ARUP

Cardiff Council

Cardiff International Sports Village & Cardiff Peninsula

Ecological baseline report - reptiles

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1. Introduction

1.1 Background

Ove Arup and Partners Limited (henceforth referred to as 'Arup') have been commissioned by Cardiff Council to undertake a range of design and consultancy services, including environmental, to inform the proposed development/redevelopment of land at Cardiff International Sport Village (ISV) & Cardiff Peninsula (henceforth referred to as the 'site'). This includes the completion of an Extended Phase 1 Habitat survey and production of a Preliminary Ecological Appraisal (PEA) report. Initial reptile surveys were conducted during 2022 within the northern and western parts of the site (see Figure 1).

After an extension to the site boundary to include Cardiff Peninsula, an updated Ecological Appraisal report[1] identified the presence of suitable habitat for reptiles in the additional peninsula area of the site. An additional reptile survey within suitable habitats was recommended to confirm presence or likely absence and indicate relative population sizes within the extended site boundary. The transects surveyed in 2022 on the Cardiff International Sport Village site area were also re-surveyed; this was because the 2022 survey took place late in the season and therefore repeating the transects across the full season provided greater confidence in results.

This report presents the methods and findings of a desk study and presence/absence survey undertaken for reptiles within the site. It determines the likely ecological impacts of the proposed development during construction and operation in relation to reptiles, and specifies mitigation, compensation, and enhancement measures as appropriate.

1.2 The site

The site is located within the ISV area in Cardiff Bay, Cardiff. The site area equates to 16ha with a central National Grid Reference of ST 18070 73031 (Figure 1).

The site is within an urban setting and comprises of existing ISV facilities, former retail premises, car parking facilities associated with residential premises, brownfield parcels of land to the east and west of Olympian Drive, and amenity areas associated with commercial and residential facilities within and surrounding the site. The existing ISV infrastructure includes Cardiff International Pool & Gym and Ice Arena Wales on the east of Olympian Drive, and commercial development in form of the former Toys R Us building to the west. The peninsula part of the site includes land north and south of Empire Way, located in between Cardiff International Pool & Gym and Cardiff Bay Yacht Club. Large areas of hard standing in the form of roads and car parking for the existing infrastructure are present within the site. Areas of amenity grassland and introduced shrub are associated with the existing developed land. The brownfield parcels east and west of Olympian Drive, and north and south of Empire Way consist of a mosaic of habitats including short perennial vegetation, neutral grassland tall ruderal, reedbed and scrub with areas of bare ground. One land parcel north of Empire Way contains bunds of contaminated land covered in polythene. An area of semi-natural broadleaved woodland borders the northwest of the site located between the site and the A4055 road.

1.3 The proposed development

The proposed development would likely come forward in the form of a hybrid planning application to include:

- Full details in relation to the proposed closed road cycling circuit, activity zones, highway changes and public realm works (hard and soft landscaping);
- Change of use of the former Toys R Us building; and
- Outline details for a future Multi-Storey Car Park (MSCP);

[1]Ecological Appraisal, Cardiff International Sports Village & Cardiff Peninsula, 26 October 2023

These works form the final stages of the proposed 'Sport Zone' as part of the wider vision for the ISV and following permission which was granted in 2022 for the proposed outdoor velodrome.

The Cardiff Peninsula area of the site would also be developed although specific details of this development are not yet available.

Each of the known application elements is described further below.

1.3.1 Full Application

The full element of the application would include several proposals which seek to add to the sporting offer within this part of the ISV, or bring together existing and proposed uses, creating a high-quality public space at the centre of the sports zone. The proposals include:

- Closed Road Circuit – proposed around the perimeter of the sports zone, this facility would provide a traffic-free cycling circuit for training and race events;
- Off-road bike track – providing opportunities for mountain bike and BMX style riding within a safe, designed environment; and
- Public Realm works – including soft and hard landscaping, biodiversity enhancements and the installation of informal sporting spaces / urban parks.

1.3.2 Change Of Use

The former Toys R Us building is located in the centre of the site and to the south of the proposed velodrome. The building has more recently been used as a COVID 19 vaccination centre, but this use has now ceased.

Exact proposals for the building are currently being finalised with discussions ongoing with potential end users. The vision for the building includes the introduction of more sport related activities, some retail space as well as office provision to serve sporting governing bodies.

1.3.3 Outline Application

The outline element of the application would include proposals for a MSCP in the northeast corner of the masterplan site. The car park would have a capacity of circa 1,000 spaces and would be located to service the ISV development with access proposed off International Drive.

1.4 Objectives

This report presents the results of the reptile surveys and aims to inform the baseline ecology for the scheme. The objectives of this report are to:

- Undertake a review of reptile species records within 2 km of the scheme;
- Undertake a review of the habitats present, to determine their suitability for reptiles;
- Present the results of survey undertaken to determine the presence or absence of any reptiles within suitable habitats within the study area of the scheme;
- Where reptiles are present, determine an estimate of any reptile populations within the study area of the scheme, and the relative abundance of reptile populations; and
- Provide sufficient information to inform an assessment of the impacts of the scheme on reptiles and to design appropriate mitigation measures (where required).

1.5 Study area and zone of influence

The current guidance on ecological assessments (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018)[2] recommends that all ecological features that occur within a 'Zone of Influence' (ZoI) for a scheme are investigated.

The ZoI includes:

- Areas to be directly within the land take for the scheme;
- Areas that would be temporarily affected during construction;
- Areas likely to be impacted by hydrological disruption;
- Areas where there is a risk of pollution and noise disturbance during construction and/or operation.

The ZoI depends on the ecological features concerned. Regarding the reptiles likely to be affected by the scheme, the ZoI has been defined as land within the site boundary, with some further sections within one continuous habitat area included, as shown in Figure 1, which comprises the whole potential development area. This ZoI is hereafter referred to as the study area.

1.6 Legislation

A framework of international, national, and local legislation and planning policy guidance exists to protect and conserve wildlife and habitats. Legislation relevant to and discussed within this report includes the following:

- Wildlife and Countryside Act 1981 (as amended)
- Section 7 - Environment (Wales) Act 2016[3]

All native British reptile species are protected under Section 9 of the Wildlife and Countryside Act 1981. This legislation makes it illegal to:

- Intentionally or deliberately kill, injure, or take any reptile; and
- Possess or advertise/sell/exchange a reptile (dead or alive) or any part of a reptile.

The following reptile species are also Priority Species for the purpose of maintaining and enhancing biodiversity in relation to Wales, listed in accordance with the provisions of Section 7 of the Environment (Wales) Act 2016, which places a duty on public organisations to 'have regard' to the conservation of the following reptile species:

- Adder (*Vipera berus*)
- Common lizard (*Zootoca vivipara*)
- Grass snake (*Natrix helvetica*)
- Sand lizard (*Lacerta agilis*)
- Slow worm (*Anguis fragilis*)

Smooth snake (*Coronella austriaca*) and sand lizard are rare species with restricted ranges, and their distribution and habitat preferences are not represented within the study area. As such they are not considered further within this report.

[2] Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine (September 2018).

[3] This section replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps

1.7 Status of reptiles at national level

There are six terrestrial reptile species native to Britain. These snakes and lizards have all declined in Britain as natural habitats have been lost. In addition, snakes and slow worms have suffered deliberate killing; and common lizards have been targeted for pet trade.

Slow-worm and common lizard are widespread throughout Wales. Adder and grass snake are slightly less widespread and are more common on the coast of Wales. Adders have decreased in range and number considerably over the past 50 years.

Reptile populations across the UK are threatened by several factors including habitat degradation, fragmentation, and loss. Due to this, species groups have relatively low dispersal ability. Additionally, the spread of disease and persecution are considered to negatively impact reptile populations.

1.8 Status of reptiles at local level

The desk study within the updated Ecological Appraisal[1] returned 13 records of reptiles within 2km of the site. Of these records ten are of slow worm with the closest record 228m south of the site. There is a single record of grass snake recorded 1350m from the site. Two records of invasive non-native red-eared terrapin (*Trachemys scripta elegans)* were returned.

Slow worms are likely to be widespread and locally common throughout Cardiff and surrounding rural areas in most habitats, including allotments. Common lizards are also considered present across the coastline, although are expected to be localised in less urban areas. Grass snake is usually present in lowland areas and adder are likely to be present in their range along the coast and lowland habitats. Grass snake and adder populations are also likely to be localised.

1.9 Reptiles on site

Suitable habitat and refugia exist for reptiles on the site. The mosaic of tall ruderal, grassland, scrub, and woodland habitats offer foraging opportunities, and the ephemeral and bare ground is suitable for basking reptiles. There are a few log/brash piles scattered across the brownfield parcels that may act as refugia/hibernaculum for reptiles on site. The site is isolated however and opportunities for dispersal between the site and suitable habitat in the wider landscape is limited.

No reptiles were found during reptile surveys undertaken between September and October 2022[4], these surveys were undertaken in a relatively contracted period of time late in the season, and therefore in order to provide greater confidence in results, these areas were re-surveyed alongside areas within the extended site boundary, in order to provide a comprehensive assessment on reptile presence/likely absence, population size and distribution, in accordance with best practice guidelines[5].

1.10 Species-specific ecology

1.10.1 Adder

Adders are found throughout Britain, most commonly in open habitats such as heaths, moors, open woodland and sea cliffs[6]. Mating takes place during April-May and female adders incubate their eggs internally, giving birth to live young in August-September. Adders feed largely on small rodents and lizards. Adders are creatures of habit, returning to the same hibernacula annually and hibernate from October to February.

[4]Ecological baseline report - Reptiles, Cardiff International Sport Village, issued 8 March 2023

[5] Froglife (2015). Surveying for reptiles; tips. Techniques and skills to help you survey for reptiles. Available https://www.froglife.org/wp-content/uploads/2013/06/Reptile-survey-booklet-3mm-bleed.pdf [Accessed October 2023].

[6] Amphibian and Reptile Conservation Trust, "Amphibian and Reptile Conservation Trust," [Online]. Available: https://www.arc-trust.org/. [Accessed October 2023].

1.10.2 Common lizard

Common lizards favour complex structured habitats and most frequently seen on commons, heaths, moorland, dry stone walls, embankments, and sea cliffs around the British Isles[6]. Mating takes place during spring and females give birth to live young in August. The common lizard prefers open, sunny locations for basking and is usually found in dry, exposed locations with nearby dense cover. Their diet consists predominantly of spiders and insects.

1.10.3 Grass snake

Grass snakes have a diet consisting predominantly of frogs, toads, and newts. Grass snakes live near freshwater habitats near to areas of open grassland[6]. Typical hibernacula often comprise disused rabbit holes within well-drained slopes. Individuals can be observed basking proximate to hibernacula during spring, early morning and in the evening. Grass snakes lay shelled eggs, usually within rotting vegetation and compost heaps or similar areas that provide warmth, acting as an incubator.

1.10.4 Slow worm

Slow worms are widespread throughout the UK and commonly located within gardens along with disused hay meadows, landfill sites, allotments, highway verges and brownfield sites. Slow-worm diet comprises slow-moving, soft-bodied prey items, in particular, small slugs. Female slow worms incubate their eggs internally and ‘give birth’ in the late summer. Slow worms rarely bask in the open and prefer hiding under logs or compost heaps[6].

1.10.5 Red-eared terrapin

Red-eared terrapins are a non-native invasive species that are of medium concern in the UK. They have been commonly found in the UK, but their breeding patterns are still unknown. All the individuals in the wild in the UK are the result of escapes or deliberate releases. There is some suggestion that they may represent a threat to wildfowl chicks and fish but there is little evidence to substantiate this. They may predate on native wildlife and possess diseases[6].

2. Methodology

2.1 Desk study

Biodiversity records data was provided by South East Wales Biodiversity Records Centre (SEWBReC) on 12 July 2023 for reptile species records within 2 km of the site.

All habitats within the site are potentially suitable for reptiles, and likely to be impacted by the proposed development as identified in the Ecological Appraisal[1].

2.2 Habitat assessment

Habitats identified during the field-based assessment (Ecological Appraisal) within the site were assessed using the following characteristics to determine if they contained appropriate habitat structure to support reptile populations[5]:

- Location in relation to species range
- Vegetation structure
- Insolation (exposure to sun)
- Aspect
- Connectivity to other good quality habitat
- Prey abundance
- Refuge opportunities

- Hibernation habitat potential
- Disturbance
- Egg-laying site potential (for grass snake only)

2.3 Field survey

All surveys were undertaken by experienced ecologists meeting the CIEEM competencies for reptile surveys[7]. All surveys were led by surveyors experienced in undertaking reptile surveys: Rosemary Cripps (MCIWEM, CEnv), Rosie Seager-Jones (QCIEEM) and Sam Jones (QCIEEM), following best practice guidance[5].

Suitable habitat areas for reptile survey work are labelled as Transects A, B, C, D, E, and F (Figure 1), corresponding to the west and east of Olympian Drive. Artificial refugia comprising a mixture of squares (minimum size 0.5 metres squared) of bitumen roofing felt and corrugated onduline were distributed within these chosen survey areas. In linear habitats, such as along the woodland edge, the refugia were placed approximately every 10 metres in suitable reptile habitats. In non-linear habitats such as fields/open plots, a density of at least ten refugia per hectare was deployed. Due to the mosaic of suitable habitats, the density of refugia was high to enable more detailed results. The position of each artificial refuge was recorded using a data enabled smart phone or tablet with GIS software installed, giving location points accurate to approximately 5 metres (see Figure 1 for locations).

Artificial refugia heat up during the day at a faster rate than the surrounding environment, thus making them attractive to cold-blooded reptiles for basking and shelter. Artificial refugia were installed on the 3rd of May 2023 and left to 'bed in' for nine days prior to surveys commencing to allow reptiles to become accustomed to their presence and begin to make use of them. To establish presence, generally at least seven visits in suitable weather conditions at the appropriate time of year are required[5]. The survey effort and weather conditions are summarised in Table 1 below, all surveys were undertaken in suitable weather conditions[5]:

Table 1 Weather conditions during surveys.

Site set up date	Visit No.	Survey date	Weather			
			Estimated start temp (°C)	Rain	Wind (0-8)	Cloud (0-8)
03/15/2023	1	12/05/2023	15	dry	3	1
	2	19/05/2023	16	dry	1	6
	3	26/05/2023	16	dry	2	0
	4	02/06/2023	14	dry	4	3
	5	12/06/2023	20	dry	3	3
	6	12/07/2023	17	dry	4	4
	7	23/08/2023	18	dry	2	4

During each survey, the area around each refuge was first checked from a suitable distance before it was approached. Each refuge was approached slowly to check for basking reptiles; each refuge was then lifted and the area beneath checked for reptiles.

[7] Chartered Institute of Ecology and Environmental Management (CIEEM), "Competencies for species surveys: reptiles," 2014. [Online]. Available: https://cieem.net/wp-content/uploads/2019/02/CSS-REPTILES-October-2014.pdf. [Accessed October 2023].

2.4 Population estimates and evaluation of site importance

An estimated relative population size was not calculated due to the lack of records of reptile species. Additionally, no further classification of the site in relation to its importance for reptiles was undertaken.

2.5 Assumptions and limitations

Reptiles are mobile animals with some, such as grass snake, occupying large home ranges. Therefore, they may occur as transient individuals in survey areas connected to wider areas that support these species. Where reptiles have not been identified as occupying a survey area during the initial seven survey visits, this does not guarantee their absence. There is always the risk of reptiles not using artificial refugia, particularly in areas where there is an abundance of natural basking and shelter features. Large areas of natural habitat combined with potentially low population densities could lead to individuals going undetected. The level of survey effort undertaken is anticipated to be sufficient to have detected reptile populations within the study area; however, the presence of low numbers of individuals using the site intermittently cannot be ruled out.

As per best practice guidelines[5], the peak months to undertake a reptile survey are April and May; late August to late September can be useful for seeing juvenile animals. Peak times are April and May during morning hours (between 8.30am - 11.00am) and 4.00pm - 6.30pm in the afternoon. Peak air temperature is between 9-20°C. Bright sunshine is favourable on cooler days and hazy or intermittent sunshine is favourable when warmer and rain or wind is unsuitable. The surveys were undertaken between May and August and between 8.30am - 11.00am with temperatures between 9- 20°C in favourable weather conditions.

It is good practice to space survey visits out across an extended sampling period, to ensure a range of environmental conditions are encountered during the survey and increase the likelihood of reptiles discovering the artificial refugia. Therefore, survey visits were spaced at least a week apart.

Typically, refugia are left to settle in for two weeks (as per best practice guidance[5]) to allow reptiles to discover them. The settling period to allow reptiles to discover the artificial refugia was nine days to ensure visits were undertaken within the optimal survey period therefore, the first site visit may not have given enough time for the reptiles to discover the refugia. As all other survey visits were undertaken 14 days after the artificial refugia were deployed, this is not considered a significant limitation.

3. Results

3.1 Desk study

The desk study returned 13 records of reptiles within 2km of the site. Of these records ten are of slow worm with the closest record 228m south of the site. There is a single record of grass snake recorded 1350m from the site. Two records of invasive non-native red-eared terrapin *Trachemys scripta elegans* were returned.

3.2 Habitat assessment

Potential reptile habitat was identified during the Extended Phase 1 survey, and further surveys were recommended. Six key areas supporting reptile habitats within the site, have been labelled as Transects A, B, C, D, E, and F (Figure 1), and are discussed below in more detail.

3.2.1 Reptile transect A

Transect A is located at the western extent of the site, to the west of Olympian drive (see Photograph 1). The suitable reptile habitat covers an area of approximately 0.62 ha comprising a mosaic of habitats including semi-natural broadleaf woodland, a strip of poor semi-improved grassland, bare ground, and ephemeral vegetation. The woodland provides suitable hibernacula for a range of reptiles, notably the woodland margins. The poor semi-improved grassland habitat is transitional with the bare ground/ephemeral vegetation community, with a presence of occasional refugia (rubble mounds), which together provide potentially suitable locations for basking reptiles as well as a complex range of vegetation structures and suitable habitat for prey. Transect A is slightly better connected to the wider landscape as the woodland provides potential access to further suitable greenspace.

Photograph 1. Semi-natural broadleaf woodland border of brownfield site west of Olympian Drive.

3.2.2 Reptile transect B

Transect B is located in land on the eastern side of Olympian Drive (see Photographs 2 to 4 below). The suitable reptile habitat comprises approximately 1.30 hectares of the brownfield site. The open habitat provides good insolation and suitable vegetation structure for basking, as the mosaic of habitats form successive and transitional plant communities. Refugia present also provide opportunities for a range of reptiles to bask and/or hibernate. The margins are dominated by scattered scrub, with occasional log/brash piles which create potential hibernacula for reptiles. However, connectivity to the wider landscape is limited by the urban location and barriers such as roads. Further, the prey abundance is likely to be limited and there is little habitat for egg laying potential on site, which together reduce overall suitability for reptiles.

Photograph 2. Brownfield land west of Olympian Drive showing poor semi-improved grassland transitioning into ephemeral vegetation.

Photograph 3. Brownfield land east of Olympian Drive north of Ice Arena Wales – ruderal plant community in open mosaic habitat.

Photograph 4. Potential refugia on the brownfield site east of Olympian Drive, in northeast corner of site.

3.2.3 Reptile transects C, D and E

These transects are located to the east of Olympian Drive and Empire Way on areas of similar habitat, namely brownfield parcels with habitats consisting of bare ground, short perennial vegetation, closed sward neutral grassland, scattered, and dense scrub (see Photographs 5, 6 and 7). They are bordered by the waterbody of Cardiff Bay to the east, however due to this land being reclaimed the majority of the land is well above the normal water level, with a bank of sheet piles reducing functional connectivity to this waterbody from the land. At the very south end of transect E, the land does connect more readily to the water via hard engineered and block stone banks.

Some of these areas have poorly draining soils and ephemeral pooling is common throughout these areas (particularly along transects C and D). The successive and transitional plant communities in these habitats provide good insolation and suitable vegetation for basking, and refugia sites. Scattered scrub in these areas provides some further potential for hibernacula/refugia for reptiles. However, connectivity to the wider landscape is again limited by the urban location and barriers such as roads. Further, the prey abundance is likely to be limited and there is little habitat for egg laying potential on site, which together reduce overall suitability for reptiles.

The approximate area of suitable reptile habitat within each of these transects was as follows: transect C, 0.56ha, transect D 0.71ha and transect E 0.83ha.

Photograph 5. Brownfield land on transect C showing sparse grassland transitioning into closed sward grassland and scrub.

Photograph 6. Brownfield land on transect D showing sparse grassland transitioning into scattered scrub.

Photograph 7. Brownfield land on transect E showing sparse grassland transitioning into dense scrub.

3.2.4 Reptile transect F

The transect survey area is located to the south of the site, with Cardiff Bay/River Ely waterbody to the southwest, separated from the land by sheet piles circa 4-5m high. The suitable reptile habitat covers an area of approximately 1.67ha, consisting of habitats including bare ground, short perennial vegetation and open sward neutral grassland with some scrub on the southwest border. The soils in this area are poorly draining and ephemeral pooling is common throughout. The successive and transitional plant communities in these habitats provide good insolation and suitable vegetation for basking, and refugia sites. Occasional scrub provides some potential for refugia. As with the transects above, there is limited connectivity between the wider landscape, including the waterbody and little habitat for egg laying reducing the areas overall suitability for reptiles.

Photograph 8. Brownfield land on transect F showing sparse grassland and closed sward damp grassland.

3.3 Presence/ absence survey results and assessment of site importance

Surveys did not identify the presence of reptiles within the site, with reptiles being absent from all transects. Relative population calculations were not completed, or further assessment undertaken in relation to site importance for reptiles due to the lack of reptiles recorded during the survey. The survey findings are summarised in Table 2 below:

Table 2 Results of presence/absence surveys

Site set up date	Visit No.	Survey date	Total number of adult records	Total number of juvenile records
03/05/2023	1	12/05/2023	0	0
	2	19/05/2023	0	0
	3	26/05/2023	0	0
	4	02/06/2023	0	0
	5	12/06/2023	0	0
	6	12/07/2023	0	0
	7	23/08/2023	0	0

During the surveys, one incidental sighting was recorded: a common toad (*Bufo bufo*) (under reptile mat 78 on 19/05/2023)). Evidence of small mammal tunnels was often present (likely field vole) under the mats on more vegetated areas, and many established ant colonies were seen. As discussed in the survey limitations, it is difficult to prove total absence and the lack of reptiles recorded could also suggest that low numbers of reptiles are present, at least using the site on a transient basis where habitats are well connected.

Transect B, C, D, E, and F areas are not well connected to the wider landscape/habitats due to the urban location of the site, with barriers such as roads, walls, and buildings. Transect A is likely to be the more favourable area for reptiles due to better habitat connectivity namely the underpass on the west of the site

which may connect to habitats in the wider landscape. Therefore, it is possible that low numbers of individual reptiles could be present at least intermittently at this location. However, significant populations of reptiles are not considered likely to be present within the site. Furthermore, the site is not considered to be of significant value to local reptile populations.

Although the survey did not confirm the presence of reptiles, low numbers could be present where the sites habitats are well connected; therefore, a precautionary approach would be taken to the assessment of impacts of reptiles during any vegetation clearance. Vegetation should be cleared sensitively following a two-stage cut; and supervised by a Suitably Qualified Ecologist (SQE). Any potential refugia such as log or rubble piles should be dismantled carefully under the supervision of the SQE, and where possible this should be undertaken outside of the winter months to avoid disturbance to hibernating reptiles. Any reptiles should be relocated to suitable habitat, which will be unaffected by the development in agreement with Cardiff Council's ecologist. In the event higher numbers (>5) of reptiles are found during site clearance or hibernating reptiles are found, clearance should be delayed until further mitigation has been agreed with Cardiff Council ecologist.

4. Conclusion

The biodiversity data search returned ten records of slow worm, one record of grass snake and two records of invasive red-eared terrapin within 2km of the site, however no records were returned within the site boundary. The mosaic of habitats present within the study area provide opportunities for reptiles to forage, shelter, bask and hibernate; although, it is noted that the majority of habitats within the site have limited connectivity to the wider landscape.

A presence/absence survey comprising seven site visits between 12th May 2023 and 23rd August 2023 was completed within suitable survey conditions[5]. Despite the survey being completed in accordance with survey guidelines, no reptiles were recorded. As a result of the lack of sightings, a population estimate was not determined.

The lack of reptiles recorded during the survey may be due to the presence of low numbers within the site, which may have gone undetected, however such low numbers would indicate that the site is not considered to be important for reptiles.

Due to the residual risk of low numbers of reptiles being present within suitable habitats on site, a precautionary approach should be adopted during vegetation clearance by cutting the vegetation in stages whilst supervised by an SQE.

Figures

Figure 1 Artificial reptile refugia locations

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31/10/2023 13:52

Coordinate System: British National Grid

Metres

0 25 50 100

Rev	Date	By	Chkd	Appd	Authd
P01	09/03/23	NW	RC	PC	

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Client
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Project Name
Cardiff International Sports Village and Cardiff Peninsula

Drawing Title
Reptile refuge locations

Scale at A3
1:2,200

Role

Suitability
S3

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Drawing Number
Figure 1

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