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DAVID CLEMENTS ECOLOGY LTD

LAND AT NORTHCLIFFE LODGE, PENARTH

BAT AND REPTILE SURVEYS

RECEIVED



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Regeneration
and Planning

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ADDITIONAL DRAWINGS

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ADDITIONAL INFORMATION

SUMMARY

This report has been prepared by David Clements Ecology Ltd (DCE) for Jon Shields of Celtic Development (Penarth) Ltd. It sets out the results of bat and reptile surveys of Land at Northcliffe Lodge, Penarth, Vale of Glamorgan.

The parcel of land, hence forth referred to as the site, is located to the north east of Penarth and overlooks the Cardiff Bay Barrage. The site is centred at NGR ST 18904 72377 and measures approximately 1.3ha. It consists of an occupied detached dwelling, semi improved grassland, ornamental planting, a pond, scrub and woodland habitats. The site overlooks Cardiff Bay to the North and the Cardiff Bay Barrage with Penarth Marina located to the North East. Residential housing and flats are located immediately to the east, south and west of the site. The main town of Penarth lies to the south west of the proposed development site.

An extended phase 1 survey of the proposed site was undertaken by DCE Ltd on the 28th October 2015. The survey highlighted the potential for reptiles and bats to be present within the site boundary.

No evidence of the presence of bats within Northcliffe Lodge has been found. It is thought highly unlikely that bats are present at any time of year within the building. However, it must be noted that the survey visits for bats undertaken across the site were to identify summer roosting activity.

The large retaining wall within the proposed site boundary has a network of large gaps and cracks within the stone work and missing mortar. The gaps appear to extend deep into the stonework which is estimated to be at least 1m thick. It was not possible to assess whether a rubble in-fill was present which could provide various gaps and routes deeper into the wall but it is thought likely. Although the retaining wall is in an exposed coastal area, the narrow gaps into the wall and the potential rubble in-fill structure, it is thought likely that the wall provides the stable cool temperatures favoured by bats during hibernation. The retaining wall is assessed as having moderate to high potential for hibernating bats.

Hibernation surveys for bats, in this particular instance, are thought unlikely to provide any meaningful results and were not undertaken. It is proposed to assume the use of the wall by crevice dwelling bats for hibernation purposes. Given the extensive cracks present within the wall and the potential rubble in-fill an endoscope survey would be very time intensive and could easily miss the presence of individual bats tucked away deep within the wall. Again a swarming survey during autumn/winter could potentially miss the presence of small numbers of bats as it only provides a snap-shot of bat activity. The deployment of a static monitoring device would record general bat activity in the area rather than confirm bat roost locations and the wall is too extensive to be adequately covered by an infra-red camera.

No evidence of the presence of reptiles was found during the refugia survey conducted at site. It is likely that nesting birds utilise the site throughout the summer months. Mitigation measures with respect to such species must be implemented.

Notwithstanding the above, it is therefore concluded that development of the site in the manner proposed would be unlikely to entail any significant loss or of wildlife features, or adverse impacts to habitats or species of ecological value in the vicinity, provided adequate and

appropriate mitigation measures are implemented to avoid or minimise impacts to protected species on the site and valuable habitats both within the site and in the wider vicinity. It is therefore considered on current evidence that the proposed development of this site is not be unacceptably constrained by biodiversity issues.

Appropriate recommendations are made within this report.

1.0 INTRODUCTION

- 1.1 This report has been prepared by David Clements Ecology Ltd (DCE) for Jon Shields of Celtic Development (Penarth) Ltd. It sets out the results of bat and reptile surveys of Land at Northcliffe Lodge, Penarth, Vale of Glamorgan.
- 1.2 The parcel of land, henceforth referred to as the site, is located to the north-east of Penarth and overlooks the Cardiff Bay Barrage. The site is centred at NGR ST 18904 72377 and measures approximately 1.3ha. It consists of an occupied detached dwelling, semi-improved grassland, ornamental planting, a pond, scrub and woodland habitats. The site overlooks Cardiff Bay to the north and the Cardiff Bay Barrage with Penarth Marina located to the north-east. Residential housing and flats are located immediately to the east, south and west of the site. The main town of Penarth lies to the south-west of the proposed development site.
- 1.3 An extended phase 1 survey of the proposed site was undertaken by DCE Ltd on the 28th October 2015. The survey highlighted the potential for reptiles and bats to be present within the site boundary. Consultee response from the LPA ecologist, as part of the planning application, also highlighted the need for further ecological survey work within the site.

2.0 APPROACH AND METHODS

2.1 Survey Methodology

Bats

- 2.1.1 A site inspection for bats was carried out in accordance with the guidance given by BCT (2012). The building was inspected in dry weather conditions during daylight hours on 28th October 2015 by two appropriately licenced and experienced surveyors. The weather was warm and sunny during the survey. Aislinn Harris (NRW:61009:OTH:CSAB:2014) and Dr Neil Price (NRW:65105:OTH:SA:2015) undertook the internal inspection. The accessible interior voids were all entered and searched using high-powered lanterns (Clulite FAN1) and torches (Clulite ML7). Other equipment was available as required including a digital endoscope (A68KF) for the examination of voids in the fill of stone walls etc, various inspection mirrors and ladders to inspect high areas. Searches were made especially for evidence such as bat droppings and feeding remains, as well as for sightings of actual bats (in cracks and crevices etc) and secondary signs such as fur-oil and urine stains, scratch-marks etc.
- 2.1.2 The layout and construction of the building was recorded and the internal voids were briefly described and characterised, with an estimate being made of their potential attractiveness and suitability for bats with reference to a range of factors including human disturbance, light levels, air movement, exposure, thermal stability and cobwebbing of access points etc. Details of the site inspection are given in the DCE (2015) report.
- 2.1.3 The building was also subject to dusk emergence survey on 11th May and a dawn re-entry survey carried out on the 2nd June 2016 (See Plans 2a & 2b). For the dusk emergence surveys, three observers were stationed around the building from approximately 30 minutes before dusk until it was too dark to see any potentially emerging bats, normally around 1.5hrs after sunset. For the dawn re-entry survey three observers were in position 1.5 hours before sunrise until well after sunrise. Each observer was equipped with an Anabat SD1 or SD2 bat detector, with bat calls recording to CF card for subsequent analysis using the AnaLookW call analysis software (Corben 2006).

Reptiles

- 2.1.4 30 reptile refugia were placed across the site and were left to bed in for approximately two weeks. The refugia were then checked between the 4th May and 3rd June 2016 during dry and warm weather conditions. Surveys were undertaken following the advice given by Gent & Gibson (1998) and Froglife (1999). the survey comprised of placing 30 'artificial refugia', comprising 60 x 60cm squares of roofing felt, to act as artificial roosting and basking sites. The refugia were placed-out in areas of the site which were assessed as being most likely to be attractive to reptiles, particularly in the longer grass and scrub margins. These were then revisited at regular intervals in suitable weather conditions over the following weeks in order to record the species and numbers of any animals found underneath or on the refugia. Plan 3 shows the approximate location of the refugia placed throughout the site for the surveys.

- 2.1.5 Where possible, any 'natural refugia' e.g. logs, stones, etc. were also lifted to search for any herptiles.

Constraints

- 2.1.6 It was difficult to gain complete visual cover of the building for a number of reasons. The building exists on multiple levels built into the slope of the land and is surrounded by mature trees and shrubs. This made finding suitable vantage points to cover the building difficult. However, to compensate for these issues surveyors were located where suitable access features into the building were thought to exist and where the most visual cover of the building could be gained.

2.2 Data Trawl

- 2.2.1 To support the 2015 survey work, a data trawl was carried out with the South-East Wales Biological Records Centre (SEWBRc) in order to obtain access to any existing biological data which might be available. SEWBRc is the main repository for biodiversity and wildlife records in the south-east Wales region. For full details of the data trawl results, please see the 2015 survey report.

3.0 SURVEY RESULTS

3.1 *Bats*

3.1.1 All species of bats and their roosting sites are protected under the EU Habitats & Species Directive, implemented in the UK via the 2010 Habitats Regulations. Bats are designated as 'European Protected Species' by the latter, and both they and their roosting places are afforded the highest level of statutory protection available in the UK. The roosting places of bats are also additionally protected against unauthorised disturbance or obstruction under the amended Wildlife & Countryside Act 1981. A number of bats, including some comparatively common species, are listed as 'Priority Species' for conservation in the UK Biodiversity Action Plan (UK BAP: BRIG 2007) and its Welsh equivalent (WBP 2007).

3.1.2 The layout of the building is shown at Plan 1, and representative photographs are given at the end of this report.

Buildings

3.1.3 A single building is present within the proposed site boundary. Northcliffe Lodge is the Lodge house built to service Northcliffe Manor House in the 1800s. The Manor House has been demolished but the Lodge House remains as a residential dwelling. The house is a detached double storey dwelling with a number of extensions added to it and it lies on a north east to south west axis, the building layout is shown on Plan 3.

3.1.4 Externally, the house is covered in a white washed render with an exposed half-timber frame on the first floor of the main house. The roof of the main house and rear extension is double pitched and consists of cement roman tiles. The roof of the L-shaped outhouse is mono pitched and has plain clay roof tiles. The roof line of the main house extends on both gable ends creating an extended rake and exposing the wooding boarding under the roofing tiles. A small single storey glass conservatory is present to the north east edge of the main house.

3.1.5 Internally there are three attic voids one within the main house, one above the rear extension and one above the outhouse. Close fitting wooden boarding is present along the roof pitch of the attic space above the main house. It was possible to see a roof lining through a few gaps between the boarding which is thought to be bitumen based. Insulation is present between the joists but the majority of the space was boarded allowing movement. Two chimney stacks were present in the void both with metal flues extending up through the void and out through the roof. Insulation is present between rafters along both pitches of the roof and joists of the attic space above the extension. The roof line above the outhouse has a bitumen roof lining which is extensively degraded with many holes present. A thin layer of insulation is present between the roof joists.

Stone Faced Retaining Wall

3.1.6 A stone faced retaining wall is present measuring approximately 5m high and 20m long. The wall splits the middle and bottom section of the site and contains two underground

shed structures. Extensive cracks were noted in the masonry and in the walls of the underground sheds.

- 3.1.7 The underground sheds are both single storey with numerous open compartments within them. They both have white washed breeze block walls and are open access as the doors are either broken or wedged open by the materials being stored within them.

Flight Survey Results

- 3.1.8 Two flight surveys were undertaken by three experienced surveyors. The surveys were undertaken at the optimum time of year for bat activity approximately four weeks apart in suitable weather conditions. The surveyors had a good view of all aspects of the building. The surveyor position and flight survey results are shown at Plan 2a and 2b.

Dusk emergence survey

- 3.1.9 A dusk emergence survey was completed on the 11th May 2016. The weather conditions were dry and warm. Cloud cover was around 60%. Temperatures were approximately 16°C for the survey period. Sunset was at approximately 20:50 and the survey commenced at 20:30.
- 3.1.10 The first bat call recorded was noctule at 21:15. Noctule, common and soprano pipistrelle bats were recorded during the survey. No bats were seen to emerge from the building. Almost constant foraging activity by pipistrelle bats was noted around the gardens.

Dawn re-entry survey

- 3.1.11 A dawn re-entry survey was completed on the 2nd June 2016. The weather conditions were dry but breezy. Cloud cover was complete and temperatures started at approximately 13°C at the start of the survey. Sunrise was at approximately 5:00am and the survey commenced at 3:30am.
- 3.1.12 Almost constant pipistrelle foraging activity was noted around the gardens throughout the survey as soon as recording commenced. Approximately 5 pipistrelle bats were observed feeding across the site. Only pipistrelle bats were recorded during the survey visit. No bats were observed returning to roost within the building. Bat activity lessened and stopped at approximately 4:30am, some 30 minutes before sunrise.

3.2 Reptiles

- 3.2.1 Four native reptile species occur in South Wales, comprising common lizard, slow-worm, adder and grass snake. These four species are all afforded so-called 'partial protection' under the amended Wildlife & Countryside Act 1981, which prohibits the deliberate killing or injury of individuals. However, there is no direct protection extended to the habitats which support these species. All four common reptiles are listed as 'Priority Species' in the UK BAP and its Welsh equivalent.
- 3.2.2 The data trawl returned no records of reptiles from the site, the closest reptile record returned is for adder approximately 500m away (SEWBReC data, 2015).

3.2.3 The results of the refugia survey are shown in Table 1. No reptiles were recorded on the site during any survey visit.

Table 1 – Refugia Survey Results

Refugia Check Date	Temperature (°C)	Weather	Results
4 th May 2016	12	Warm, dry	Nil
9 th May 2016	18	Cool, dry	Nil
10 th May 2016	18	Cool, dry	Nil
17 th May 2016	13	Warm, dry	Nil
19 th May 2016	14	Warm, dry	Nil
24 th May 2016	13	Warm, dry	Nil
3 rd June 2016	14	Warm, dry	Nil

4.0 ASSESSMENT OF DEVELOPMENT IMPACTS

- 4.1 It is proposed to build 30 apartments within the proposed site boundary. To create the levels across site required for the proposed development, large scale engineering works are to be undertaken. The engineering works are likely to result in the loss of the majority of habitats currently found on site. Landscaping proposals for the development show the retention of some woodland habitat along the north and western site boundaries. Native planting is also proposed across the site post development.
- 4.2 No evidence of the presence of bats or reptiles has been found on site during any survey visit.
- 4.3 No evidence of the presence of bats within Northcliffe Lodge has been found. It is thought highly unlikely that bats are present at any time of year within the building. However, it must be noted that the survey visits for bats undertaken across the site were to identify summer roosting activity.
- 4.4 The large retaining wall within the proposed site boundary has a network of large gaps and cracks within the stone work and missing mortar. The gaps appear to extend deep into the stonework which is estimated to be at least 1m thick. It was not possible to assess whether a rubble in-fill was present which could provide various gaps and routes deeper into the wall but it is thought likely. Although the retaining wall is in an exposed coastal area, the narrow gaps into the wall and the potential rubble in-fill structure, it is thought likely that the wall provides the stable cool temperatures favoured by bats during hibernation. The retaining wall is assessed as having moderate to high potential for hibernating bats.
- 4.5 Hibernation surveys for bats, in this particular instance, are thought unlikely to provide any meaningful results. It is proposed to assume the use of the wall by crevice dwelling bats for hibernation purposes. Given the extensive cracks present within the wall and the potential rubble in-fill an endoscope survey would be very time intensive and could easily miss the presence of individual bats tucked away deep within the wall. Again a swarming survey during autumn/winter could potentially miss the presence of small numbers of bats as it only provides a snap-shot of bat activity. The deployment of a static monitoring device would record general bat activity in the area rather than confirm bat roost locations and the wall is too extensive to be adequately covered by an infra-red camera.
- 4.6 It is likely that nesting birds utilise the site throughout the summer months. Mitigation measures with respect to such species must be implemented.
- 4.7 Notwithstanding the above, it is therefore concluded that development of the site in the manner proposed would be unlikely to entail any significant loss or of wildlife features, or adverse impacts to habitats or species of ecological value in the vicinity, provided adequate and appropriate mitigation measures are implemented to avoid or minimise impacts to protected species on the site and valuable habitats both within the site and in the wider vicinity. It is therefore considered on current evidence that the proposed development of this site is not be unacceptably constrained by biodiversity issues.

5.0 RECOMMENDATIONS

- 5.1 In the event of the proposed development of this site proceeding, the following recommendations are made in order to avoid or minimise adverse impacts to wildlife features and protected species.

Statutory requirements

Bats

- 5.2 In order to adequately mitigate for the potential presence of bats within the retaining wall, the areas of the wall which have suitable gaps and or cracks for bats will be removed during the spring or autumn period. The 'bat risk' areas will be removed by hand as far as possible, due to safety concerns with the wall structure, to allow bats to move away from the disturbed areas. Spring and autumn are a time of year when any bats which could be present within the wall will be active enough to move away when disturbed. The 'bat risk' areas will be left exposed to the elements for a maximum of 24 hours and then full demolition works will resume. Such sensitive working methods coupled with the habitat removal works across the site will be likely to deter bats from using any features within the wall, as the wall will be open and exposed to weather. This will adequately mitigate for their potential presence within the wall.
- 5.3 If, at any point during the proposed works on site bats are found all work will cease. Advice will then be sought from the supervising ecologist on how to proceed. This advice may include that all work cease and a derogation from NRW is sought. This is a statutory requirement
- 5.4 As mitigation for the potential loss of a hibernation roost, a bat hibernation box will be erected upon on of the newly created retaining walls. A 1WQ Schwegler bat box will be positioned on a retaining wall a minimum of 3m above ground level.

Nesting Birds

- 5.5 All species of birds are protected by law, and their nests eggs and chicks are protected against harm or disturbance. Works affecting trees, scrub as well as buildings should avoid the main bird nesting season, which runs approximately from March to August inclusive. Alternatively, any works which must necessarily be carried out during this period should be preceded by a survey to ensure that no nesting birds are present, and any which are present must be allowed to complete their nesting cycle unmolested within a buffer zone of at least 5m radius around the nesting site. This restriction also applies to any other habitats which are found to support nesting birds, including ground-nesting species. This is a statutory requirement.
- 5.6 12 bird boxes of varying designs will be placed around the proposed development site. The variety of designs and location of bird boxes will offer a great diversity of potential nesting locations which are more likely to be used. The below boxes will be provided on site once the construction works are completed. Photos are provided within Appendix 2.

- 2x 1SP Schwegler Sparrow Terrace boxes

- 2x 2H Schwegler Robin boxes
- 3x Blackbird Nest boxes
- 3x1B Schwegler Nest boxes with a minimum hole width of 32mm
- 2x No.10 Schwegler Swallow Nests

General Measures

- 5.7 The services of an appropriately qualified and licensed ecologist should be available on an 'on-call' basis throughout the development in order to deal promptly with any protected species issues, or other issues, which may arise during the works.
- 5.8 All contractors carrying out scrub clearance works will be warned of the *possible* presence of nesting birds and/or common reptiles, as well as invasive species and of their protected status through the undertaking of a 'Tool box' talk. It will be clearly understood that in the event of any being found during clearance or construction works, all works will cease in the affected area and the advice of the Supervising Ecologist sought immediately.

Non-statutory requirements

Habitats

- 5.9 The site boundary should be clearly marked and protected by secure fencing (eg chestnut paling on scaffold supports or 'Heras' fences) during clearance and construction activities are taking place, to prevent access and damage by site vehicles, equipment, materials and personnel.
- 5.10 All retained trees (including those immediately adjacent to the development site) should be treated in accordance with British Standard BS5837 (2005) *Guidance for the Treatment of Trees in Relation to Construction*. Damage to mature trees within broadleaved woodland, as well as tree and scrub understorey and ground flora within retained woodland, must be avoided. The fencing of retained woodland areas to ensure the root protection zone (RPZ) is not impacted on will be required.
- 5.11 Construction compounds, materials storage areas, mixing areas and vehicle refuelling areas etc will not be located anywhere within and/or within the RPZ of retained trees or habitat. All such areas will be drained and bunded in accordance with current requirements and best practice so as to prevent any incidental or accidental spillages of potential contaminants (eg mixing slurry, wash down, oil and diesel etc) affecting retained habitat

Landscaping

- 5.12 Landscaping proposals for the site are provided the Landscape Proposals plan 2015/101/ rev A (October 2015) by Corscadden Associates.

Artificial Lighting

- 5.13 Careful consideration should be given to the use of lighting where this is required, as this can adversely affect activity by a variety of fauna, particularly foraging bats, nocturnal insects and birds.

- 5.14 Where possible, the woodland edges around the site should be retained as dark corridors. If lighting is required in close proximity to these habitats, then light spill should be reduced by using of low-level lighting columns. Examples include low pressure sodium (SOX) light sources or mercury vapour lamps fitted with appropriate UV filters. White lighting sources including metal halide, CDO and CPO should be avoided. The use of cut-off lanterns with hoods should also be considered as these will direct the light below the horizontal plane, minimizing effects on nocturnal species such as bats.

6.0 REFERENCES

- Bat Conservation Trust (BCT 2012)** *Bat Surveys – Good Practice Guidelines, 2nd Edition*. Bat Conservation Trust, London.
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- David Clements Ecology (DCE 2015)** *Land at Northcliffe Lodge, Penarth; Ecological Assessment for Scimitar Homes*. DCE 2015
- English Nature (EN 2001)** *Great Crested Newt Mitigation Guidelines*. EN, Peterborough.
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- Gent, T & Gibson, S (Eds) (1998)** *Herpetofauna Workers' Manual*. Joint Nature Conservation Committee, Peterborough.
- Institute of Environmental Assessment (IEA 1995)** *Guidelines for Baseline Ecological Assessment*. IEA Lincoln.
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- Nature Conservancy Council (NCC 1989)** *Gwent Inventory of Ancient Woodlands*. NCC Peterborough.
- Nature Conservancy Council (NCC 1990)** *Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit*. NCC Peterborough.
- Rodwell, J (Ed) (1991-2000)** *British Plant Communities*. Vols 1-5. Cambridge University Press.

APPENDIX 1: BAT & BIRD BOX



Schwegler 2H robin box



Schwegler 1B bird box



1WQ Scwhegler Bat Box



Schwegler 1SP Sparrow terrace box



Blackbird Nest Box



No.10 Swallow Nest Cup

PHOTOGRAPHS OF SITE



View of western elevation Northcliffe Lodge



View of eastern elevation Northcliffe Lodge



Attic void in main house



Attic void above extension



Attic void above outbuilding



View of outbuilding



Pond within site boundary



View of middle plateau of site



View of bottom plateau of site



Cracks in retaining wall



Cracks in retaining wall



Woodland along northern site boundary

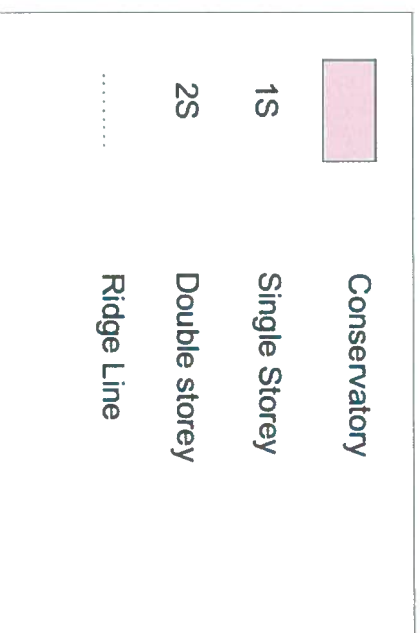
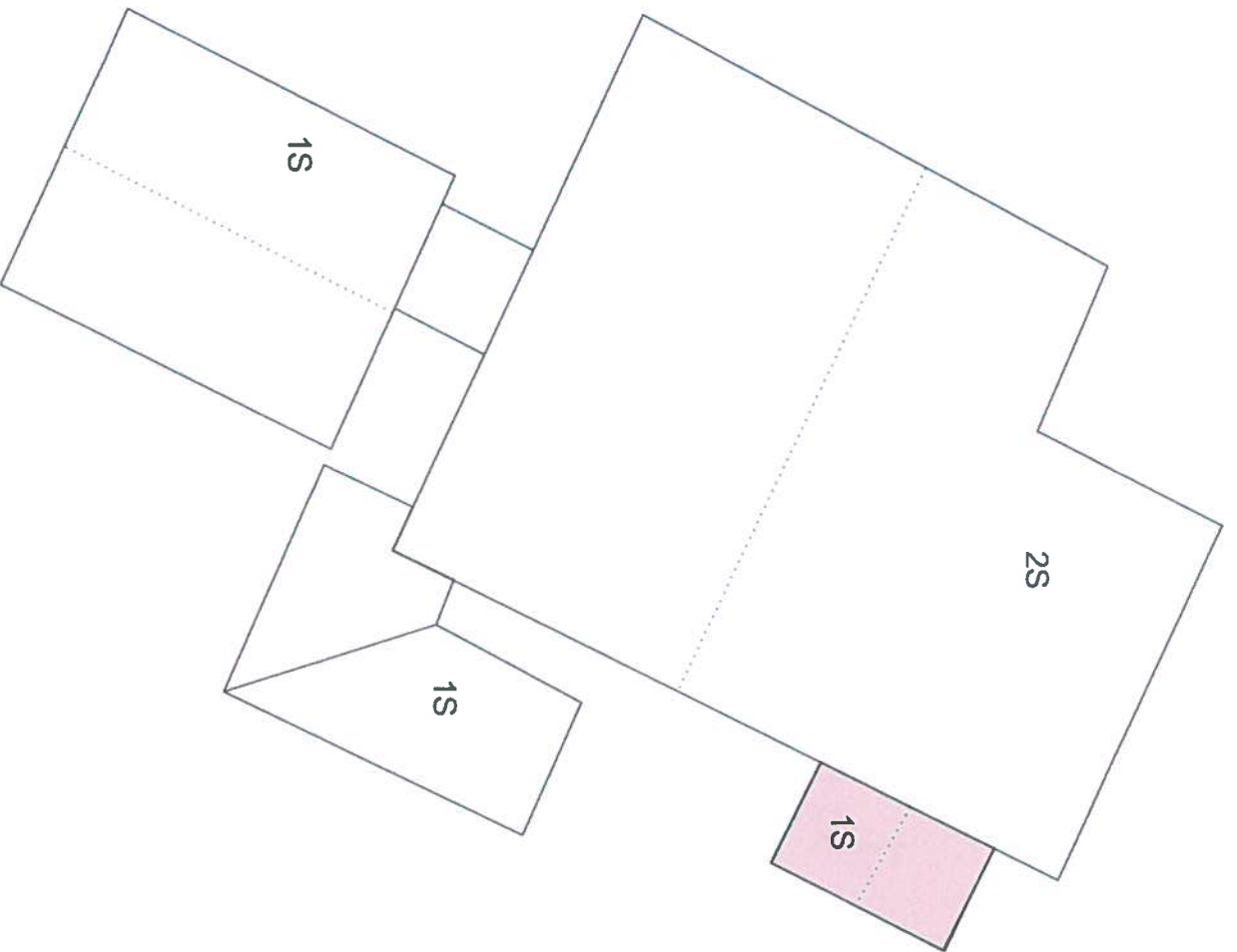
**Land at Northcliffe Lodge, Penarth
Ecological Assessment**

Plan 1: Building Layout

DCE 837

NTS

June 2016



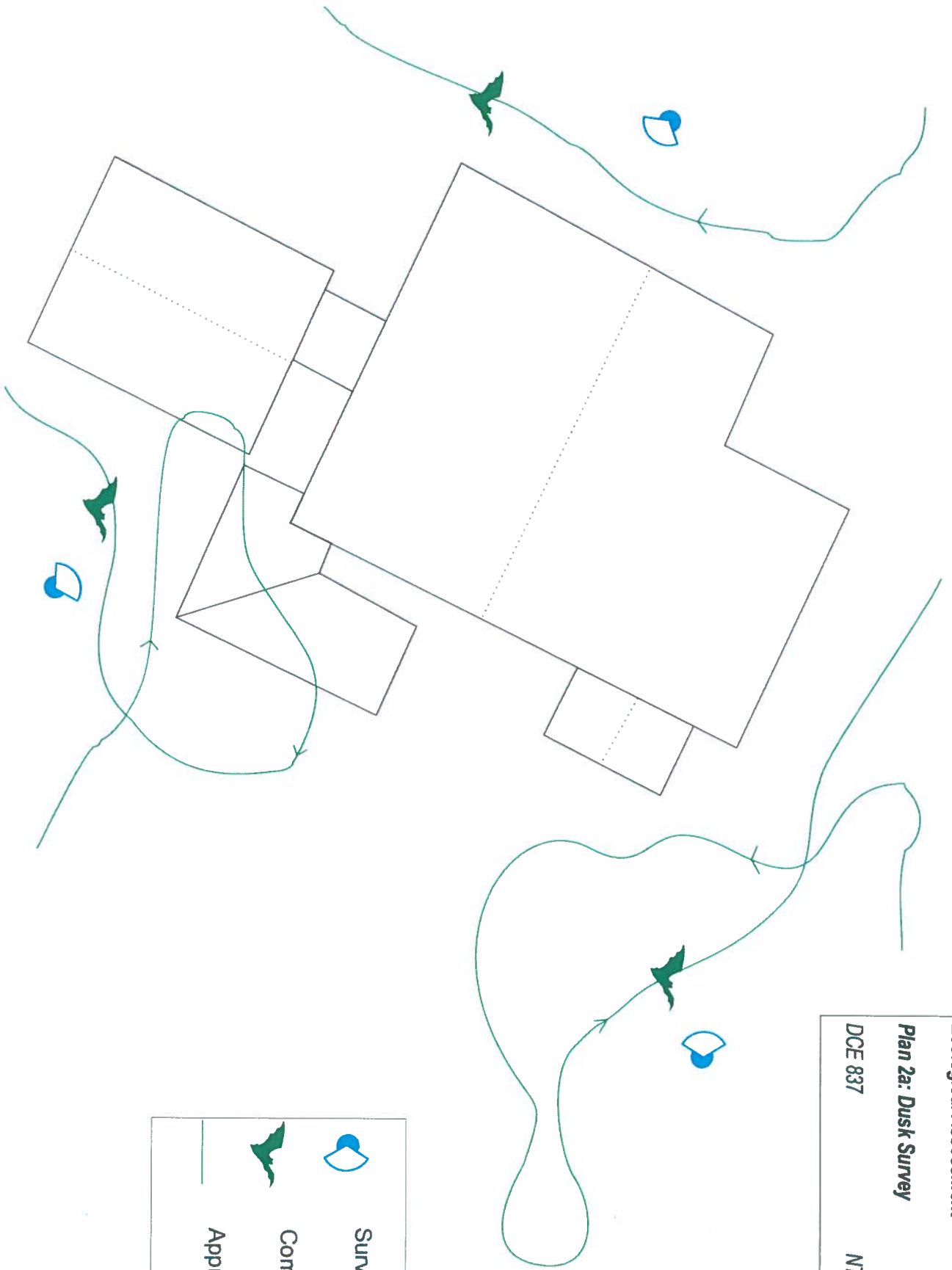
**Land at Northcliffe Lodge, Penarth
Ecological Assessment**

Plan 2a: Dusk Survey

DCE 837

NTS

June 2016



	Surveyor Location
	Common Pipistrelle
	Approximate Flight Path

Land at Northcliffe Lodge, Penarth
Ecological Assessment



Plan 2b: Dawn Survey

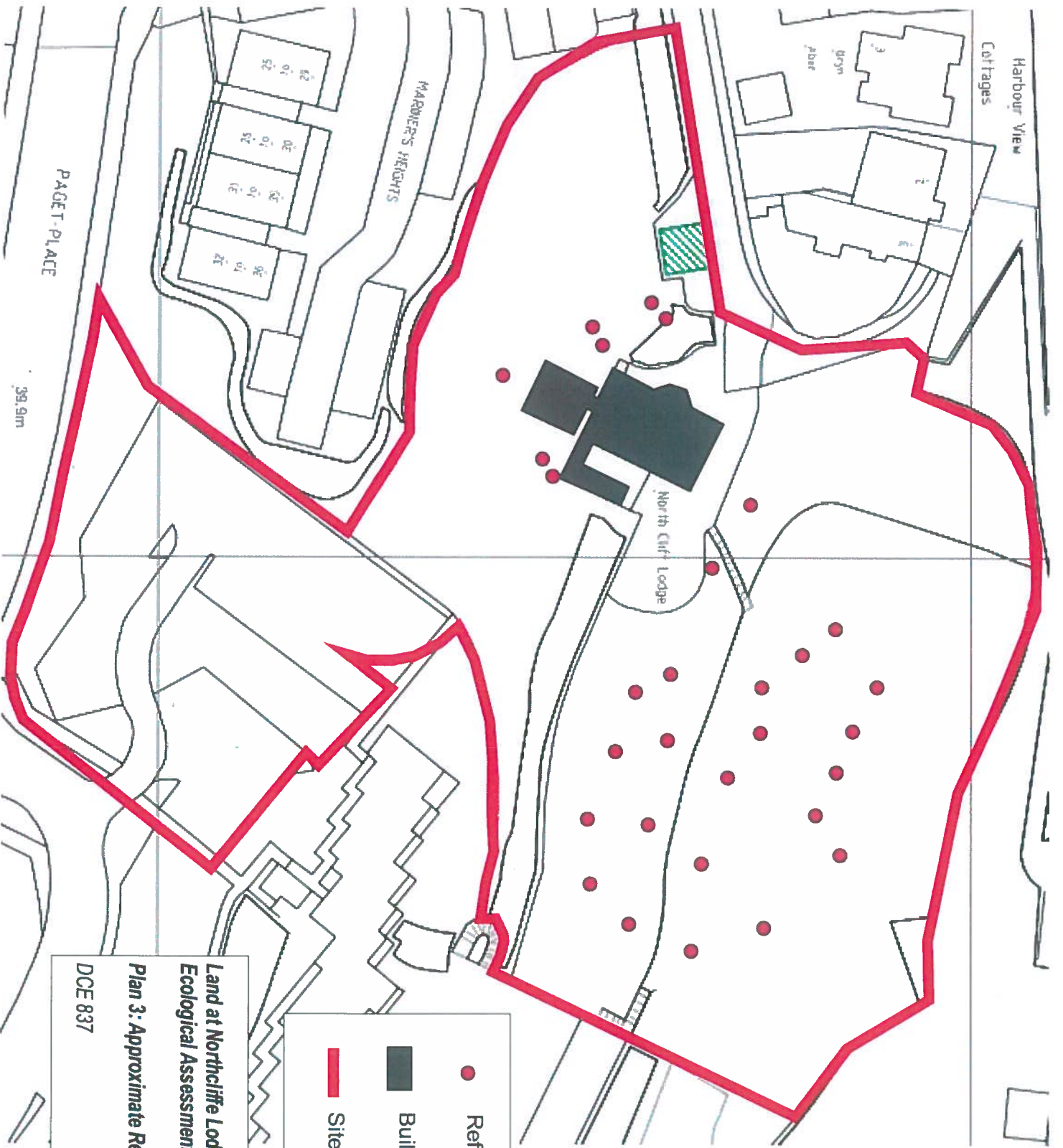
DCE 837

NTS

June 2016



	Surveyor Location
	Common Pipistrelle
	Approximate Flight Path



**Land at Northcliffe Lodge, Penarth
Ecological Assessment**
Plan 3: Approximate Refugia Location
DCE 837 NTS June 2016