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Red John Pumped Storage Hydro Scheme

Volume 5, Appendix 6.5: Reptile Survey Report

ILI (Highlands PSH) Ltd.

November 2018

Quality Information

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Revision History

Revision	Revision Date	Details	Authorized	Name	Position
1	November 2018	Submission	CA	Catherine Anderson	Associate Director

Distribution List

# Hard Copies	PDF Required	Association / Company Name

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Appendix 6.5 Reptile Survey Report

6.1 Introduction

Background

6.1.1 AECOM was appointed by Intelligent Land Investments (ILI) to carry out an Environmental Impact Assessment (EIA) for the proposed Red John Pumped Storage Hydro Development (hereafter also referred to simply as the 'Development').

6.1.2 The area encompassed by the red line boundary of the Development is hereafter also referred to as the 'Development Site'.

6.1.3 As part of the EIA process, the Red John Scoping Report (which can be found in Appendix 4.2: Scoping Report) identified the potential for several reptile species to be present in the vicinity of the Development.

Purpose of this Report

6.1.4 This Report has been written as an Appendix to Chapter 6: Terrestrial Ecology (Volume 2). It describes the methods used for survey for reptile species and sets out and discusses the results obtained. Where appropriate, it provides recommendations for mitigation to minimise the ecological impacts of the Development and highlights opportunities for biodiversity enhancement.

Development and Site Description

6.1.5 A full description of the Development can be found in Chapter 2: Project and Site Description. The habitats within the area encompassed by the Development vary with altitude. On the lower slopes up from Loch Ness there is extensive ancient semi-natural broadleaved woodland whilst on the higher ground and around the Headpond the woodland becomes coniferous, predominantly comprising Scots pine *Pinus sylvestris*, which in places is considered to be ancient of plantation origin. Outside of the woodland habitats there are areas of semi-improved grassland, blanket bog and wet heath.

6.1.6 There are a number of waterbodies in the vicinity of the Development, including large oligotrophic lochs as well as smaller ponds.

Species Ecologies

6.1.7 There are three species of terrestrial reptile native to Scotland: the common lizard *Zootoca vivipara*, slow worm *Anguis fragilis* and adder *Vipera berus*. A brief overview of the ecology of each species is provided in the following sections. The descriptions provided are based on information provided in the *Reptile Habitat Management Handbook* (Ref 1).

Common Lizard

6.1.8 The common or viviparous lizard is widely distributed across Scotland and occupies a range of habitats including wet and dry heath, grassland, woodland and scrub. Common lizards avoid areas of uniform vegetation, whether this be rank, or short sward improved grassland, and show a strong preference for areas with variation in the height of plant cover. They can be found at highest densities in damp or wet areas where tussocky grass provides opportunities for foraging, basking and sheltering.

6.1.9 In northern Scotland the activity period for common lizard is typically between March and October. They do not usually move far and individuals occupy an area of only a few tens of metres. Longer distance movements can be made by juveniles as they disperse and in doing so they can rapidly colonise new habitat should it become available adjacent to a currently-occupied site.

Slow Worm

6.1.10 The slow worm is widely distributed in Scotland and inhabits a range of habitats including heath, grassland, woodland and scrub. They occupy a broader range of habitats than other native reptiles as they can tolerate less diverse vegetation structure. However, slow worms do require dense vegetation cover coupled with areas exposed to sunshine in which they can bask.

6.1.11 The majority of slow worm activity is underground or underneath objects or vegetation. The home range of individual slow worms is generally only several hundred square metres. They are active between March and September and hibernate, often communally, outside of this period.

Adder

6.1.12 The adder is widespread but has a patchy distribution in Scotland. It prefers light sandy soils in Scotland and favoured habitats include heath, grassland with a dense sward, scrub and woodland (including plantation and native coniferous forest). Adders avoid areas of intensive agriculture. The presence of dry, open and sunny areas with adjacent dense ground cover are essential habitat requirements for adders. However, wetter areas around ponds, bogs and mires are also used, particularly in summer, provided that there are suitable dry basking locations.

6.1.13 Adders may emerge from hibernation very early in the year and can be seen in February or March in Scotland if temperatures are warm enough. On leaving the hibernation site, they spend some time – up to several weeks – basking, and do not move far. They can remain active in to October in Scotland.

6.1.14 Unlike the common lizard and slow worm, adders may move considerable distance between spring breeding and summer foraging areas, which can be up to 2 km apart.

Legislative and Policy Context

6.1.15 All species of reptiles in Scotland receive protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In relation to common lizard, adder and slow worm, this makes it an offence to intentionally or recklessly kill or injure a reptile.

6.1.16 Local planning policies for the region are detailed in the Highland Council's Highland-wide Local Development Plan (HwLDP). Table 6.1 provides a summary of those policies which are of relevance to the conservation of reptile species.

Table 6.1 Summary of Relevant Policies Within the Highland-wide Local Development Plan

Planning Policy	Purpose
Policy 28 – Sustainable Development	The Council will support developments which promote and enhance the social, economic and environmental wellbeing of the people of Highland. Proposed developments will be assessed on the extent to which they impact on habitats and species.
Policy 57 – Natural, Built and Cultural Heritage	All development proposals will be assessed taking into account the level of importance and type of heritage features, the form and scale of the development and any impact on the feature and its setting.
Policy 59 – Other Important Species	The Council will have regard to the presence of and any adverse effects of development proposals on other important species. These include species listed on Annexes II and V of the Habitats Directive, priority species listed in the UK and Local Biodiversity Action Plans (BAP) and species included on the Scottish Biodiversity List (SBL).
Policy 60 – Other Important Habitats	The Council will seek to safeguard the integrity of features of the landscape which are of major importance because of their linear and continuous structure or their importance as corridors for the movement of wild fauna and flora. The Council will have regard to the value of other important habitats, which include: habitats listed on Annex I of the Habitats Directive; habitats of priority and protected bird species; priority habitats listed in UK and Local BAPs; and, habitats included on the SBL.
Policy 67 – Renewable Energy Developments	The Council will support proposals for renewable energy development where it is satisfied that they will not have significant detrimental effects on natural heritage features, species and habitats.

6.1.17 Common lizard, slow worm and adder are all identified as species of principal importance for biodiversity conservation in Scotland through their inclusion on the Scottish Biodiversity List. The SBL is designed to highlight the species (and habitats) which are of highest priority for nature conservation to assist public bodies carrying out their biodiversity duty, as required by the Nature Conservation (Scotland) Act 2004.

6.1.18 All three reptile species are also identified as Priority Species on the Inverness and Nairn Local Biodiversity Action Plan (LBAP).

6.2 Methods

Desk Study

6.2.1 A desk study was carried out to identify nature conservation designations for which reptile species are notified species and to search for records of reptile species in proximity to the Development

6.2.2 A stratified approach was taken when defining the desk study area, based on the likely zone of influence of the Development on reptile species and an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified any national statutory and local non-statutory nature conservation designations within 2 km. A data search for records of reptiles within 2 km of the Development was also undertaken.

6.2.3 The desk study was carried out using the Scottish Natural Heritage (SNH) SiteLink website (https://gateway.snh.gov.uk/sitelink/) to identify nature conservation designations within 2 km of the Development. A data request was submitted to the Highland Biological Recording

Group (HBRG) on 04 August 2017 requesting all records of reptile species within 2 km of the Development.

Field Survey

6.2.4 A reptile survey using artificial refuges was carried out in September 2017 and in April and May 2018. The methods adopted are a modified version of those described by Froglife (1999), and surveys were carried out during the optimal period for surveying reptiles.

6.2.5 A total of 130 bitumen-backed tiles and 18 corrugated metal sheets were placed across six areas of suitable habitat within the footprint of the Development and the immediate surrounds. The locations of the six survey areas are shown on Figure 6.5.1. A brief description of each area is provided in Table 6.2, including the number of tiles placed in each.

6.2.6 Tiles were positioned so as to be situated in areas which were particularly suitable for reptiles, for example beside features which may be used for hibernation or for basking. A bamboo cane with marker tape attached was placed beside each tile to aid with relocating the refugia during survey visits. The locations of all artificial refugia within the reptile survey areas are shown on Figure 6.5.2, Sheets 1 – 6 (available at the end of this appendix). Note that the numbering of tiles is in no apparent order and there are some numbers missing. This is because the placement of the tiles was guided by a desk-based exercise using GIS software prior to going to the Development Site and it was not possible to place some tiles in the field at the locations identified.

Table 6.2 Description of Reptile Survey Areas

Survey Area	Number of Tiles Used	Description of Survey Area
A	30	Semi-natural woodland comprising Scots pine, birch *Betula* sp. and juniper *Juniperus communis*. Substantial areas of heather *Calluna vulgaris* and bracken *Pteridium aquilinum* providing good shelter opportunities.
B	30	This area covers the location of the Headpond. In terms of the habitats present it can be split approximately in half. The south-western half is covered by blanket bog and the north-eastern half comprises dry acid heath. There are areas of mature, dense heather, as well as areas of acid grassland. There entire area is surrounded by conifer plantation, with this being relatively open Scots pine woodland along the eastern side.
C	38	This area encompasses an area of blanket bog around Loch na Curra and the edge of Lochan an Eoin Ruadha. The majority of the bog between Loch na Curra and Lochan an Eoin Ruadha has been damaged by burning. There are also areas of dense gorse *Ulex europaeus* and bracken.
D	20	This area comprises a mosaic of blanket bog and wet heath, with dense gorse scrub and scattered juniper, particularly on higher ground. It is used for cattle grazing, at least occasionally.
E	10	These tiles were situated in an improved grassland field which is used for grazing. There is ancient semi-natural broadleaved woodland along its western edge and a derelict stone wall along much of this boundary, providing suitable habitat for basking, and hibernation.

Survey Area	Number of Tiles Used	Description of Survey Area
F	10	The field in which these tiles were situated is used for horse grazing but is of moderate floristic diversity, with areas of taller sward height. There is a thin strip of mature broadleaved trees along the boundary with the shore of Loch Ness.

6.2.7 The tiles were put out in the survey areas on 30 and 31 August 2017. The tiles were left out over the winter period before survey visits in 2018. It was considered that this would allow more time for the tiles to be found and used by reptiles.

6.2.8 Photos 6.1 and 6.2 below show a corrugated metal tile on the edge of semi-natural woodland in survey Area A and a bitumen-backed tiled beside dense scrub in Area F.

Photos 6.1 and 6.2

6.2.9 A total of six survey visits were made to check the tiles for the presence of reptiles. The dates on which they were checked are provided in Table 6.3, below. In some instances a survey visit was spread across two days, for example due to the onset of sub-optimal weather conditions mid-way through the survey.

Table 6.3 Reptile Survey Dates

Date	Survey Area	Start Time – End Time	Temperature and Weather Conditions
06 September 2017 (visit 1)	A	08:50 – 10:10	11 – 12.5°C, predominantly overcast but with short periods of sunshine, very light breeze
	B	08:00 – 08:40	11.5°C, overcast, moderate breeze
	C	09:10 – 10:30	11 – 12.5°C, predominantly overcast but with short periods of sunshine, very light breeze
	D	10:55 – 11:40	13°C, predominantly overcast with one period of sunshine, moderate breeze
	E	11:10 – 11:30	13°C, predominantly overcast with one period of sunshine, moderate breeze
	F	11:40 – 12:00	13°C, overcast, moderate breeze

Date	Survey Area	Start Time – End Time	Temperature and Weather Conditions
12 September 2017 (visit 2)	A	17:15 – 18:00	11°C, overcast with very light breeze
	B	16:30 – 17:00	11°C, overcast with very light breeze
	C	09:25 – 11:00	12.5°C, dry with periods of sunshine and moderate breeze
	D	08:45 – 09:25	12.5°C, dry with periods of sunshine and moderate breeze
	E	08:20 – 08:35	10°C, overcast and moderate breeze
	F	08:00 – 08:15	10°C, overcast and moderate breeze
14 September 2017 (visit 3)	A	11:00 – 11:40	10 – 13°C, periods of sunshine and moderate breeze
	B	10:10 – 10:50	10°C, overcast but cloud clearing, moderate breeze
	C	08:30 – 10:00	8.0 – 9.5°C, predominantly overcast with periods of sunshine and light drizzle, moderate breeze
	D	08:30 – 09:15	8 – 9.5°C, predominantly overcast with periods of sunshine, moderate breeze
	E	09:45 – 10:00	9.5°C, light drizzle and light breeze
	F	09:25 – 09:40	9.5°C, overcast with light breeze
26 September 2018 (visit abandoned due to onset of adverse weather conditions)	B	13:30 – 15:00	14°C, bright sunshine, mild, moderate breeze, becoming overcast and cooler as survey progressed
24 April 2018 (visit 4)	A	-	-
	B	-	-
	C	15:30 – 17:00	14°C with sunshine, light cloud and a moderate breeze.
	D	15:30 – 17:30	14°C with sunshine, light cloud and a moderate breeze.
	E	14:00 – 14:30	14°C with sunshine, light cloud and a moderate breeze.
	F	14:00 – 15:00	14°C with sunshine, light cloud and a moderate breeze.
25 April 2018 (visit 4)	A	09:00 – 12:45	10°C with light, force 2-3 south-westerly winds and a brief period of light rain
	B	13:10 – 15:20	11°C, with 50% cloud cover and light south-westerly winds
	C	-	-

Date	Survey Area	Start Time – End Time	Temperature and Weather Conditions
	D	-	-
	E	-	-
	F	-	-
14 May 2018 (visit 5)	A	-	-
	B	-	-
	C	12:30 – 14:00	17°C, thin cloud, light wind, bright and warm
	D	-	-
	E	-	-
	F	-	-
15 May 2018 (visit 5)	A	11:00 – 12:00	15 - 16°C, warm but overcast
	B	10:00 – 11:00	14 -15°C, sunny to overcast with light wind
	C	-	-
	D	08:30 – 09:30	12°C, sunny with light wind
	E	07:40 – 08:15	11°C, sunny with light wind
	F	07:40 – 08:15	11°C, sunny with light wind
29 May 2018 (Survey 6, scope reduced to discount areas to be unaffected according to up-to-date Development design)	A	-	-
	B	12:00 – 15:00	13 -14°C, very low cloud but relatively warm with very light wind
	C	-	-
	D	-	-
	E	-	-
	F	16:00 – 16:45	15 - 16°C, light partial cloud with sun and light wind

6.2.10 Surveyors walked to each tile, approaching quietly and looking for reptiles on top of the tile. Each tile was carefully lifted and a check made for the presence of reptiles. Where necessary, dense vegetation underneath the tile was carefully moved to allow a thorough search to be made.

6.2.11 Any reptiles encountered either on or underneath a tile were recorded. All incidental sightings of reptiles made while walking between tiles were also recorded.

Limitations

6.2.12 Desk study information is dependent on records having been submitted for the area of interest. As such, a lack of records for particular habitats or species does not necessarily

mean they are absent from the area of interest. Similarly, the presence of records for particular species does not automatically mean they still occur within the area of interest or are relevant.

6.2.13 The tiles were left out over the 2017 / 18 winter period, between survey visits made in each year. A total of 21 tiles could not be relocated and are considered to have been lost. All but five of these were from survey Areas D and E. There will be no above-ground infrastructure within the area encompassed by survey Area D, and Area E is several hundred metres from the nearest works associated with the Development. The loss of a relatively small number of tiles during the course of the reptile survey from these areas is therefore not considered to be a limitation to the baseline data collected.

6.2.14 Froglife (1999) recommends that seven survey visits should be carried out to establish the presence of reptiles at a site. Only six survey visits were made for the Development because only a small number of common lizards had been encountered during those checks. It is therefore considered the sufficient information was obtained from the six survey visits to evaluate the importance of the habitats to reptiles, and to inform the impact assessment.

6.2.15 The scope of survey visit 6 was reduced to include only Areas B and F. At the commencement of the reptile survey in 2017, the layout of the Development was in the early stages of design and the selection of the survey areas included all areas which may have been affected by the Development. The evolution of the design of the Development meant that by May 2018, it was known that only Areas B and F would be directly impacted by the Development; the Headpond will be situated within Area B and the outfall location into Loch Ness will be at Area F.

6.3 Results

Desk Study

6.3.1 Two records of common lizard were returned by HBRG. One, dated 2007, was of a single female near to Glaic na Ceardaich, which is within survey Area A of the reptile field survey for Red John. The second record was dated 2014 and is from Drumashie Moor, to the north of the Development.

6.3.2 There were no records of slow worm or adder returned by HBRG.

Field Survey

6.3.3 The only species encountered during the reptile survey was common lizard. No slow worms or adders were observed. Furthermore, there were no incidental sightings of slow worm or adder at any time during the other ecology field work carried out for the Development. It is therefore concluded that these species are likely absent.

6.3.4 A total of 19 common lizards were recorded using the tiles during the survey. Of these, only three were adults and the rest were all juveniles.

6.3.5 In addition to those reptiles found using the tiles, a further four were observed while walking between tiles during field survey. Two juveniles were seen basking on a gravel forestry track within Area B on 26 September 2017. A single adult common lizard was seen on 14 May on the roadside verge north-east of Loch na Curra. One further adult was observed on 29 May in Area B amongst heather.

6.3.6 A breakdown of the results (not including those individuals which were recorded away from tiles) is provided in Table 6.4. The distribution of reptile encounters (which does include those observed away from tiles) is shown of Figure 6.5.3 (available at the end of this appendix).

Table 6.4 Reptile Survey Results

Date	Species	Life Stage	Tile Number	Location	Time	Weather
12 September 2017	Common lizard	Adult	C26	On edge of area of burnt heather, amongst purple moor grass	10:10	Sunshine and light breeze
12 September 2017	Common lizard	Juvenile	B8	Amongst heather and near to extensive bilberry	11:20	Overcast with occasional sun
14 September 2017	Common lizard	Juvenile	A37	Adjacent to derelict cottage	11:00	Sunshine
14 September 2017	Common lizard	Juvenile	A37	Adjacent to derelict cottage	11:00	Sunshine
14 September 2017	Common lizard	Juvenile	A37	Adjacent to derelict cottage	11:00	Sunshine
14 September 2017	Common lizard	Juvenile	A37	Adjacent to derelict cottage	11:00	Sunshine
14 September 2017	Common lizard	Juvenile	A10	Amongst extensive bracken	11:20	Sunshine
14 September 2017	Common lizard	Juvenile	A6	Amongst extensive bracken	11:25	Sunshine
26 September 2017	Common lizard	Juvenile	B6	Amongst heather near forest edge	13:40	Sunshine
26 September 2017	Common lizard	Juvenile	B8	Immediately adjacent to road	14:55	Sunshine
26 September 2017	Common lizard	Juvenile	B8	Immediately adjacent to road	14:55	Sunshine
26 September 2017	Common lizard	Juvenile	B14	In grass near to forest track	14:30	
26 September 2017	Common lizard	Juvenile	B15	Amongst heather	14:20	Sunshine
26 September 2017	Common lizard	Juvenile	B25	Immediately adjacent to road	14:00	Sunshine
26 September 2017	Common lizard	Juvenile	B30	In grass adjacent to road	15:00	Sunshine
24 April 2018	Common lizard	Adult	C12	In grass underneath small trees	15:35	Sunshine and light clouds
24 April 2018	Common lizard	Adult	C21	Near burnt heather and area of broadleaved woodland	16:45	Sunshine and light clouds

Date	Species	Life Stage	Tile Number	Location	Time	Weather
24 April 2018	Common lizard	Juvenile	C22	Amongst heather	15:45	Sunshine and light clouds

6.3.7 A summary of the peak counts per area of common lizard is provided in Table 6.5 below. 'NS' in this table means 'not surveyed'.

Table 6.5 **Summary of Common Lizard Peak Counts per Area**

Date	Common Lizard Lifestage	Area A	Area B	Area C	Area D	Area E	Area F
06 Sept 2017	Adult	0	0	0	0	0	0
	Juvenile	0	0	0	0	0	0
12 Sept 2017	Adult	0	0	**1**	0	0	0
	Juvenile	0	**1**	0	0	0	0
14 Sept 2017	Adult	0	0	0	0	0	0
	Juvenile	**6**	0	0	0	0	0
26 Sept 2018	Adult	NS	0	NS	NS	NS	NS
	Juvenile	NS	**7**	NS	NS	NS	NS
24 April 2017	Adult	NS	NS	**2**	0	0	0
	Juvenile	NS	NS	**1**	0	0	0
25 April 2017	Adult	0	0	NS	NS	NS	NS
	Juvenile	0	0	NS	NS	NS	NS
14 May 2018	Adult	NS	NS	0	NS	NS	NS
	Juvenile	NS	NS	0	NS	NS	NS
15 May 2018	Adult	0	0	NS	0	0	0
	Juvenile	0	0	NS	0	0	0
29 May 2018	Adult	NS	0	NS	NS	NS	0
	Juvenile	NS	0	NS	NS	NS	0
	Total	**6**	**8**	**4**	**0**	**0**	**0**

6.4 Discussion and Recommendations

6.4.1 The reptile surveys confirmed the presence of breeding common lizard within the footprint of the Development and in the habitats surrounding it. Neither slow worm nor adder was recorded during the survey and neither has been observed during other ecology fieldwork for the Development. Although not possible to definitively rule out their presence, it is considered that slow worm and adder are likely absent or present only in very low numbers.

6.4.2 Common lizard was observed across survey Areas A, B and C. The Development will have no direct impact on Areas A and C, and individuals in these areas will therefore be directly unaffected by the Development. No reptiles were recorded in survey Areas D, E and F, of which only Area F will be directly impacted by the Development, as the site of the Tailpond Inlet / Outlet location. It can therefore also be concluded that works in these areas will have no effect on reptiles.

6.4.3 The habitat within Area B will be completely lost to the excavation of the Headpond, and ten (which includes two incidental sightings) common lizards were recorded here during the course of the reptile survey. All but one of these were juveniles, indicating that successful breeding is occurring within the area. Whilst it is not possible to estimate the relative common lizard population size class based on the survey effort employed – Froglife (Ref 2) recommend a total of twenty survey visits is necessary to do this – it is considered that the Headpond area supports a moderate population of common lizards and with breeding confirmed, Area B is considered as being of local importance to common lizard.

6.4.4 A range of mitigation measures are therefore recommended during the excavation of the Headpond:

- The potential presence of reptiles at the Development should be communicated to all personnel involved in its construction as part of the Site Induction. This should highlight the mitigation measures and working methods to be employed to minimise the impacts on these species;
- Any features which are likely to be of particular importance to reptiles in the Headpond area should be dismantled or removed by hand or by careful use of machinery, outside the reptile hibernation period (i.e. avoiding the period November to February). An ecological watching brief should be provided by a suitably experienced ecologist provided during these works. Any reptiles found should be caught and relocated to either Areas A or C, where populations of common lizard already exist and which will not be directly affected by the Development; and
- If a reptile is encountered during construction, works in that area should be stopped to allow the animal to escape. A suitably qualified ecologist (likely to be the Ecological Clerk of Works; ECoW) should be contacted for further advice and they may carry out a search of the area.

6.4.5 There are also opportunities for habitat enhancement for reptiles, including the creation of new refuge sites, for example using the suitable woody material generated during tree felling operations. These should be created following the design guidelines provided in the *Reptile Habitat Management Handbook* and could be located within the new Landscape Embankment area or on the embankment of the Headpond itself, which may provide very suitable habitat for reptiles, especially where south-facing. This may help to facilitate the re-colonisation of the area by reptiles following the completion of construction activities.

6.4.6 A detailed description of the working practices and mitigation measures to be implemented in relation to reptile species should be contained within the Construction Environment Management Plan (CEMP) for the Development.

6.5 References

Ref 1. Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

Ref 2. Froglife (1999). Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

Figures

Project Management Initials: CA Designer: LC Checked: SY Approved: CS

AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Excluded from Development Site boundary
- Reptile tile location

Reptile survey area
- A
- B
- C
- D
- E
- F

TITLE
FIGURE 6.5.1
REPTILE SURVEY AREAS

REFERENCE
RJ_181031_EIA_A6.5.1_v1

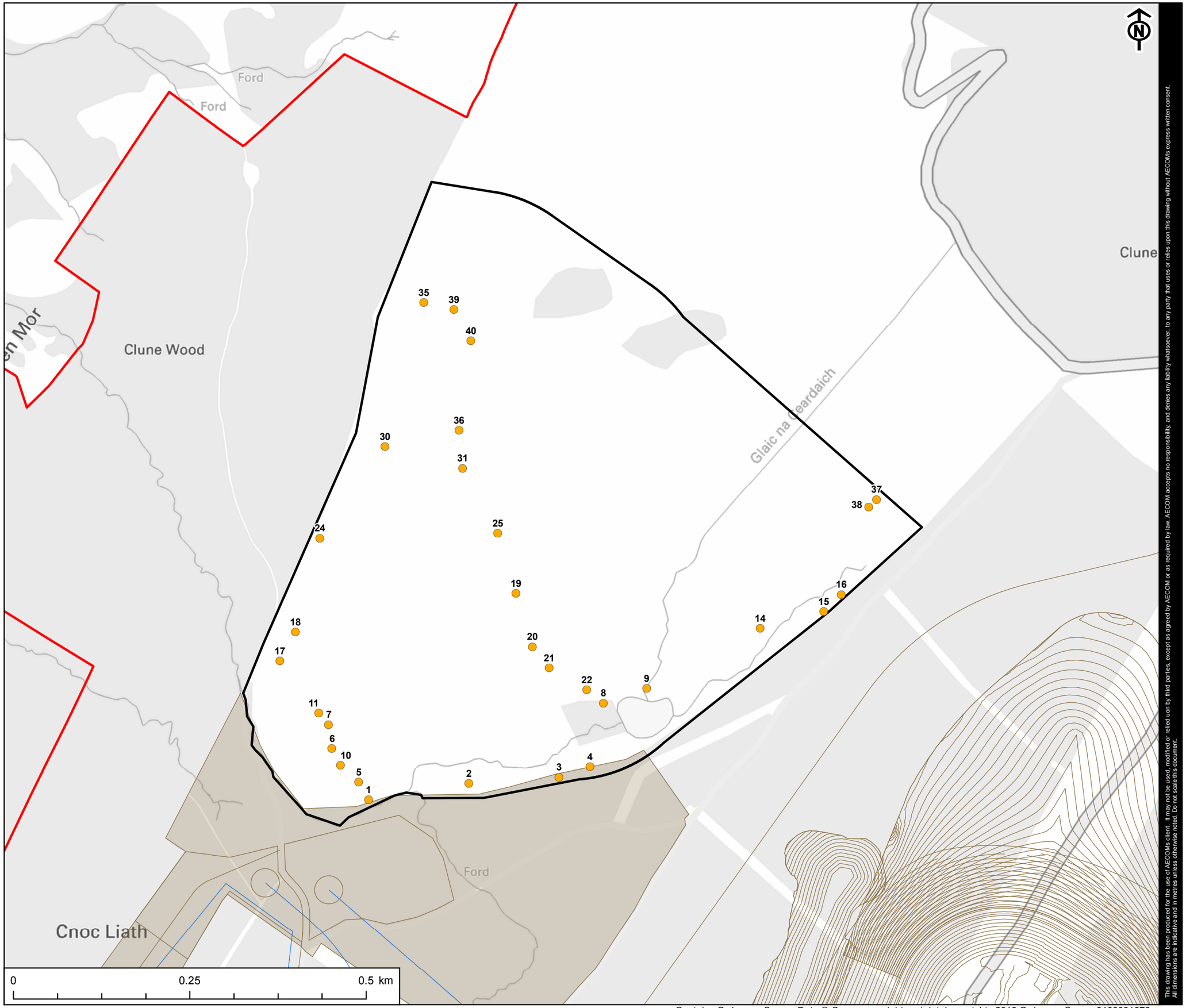
SHEET NUMBER
1 of 1

DATE
31/10/18

Scale @ A3 1:20,000

0 1 2 km

Project Management Initials: CA Designer: LC Checked: SY Approved: CS



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AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Reptile survey area A
- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Below ground infrastructure - Line
- Reptile tile location

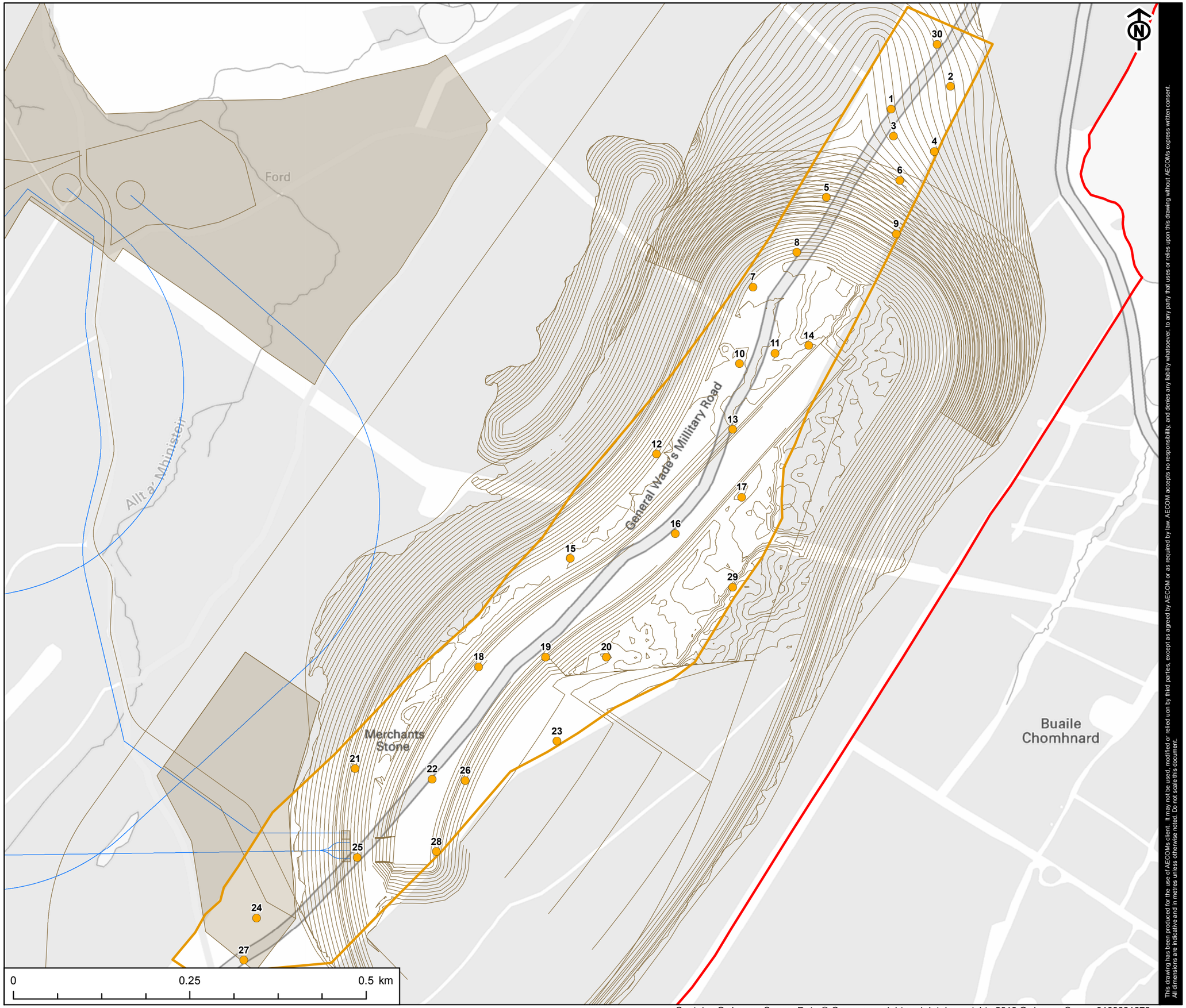
TITLE
FIGURE 6.5.2
ARTIFICIAL REFUGE LOCATIONS
SURVEY AREA A

REFERENCE
RJ_181031_EIA_A6.5.2_v1

SHEET NUMBER
1 of 6

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CS



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AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Excluded from Development Site boundary
- Reptile survey area B
- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Below ground infrastructure - Line
- Reptile tile location

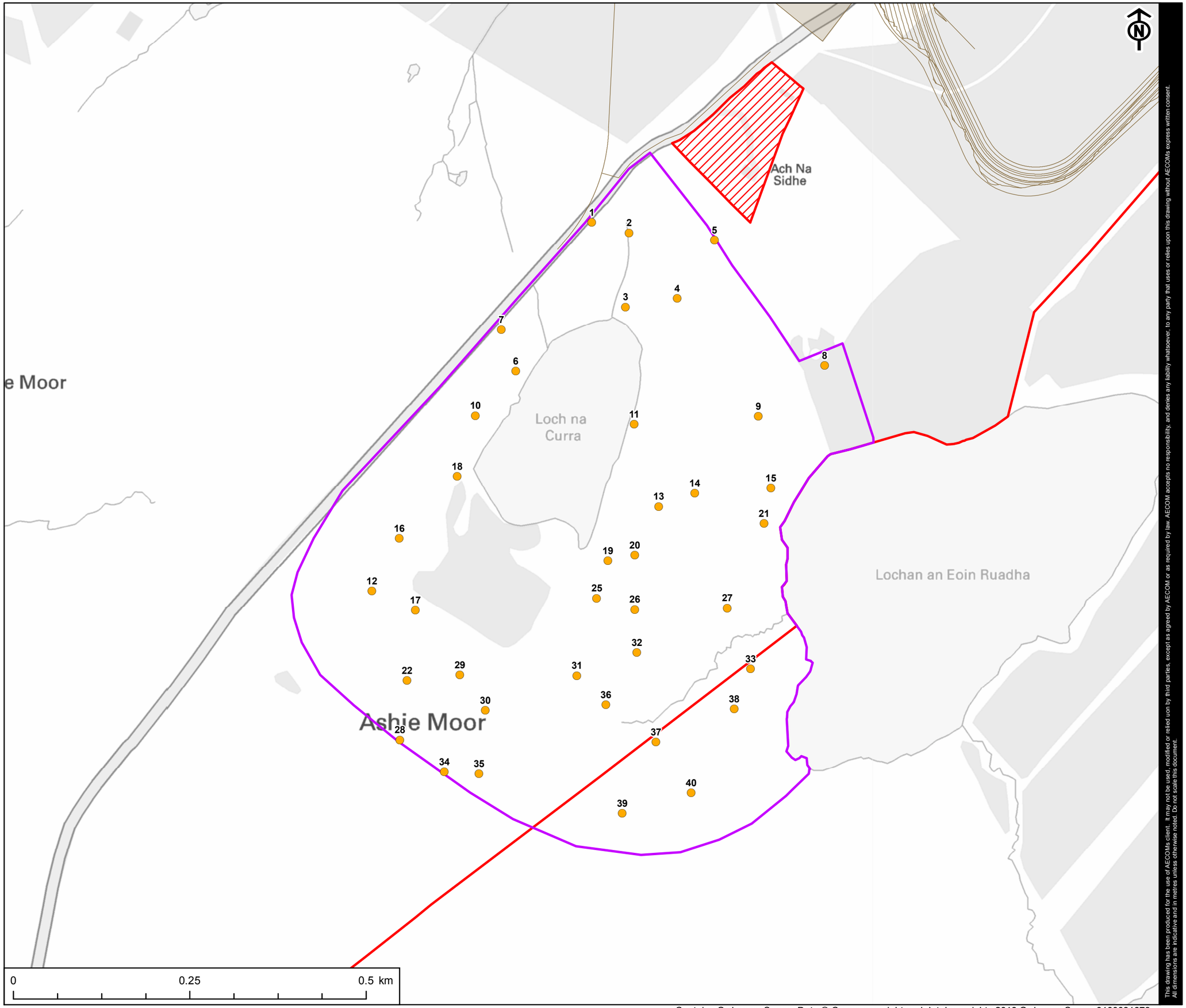
TITLE
FIGURE 6.5.2
ARTIFICIAL REFUGE LOCATIONS
SURVEY AREA B

REFERENCE
RJ_181031_EIA_A6.5.2_v1

SHEET NUMBER
2 of 6

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CS



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AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Excluded from Development Site boundary
- Reptile survey area C
- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Reptile tile location

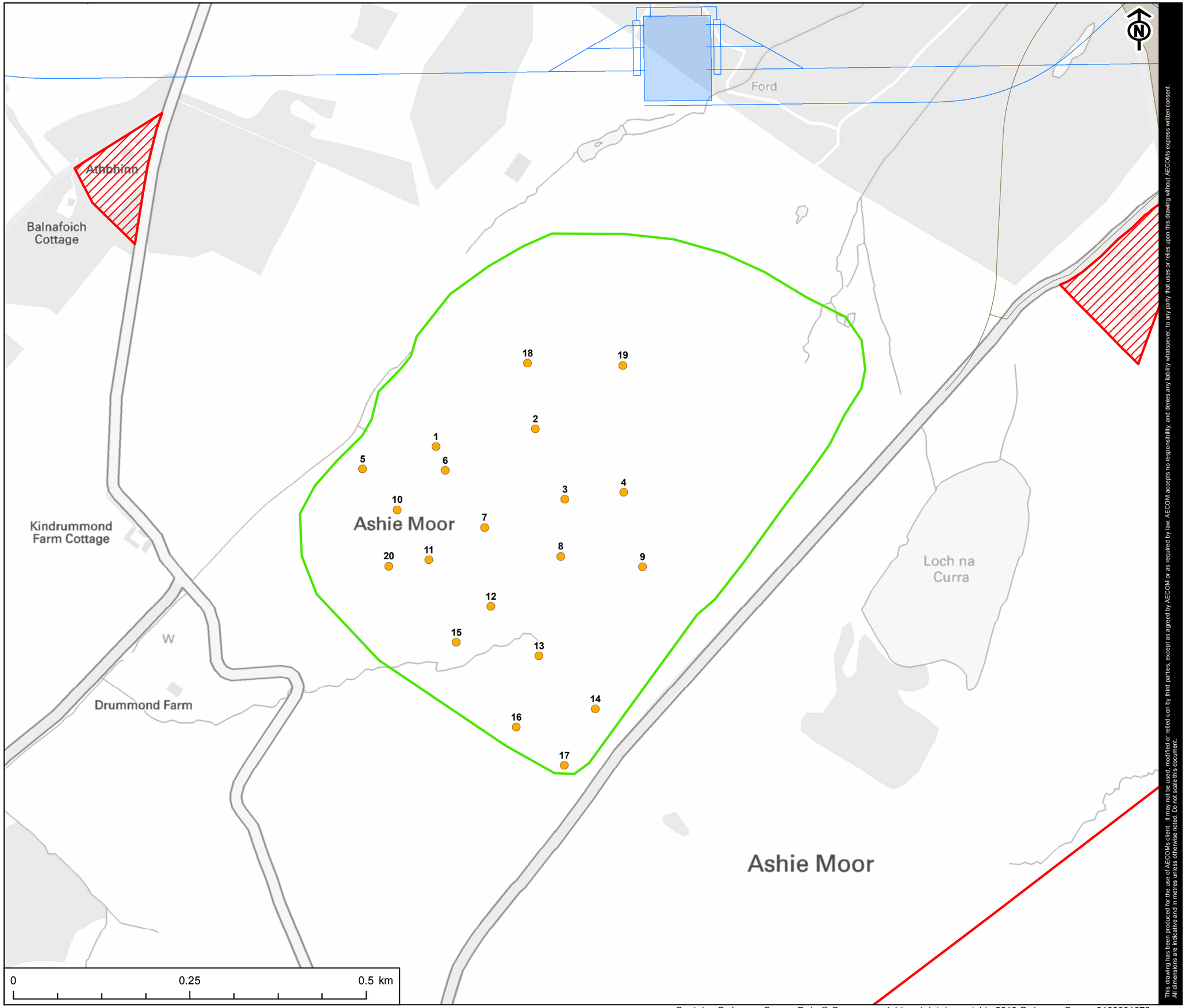
TITLE
FIGURE 6.5.2
ARTIFICIAL REFUGE LOCATIONS
SURVEY AREA C

REFERENCE
RJ_181031_EIA_A6.5.2_v1

SHEET NUMBER
3 of 6

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CS



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AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Excluded from Development Site boundary
- Reptile survey area D
- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Below ground infrastructure - Line
- Below ground infrastructure - Area
- Reptile tile location

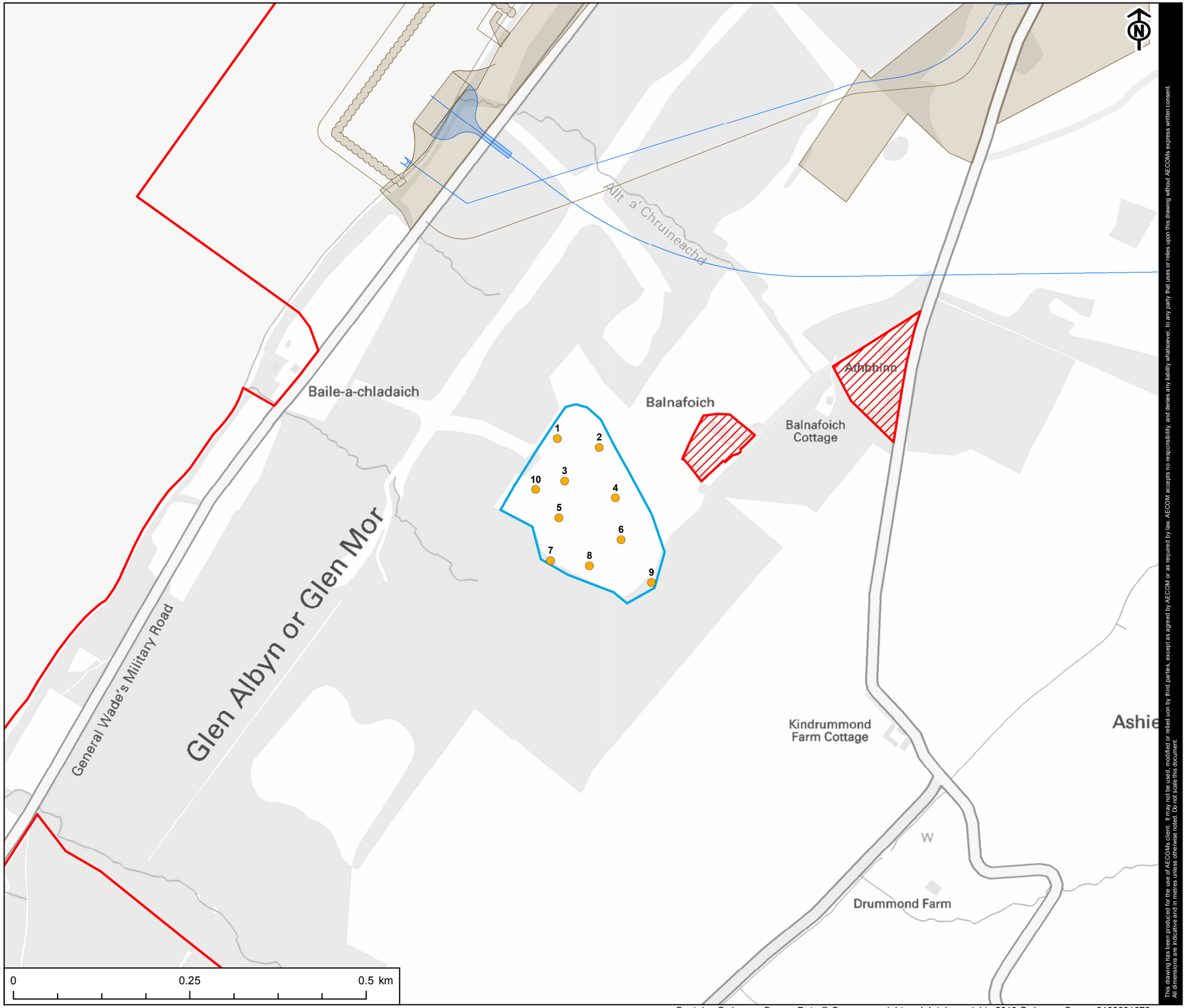
TITLE
FIGURE 6.5.2
ARTIFICIAL REFUGE LOCATIONS
SURVEY AREA D

REFERENCE
RJ_181031_EIA_A6.5.2_v1

SHEET NUMBER
4 of 6

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CS



Scale @ A3 1:5,000

AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Excluded from Development Site boundary
- Reptile survey area E
- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Below ground infrastructure - Line
- Below ground infrastructure - Area
- Reptile tile location

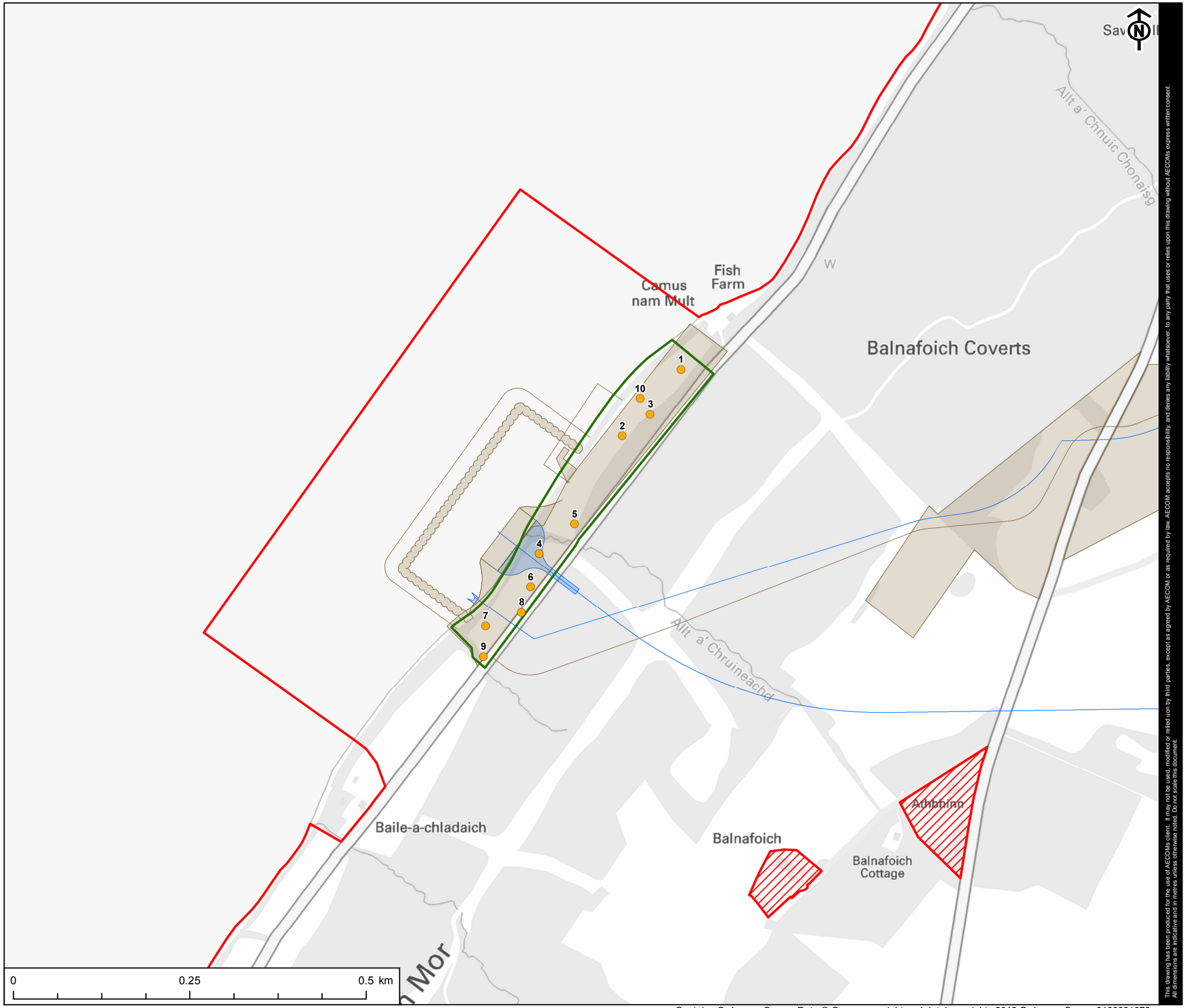
TITLE
FIGURE 6.5.2
ARTIFICIAL REFUGE LOCATIONS
SURVEY AREA E

REFERENCE
RJ_181031_EIA_A6.5.2_v1

SHEET NUMBER
5 of 6

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CS



Scale @ A3 1:5,000

AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY
- Development Site boundary
- Excluded from Development Site boundary
- Reptile survey area F
- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Below ground infrastructure - Line
- Below ground infrastructure - Area
- Reptile tile location

TITLE
FIGURE 6.5.2
ARTIFICIAL REFUGE LOCATIONS
SURVEY AREA F

REFERENCE
RJ_181031_EIA_A6.5.2_v1

SHEET NUMBER
6 of 6

DATE
31/10/18

Project Management Initials: CA Designer: LC Checked: SY Approved: CS

AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY

- Development Site boundary
- Excluded from Development Site boundary

Reptile survey area

- A
- B
- C
- D
- E
- F

- Above ground infrastructure - Line
- Above ground infrastructure - Area
- Below ground infrastructure - Line
- Below ground infrastructure - Area

Reptile species

- Adult common lizard
- Juvenile common lizard

TITLE
FIGURE 6.5.3
REPTILE SURVEY RESULTS

REFERENCE
RJ_181031_EIA_A6.5.3_v1

SHEET NUMBER
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DATE
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0 1 2 km

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