENTLAND HOMES AND JARVIS HOMES, KINGSNORTH, ASHFORD

REPTILE SURVEY REPORT

APRIL 2023

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EXECUTIVE SUMMARY

Wardell Armstrong LLP was commissioned by Pentland Homes and Jarvis Homes to undertake reptile surveys for a proposed residential development scheme of land located near Kingsnorth, Ashford, Kent, approximate National Grid Reference: TQ 997 387.

Reptile population surveys covering the entire site were carried out with a total of 20 visits between April and October 2022.

Three species of reptiles (Common Lizard, Slow Worm, Grass Snake) were recorded during the surveys. Reptile activity was highest in area 3 of the site.

Areas 1, 2, and 4 are of Local value for their reptile assemblages.

Area 3 is of County value for its reptile assemblage.

1 INTRODUCTION

1.1 Background

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Pentland Homes and Jarvis Homes to undertake a reptile survey near Kingsnorth, Ashford, Kent, approximate National Grid Reference: TQ 997 387; hereafter referred to as 'the site'.

1.1.2 The survey followed recommendations from an Ecological Appraisal undertaken by The Landscape Partnership Ltd (TLP) in July 2013 in support of a planning application for a housing development.

1.1.3 Accordingly, reptile surveys were undertaken in 2017 to identify the status of reptiles within the survey area. The surveys were updated in 2022, and the update is the subject of this report.

1.1.4 This report has been produced with reference to current guidelines for reptile surveys (Gent & Gibson, 1998; 2003, Froglife 1999, Edgar, Foster & Baker, 2010) along with British Standards for Biodiversity – Code of Practice for Planning and Development (British Standards Institute, 2013).

1.2 Site Context

1.2.1 The area of detailed ecological study referred to as the site covers approximately 48.5 hectares (ha). The majority of the site (~40ha) comprises improved/semi-improved grassland (~82.5%).

1.3 Nomenclature

1.3.1 All fauna names follow those on the National Biodiversity Network (NBN) Gateway (NBN, 2013).

1.3.2 The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

1.4 Legislation

1.4.1 All native reptiles receive some legal protection in England arising from the following legislation:

- *Wildlife & Countryside Act 1981 (as amended)*

1.4.2 Within England, all reptile species (i.e. slow worm *Anguis fragilis*, grass snake *Natrix helvetica*, adder *Vipera berus*, common lizard *Zootoca vivipara*, sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) are listed under Schedule 5 of the

Wildlife & Countryside Act 1981 (as amended) and are protected against killing, injuring and unlicensed trade during all life stages of these animals.

1.5 Quality Assurance & Environmental Management

1.5.1 All surveys were completed by suitably qualified and experienced ecologists from Wardell Armstrong. All surveyors belong to the Chartered Institute of Ecology and Environmental Management (CIEEM).

1.5.2 The surveys and assessments have been overseen by and the report checked and verified by a full member of CIEEM, who is bound by its code of professional conduct.

2 METHODOLOGY

2.1 Desk-based Study

Previous Reports

2.1.1 A review was made of previous reports undertaken to establish longer term usage of the site by reptiles. These included:

- WA (2017) *Kingsnorth, Ashford: Reptile Survey Report* (reference ST15979/4.12)

Local Records Centre

2.1.2 The Kent & Medway Biological Records Centre (KMBRC) and Kent Reptile and Amphibian Group were contacted in February 2022 to ascertain whether there are any reptile records of reptiles within a 2km radius from the site.

2.1.3 A lack of records does not necessarily mean the species is not present in the area.

2.2 Field Survey

Habitat Assessment

2.2.1 The habitat assessment was initially informed by results of the Ecological Appraisal (EA) in March 2013. The EA was updated in March 2017 and March 2022 and assessed changes to the extent or quality of habitats within the site.

2.2.2 The results of the habitat assessment informed the requirement to assess the status of reptiles within the site, in accordance with relevant guidance.

Population Assessment

2.2.3 The field survey methodology was devised in accordance with the requirements of all relevant legislation and good practice guidance, including the *Herpetofauna Workers' Manual* (Gent & Gibson, 1998; 2003), *Froglife Advice Sheet 10* (Froglife, 1999), and *Reptile Management Handbook* (Edgar, Foster & Baker, 2010).

2.2.4 The site is *c.*48ha, of which only *c.*7ha (i.e. ~15%) was considered to be optimal to support reptiles. The remaining 41ha (i.e. ~85%) is woodland, or managed for arable production and pasture, providing suboptimal habitat for reptile species. Table 1 provides habitat calculations for Areas 1-4.

Table 1. Habitat Calculations		
Habitat	**Area (hectares)**	**Notes**
Poor Semi-improved grassland	23.16	Suboptimal. When unmanaged throughout summer it provides foraging potential within tall grass. However, it is mowed from time to time and likely has no hibernacula potential.
Improved Grassland	16.81	Suboptimal/unsuitable – Pasture, flat and improved landscape means there is no hibernacula potential
Neutral Grassland – Semi-improved	6.57	Optimal – Mosaic of habitat including waterbodies, scrubs, and edges. Provides hibernacula and foraging potential.
Broadleaved woodland	1.19	Suboptimal – Dense woodland provides too much shade for basking.
Scrub - Scattered	0.39	Optimal – Provides hibernacula potential and is located adjacent to grassland which provides foraging potential.
Standing water	0.12	Optimal – Forms a mosaic habitat, provides edge habitat, and foraging potential with aquatic invertebrates.
Scrub – dense/continuous	0.05	Optimal – Provides hibernacula potential and is located adjacent to grassland which provides foraging potential.
Other tall herb and fern	0.05	Optimal – provides good foraging habitat.
Total	**48.34**	

2.2.5 The number of artificial refugia used for surveying is reliant upon many factors, such as the likelihood of disturbance and the size of the area. In general, the more artificial refugia used, the greater the chance of recording reptiles (and the larger number of reptiles seen). For general survey purposes, 5-10 refugia (consisting of 0.5m x 0.5m roofing felt tiles) per hectare is considered appropriate (Froglife Advice sheet, 1999).

2.2.6 A total of 200 artificial refugia, at an average density of 25 tiles per ha, were placed within the 8ha of suitable habitat and field margins in Areas 1-4 as shown on **Drawing 003 P02 Reptile Mat Location Plan.**

2.2.7 The placement of artificial refugia predominantly included south facing slopes amongst rough grass, along hedgerow bases and field margins, around waterbodies and sun breaks in low scrubby vegetation. Initially, 200 artificial refugia were set out within the survey area. Table 2 provides information on the number of tiles in each area.

2.2.8 As the density of refugia was at 25 per ha, the reptile counts for this survey will be halved to provide a pro-rata estimate of numbers if there were approximately 10 refugia per ha [the density stipulated by Froglife (Froglife Advice sheet, 1999)].

2.2.9 The placement of artificial refugia predominantly included south facing slopes amongst rough grass, along hedgerow bases and field margins, around waterbodies and sun breaks in low scrubby vegetation. Initially, 200 artificial refugia were set out within the survey area. Table 2 provides information on the number of tiles in each area.

2.2.10 In addition, natural refugia (logs and stones) and semi-natural refugia (such as a large pile of sheet metal, wooden planks, a disused bathtub that have been in place for a significant time to allow complete homogeneity with their surroundings) were identified as potentially suitable for use by reptiles. Table 2 lists the numbers of all types of refugia within the areas.

2.2.11 Refugia tiles were individually numbered for reference and left to settle for a minimum period of 14 days before being checked for the first time. Refugia was visited 20 times during the survey period during suitable weather conditions as defined by relevant guidance.

2.2.12 On visit 11, 22 additional artificial refugia were placed on site in area 3. This was to replace refugia that had gone missing or were destroyed.

Table 2: Counts of Refugia Across the Site

Compartment	Total Natural Refugia	Total Artificial Refugia	Additional Refugia	Missing/damaged	Existing refugia
Area 1	1	23	+0	5	19
Area 2	4	74	+0	11	67
Area 3	0	49	+22	18	53
Area 4	3	49	+0	1	51

2.3 Weather Conditions

2.3.1 Surveys were carried out during optimum temperature and weather conditions (intermittent sunshine, temperatures between 9°C and 20°C with low winds). The ideal time to carry out surveys is between the hours of 9am and 11am and 4pm and 7pm when reptiles have not fully warmed up and so are more easily observed. Sunshine immediately after rain is also suitable at any time of the day so long as the temperature is greater than 9°C.

2.3.2 Weather conditions were recorded during all the survey visits. Specific weather conditions for each visit are described in Appendix 1.

2.4 Population Assessment

2.4.1 Following the field survey, the data collected was evaluated. Based on the size and connectivity of the site, it is suitable to suggest any reptiles of a single species present in a single area would be part of one population.

2.4.2 A scoring system for categorising the size of reptile populations present (Froglife Advice sheet, 1999) has been used to assess the indicative population sizes present within the site, illustrated in Table 3.

2.4.3 This scoring system gives a population size estimate described as low, good, or exceptional, based on "the maximum numbers of adult reptiles seen by observation and/or found under tiles at a density of up to 10 tiles per hectare, by one person in one day". This approach has been applied to the results of the surveys undertaken.

Table 3: Reptile population size classification

Reptile species	**Low Population** *Score 1*	**Good Population** *Score 2*	**Exceptional Population** *Score 3*
Adder	<5	5-10	>10
Grass snake	<5	5-10	>10
Common lizard	<5	5-20	>20
Slow worm	<5	5-20	>20

2.5 Limitations

Destroyed Refugia

2.5.1 Several artificial refugia was lost part way through the survey due to overgrown vegetation, grass cutting, and/or anthropogenic interference. Refugia destroyed were replaced and deployed during Visit 11. Where further refugia was deployed, reptiles were recorded the following visit, thus it was not deemed necessary that replacement artificial refugia required time to bed.

2.6 Weather Conditions

2.6.1 In line with best practice guidelines the surveys must be carried out in appropriate weather conditions. If a survey was scheduled, and weather conditions were not appropriate the survey was rescheduled to a more appropriate date.

3 RESULTS

3.1 Desk Study

Records Centre

3.1.1 Consultation with The Kent & Medway Biological Records Centre (KMBRC) identified terrestrial habitats (hedgerow bases, broadleaved woodland, improved grassland, field margins) within the site as suitable reptile habitats.

3.1.2 KMBRC and Kent Reptile and Amphibian Group provided a total of 130 records of reptiles within a 2,000m radius of the site within ten years.

3.1.3 Table 4. shows a record of reptile species recorded with KMBRC and KRAG in a 2,000m buffer of the site in the last ten years.

3.1.4 A lack of records does not necessarily mean the species is not present in the area.

Table 4. Reptile species within a 2km buffer of the site as per KMBRC records

Scientific Name	Common Name	Species Status	Date of most recent record	Location of most recent record	Distance from site of nearest record	Number of records in the last 10 years
Zootoca vivipara	Common Lizard	Bern III, WCA5(p), UKBAP P, NERC S.41	01/07/2021	TQ9938	190m	40
Natrix helvetica	Grass Snake	Bern III, WCA5(p), UKBAP P, NERC S.41	01/07/2021	TQ9938	100m	8
Anguis fragilis	Slow worm	Bern III, WCA5(p), UKBAP P, NERC S.41	05/04/2020	TQ99173869	900m	82

Previous Reports

3.1.5 WA's surveys in 2017 revealed slow worms were the most abundant reptile species on site with an exceptional population in Area 1, having a maximum count of 41.

3.1.6 Common worms were recorded across all sites with a maximum count of 9 in Area 1, indicating a 'good' population.

3.1.7 Grass snakes were recorded in all areas, most frequently in Area 2 with a maximum count of 3 individuals on a single visit, indicating a 'low' population.

3.2 Habitat Assessment

3.2.1 As shown on **Drawing P01 010 Phase 1 Habitat Plan**, the majority of the site comprises poor semi-improved / improves grassland used for agriculture (~82.5%), with comparatively few areas of suitable grassland (~14.5%), woodland (~2%),

scattered scrub (~1%), and standing water (<1%) that could provide suitable refuge, basking sites and foraging habitats for reptiles.

3.2.2 It is considered unlikely that adders are present within the site or its adjacent habitats as this species are generally absent from areas of intensive agriculture, preferring heathlands, moorlands or dense grasslands with low scrub that provides abundant prey and cover.

3.2.3 Slow worms are known to inhabit a wide range of habitats, but this species favours dense vegetation in which they are protected against predators, but which still provide enough light for basking. As such, slow worm typically occupy woodland rides, tussocky grassland, meadows, hedgerows, heathland, gardens, allotments and other urban areas.

3.2.4 Hedgerow bases and arable field margins within all the areas provide suitable shelter and foraging habitat for slow worms. Generally, suitable supporting habitats for slow worm are concentrated to the peripheries of the areas within the site. It is considered that the field margins and woodland edges within Areas 1 and 4 could support a population of slow worm. Back gardens that back on to field margins in Areas 1, 2 and 3 also provide foraging and basking opportunities for slow worm.

3.2.5 Grass snakes are generally associated with wetlands but can also be found in many other habitats that provide some cover and a degree of structural diversity. Grass snakes are very mobile and do not rely on a single site for hibernation, foraging and egg-laying. It is not uncommon to see grass snakes in woodlands during hot weather. Ponds and ditches present within Areas 2 and 4 are optimal habitats to support foraging grass snake. Additionally, woodland edges (Areas 1 and 4) and hedgerow bases within all the Areas could provide cover for grass snakes.

3.2.6 Common lizards are known to occupy a wide range of habitats providing that they are structurally diverse and include adequate cover. Common lizards tend to avoid structurally uniform vegetation and tend to inhabit damp or wet areas with an abundance of grass tussocks. However, they can also be found in humid and dry microhabitats. It is considered that arable field margins and hedgerow bases present within all the areas within the site provide a diversity of vegetative structures suitable to support common lizard.

3.3 Field Survey

3.3.1 During the 20 visits to the site, grass snakes, common lizards, and slow worms were recorded. The locations of these reptile sightings are shown respectively on

Drawings **004 P02 Location of Slow Worms, 005 P02 Location of Common Lizards, 006 P02 Location of Grass Snakes.**

3.3.2 Survey results for each of the Areas are presented in Table 5 and 6. Results refer only to adult individuals as per the Froglife Advice Sheet (1999). Data for all individuals sighted, including juveniles can be found in *Appendix B Abundance of Total Reptiles*

3.3.3 When considering reptile population size, the number of individual sightings was divided by two. This was to remain in accordance with the Froglife Advice Sheet (1999) advice on recommended number of refugia per hectare.

Table 5: Abundance of Adult Reptiles																				
Areas	**Survey Number**																			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Slow worm																				
Area 1	1	2	2				2	1		1			1						2*	
Area 2	1	2			1		3	1		1		1	2		1			2	3*	2
Area 3	1	6	3	1	1	10	**11***	4	2	1	1		1	3	1		1		2	
Area 4				1	1	2	7*	3		1					2	1				1
Grass snake																				
Area 1																				
Area 2					1	1	**7***	2	4	1			1							
Area 3																				
Area 4											1*									
Common Lizard																				
Area 1		1	1					2	1				1				2	2	3*	
Area 2				4	1	4	9*	7	5	5	1	1	4		2	1		1	2	
Area 3		1	4	4		8	5	3	5	3		2	7	1			**11***	1	2	7
Area 4								1			2*	1	1				1	1		
*** Indicates maximum count for compartment, number in bold is the highest count over all compartments**																				

Table 6: Maximum count of adults over survey period on one visit				
Reptile species	**Area 1**	**Area 2**	**Area 3**	**Area 4**
Slow worm	2	3	11	7
Grass snake	0	7	0	1
Common lizard	3	9	11	2

3.4 Population Assessment

3.4.1 A summary of species population size in each compartment is recorded in table 7.

Table 7: Summary of reptile populations at each compartment			
Compartment	**Slow worm**	**Grass snake**	**Common lizard**
Area 1	Low	--	Low
Area 2	Low	Low	Low
Area 3	Good	--	Good
Area 4	Low	Low	Low

3.4.2 The Key Reptile Site Register is a mechanism created to determine important reptile sites for safeguarding (Froglife Advice Sheet, 1999). To qualify for the Key Reptile Site Register a site must meet one of the following criteria.

(1) Supports three or more reptile species

(2) Supports two snake species

(3) Supports an exceptional population of one species (see table 3)

(4) Supports an assemblage of species scoring at least four (see table 3)

(5) Does not satisfy 1-4 but which is of particular regional importance due to local rarity (e.g. in the East Midlands of England, adders are very rare so even “low” populations should be designated as Key Sites)

3.4.3 Area 1 does not qualify for the Key Reptile Site Register because it does not meet any of the above criteria.

3.4.4 Area 2 supports three reptile species. Therefore, it qualifies for the Key Reptile Site Register.

3.4.5 Area 3 supports an assemblage of species scoring four, thus is qualifies for the Key Reptile Site Register.

3.4.6 Area 4 supports three reptile species. Therefore, it meets the criteria and is classified as a Key Reptile Site.

4 SUMMARY

4.1 Species Summary

Slow Worm

4.1.1 Slow worm was the second most abundant species of reptile recorded within the site.

4.1.2 A maximum count of 11 adults were recorded on Visit 7 in Area 3.

4.1.3 This species was recorded with a 'good' population in Area 3. Area 1, 2, and 4 are considered to have a 'low' population.

Grass Snake

4.1.4 Adult grass snakes were recorded within Areas 2, and 4, but not in Area 1 and 3.

4.1.5 This species was recorded most frequently and abundantly in Area 2 with a maximum count of 7adult individuals during Visit 7.

4.1.6 The abundance of grass snake in Areas 2 is a 'good' population. Area 4 is considered to have a 'low' population. The species is likely absent from Area 1 and 3.

Common Lizard

4.1.7 Common lizard was the most abundant and widespread species of reptile recorded within the site.

4.1.8 A maximum count of 11 adult common lizards were recorded on Visit 17 in Area 3.

4.1.9 The population size of common lizards was 'good' within Area 3, and 'low' in Area 1, 2, and 4

4.2 Geographic Summary

4.2.1 Kent Wildlife Trust provide a list of criteria for consideration as Local Wildlife Sites (i.e. those of at least county value for reptiles). Of relevance to the reptiles likely to be at Kingsnorth are:

- *RE1: Sites should be selected as Local Wildlife Sites where the site supports an exceptional population of one species;*
- *RE2: Sites should be selected as Local Wildlife Sites where the site supports an assemblage of species scoring at least 4 points using the system set out* [in Table 3] *above;*
- *RE3: Sites should be selected as Local Wildlife Sites where the site supports a 'good' or 'exceptional' population of adder* (Kent Wildlife Trust 2022).

Area 1

4.2.2 Suitable habitats within Area 1 consist of fields margins, hedgerow bases and woodland edges.

4.2.3 Slow worm and common lizard were recorded within Area 1 with a low population of each species.

4.2.4 The greatest density of observed reptiles within Area 1 was predominantly recorded along the northern boundary adjacent to residential gardens.

4.2.5 This area does not meet the criteria to qualify for the Key Reptile Site Register.

4.2.6 This area does not meet the criteria to be selected as a Local Wildlife Site, therefore is of Local value.

Area 2

4.2.7 Suitable habitats within Area 2 consist of semi-improved grassland, ponds, fields margins and hedgerow bases.

4.2.8 In Area 2, there is a low population of slow worm, grass snake and common lizard. Area 2 supports the most abundant grass snake population across the site, with individuals recorded on 7 out of 20 visits.

4.2.9 Reptiles were regularly recorded around the three water bodies in the south of the area. There were also consistent reptile sightings along hedgerows throughout the area, especially on the north boundary of the field.

4.2.10 This area meets the criteria for the Key Reptile Site Register.

4.2.11 This area does not meet the criteria to be selected as a Local Wildlife Site, therefore is of Local value.

Area 3

4.2.12 Suitable habitats within Area 3 consist of fields margins, hedgerow bases, ponds, and woodland edges.

4.2.13 Area 3 supports a good population of common lizard and slow worm, with a maximum count of 11 individuals for each species recorded on a single survey visit. Both common lizards and slow worms were consistently recorded throughout the survey period.

4.2.14 Reptiles were continually recorded throughout the survey period along the east and most prominently west boundary. Reptiles were also continually recorded along the defunct hedgerow that runs parallel across the field.

4.2.15 Area 3 qualifies for the Key Reptile Site Register.

4.2.16 This area meets the criteria to be selected as a Local Wildlife Site (RE2 Kent Wildlife Trust 2022), and is considered of County value.

Area 4

4.2.17 Suitable habitats within Area 4 consist of fields margins, hedgerow bases and woodland edges.

4.2.18 There was a low population of common lizards, grass snakes, and slow worms in Area 4. Only one grass snake was recorded across the entire survey period in Area 4. Common lizards were recorded across 6 visits with 1-2 individuals recorded per visit. A maximum count of 7 slow worm individuals was recorded on one visit.

4.2.19 Hedgerow bases throughout the entire area consistently supported reptiles through the survey period. Reptiles were also recorded around the two ponds present in the area and at the western woodland edge which boarders the grassland.

4.2.20 This area meets the criteria for the Key Reptile Site Register.

4.2.21 This area does not meet the criteria to be selected as a Local Wildlife Site, therefore is of Local value.

5 RECOMMENDATIONS

5.1.1 Due to the abundance and distribution of reptiles within the site, thorough mitigation will be required to negate any potentially adverse impacts on the reptile population. It is likely that this can be undertaken in conjunction with trapping and exclusion of great crested newts (also found at Kingsnorth) from within the site until the development is complete.

5.1.2 Creation of a reptile receptor site will be necessary to provide appropriate habitat for the re-homed reptiles.

5.1.3 Further details of mitigation will be provided within the Environmental Statement.

6 REFERENCES

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Kent Wildlife Trust (2022) *Local Wildlife Sites in Kent (Formerly Sites of Nature Conservation Interest) Criteria for Selection and Delineation v1.8* Kent Wildlife Trust, Maidstone.

APPENDICES

Appendix 1
Weather Conditions

Survey Dates and Weather Conditions and beginning of survey							
Visit	**Date**	**Start time**	**Temperature°C**	**Precipitation[1]**	**Cloud cover[2]**	**Wind[3]**	**Visibility**
1	14/04/22	08:10	9°C	Dry	0	1	100%
2	20/04/22	08:10	9°C	Dry	1	2	100%
3	25/04/22	08:10	9°C	Dry	1	1	100%
4	13/05/22	10:00	14°C	Dry	4	1	100%
5	17/05/22	08:40	17°C	Dry	4	2	100%
6	24/05/22	09:00	11°C	Dry	4	1	100%
7	01/06/22	08:10	10°C	Dry	6	2	100%
8	07/06/22	15:00	17°C	Light/Intermittent	6	2	100%
9	13/06/22	15:55	17°C	Dry	6	1	100%
10	21/06/22	16:15	23°C	Dry	2	2	100%
11	14/07/22	08:45	22°C	Dry	2	3	100%
12	22/07/22	08:00	21°C	Dry	6	1	100%
13	28/07/22	16:20	21°C	Dry	7	4	100%
14	15/08/22	09:10	21°C	Dry	6	3	100%
15	22/08/2022	09:20	19°C	Dry	2	1	100%
16	01/09/2022	09:10	19°C	Light/Intermittent	7	2	100%
17	06/09/2022	15:05	22°C	Light/Intermittent	6	2	100%
18	14/09/22	15:10	18°C	Light/Intermittent	8	1	100%
19	20/09/22	11:00	16°C	Dry	2	3	100%
20	03/10/2022	09:00	11°C	Dry	7	1	100%

[1] Rain and drizzle are described as light, moderate, and heavy, and recorded as intermittent or continual.
[2] Cloud cover is measured in oktas. Each okta represents one eighth of the sky covered by cloud.
[3] Wind is measured using the Beaufort scale. 0 = calm to 12 = hurricane.

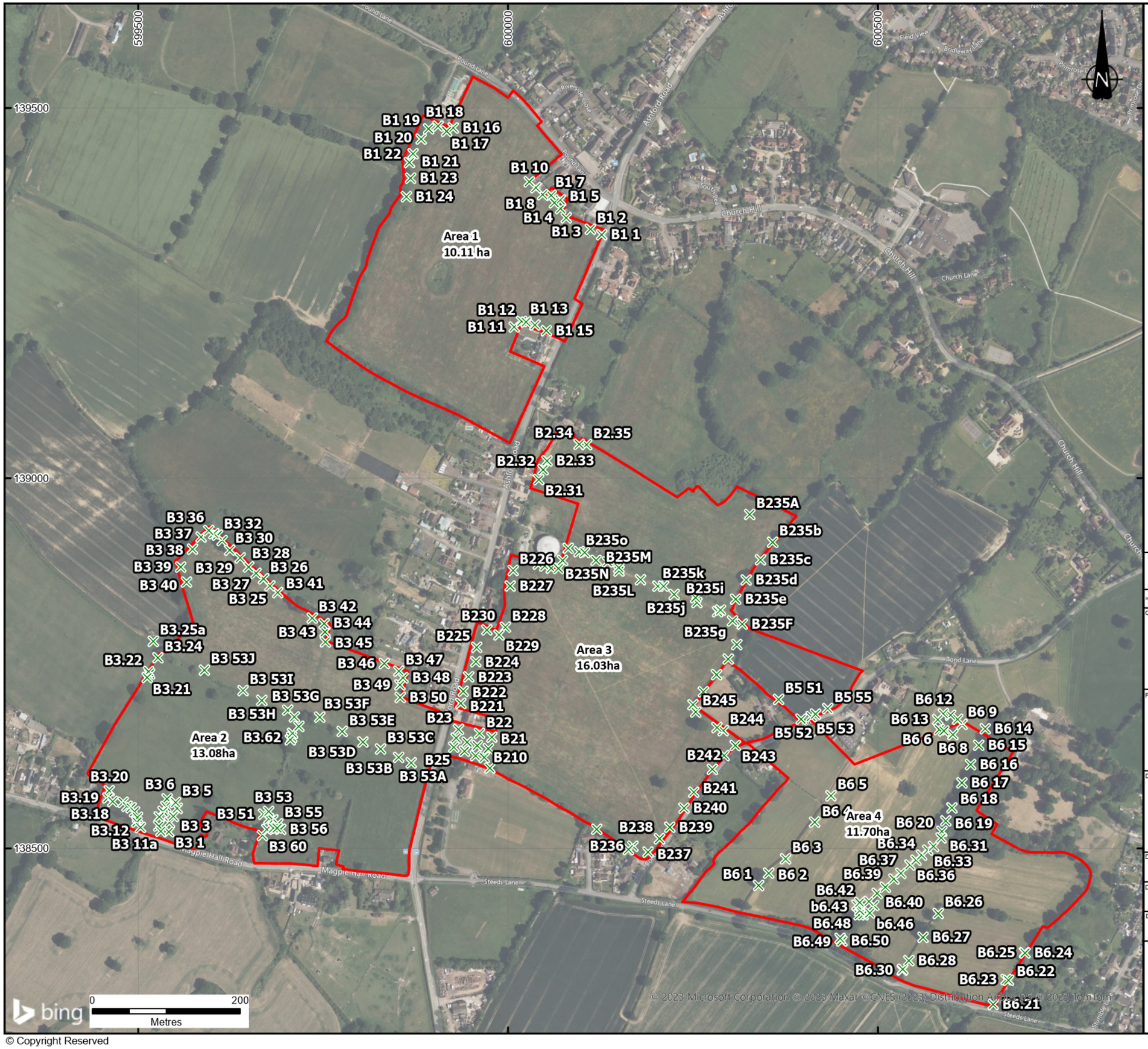
Appendix 2

Reptile Survey Results

Abundance of Adult Reptiles																				
Areas	**Survey Number**																			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Slow worm																				
Area 1	1	2	2				2	1		1			1						2*	
Area 2	1	2			1		3	1		1		1	2		1			2	3*	2
Area 3	1	6	3	1	1	10	**11***	4	2	1	1		1	3	1		1		2	
Area 4				1	1	2	7*	3		1					2	1				1
Grass snake																				
Area 1																				
Area 2					1	1	**7***	2	4	1			1							
Area 3																				
Area 4											1*									
Common Lizard																				
Area 1		1	1					2	1				1				2	2	3*	
Area 2				4	1	4	9*	7	5	5	1	1	4		2	1		1	2	
Area 3		1	4	4		8	5	3	5	3		2	7	1			**11***	1	2	7
Area 4								1			2*	1	1				1	1		
*** Indicates maximum count for compartment, number in bold is the highest count over all compartments**																				

Abundance of Total Reptiles																				
Areas	**Survey Number**																			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Slow worm																				
Area 1	1	2	2			1	2	1		2			1						2*	
Area 2	1	2			2		3	5	6*	2		1	2		1			2	3	2
Area 3	1	6	8	4	4	10	**11***	5	2	1	1		1	3	3		1		2	1
Area 4				1	3	2	7*	3		5					2	2		1		1
Grass snake																				
Area 1						1		1*												
Area 2				4	2	2	**7***	2	6	5			1							
Area 3																				
Area 4											1*									
Common Lizard																				
Area 1		1	1					2	1				1				2	2	3*	
Area 2				4	1	4	9	10*	5	5	1	1	8		2	3		2	2	2
Area 3		1	4	4		8	5	3	5	3		2	**20***	1	1	3	13	2	2	11
Area 4								1			2	1	2*			1	1	1		1
*** Indicates maximum count for compartment, number in bold is the highest count over all compartments**																				

DRAWINGS



KEY

Site Boundary

Reptile Mat

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

PENTLAND HOMES

PROJECT

KINGSNORTH ECOLOGY SURVEYS

DRAWING TITLE

REPTILE MATS LOCATION PLAN

DRG No.	REV
ST19409-003	A

DRG SIZE	SCALE	DATE
A3	1:5,000	18/04/2023

DRAWN BY	CHECKED BY	APPROVED BY
EL	MB	TB

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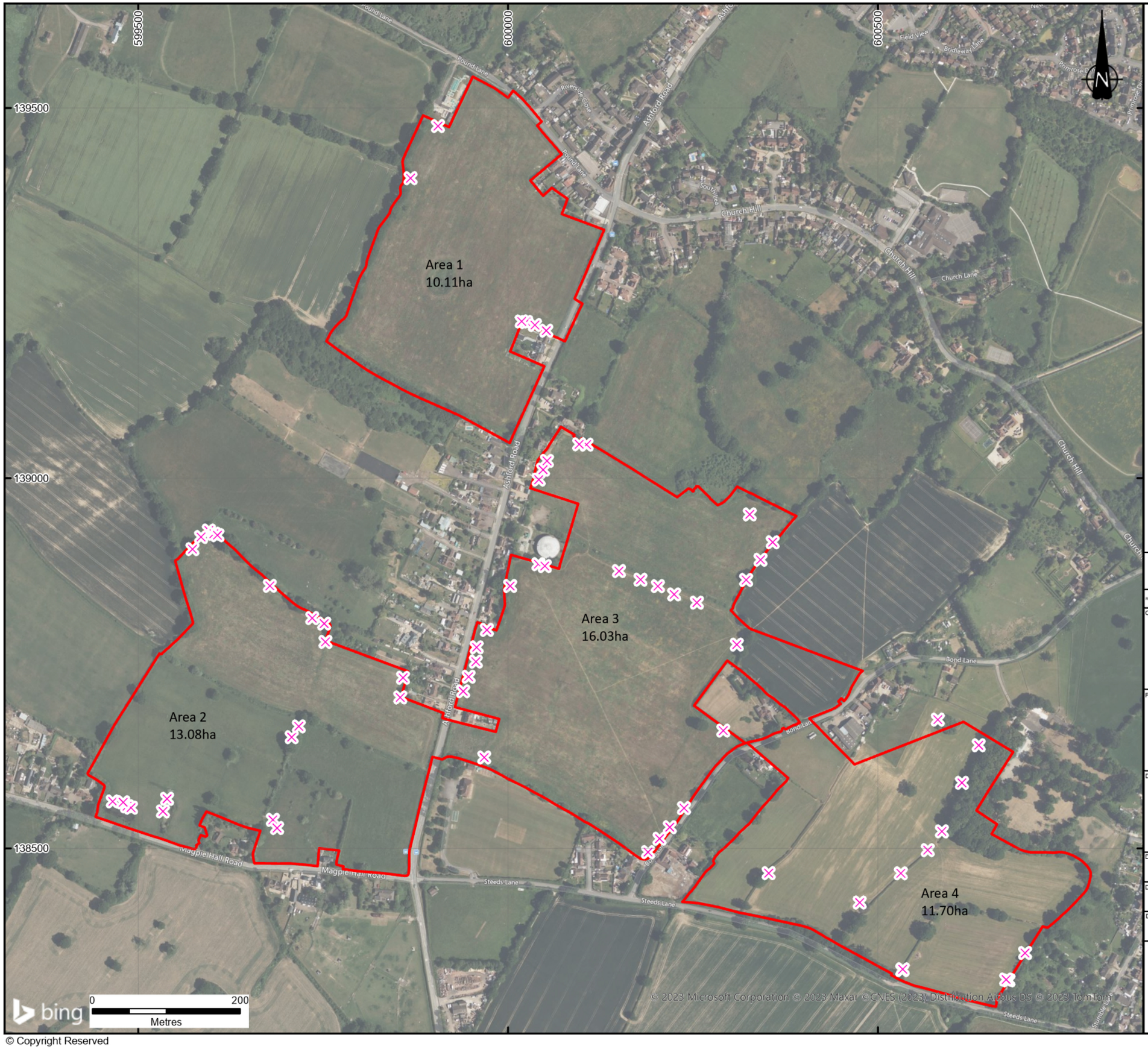

KEY

Site Boundary

Slow Worm

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

PENTLAND HOMES

PROJECT

KINGSNORTH ECOLOGY SURVEYS

DRAWING TITLE

LOCATION OF SLOW WORMS

DRG No.		REV
ST19409-004		A
DRG SIZE	SCALE	DATE
A3	1:5,000	18/04/2023
DRAWN BY	CHECKED BY	APPROVED BY
EL	MB	TB

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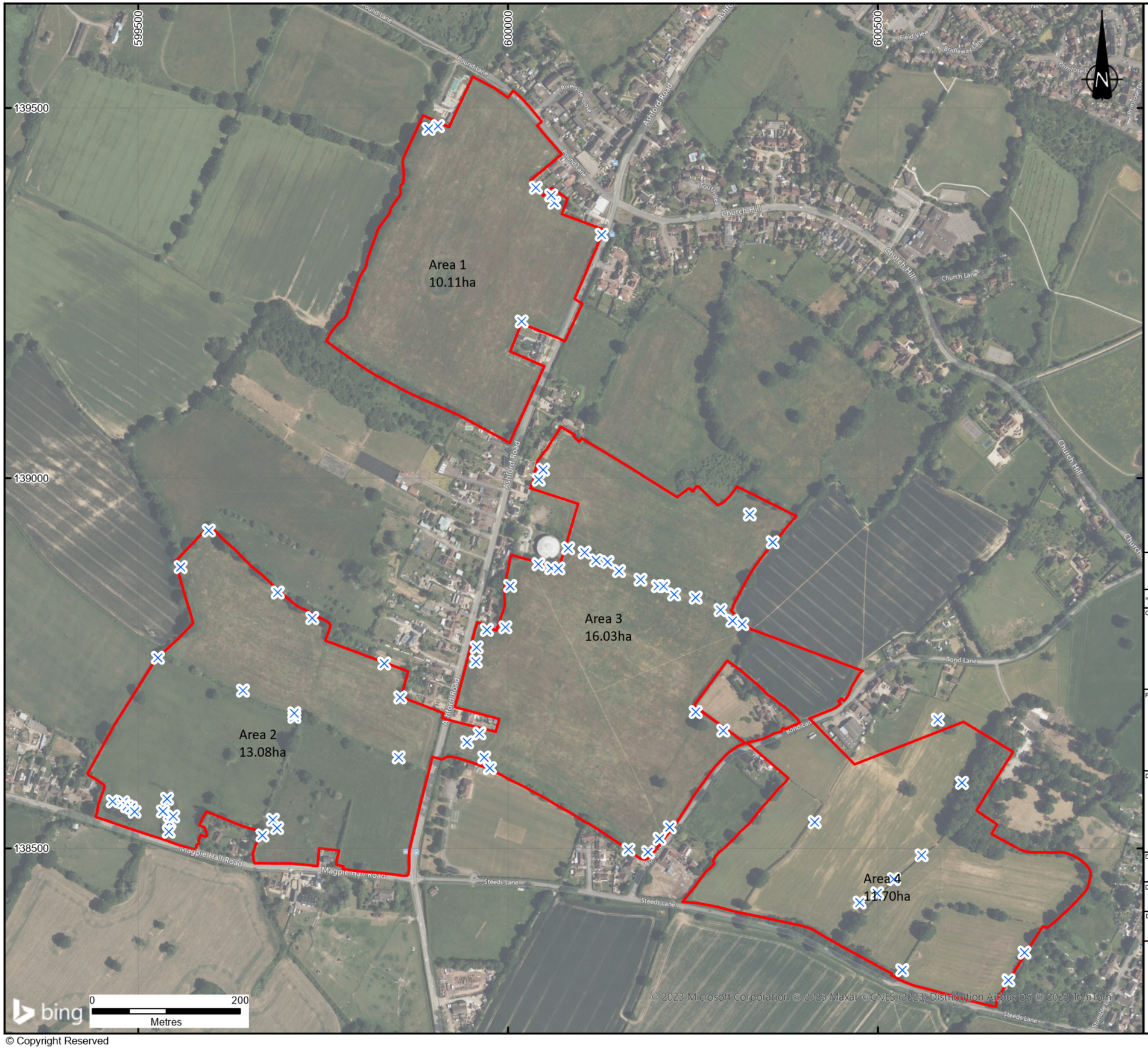

KEY

- Site Boundary
- × Common Lizard

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

PENTLAND HOMES

PROJECT

KINGSNORTH ECOLOGY SURVEYS

DRAWING TITLE

LOCATION OF LIZARDS

DRG No.		REV
ST19409-004		A
DRG SIZE	SCALE	DATE
A3	1:5,000	18/04/2023
DRAWN BY	CHECKED BY	APPROVED BY
EL	MB	TB

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KEY

Site Boundary

Grass Snake

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

PENTLAND HOMES

PROJECT

KINGSNORTH ECOLOGY SURVEYS

DRAWING TITLE

LOCATION OF GRASS SNAKES

DRG No.		REV
ST19409-004		A
DRG SIZE	SCALE	DATE
A3	1:5,000	18/04/2023
DRAWN BY	CHECKED BY	APPROVED BY
EL	MB	TB

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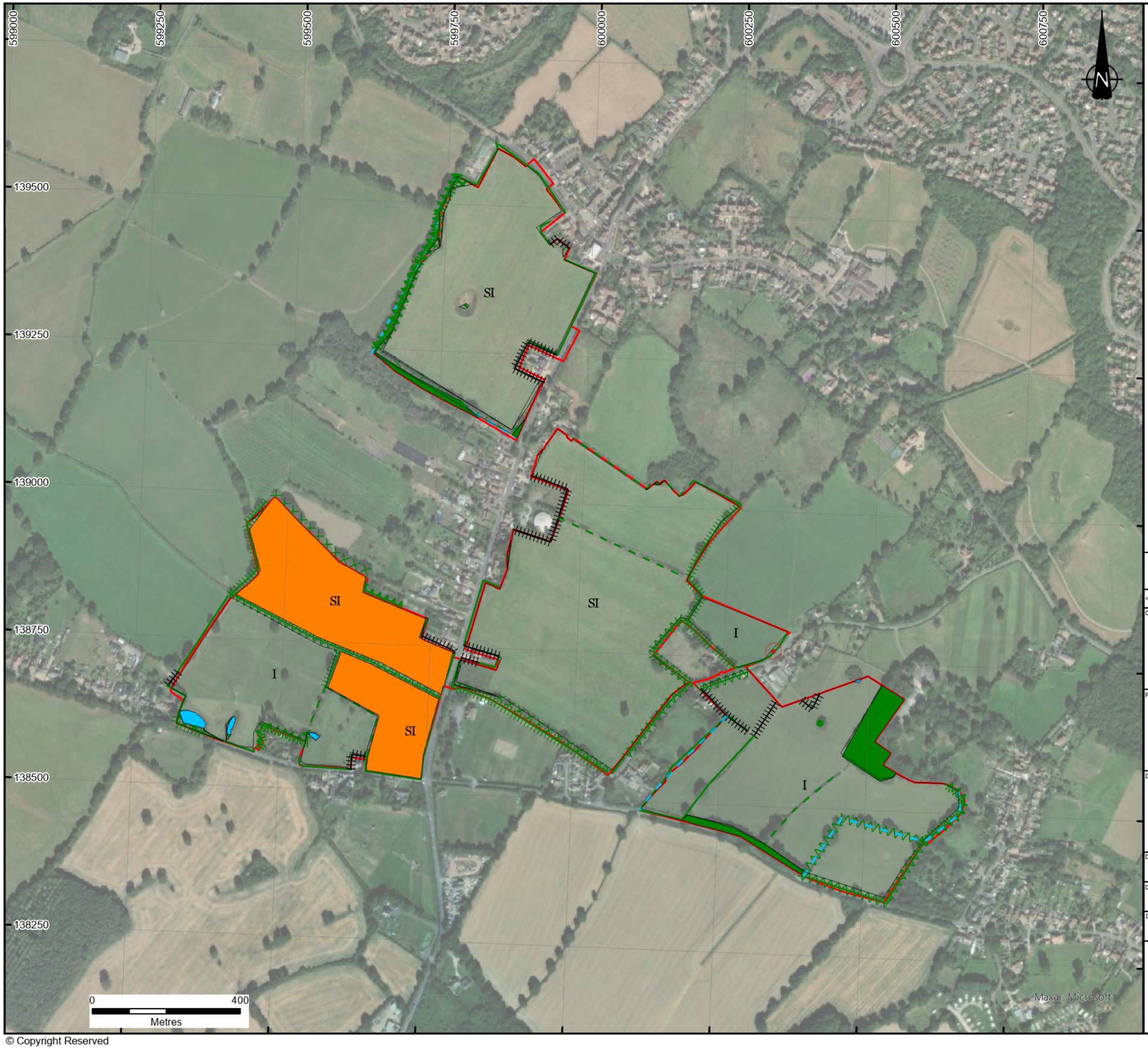

KEY

- Site Boundary
- A1.1.1 Broadleaved woodland - semi-natural
- A2.1 Scrub - dense/continuous
- A2.2 Scrub - scattered
- SI B2.2 Neutral grassland - semi-improved
- I B4 Improved grassland
- SI B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- A2.2 Scrub - scattered
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A3.1 Broadleaved Parkland/scattered trees
- Target note

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

Classifications in accordance with Handbook for Phase 1 Habitat Survey - A technique for Environmental Audit (JNCC 2010)

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

PENTLAND HOMES

PROJECT

KINGSNORTH ECOLOGY SURVEYS

DRAWING TITLE

PHASE 1 HABITAT PLAN

DRG No.		REV
ST19409-010		A
DRG SIZE	SCALE	DATE
A3	1:10,000	18/04/2023
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