DAVID CLEMENTS ECOLOGY LTD

SANDY BAY, PORTHCAWL

ECOLOGICAL ASSESSMENT

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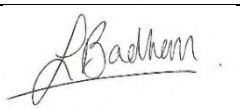
Author:	Lewis Badham BSc (Hons)		29/09/2020
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SUMMARY

This report has been prepared by David Clements Ecology Ltd (DCE) on the instruction of Bridgend County Borough Council and refers to a large area of land adjacent to Sandy Bay. The site measures approximately 36 hectares. The west of the site contains car parking areas, a vegetated roundabout and neutral maritime grassland area. The centre of the site comprises the Coney Beach fairground area and an abandoned pleasure garden. The east of the site predominately contains a large swathe of neutral maritime grassland with an associated mobile dune system, adjacent to a vegetated rocky outcrop known as Rhych Point, a catalogued Site of Importance for Nature Conservation (SINC). It is understood that the dune system habitat is managed by the Council and is not moving northwards. The town of Porthcawl surrounds the western and northern fringes of the site, while a caravan park is situated adjacent to the eastern boundary. Sandy Bay Beach is situated immediately adjacent to the southern boundary. The site lies at the Ordnance Survey grid reference SS 82406 76922 at around 10m AOD.

The regeneration proposals aim to create a premier seaside resort of regional significance through the comprehensive regeneration of this key waterfront site. It proposes a sustainable distribution and variety of complementary land uses across the area, including residential, leisure, retail and community provision, all supported by new and improved infrastructure provision that includes enhanced coastal defences. It also proposes to retain and improve upon areas of attractive open space within Griffin Park, whilst creating significant new areas of open space along the seafront, supplemented with active travel routes that traverse the entire site between the harbour and Trecco Bay. It is understood that the mobile dune system, Rhych Point SINC and the abandoned pleasure garden area are to be retained and will be unimpacted by the current development.

The site does not contain, or lie immediately adjacent to, any statutory sites of nature conservation interest such as Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs). The site does contain a non-statutory site of nature conservation interest, namely Rhych Point Site of Importance for Nature Conservation (SINC), designated for its unmodified semi-natural intertidal rock. This site will remain unaffected by the current development.

The present survey has evaluated the mobile dune system and Rhych Point as being of District Value for wildlife. Patches of neutral maritime grassland adjacent to the mobile dune system are species-rich and are considered to be of High Local Value. All other vegetated habitats are considered to be of Local Value to Wildlife. The areas of hardstanding and invasive non-native plant species are of Negligible Value. The site habitats are considered to be potentially suitable to support specially protected species, such as roosting bats, as well as reptiles. If evidence of roosting bats is discovered within the site, the current evaluation may require revision upwards.

The development could potentially have adverse impacts on the following statutorily protected species: bats, common reptiles and nesting birds. It is therefore recommended that further surveys for roosting bats are undertaken, and subsequent appropriate mitigation measures devised, in order to avoid or minimise the risk of adverse impacts to these species.

Provided adequate mitigation measures are devised and implemented, to avoid or minimise impacts to the identified features of interest and protected species etc, it is considered on current evidence that the proposed development of this site would not be unacceptably constrained by

biodiversity and nature conservation issues. Appropriate mitigation, enhancement measures and further surveys are recommended.

1.0 INTRODUCTION

1.1 This report has been prepared by David Clements Ecology Ltd (DCE) on the instruction of Bridgend County Borough Council and refers to a large area of land encompassing previously used car parking areas, a vegetated roundabout, Coney Beach fairground, an abandoned pleasure garden, maritime grassland, dune system and a coastal rocky outcrop. The site location and context is shown at Plan 1.

1.2 The site measures approximately 36 hectares. The west of the site contains car parking areas, a vegetated roundabout and neutral maritime grassland area. The centre of the site comprises the Coney Beach fairground area and an abandoned pleasure garden. The east of the site predominately contains a large swathe of neutral maritime grassland with an associated mobile dune system, adjacent to a vegetated rocky outcrop known as Rhych Point, a catalogued Site of Importance for Nature Conservation (SINC).

1.3 The town of Porthcawl surrounds the western and northern fringes of the site, while a caravan park is situated adjacent to the eastern boundary. Sandy Bay Beach is situated immediately adjacent to the southern boundary. The site lies at the Ordnance Survey grid reference SS 82406 76922 at around 10m AOD.

1.4 The regeneration proposals aim to create a premier seaside resort of regional significance through the comprehensive regeneration of this key waterfront site. It proposes a sustainable distribution and variety of complementary land uses across the area, including residential, leisure, retail and community provision, all supported by new and improved infrastructure provision that includes enhanced coastal defences. It also proposes to retain and improve upon areas of attractive open space within Griffin Park, whilst creating significant new areas of open space along the seafront, supplemented with active travel routes that traverse the entire site between the harbour and Trecco Bay. It is understood that the mobile dune system, Rhych Point SINC and the abandoned pleasure garden area are to be retained and will be unimpacted by the current development.

1.5 The remainder of this report sets out the results of an ecological survey and assessment of the site. It also assesses the likely impact of the development and makes recommendations regarding the mitigation of any potentially adverse biodiversity impacts.

1.6 Designated Sites of Biodiversity Interest

Statutory Sites

1.6.1 The site does not contain or lie immediately adjacent to any statutory sites of nature conservation interest such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs). Four such sites lie within 2km (LERC Ref: 0201-050) and include:

- Kenfig SAC, approximately 800m away: designated for the presence of dune grassland, Atlantic salt meadows, dunes with creeping willow, calcium-rich nutrient-poor lakes, lochs and pools, humid dune slacks, fen orchid and petalwort.
- Merthyr Mawr SSSI & NNR, approximately 800m away: of special interest for its saltmarsh, sand dune habitats and for its associated coastal habitats including calcareous grassland, swamp and intertidal habitats
- Lock's Common LNR, 920m away: no information available at the time of writing.

Non-Statutory Sites

1.6.2 The site does contain a non-statutory site of nature conservation interest, namely Rhych Point Site of Importance for Nature Conservation (SINC), designated for its unmodified semi-natural intertidal rock. Several other non-statutory sites of nature conservation interest lie within 2km (LERC Ref: 0201-050) and their approximate distances away from the centre of the site are as follows (designation information for the following SINCs was not available at the time of writing):

- Pwll-y-Waun, 160m away.
- The Wilderness, 240m away
- Newton Point, 440m away,
- Trafalgar Wood, 540m away,
- Newton Burrows, 760m away,
- Manor Farm Fields, 900m away,
- Lock's Common, 930m away,
- Nottage Court Wood, 1km away,
- Black Rocks, 1.1km away,
- Coedargraig, 1.3km away,
- Graig Wood, 1.4km away,
- Pant-y-Hyl, 1.4km away.

1.6.3 Sites of Importance for Nature Conservation (SINCs) are one of a class of non-statutory nature conservation designations which are recognised throughout the UK under a wide range of titles. Such 'Wildlife Sites' are so-called 'third tier' sites, generally ranked below sites which are of international or national biodiversity significance, but which are considered to have substantive nature conservation value in the sub-national (ie regional or district) context. They are usually designated at the county or county borough level by the relevant local planning authority, and are recognised as a planning constraint in the relevant statutory development plan. The framework for the identification and designation of 'Wildlife Sites' is set out in various Government documents, and is referred to in *Planning Policy Wales* (2017, 9th Edition) and *Technical Advice Note (Wales)* 5: *Nature Conservation & Planning, 2009*.

2.0 APPROACH AND METHODS

2.1 Survey Methodology

2.1.1 The site was surveyed on the 13th and 29th of May 2020 in good weather and was subject to an Extended Phase 1 Survey/Preliminary Ecological Appraisal in accordance with the guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM 2013). This was based on the Phase 1 vegetation classification methodology developed by the former Nature Conservancy Council (current version: JNCC 2007), a nationally accepted and standard method for the rapid survey and appraisal of ecological habitats which is based primarily on the recording of vegetation and its classification into defined habitat categories. Dominant and conspicuous flora species were recorded and 'Target Notes' were prepared for any features of particular interest.

2.1.2 The methodology also requires the recording of conspicuous fauna species such as birds, herptiles (i.e. amphibians and reptiles), mammals and invertebrates such as butterflies and dragonflies, paying particular attention to the presence (or possible presence) of any rare or protected species.

Bats

2.1.3 Large standard trees were subject to a preliminary (Phase 1) survey to assess their potential suitability for use by roosting bats. This survey was carried out from ground-level, using close-focusing binoculars, with particular attention being given to the presence of 'potential roosting features' (PRFs) such as those described by Andrews (2018). The trees were individually searched for features which are likely to be attractive to roosting bats such as cavities and rot-holes, splits and cracks, rugose or delaminating bark and dense ivy cover etc, and any such features were recorded. In addition, a search was made for obvious signs of occupation by bats including droppings, urine stains and scratching around cavity entrances etc. The inspected trees were then categorised as follows:

1A	**Occupied by bats**	Bats are known to occupy features of the tree, or there is direct evidence of such occupation.	Further detailed survey by bat ecologist required. NRW licence required before any tree works.
1B	**High probability of bat use**	Tree has features which appear to be of high suitability for use by bats. Usually large/old trees with numerous and/or well-developed PRFs.	Further surveys by bat ecologist required per BCT (2016) 'high roost suitability'. NRW licence will be required if any bats are found.
2A	**Moderate probability of bat use**	Tree has features which appear moderately suitable for use by bats. Usually large and/or old trees with at least some well-developed PRFs.	Further surveys by bat ecologist required per BCT (2016) 'moderate roost suitability'. NRW licence will be required if any bats are found.
2B	**Low probability of bat use**	Tree has overall low roosting suitability, although some features of low or marginal roosting potential may be present.	Inspection by arborist and/or bat ecologist immediately prior to and during tree works. 'Soft-felling' may be advised.

3	**Negligible probability of bat use**	Usually young and/or small trees, lacking any obvious features suitable for use by bats.	No further survey required. No constraint to tree works.

2.2 Data Trawl

2.2.1 In addition to original survey, a data trawl was carried out with the Local Environmental Records Centre (LERC; Aderyn) in order to obtain access to any existing ecological information or records from the site. Aderyn is the main repository for biodiversity and wildlife records in the south-east Wales region. Relevant records are referred to in the descriptive text.

2.3 Survey Constraints

2.3.1 Drought conditions were prevalent throughout May 2020, resulting in areas of grassland being scorched and desiccated, thus negatively affecting botanical identification in some areas within the site. Although, this is not thought to have had a significant impact upon the current assessment of the site.

3.0 SURVEY RESULTS

3.1 Habitats & Vegetation

3.1.1 The overall results of the vegetation and habitats survey are shown in an all-encompassing master plan of the entire site (Plan 2); Plans 2a (West), 2b (Central) and 2c (East) provide a more detailed perspective of the corresponding areas and are described briefly below. Lists of the species recorded are given at Appendix 1, and representative photographs are included at the end of the report.

Notable Flora

3.1.2 Several notable plant records were returned from the data trawl within 2km and include: native bluebell (*Hyacinthoides non-scripta*), bulbous meadow grass (*Poa bulbosa*), charlock (*Sinapis arvensis*), dwarf spurge (*Euphorbia exigua*), hound's-tongue (*Cynoglossum officinale*), meadow saffron (*Colchicum autumnale*) and round-leaved fluellen (*Kickxia spuria*). Native bluebell is present in low abundance in the west of the site, situated along a grassy verge adjacent to an area of hardstanding. Several notable grass species are present upon the mobile dune system in the east of the site; species include squirrel-tail fescue (*Vulpia bromoides*), compact brome (*Bromus madritensis*) and bulbous meadow grass.

Notable Habitats

3.1.3 The site contains a mobile dune system which is a habitat type listed as being of biodiversity conservation importance under Section 7 of the Environment (Wales) 2016[1].

Invasive Plant Species

3.1.4 Sea buckthorn (*Hippophae rhamnoides*) is present within the east of the site, north of the mobile dunes. A UK native plant naturally found along the south-eastern coast of England, which is considered non-native to Wales and has negative impacts upon dune grassland communities. Plant growth is thick and impenetrable, physically preventing other plants from establishing. The plant also fixes nitrogen, thereby allowing thuggish nutrient-loving plants, such as nettles and thistles to take over, preventing the growth of delicate plants typical of dune grasslands.

3.1.5 Garden cotoneaster (*Cotoneaster* sp; Target Note 1), an invasive non-native species listed on Schedule 9 of the Wildlife & Countryside Act 1981, is present in the abandoned pleasure garden area in the centre of the site.

3.1.6 Virginia creeper (*Parthenocissus quinquefolia;* Target Note 2), another species listed on Schedule 9 of the Wildlife & Countryside Act 1981, is situated on the northern boundary, at the east of the site.

[1] In Wales the s.7 list of the EWA 2016 supersedes the s.42 list of the Natural Environment & Rural Communities Act 2006, which in turn replaced the 'Priority Species' lists of the UK Biodiversity Action Plan and its Welsh equivalent.

Mobile Dune

3.1.7 Situated in the east of the site lies a mobile dune system with an associated vegetation community, which includes species such as marram grass (*Ammophila arenaria*), bulbous meadow grass (*Poa bulbosa*), sea barley (*Hordeum marinum*), dune fescue (*Vulpia fasciculata*), squirrel-tail fescue (*Vulpia bromoides*), compact brome (*Bromus madritensis*), common broomrape (*Orobanche minor*), sea spurge (*Euphorbia paralias*), sea bindweed (*Calystegia soldanella*), sea radish (*Raphanus raphanistrum ssp. maritimus*), common stork's-bill (*Erodium cicutarium*), horseradish (*Armoracia rusticana*), sand sedge (*Carex arenaria*), common bird's-foot trefoil (*Lotus corniculatus*) and sea holly (*Eryngium maritimum*). It is understood that the dune system habitat is managed by the Council and is not moving northwards.

Neutral Maritime Grassland

3.1.8 North of the mobile dune system lies an extensive area of neutral maritime grassland. Some patches, particularly in the areas immediately adjacent to the mobile dune system, are species-rich, with the following species among the community: soft brome (*Bromus hordeaceus*), red fescue (*Festuca rubra* agg.), dove's-foot crane's bill (*Geranium molle*), buck's horn plantain (*Plantago coronupus*), lady's bedstraw (*Galium verum*), common bird's foot trefoil, bulbous buttercup (*Ranunculus bulbosus*), hedgerow crane's bill (*Geranium pyrenaicum*), bloody crane's bill (*Geranium sanguineum*), biting stone-crop (*Sedum acre*), hare's foot clover (*Trifolium arvense*) and common stork's bill.

3.1.9 Other patches of neutral maritime grassland within this area, appear to be subject to high levels of human disturbance, such as trampling and dog fouling, and are less species rich.

3.1.10 In the centre of the site, near to the northern boundary, lies an abandoned pleasure garden with an area of neutral maritime grassland. Species within the grassland include red fescue, bloody crane's bill, hedgerow crane's bill, cut-leaved crane's bill (*Geranium dissectum*), creeping cinquefoil (*Potentilla reptans*), ribwort plantain (*Plantago lanceolata*), common bird's-foot trefoil, dandelion (*Taraxacum officinalis* agg.), common vetch (*Vicia sativa*), wild mignonette (*Reseda lutea*) and red clover (*Trifolium pratense*). Garden cotoneaster, a highly invasive non-native species, is prolific across this particular area. Pine (*Pinus* sp.) and other species of ornamental coniferous trees encircle this part of the site. Other ornamental shrubs and specimens, such as yuccas and cherry laurel (*Prunus laurocerasus*) are sporadically found within this area.

3.1.11 Situated at the south-east of the site is a designated SINC, Rhych Point, which lies within the site boundary. This area is dominated by an area of neutral maritime grassland with species such as ribwort plantain, sand sedge, common bird's foot trefoil, red clover, creeping cinquefoil, creeping thistle, buck's horn plantain, red fescue, cut-leaved crane's bill and perennial rye grass (*Lolium perenne*) among the vegetation community. The boundaries of the grassland approach an area of intertidal rock; these marginal areas exhibit species such as rock samphire (*Crithmum maritimum*) and sea beet (*Beta vulgaris maritima*).

3.1.12 At the west of the site lies another large area of neutral maritime grassland. This area is isolated on all sides by roads and a previously used car parking area. Species within the vegetation community include false oat grass (*Arrhenatherum elatius*), cock's foot (*Dactylis glomerata*), red fescue, annual meadow grass (*Poa annua*), soft brome, creeping buttercup (*Ranunculus repens*), meadow buttercup (*Ranunculus acris*), bulbous buttercup, ribwort plantain, buck's horn plantain, greater plantain (*Plantago major*), curled dock (*Rumex crispus*), hogweed (*Heracleum sphondylium*), red clover, common bird's foot trefoil, yarrow (*Achillea millefolium*), common vetch, creeping cinquefoil, dove's foot crane's bill, black medick (*Medicago lupulina*), dandelion, white clover (*Trifolium repens*), common chickweed (*Stellaria media*) and daisy (*Bellis perennis*).

3.1.13 An area of neutral maritime grassland is situated upon a roundabout in the north-west of the site with species such as cock's foot, annual meadow grass, soft brome, red fescue, bugle (*Ajuga reptans*), dandelion, daisy, ribwort plantain, common bird's foot trefoil, common ragwort (*Jacobaea vulgaris*) and creeping buttercup. Several aesthetic planting beds are present in this area, housing various horticultural / ornamental cultivars.

Scrub / Shrub Habitats

3.1.14 A line of dense scrub is situated along the southern boundary, in the west of the site, with species such as grey willow (*Salix cinerea*), hawthorn (*Crataegus monogyna*) and ivy (*Hedera helix*) in the shrub layer. Species among the ground flora include nettle (*Urtica dioica*) and hogweed. A small L-shaped area of bramble scrub is present to the north of this area, with species such as ivy, bramble (*Rubus fruticosus* agg.). A large continuous area of bramble scrub is situated in this locale, adjacent to an area of neutral maritime grassland, with species such as cock's foot, common bent (*Agrostis capillaris*), tree mallow (*Lavatera arborea*), silverweed (*Potentilla anserina*), sow thistle (*Sonchus* sp.), groundsel (*Senecio vulgaris*) and common ragwort.

3.1.15 Areas of ornamental shrub planting are present upon the roundabout in the west of the site amongst several ornamental planted trees. Species include white poplar (*Populus* sp.) and cherry laurel. Native species amongst the stands of vegetation include willow (*Salix* sp.) and elder (*Sambucus nigra*).

3.1.16 The car parking area in the west of the site has several raised planting beds filled with ornamental shrubs comprising various horticultural cultivars. Native species amongst the planting include buddleia (*Buddleja davidii*), ivy and bramble.

3.1.17 Within the abandoned pleasure garden area, within the centre of the site, lies an area of dense scrub, predominately bramble scrub. Other species within the vegetation include ornamental species such as yucca. Scrub species scattered throughout the area include birch (*Betula* sp.), tree mallow, elder and garden cotoneaster.

3.1.18 Near to the northern boundary, in the east of the site, lies a large area of dense scrub. Species in this particular stand include bramble, elder, buddleia and gorse (*Ulex europaeus*). Several immature scrubby trees are also interspersed throughout the vegetation, which include sycamore (*Acer pseudoplatanus*), fir (*Abies* sp.), goat willow (*Salix caprea*) and grey willow. This particular area of dense scrub is situated upon a large mound. To the west of this area, surrounding a small car parking area immediately

adjacent to the northern boundary, lies a small area of dense scrub with species such as gorse, bramble, grey willow and buddleia. Small bands of bramble scrub are found north of the mobile dune system, within the neutral maritime grassland.

Trees

3.1.19 Many trees are present within the site, most of which are semi-mature specimens. Species within the west of the site, upon the roundabout, include white poplar and ash (*Fraxinus excelsior*). Many pine trees are situated within the abandoned pleasure garden area. Several immature scattered trees are situated within the east of the site and include a species of fir, sycamore, white poplar, ash and willow species.

Buildings

3.1.20 Positioned in the west of the site, within the confines of a metal fenced boundary, immediately adjacent to a tennis court lies a single demountable building with a flat roof.

3.1.21 The Coney Beach fairground area has many corrugated metal-roofed buildings, many of which appear to be warehouses. Several buildings within the centre of this area have novel metal multi-faceted rooves of various shapes, typical of a fair ground. Several of the buildings are of breeze block construction, with flat rooves, which appear to be utilised as fairground stalls. One building, in the east of the fairground area appears to be of wood construction.

3.1.22 Rhych Point, in the south-east of the site, has a small lighthouse at its southern tip.

Hardstanding

3.1.23 Hardstanding areas, such as car parking, pedestrian walkways and roads, are widespread across the site, comprising areas of compacted ballast and / or chippings, and tarmacked areas.

3.2 Fauna

Bats

3.2.1 All species of bat and their roosting sites are protected under the EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC; the 'Habitats Directive'), implemented in the UK via the Conservation of Habitats & Species Regulations 2017 (the 'Habitats Regulations')[2]. The roosting places used by bats are also protected against unauthorised disturbance or obstruction under the amended Wildlife & Countryside Act 1981. Several bat species, including common and soprano pipistrelle, are listed as priorities for conservation in Wales under Section 7 of the Environment (Wales) Act 2016 (see WBP 2016b).

3.2.2 Three bat roost records were returned from the data trawl within 2km of the site, the nearest of which pertains to Natterer's bat approximately 1.1km from the site (LERC Ref: 0201-050). Roosts pertaining to common pipistrelle and soprano pipistrelle were also returned from the same location approximately 1.5km away. Other species recorded commuting and foraging within 2km include an unidentified species of Myotis bat, noctule and brown long-eared bat.

3.2.3 The Coney Beach facility has several buildings which have possible entry points for bats; these buildings were not subject to an internal inspection by a bat-licensed ecologist during the current survey. It is considered possible that these structures may possibly support roosting bats.

3.2.4 A pre-existing bat box (Target Note 3) is situated upon a tree immediately adjacent to the tennis court area in the centre of the site.

3.2.5 Several mature trees are present within the site boundary; however, most of these trees do not exhibit features suitable for roosting by bats. A single white poplar tree is situated on the eastern side of the roundabout, in the north-west of the site, near the northern boundary; this specimen exhibited a PRF assessed as having 2B (i.e. low) potential for use by roosting bats (Target Note 4) and is situated on the eastern elevation approximately 6m up from ground level.

3.2.6 The trees and scrub of the site are most likely used by bats for foraging and commuting. Foraging may also occur over the grassland habitats.

Dormouse

3.2.7 Dormouse is also a 'European protected species' afforded legal protection which is similar to that of bats (see above). It is also a Section 7 listed species.

[2] The European legislation cited herewith is that which was applicable at the time of survey, but it should be noted that new arrangements have become applicable after 31 Jan 2020 as a result of 'Brexit'. At the time of writing these comprise a continuance of the current legal and protection arrangements by means of Statutory Instrument No. 579 (*The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations*, 2019) but the longer term arrangements which will apply after the end of the Brexit 'Transition Period' are still to be confirmed and may differ in detail from those which previously applied.

3.2.8 No dormouse records were returned from the data trawl within 2km of the site (LERC Ref: 0201-050). Habitats within the site are considered to be sub-optimal for dormouse; scrub habitats within the site are disconnected from suitable habitat in the wider landscape, with no suitable areas of woodland in the wider vicinity. As the habitats within the site, and connections to other suitable habitat, are considered to be sub-optimal, and with a lack of local records within 2km, it is considered unlikely that dormouse is present within the site.

Otter

3.2.9 Otter is also a 'European protected species' afforded legal protection which is similar to that of bats (see above). It is also a Section 7 listed species.

3.2.10 Otter are present in many of the main river systems in Wales, having now recovered much of its former range following its sharp decline in the 1970s and 1980s, although numbers often remain at lower levels than was previously the case.

3.2.11 No otter records were returned from the data trawl within 2km of the site (LERC Ref: 0201-050). Otter habitat within the site is limited; no watercourses occur within the site nor in the wider landscape; however, otter may occasionally make adventitious visits to coastal locations to forage. Therefore, it is considered that otter may occasionally traverse the site whilst foraging along the coastline, although, sheltering and foraging habitats within the site are negligible for otter. The site is also subject to high levels of human disturbance which may further deter otters from traversing the site.

Badger

3.2.12 Badger is fully protected in the UK under the terms of the Protection of Badgers Act 1992. Protection applies both to the animal itself, which may not be intentionally killed, injured or captured, and to its nesting burrows (setts), which may not be intentionally destroyed, damaged or disturbed except under certain specified and/or licensed conditions. Current interpretation of the Act also infers a degree of protection to areas which are of key significance to foraging badgers.

3.2.13 A single record for badger returned from the data trawl within 2km, situated approximately 1.8km away (LERC Ref: 0201-050). No evidence was found to indicate badger presence on site. The site is unlikely to support resident badgers due to the highly disturbed nature of the site, predominately due to the large amount of foot traffic from pedestrians. The site is also relatively exposed with no significant wooded habitat. The sandy soil predominating the site is also an unideal medium for sett construction. It is considered possible, although unlikely, that adventitious badgers may visit the site to forage.

Other Mammals

3.2.14 A single record for hare returned within 2km and is located approximately 1.2km from the site (LERC Ref: 0201-050). It is considered possible that hare may occasionally visit the site from adjacent land.

3.2.15 Many records for hedgehog were returned from the data trawl within 2km from the site, the closest of which is situated approximately 450m away (LERC Ref: 0201-050). The areas of dense and bramble scrub may provide suitable nesting opportunities for hedgehog. This species may also use the neutral maritime grassland for foraging.

3.2.16 A single record for stoat returned from the data trawl approximately 2km away from the site (LERC Ref: 0201-050). It is considered possible that stoat may visit the site from adjacent land to hunt, particularly rabbits, as earthworks characteristic of rabbit were observed in the abandoned pleasure garden area in the centre of the site.

3.2.17 It is likely that a range of common mammal species will occur. These could include, for example, resident synanthropic species such as house mouse and brown rat, as well as open country species such as bank vole, mole, or rabbit etc. Earthworks, characteristic of rabbit construction, were noted in the abandoned pleasure garden in the centre of the site.

Birds

3.2.18 Nearly all species of bird are protected as individuals under the amended Wildlife & Countryside Act 1981, and this protection extends to their nests, eggs and young. A number of especially rare species listed on Schedule 1 of the Act are also subject to enhanced protection against disturbance whilst nesting.

3.2.19 The following species of conservation concern, which are listed under Schedule 1 (WCA1), of the Wildlife and Countryside Act 1981, returned records within 2km of the site, the closest of which pertains to merlin approximately 430m away. Other records within 2km include barn owl, brambling, Cetti's warbler, Dartford warbler, fieldfare, fire crest, hobby, hoopoe, marsh harrier, peregrine, quail, red kite, redwing, shore lark, snow bunting, woodlark and wryneck (LERC Ref: 0201-050). The habitats on site are unsuitable for any of the above species to nest.

3.2.20 Other species of conservation concern, which are listed under Section 7 of the Environment Act (Wales), returned records within 2km of the site, and are as follows: bullfinch, dunnock, hawfinch, house sparrow, kestrel, lesser redpoll, linnet, reed bunting, ring ouzel, skylark, song thrush, spotted flycatcher, starling, tree pipit, turtle dove, yellow wagtail and yellowhammer (LERC Ref: 0201-050). Several of these species, particularly dunnock and skylark are considered likely to nest within the site.

3.2.21 The dense scrub and scattered trees throughout the site have potential to support nesting birds, particularly species such as dunnock and robin. The open areas of neutral maritime grassland most likely provide nesting opportunities for ground nesting species, such as skylark; an individual was flushed from cover within the grassland north of the mobile dune system. A kestrel was also observed hovering over this grassland area. The buildings within the Coney Beach Fairground area may also support roof-nesting birds, such as house sparrow.

Reptiles

3.2.22 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 'Section 7' species in Wales.

3.2.23 Several records were returned from the data trawl pertaining to three species of reptile. The nearest reptile record relates to common lizard approximately 590m from the site (LERC Ref: 0201-050). The nearest adder record is situated approximately 1.2km away, while the nearest slow worm record is approximately 950m away. The site has potential to support reptiles; a common lizard was sighted (Target Note 5) in the neutral maritime grassland north of the mobile dunes. It is considered possible that both adder and slow worm are also present within the site, particularly in the neutral maritime grassland north of the mobile dunes. This grassland area, with adjacent scrub habitats provide ideal basking sites immediately adjacent to cover.

Amphibians

3.2.24 Five native amphibian species occur in South Wales, comprising common frog, common toad, smooth newt, palmate newt and great crested newt (GCN). The latter species is nationally rare and declining, afforded full protection under both UK and European legislation (see under bats, above), which also extends to the habitats which support it. The other four species are not afforded any direct statutory protection, other than with respect to trade, but common toad is listed as a 'Section 7 species' in Wales.

3.2.25 Records for common amphibians were returned from the data trawl within 2km of the site, the nearest of which pertains to common frog approximately 770m from the site (LERC Ref: 0201-050). Records for common toad and smooth newt also occur within 2km of the site. The site does not contain any aquatic habitats which would be suitable for breeding by any species of amphibian. Ordnance survey maps indicate the nearest standing water body is situated approximately 220m north of the site. Prominent barriers, such as housing development and major roads, lie between this water body and the site. Terrestrial habitats within the site may be suitable for commuting and foraging purposes by these species, and the dense scrub areas may provide ideal places of shelter. The site is unlikely to support the specially protected GCN due to the lack of suitable aquatic habitat, and records, within 2km of the site (LERC Ref: 0201-050).

Invertebrates

3.2.26 Upwards of 30,000 species of terrestrial and freshwater invertebrates are recorded in Britain, including some 27,000 insect species, occurring in every available habitat. About 40 invertebrate species are afforded full statutory protection in the UK under either European or British legislation, and many other species are accorded varying levels of conservation importance.

3.2.27 Many records for invertebrates were returned from the data trawl within 2km, pertaining to various different groups of insects (LERC Ref: 0201-050).

3.2.28 Coleoptera (beetle) records within 1km include *Catapion pubescens, Cidnopus aeruginosus, Dryops striatellus, Hadroplontus trimaculatus*, harlequin ladybird (*Harmonia axyridis*), *Orthochaetes insignis, Protapion difforme* and *Pselactus spadix*.

3.2.29 Lepidoptera (butterfly and moth) records within 1km include holly blue (*Celastrina argiolus*), lackey (*Malacosoma neustria*), rustic (*Hoplodrina blanda*) and sand dart (*Agrotis ripae*).

3.2.30 Odonata (dragonfly and damselfly) records within 1km include beautiful demoiselle (*Calopteryx virgo*), black-tailed skimmer (*Orthetrum cancellatum*), blue-tailed damselfly (*Ischnura elegans*), common darter (*Sympetrum striolatum*), emperor dragonfly (*Anax imperator*), large red damselfly (*Pyrrhosoma nymphula*), migrant hawker (*Aeshna mixta*) and ruddy darter (*Sympetrum sanguineum*).

3.2.31 Hymenoptera (bee, wasp etc.) records within 1km include *Arachnospila wesmaeli*, bilberry bumblebee (*Bombus monticola*), black-headed mining bee (*Andrena nigriceps*), *Bombus terrestris subsp. terrestris*, buff tailed bumblebee (*Bombus terrestris*), early colletes (*Colletes cunicularius*), hairy sand wasp (*Podalonia hirsuta*), *Hedychridium cupreum*, ruderal bumblebee (*Bombus ruderatus*), large red-tailed bumblebee (*Bombus lapidarius*), margined colletes (*Colletes marginatus*), *Methoca articulata*, *Mimesa bruxellensis*, pale-jawed spiny digger wasp (*Oxybelus mandibularis*), pantaloon bee (*Dasypoda hirtipes*), *Pemphredon morio*, silver spiny digger wasp (*Oxybelus argentatus*), small spurred digger wasp (*Nysson dimidiatus*), small tiphia (*Tiphia minuta*), swollen-thighed blood bee (*Sphecodes crassus*) and white-tailed bumblebee (*Bombus lucorum*).

3.2.32 Orthopteran (grasshopper and cricket) records within 1km include great green bush cricket (*Tettigonia viridissima*), slender ground hopper (*Tetrix subulata*) and speckled bush cricket (*Leptophyes punctatissima*).

3.2.33 Hemipteran (true bug) records within 1km include *Dicranocephalus agilis*, *Megalonotus dilatatus, Megalonotus praetextatus* and *Trigonotylus psammaecolor*.

3.2.34 Diptera (true fly) records within 1km include *Callomyia elegans*, *Coenosia verralli*, *Dolichopus cilifemoratus*, dotted bee-fly (*Bombylius discolor*), *Lasiambia palposa agg.*, *Platypalpus articulates* and *Platypalpus excisus.*

3.2.35 The site is considered likely to support a ubiquitous assemblage of common invertebrate species across the majority of the site; however, it is considered that a specialist community of invertebrates may be present within the mobile dune system and northerly adjacent neutral maritime grassland, particularly in the areas of species-rich grassland.

4.0 ECOLOGICAL EVALUATION

4.1 There is currently no nationally accepted system for categorising sites or features of biodiversity significance below the level of national value, criteria for which are set out by the former Nature Conservancy Council (1989, as amended). However, guidance for the identification of non-statutory sites of county significance (ie SINCs) is available in this instance (WBP 2008).

4.2 For the purposes of this study the habitats and features of the site have therefore been provisionally evaluated and graded in accordance with the categories set out in Appendix 2. The overall results of the ecological evaluation are shown in an all-encompassing master plan of the entire site (Plan 3); Plans 3a (West), 3b (Central) and 3c (East) provide a more detailed perspective of the corresponding areas.

International, National, County Value

4.3 No parts of the site are considered to fall into any of these categories.

District Value

4.4 The mobile dune system is considered to be of SINC quality and thus is considered to be of District Value for wildlife. Rhych Point is an already catalogued SINC and is also of District Value.

High Local Value

4.5 Patches of neutral maritime grassland adjacent to the mobile dune system are species-rich and are considered to be of High Local Value.

Local Value

4.6 All other areas of neutral maritime grassland, bramble scrub, dense scrub, ornamental shrub planting and scattered trees are considered to have no greater than Local Value for wildlife.

Negligible Value

4.7 The areas of hardstanding and invasive plant species within the site are considered to have negligible value for wildlife.

5.0 ASSESSMENT OF DEVELOPMENT IMPACTS

5.1 Development plans for the site involve a regeneration scheme to enhance the sites ability to withstand future coastal flooding pressures, and to increase the amenity value of the site. Aspects considered for enhancement include: the breakwater in the west of the site; and the eastern promenade comprising a near-vertical sea wall along the sea front immediately adjacent to the Coney Beach facility. It is understood that the mobile dune system, Rhych Point SINC and the abandoned pleasure garden area are to be retained and will be unimpacted by the current development.

5.2 The present survey has evaluated the mobile dune system, as well as the Rhych Point SINC, as being of District Value for wildlife. Areas of neutral maritime grassland north of the mobile dune system are species-rich and are considered to be of High Local Value and therefore the loss of this habitat would cause significant impact in the Local context and would require mitigation and/or compensation measures. All other vegetated habitats of the site are considered to be of no more than Local Value. The site is considered suitable to potentially support protected species, namely roosting bats, both roof-nesting and ground nesting birds, and common reptiles.

5.3 Given the scope of the proposed development being confined to the site boundary, it is not considered likely that the scheme would have any adverse impact on any designated biodiversity sites in the surrounding area; Rhych Point SINC is to be unaffected by the current development. Impacts within the site would primarily comprise the loss of the existing semi-natural habitats, potentially including some which are of High Local Value. The loss of any part of the neutral maritime grassland considered to be of High Local Value in the east of the site and north of the mobile dune system (See Plan 3c), would necessitate the creation of compensatory habitats, or other equivalent conservation benefits elsewhere in order to satisfy current planning policy requirements. The buildings of the Coney Beach facility, a pre-existing bat box (Target Note 3) and a single white poplar tree (Target Note 4) may support roosting bats and require further survey to inform the assessment; if evidence of bat occupation is found, the demolition of these buildings, and the felling of this particular tree, will require a derogation licence from NRW and suitable mitigation.

5.4 The development could potentially have adverse impacts on the following protected species: roosting bats, common reptiles and roof-nesting and ground-nesting birds. Further surveys are required for roosting bats to inform the assessment. Given the highly disturbed nature of the site, reptile refugia surveys will not be viable; it is known that common reptiles, particularly common lizard, utilise the site, as an individual was sighted (Target Note 5) during the original survey; therefore, species-specific mitigation measures will be recommended. Further survey requirements along with mitigation measures for the known ecological constraints are provided in Section 6.

5.5 Provided adequate mitigation measures are devised and implemented, subject to the results of further surveys, to avoid or minimise impacts to the identified features of interest and protected species etc, it is considered on current evidence that the proposed development of this site would not be unacceptably constrained by biodiversity and nature conservation issues.

6.0 RECOMMENDATIONS

6.1 Further Surveys

6.1.1 The present survey has indicated that the site may potentially support a number of interests which should be investigated through further surveys at a suitable time of year in order to fully establish their presence, significance, and sensitivity to development. These interests include:

- Surveys of the mounted bat box, and white poplar tree with a PRF, for evidence of use by bats by close inspection using a ladder or tree climbing methodology where appropriate.

- Further surveys, beginning with an internal inspection of the buildings in the Coney Beach facility, by a suitably experienced and licensed bat ecologist, to assess the potential for roosting bats.

6.2 Statutory Obligations

6.2.1 Further surveys are required to determine if habitats within the site are utilised by roosting bats. Any development work which may potentially affect bats, or their resting places, whether directly or indirectly, must take place under a derogation license, obtained in advance from Natural Resources Wales (NRW) in accordance with the requirements of the Habitats Regulations.

6.2.2 The derogation licence would include a detailed method statement detailing the methodology and timings of the works necessary to fulfil the terms of the licence and avoid death/injury to any bat during the demolition/development process in addition to detailing a mitigation strategy.

6.2.3 The following are mandatory requirements under current legislation:

1. In the event that any specially protected species, such as roosting bats, are discovered anywhere on the site at any point prior to or during clearance or construction, all work in the immediate area must cease immediately and appropriate expert advice sought.

2. Clearance and construction must not cause disturbance or harm to any birds which are nesting on the site at the time. In the event that any nesting birds are discovered immediately prior to or during any works, all work in the immediate area must cease immediately and appropriate expert advice sought.

3. Clearance and construction must be preceded by appropriate and adequate measures to minimise the risk that reptiles are killed or injured.

6.2.4 In 1-2 above, the ‘immediate area’ should include any occupied tree/ shrub in its entirety, and any other habitats for an area of at least 5m radius around the find-site. The affected area should be clearly demarcated on the ground (e.g. by means of striped bunting) and made off-limits to all site personnel until inspected by an appointed expert.

Appropriate measures to rectify the situation in accordance with statutory obligations and responsibilities should be determined at the time by the appointed expert, and may include consultations with the statutory agencies and the seeking of derogation licences etc.

6.2.5 Clearance works affecting the above-ground parts of trees and shrubs should avoid the main bird-nesting season which runs approximately from March to August inclusive. If works must be carried out during this period, they must be preceded by a nesting bird survey. If nesting birds are found to be present, the nest and immediate area, as described above, should be protected until the young have fledged. This restriction also applies to any other habitats which are found to support nesting birds, including any ground-nesting species.

6.2.6 Where the clearance of potential bird-nesting habitats is projected to occur at some unknown point in the future, the above-ground vegetation should ideally be cut down (e.g. coppiced) to approximately 200mm height over the winter period in order to render it unattractive to nesting birds, and then maintained in this condition by regular re-cutting until the start of site clearance operations.

6.2.7 At the present time there is not considered to be adequate survey information available to inform a consideration of the impacts of any redevelopment on bats, or to allow the formulation of appropriate schemes of mitigation. Additional survey and detailed development plans will be necessary to inform any future planning application.

6.2.8 Current NRW guidance with respect to the clearance of sites and reptiles is attached at Appendix 3. An appropriate reptile mitigation strategy (RMS) should be agreed with the local planning authority ecologist prior to site clearance, based on this guidance. Mitigation for common reptiles should concentrate primarily on minimising the potential for causing the death and injury of individuals during any site clearance and construction operations, which is a statutory requirement.

6.2.9 In this case it is not considered likely that the site will need to be subject to a fence, trap and clear (FTC) operation in order to remove any reptiles in the period immediately prior to its clearance for development. Adequate site clearance should be achievable by means of advance 'species deterrence' and 'destructive searching' methods alone under supervision by an appropriately experienced ecologist.

6.2.10 It should be noted that site clearance operations for reptiles are seasonally constrained and cannot be carried out during the hibernation period which extends from November to February inclusive. Work outside of this period considerably reduces the probability of vulnerable torpid and/or immobile hibernating individuals being encountered and potentially harmed.

6.3 Habitats

6.3.1 The loss of any areas of species-rich grassland should be compensated by the creation of new species-rich maritime grassland elsewhere on the site and/ or by enhancing retained habitats such as the mobile dunes, abandoned pleasure garden or Rhych Point SINC. A detailed Habitat Management Plan (HMP) should be put in place for any new or retained habitats within the site.

6.3.2 Advice from a specialist contractor should be followed to control invasive plant species identified as being present on the site, particularly sea buckthorn. This work can be started immediately.

6.3.3 The mobile dune system should be maintained by scrub management, during the autumn/ winter months.

6.4 Non-Statutory Recommendations

6.4.1 Careful consideration should be given to the use of lighting within the developed site, as this can adversely affect activity by a variety of fauna, particularly commuting and foraging bats, nesting birds and invertebrates. Any lighting plan will need to be carefully reviewed in liaison with an ecologist following guidance set out by BCT (2018). Tree lines must not be illuminated, so as not to disturb a variety of nocturnal fauna, especially bats and moths.

6.4.2 Any retained habitats should be securely fenced off with appropriate temporary fencing (eg 'Heras' fencing) at the start of construction work to prevent access and incidental damage by site vehicles, equipment and personnel.

6.4.3 All tree works should be in accordance with British Standard BS5837 (2012) *Guidance for the Treatment of Trees in Relation to Construction*.

6.4.4 Any trees which must be removed as part of the development should be replaced on a like-by-like basis as a minimum with native species which are indigenous to the region, and from stock which is of local (or at least UK) provenance.

6.4.5 It is recommended that the new landscaping incorporates native species which are indigenous to the region, and from stock which is of local (or at least UK) provenance and also contain a good range of wildlife friendly plants (see Appendix 4 for example species).

6.4.6 Contractors should be provided with a 'toolbox talk' at the outset of site clearance and construction works setting out the known and possible habitat and species constraints, and the mitigation measures which are required. The toolbox talk should also set out procedures to be followed in the event that there are unexpected encounters with protected species etc. All contractors carrying out scrub / tree works (if appropriate), should be warned of the possible presence of bats, nesting birds and common reptiles etc and of their protected status. It should be clearly understood that in the event of any being found during works, all works should cease in the affected area until appropriate expert advice has been sought.

6.4.7 Consideration should be given to the erection of bat roosting boxes in suitable locations around the site as well as bird nesting boxes – these could be erected on trees within the site. These should be sited in such a manner that predators such as cats cannot reach them and be at least 4m (preferably 5m) above ground level. The entrances to bat boxes should not be illuminated at night. Bat boxes should ideally be of 'woodcrete' construction (such as those manufactured by Schwegler Ltd), since these are much more robust and longer-lived than traditional wooden boxes and require less after-maintenance. Further advice is given at Appendix 5.

6.4.8 A Wildlife Protection Plan (WPP) should be drawn up for the site clearance and construction stages, setting out detailed measures to ensure that the identified interests, potential interests and statutory obligations etc are appropriately treated, and identify the individuals who will be responsible for ensuring that the ecological mitigation requirements are met. The WPP should be agreed in advance by the Local Authority Ecologist, with responsibility for its implementation assigned to an appropriately qualified and/or experienced member of the development team who would act as an 'Ecological Clerk of Works'.

6.4.9 The services of an appropriately qualified ecologist should be available on an 'on-call' basis throughout the development in order to deal promptly with any protected species or other ecological matters which may arise during the clearance and construction works.

7.0 REFERENCES

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Wales Biodiversity Partnership (WBP 2016b) *Section 7: List of the Living Organisms of Principal Importance for the Purpose of Maintaining and Enhancing Biodiversity in Wales* (Interim). Wales Biodiversity Partnership/ Welsh Government.

APPENDIX 1: SPECIES RECORDED

All species recorded by DCE 2020, unless otherwise indicated

Scientific Name	Common Name	South Wales Criteria					
		CS/PS	NG	CG	AG	MG	PIL
Trees & Scrub							
Acer pseudoplatanus	sycamore						
Betula sp(p).	birch						
Buddleja davidii	buddleia						
Crataegus monogyna	hawthorn						
Hippophae rhamnoides	sea-buckthorn						
Pinus sp	pine sp.						
Populus sp	poplar sp.						
Prunus laurocerasus	cherry laurel						
Rubus fruticosus agg	bramble						
Salix cinerea	grey willow						
Sambucus ebulus	dwarf elder	CS					
Sambucus nigra	elder						
Herbaceous Plants							
Achillea millefolium	yarrow						
Agrostis capillaris	common bent						
Agrostis stolonifera	creeping bent						
Ajuga reptans	bugle		NG				
Ammophila arenaria	marram grass						
Anisantha sterilis	barren brome						
Armoracia rusticana	horse-radish						
Arrhenatherum elatius	false oat-grass						
Asplenium trichomanes	maidenhair spleenwort						
Aster tripolium	sea aster						
Bellis perennis	daisy						
Beta vulgaris	sea beet						PIL
Bromus hordeaceus	soft brome						
Calystegia soldanella	sea bindweed	CS					
Carex arenaria	sand sedge						PIL
Centranthus ruber	red valerian						
Cerastium tomentosum	snow-in-summer						
Cirsium arvense	creeping thistle						
Cirsium vulgare	spear thistle						
Crithmum maritimum	rock samphire						
Cymbalaria muralis	ivy-leaved toadflax						
Dactylis glomerata	cock's-foot						
Equisetum arvense	field horsetail						
Erodium cicutarium	common stork’s-bill						
Eryngium maritimum	sea-holly	CS					
Euphorbia paralias	sea spurge	CS					
Festuca ovina	sheep’s fescue			CG	AG		PIL
Festuca rubra	red fescue						
Galium verum	lady’s bedstraw		NG	CG			
Geranium dissectum	cut-leaved crane's bill						
Geranium molle	dove’s-foot crane's-bill						
Geranium robertianum	herb Robert						

Geranium sanguineum	bloody crane's-bill	PS					
Hedera helix	ivy						
Heracleum sphondylium	hogweed						
Hordeum marinum	sea barley	PS					
Hordeum murinum	wall barley						
Jacobaea vulgaris	common ragwort						
Lolium perenne	perennial rye-grass						
Lotus corniculatus	common bird's-foot trefoil		NG	CG			PIL
Malva arborea	tree mallow	CS					
Medicago lupulina	black medick			CG			
Orobanche minor	carrot broomrape	CS					PIL
Phleum arenarium	sand cat's tail	CS					
Plantago coronopus	buck's-horn plantain						PIL
Plantago lanceolata	ribwort plantain						
Plantago major	greater plantain						
Poa annua	annual meadow grass						
Poa bulbosa	bulbous meadow-grass	PS					
Potentilla anserina	silverweed						
Potentilla reptans	creeping cinquefoil						
Ranunculus acris	meadow buttercup						
Ranunculus bulbosus	bulbous buttercup		NG	CG			
Ranunculus repens	creeping buttercup						
Raphanus raphanistrum maritimus							
Rumex crispus	curled dock						
Sedum acre	biting stonecrop						
Senecio vulgaris	groundsel						
Sinapis arvensis	charlock						
Sonchus sp	sow-thistle species						
Stellaria media	common chickweed						
Taraxacum officinalis agg	dandelion						
Trifolium pratense	red clover		NG				
Trifolium repens	white clover						
Urtica dioica	common nettle						
Vicia sativa	common vetch						
Vulpia bromoides	squirreltail fescue		NG	CG	AG		PIL
Vulpia fasciculata	dune fescue	CS					
Total		11	6	6	2	0	7

Indicator Species

PS – Primary Species, CS – Contributory Species, W - Woodland, NG - Neutral Grassland, CG - Calcareous Grassland, AG – Acid Grassland, MG – Marshy Grassland, PIL – Post Industrial Landscape

APPENDIX 2: DEFINITIONS OF SITE VALUE

International Value

Site carrying an internationally recognised designation such as Ramsar Site, World Heritage Site, Special Protection Area, Special Area of Conservation, Biosphere Reserve or Biogenetic Reserve, or:

Habitats: site supporting nationally significant areas of habitats of defined international community interest.
Species: site supporting nationally significant populations of species of defined international community interest.

National Value

Site meeting published Site of Special Scientific Interest (SSSI) designation criteria (NCC 1989), whether so designated or not.

Habitats: site supporting nationally significant areas of habitats of defined national rarity or interest.
Species: site supporting nationally significant populations or communities of UK Red Data Book, Nationally Notable or protected species (other than badger).

County Value

Site identified as a County Wildlife Site (CWS), Site of Importance to Nature Conservation (SINC) or similar at the county level (ie greater than district, borough or city level); meeting published CWS designation criteria (where these exist), but falling short of SSSI designation criteria, whether designated as a CWS or not.

Habitats: site supporting good examples of nationally threatened habitats, or extensive areas of habitats which are rare or unique in the county.
Species: site supporting large or strong populations or communities of nationally rare or protected species (other than badger), or of species which are rare in the county and uncommon nationally.

District Value

Sites failing to meet County Value criteria, but nevertheless supporting habitats, species or communities which appreciably enrich the ecological resource of the county, especially by virtue of their size or extent.

Habitats: sites supporting habitats uncommon in the county, small but unmodified fragments of nationally threatened habitats, or comprising extensive areas or systems of semi-natural habitats.
Species: sites supporting nationally rare species, or strong populations or communities of regionally uncommon species, which would not otherwise be present (ie they are critically dependant on the site characteristics).

Local Value

Habitats which fail to meet District Value criteria, but which appreciably enrich the ecological resource of the locality. This category can be further divided into:

- **High Local Value**: just failing to meet District Value Criteria; supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area.

- **Local Value**: sites which are of ecological value only in the context of their immediate surroundings. Rare or uncommon species may occur but are not restricted to the site or critically dependant upon it for their survival in the area.

Sites failing to meet any of the above can be considered as being of '**Negligible**' ecological value.

APPENDIX 3: REPTILE MITIGATION MEASURES – NRW GUIDANCE (CCW Draft Feb 2005)

For any development site which supports reptiles, or which contains habitats with the potential to support reptiles, NRW recommends detailed survey at an early stage. Where suitable survey information is unavailable, however, or where there is insufficient time to carry out the necessary surveys, it should be assumed that any habitats on the site which are suitable for reptiles do indeed support reptiles, and mitigate accordingly.

Legislation

The four most common British reptiles (comprising grass snake, adder, slow-worm and common lizard) are afforded so-called 'partial protection' under the Wildlife and Countryside Act 1981 (as amended). This protects individuals of all species from 'intentional' or 'reckless' killing and injury, but does not confer any direct protection to the habitats which support them.

Where it can reasonably be predicted that reptiles could potentially be killed or injured by activities such as site clearance, earthworks or construction operations etc, to carry out such activities in the absence of appropriate mitigation could legally constitute intentional or reckless killing or injuring, and could result in prosecution.

Where reptiles (other than sand lizard, smooth snake and turtles, all of which are subject to additional restrictions under the law) are present, or potentially present, on a development site, the developer should consider the need for mitigation at an early stage in the development programme. The presence of reptiles on a development site will not necessarily prevent the development from taking place, but it means that 'reasonable' mitigation measures must be put in place to prevent, as far as possible, the killing or injuring of any reptiles.

It is not necessary to obtain a licence to carry out works which affect reptiles, but it is always advisable to seek guidance in any case where a development could potentially cause impacts to reptiles, and to obtain advice regarding what would constitute 'reasonable' mitigation, although it is ultimately up to the developer to decide what is 'reasonable' (and to accept any consequences which may ensue). In most cases, the services of an appropriately qualified and experienced reptile consultant will be required.

The remainder of this document sets out the main elements of a typical reptile clearance strategy. It is recognised, however, that not all of the elements listed below will be necessary or appropriate in all cases, and that individual strategies will vary from site to site.

Reptile Clearance Methodology

If reptiles are confirmed as being present (or are assumed to be present, for example from habitat assessment) then measures should be put in place to avoid or minimise the killing and injuring of reptiles as a result of development operations. Ideally, a 'Reptile Mitigation Strategy' should be drawn up for the site by a suitably qualified person, and agreed in advance with either the NRW or the relevant Local Authority Ecologist.

Wherever possible, reptiles should be accommodated within the site, or on one or more adjacent or nearby site. The translocation of reptiles to a different site which lies at a distance from the development site should only be undertaken as a last resort. Where reptiles cannot be accommodated within the site, a suitable receptor site should be identified in advance and surveyed for suitability. If a reptile population already exists on the receptor site, then advance enhancement works to increase the 'carrying capacity' of the receptor site may be necessary Adequate time should be allowed in the development programme for the safe clearance of reptiles ahead of any potentially harmful works using suitable means, which may vary from site to site.

It should be noted that the clearance of reptiles from a site can only be undertaken when the reptiles are active (ie, during the spring, summer and autumn months) and should never be attempted during the winter hibernation period (which runs approximately from November to March inclusive). This constraint may lead to conflict with other issues – the presence of nesting birds, for example, all species of which are protected against disturbance – which will also need to be taken into account and mitigated for accordingly[3].

[3] Hedgerow translocations or clearance of habitats such as trees, scrub, bramble or reedbed etc can lead to direct conflicts, which may require phased clearance or other mitigation measures to overcome.

Mitigation measures should apply to all areas of the site which will be subject to potentially harmful impacts, including the laying of haul routes, siting of contractors' compounds and the bulk storage of materials and soils etc. It should be remembered that reptiles may be present beneath the soil at depths of up to 250mm or more, as well as in locations such as amongst tree roots or buried rubble and brick waste etc.

Typical Mitigation Procedure

1. Where there are suitable receptor sites adjacent to the development site, mitigation should commence with the removal of tall vegetation from all areas affected by development to make them less attractive to reptiles, and to encourage them to move away voluntarily into adjacent habitats. Vegetation should initially be cut to a height of about 200mm, starting furthest away from the adjacent habitats and working towards them, so as to drive any reptiles which may be present towards the receptor habitats. All cutting must be done by hand (eg by strimmer or brush-cutter), rather than by tractor-drawn mowers, so as to minimise the risk of causing reptile casualties. All arisings should be removed immediately from the site following cutting.

   After a maximum of two days, the vegetation of the site should be cut again in a similar pattern to a height of about 50mm, taking great care to avoid injuring any reptiles which may be present and with all arisings again being removed from the site. The vegetation of the site should then be maintained in this short condition for a minimum of two further days before proceeding to Step 2.

In some rare situations this staged cutting, coupled with the careful removal of any structures which may be used by sheltering reptiles (eg rubble piles, timber piles, drystone walls etc – see Step 3 below) may be sufficient to achieve 'clearance' of the site by rendering it so unsuitable for reptiles that no further measures are required. In these circumstances, the site should then be maintained in this unsuitable condition until the commencement of development works, which should then be preceded by 'destructive searching' (see Step 8 below). These situations are likely to be very unusual, however, and will require careful assessment in advance by an appropriately qualified person.

Where there are no suitable habitats in the surrounding area for reptiles to relocate to (for example if the site is surrounded by roads or hard standings, or is hemmed in by other developments) then this step should be ignored.

2. Reptile-proof fencing should be erected around the perimeter of the affected areas of the site. These should be erected in accordance with published specifications such as that contained in the Highways Agency's *Design Manual for Road & Bridges* (Vol 10(4) (7) HA116/05 *Nature Conservation Advice in Relation to Reptiles and Roads* or the forthcoming *Reptile Mitigation Guidelines* (English Nature). The fencing will normally be required to extend below ground level for a depth of about 250mm, and both the installation and fabrication process may require careful supervision by a suitably qualified reptile handler to ensure that no reptiles are accidentally injured in the process. On large sites it may be useful, and will probably speed up the process, if the site is subdivided into smaller parcels.

   Reptile-proof fences may be either vertical 'no-pass' fences or sloping 'one-way' fences. The former will prevent the movement of reptiles in either direction, whilst the latter can be erected in areas where the site lies immediately adjacent to a suitable receptor sites, and will allow reptiles to leave the development area voluntarily.

3. Within the enclosed parcels, any rubble piles, drystone walls, tree roots, buried rubble and timber piles etc should be dismantled by hand to prevent reptiles from using them to shelter in. All arisings should be removed from the site. As far as possible, these operations should be carried out by hand, with the minimum tracking by any vehicles or machinery across the site. Complex or large structures may need to be carefully dismantled under the supervision of a reptile handler who can halt the works and rescue any reptiles which may be found sheltering in them.

4. Following the clearance of sheltering places, the vegetation of the enclosed parcel should be cut, if it has not already been so. Cutting should initially be to a height of about 200mm, starting at the centre of the parcel and working outwards towards the edges. All cutting must be done by hand (eg by strimmer or brush-cutter), rather than by tractor-drawn mower, so as to minimise the risk of causing reptile casualties. All arisings should be removed immediately from the site following cutting.

   Note that for a linear site, such as a cycle-path or verge, strimming should be undertaken from the path working ahead and outwards at the same time, effectively cutting a 'V'-shape.
5. After cutting, the site should be strewn with 'refugia'. These should comprise a combination of suitable materials such as sheet metal, timber (eg chipboard), roofing felt and carpet tiles. These will be used by reptiles for sheltering

beneath, or for basking on, where they can be found and caught more easily. If the vegetation is already shorter than 200mm, refugia may be laid out straight away without cutting the vegetation. Refugia should be spread evenly around the site at a high density (ie about 100 per hectare).

6. Depending on the site, visits should be made to the site by a reptile handler over at least the next two days to check beneath the refugia, collect any reptiles which may be beneath them and remove them to the receptor habitats. In practice, it will usually take at least a week for the refugia to 'bed in', and daily reptile collection visits may need to take place over a period of several weeks. Reptile collecting visits must be undertaken in suitable weather conditions, ie in dry, still conditions with air temperatures in excess of 10ºC.

7. Daily or near-daily reptile collection and removal visits should continue until reptile numbers under the refugia begin to decline noticeably, at which point the vegetation of the site can be cut again, using the same methodology as at Step 4, but this time to a height of 100mm. Daily reptile collection and removal visits should continue for a further minimum of three days, in suitable weather conditions.

8. When reptile numbers are again detected to be declining, a final cut can be made to achieve very short, close-cropped vegetation of about 40-50mm height, again using the same methodology as at Step 4. This staged removal of the vegetation is likely to drive reptiles to make greater and greater use of the refugia, by removing alternative sheltering places and rendering the rest of the site unattractive to reptiles.

Depending on the individual circumstances of the site, it may be advisable to review the spread and location of refugia, and to begin to cluster these towards the edges of the site or in selected locations, although if this is done then the areas where refugia are no longer present must be kept in a highly unattractive state for reptiles. The manipulation of refugia numbers and locations may be used to reduce the amount of time needed for a reptile handler to check for reptiles. On a small site, however, there is probably no point in moving the refugia, and moving refugia may reduce capture efficiency[4]. This is a matter which will require expert assessment.

It is essential that the integrity of the reptile-proof fences is maintained throughout the trapping period. These should be checked on every visit, and any breaks repaired within 24 hours, otherwise reptiles could re-enter the trapping area from outside. An advantage of subdividing the trapping areas into compartments is that any breaks in the perimeter fence which do occur, and which go undetected for any length of time, will only affect the compartment it lies alongside, and not the whole trapping area.

On sites where vandalism is a significant problem, it may be necessary to institute security measures to ensure that the reptile-proof fences remain intact throughout the trapping period. The measures necessary will vary from site to site, but could include the use of 'Heras' fencing and/or the presence of site security personnel in extreme cases.

9. Daily or near-daily reptile collection visits should carry on until 10 successive nil-returns have been achieved, in suitable weather conditions, following the last vegetation cut. Following a final inspection by a suitably qualified person (the final inspection can be done at the same time as the last check of the refugia). At this point, the trapping records should be summarised and sent to the relevant Species Officer at the NRW. Although there is no obligation to do this, it will assist in maintaining a clear position with the statutory body and will encourage a cooperative dialogue. This may be useful in establishing that there has been full and reasonable compliance with the legal requirements in the event of a challenge arising.

   Note that there is no need to have 10 successive nil-returns between the vegetation cuts, but that these cuts should be at least 2 days apart and the numbers should be showing a decline (the exact time taken should be determined by the reptile handler in charge, and will vary from site to site).

10. NRW will then write to the developer to "release" the site to the developer or site engineers. Again, there is no obligation to obtain written consent from the NRW, but it will further demonstrate that there has been best-practice compliance to the satisfaction of the statutory body.

11. The area cleared of reptiles should then ideally be immediately stripped of all vegetation and the topsoil removed, leaving bare subsoil. This final stripping may be done with machinery (ideally using a bucket with tines)[5]. In some cases it may be desirable that the site is 'destructively searched' prior to development, especially if the trapping

[4] Reptiles usually take a while to find refugia (hence the 'bedding in'), and once they do they tend to use them habitually. Moving refugia may simply confuse the animals and be counterproductive.

[5] It is worth noting that there can be a conflict on sites where there is also an archaeological watching brief: archaeologists usually specify a bladed bucket to produce smearing in which archaeological layers can be seen. A tined bucket makes this much more difficult.

out has not gone absolutely to plan (eg vandalism problems etc). This means that the topsoil layer to a depth of about 250mm is removed from the site in strips or sections, working sequentially across the site, using a digger with a tined bucket, under the supervision of a reptile handler who is able to check for the presence of any reptiles remaining in the soil. Where such reptiles are found, the reptile handler will stop the works, rescue the animal and release it to the receptor area.

12. The edges of the cleared area should be marked with high-visibility temporary fencing to prevent accidental trafficking of vehicles on the uncleared parts of the site (if any).

13. If there is any delay between the end of the reptile clearance operation and the commencement of development, measures must be taken to prevent the recolonisation of the site by reptiles from adjacent habitats, unless there is no such habitat adjacent to the site. To prevent reptiles re-entering the cleared area, the developer must therefore either:
    a) Keep the area in the cleared condition obtained at Step 9 - bare earth with no vegetation. To keep the area bare, the developer could consider using an approved herbicide. Or:
    b) Retain the reptile-proof fencing until development works are underway in the area concerned. If this option is chosen, the integrity of the reptile-proof fences will need to be checked regularly throughout the intervening period (ie daily or near-daily), and any breaks repaired within 24 hours. If undetected breaks occur for any length of time, the affected area (or compartment) will need to be trapped out again by repeating Steps 5-9 above.

Maintenance of the site in a cleared and reptile-proof condition is really only critical during the reptiles' active period, since recolonisation is not likely to occur during the winter months. Therefore if a site has been cleared of reptiles in summer prior to development in winter, the reptile-proof fences can be removed (or allowed to deteriorate) once the hibernation period has begun (ie after about the end of October). If the start of development is subsequently delayed beyond the end of the hibernation period, however, (ie after about the end of March) it may be necessary to reinstall the fences, or even re-trap the site.

The site can be re-opened to reptiles by removing the fencing after all construction works are complete.

Catching Methods

The use of refugia at high densities (100/ha) can be very effective for collecting slow-worms. However, other species are less readily found under refugia, and can be much more difficult to catch. 'Noosing' of common lizards whilst sunning on refugia can be effective, but requires skill and is very time-consuming. Snake catching is also a specialised skill, and carries health and safety implications. However, both snakes and common lizards tend to be more mobile than slow-worms, and are therefore more likely to reslake to the vegetation clearance and remove themselves from the trapping area where one-way fences make this possible.

Keeping Records

For trapping records, we recommend logging the date, time, weather conditions, temperature, minimum night temp (night before), species caught and location caught (a rough map would suffice, eg area A, B or C) and, if possible, the sex and age of the animals, and if gravid. Ideally a report of the trapping operation, in which all of the capture records are summarised and evaluated, should be prepared at the end of the operation and submitted to the NRW and/or the local authority ecologist. There is no obligation to do so, but the keeping of clear and unambiguous records may be essential in establishing that there was full and reasonable compliance with the law in the event of there being any challenge to the methods used.

When to Trap

Ideally clearance should begin as early as 1 April, with the aim of the site being cleared by the end of July. Clearance operations are less desirable later in the summer, since after about June there is the chance that juvenile animals will also be present, which as well as being extremely difficult to see and catch, may also significantly increase the number of animals on the site.

Post-development Monitoring

In addition to the above, we would encourage the developer to put in place a scheme to monitor the effects of the development on the reptiles and to see if the mitigation has been successful. The design of any monitoring exercises should be discussed in advance with the NRW.

APPENDIX 4: LANDSCAPING SPECIES TOLERANT OF EXPOSURE TO SEA WINDS

Trees and shrubs

All planting stock should be of native species which are indigenous to the region and will be of Welsh or at least UK, provenance.

Trees/shrubs	
Quercus robur and/ or	Pedunculate oak
Quercus petraea	Sessile oak
Fraxinus excelsior	Ash
Acer pseudoplatanus	Sycamore
Crataegus monogyna	Common hawthorn
Populus tremula	Common aspen
Salix alba	White willow
Salix caprea	Goat willow

Planting should be carried out using 600mm bare-rooted transplants in spiral plastic guards (rabbit/vole protection) where appropriate. Standard tree aftercare should be applied.

Wildlife friendly plants for formal landscaping

The species listed below are mostly native species, which are capable of tolerating exposure to sea winds.

Herbs

Babington's leek (*Allium ampeloprasum*)
Biting stonecrop (*Sedum acre*)
Dune pansy (*Viola tricolor spp curtisii*)
Evening primrose (*Oenothera biennis*)
Fennel (*Foeniculum vulgare*)
Hound's tongue (*Cynoglossum officinale*)
Marsh mallow (*Althaea officinalis*)
Red valerian (*Centranthus ruber*)
Rock sea lavender (*Limonium binervosum*)
Sand leek (*Allium scorodoprasum*)
Sea aster (*Aster tripolium*)
Sea thrift (*Armeria maritima*)
Sea holly (*Eryngium maritimum*)
Sea campion (*Silene maritima*)
Sea lavender (*Limonium vulgare*)
Sheep's bit scabious (*Jasione montana*)
Stinking iris (*Iris foetidissima*)
Tall melilot (*Melilotus latissimus*)
White stonecrop (*Sedum album*)
Wild chives (*Allium schoenoprasum*)

Sources: *Plants for coastal areas* (Royal Horticultural Society), *Planting Gardens for Birds* (RSPB), *Coastal Plants* (British Wild Flower Plants).

APPENDIX 5: EXAMPLES OF SUITABLE BIRD AND BAT BOX DESIGNS

EXAMPLES OF SURFACE-MOUNTED BAT BOXES

Tree-mounted boxes

Schwegler 2F General Box

Schwegler 1FD Nursery Box

Schwegler 1FS Nursery Box (Large)

Schwegler 1FW Winter Box
(Very large box)

Schwegler 2FN
Noctule Box

Schwegler 2F DFP
Daubenton's Bat Box

Miramar General Box

Tree or building-mounted boxes

Schwegler 1FF General Box

Schwegler 1FQ Decorative Box

Schwegler 1FFH General Box

Vivara Woodstone Low Profile Box

NHBS Cavity Box
(Brown Long-Eared Bat Box)

NHBS Crevice Box

EXAMPLES OF NON-INTEGRATED BIRD BOXES FOR TREES AND BUILDINGS

Suspended Designs

Schwegler 1B
General box

Schwegler 2H open-front
'robin' box

Schwegler 5
'large owl' box

Schwegler 1CGA
'small owl' box

Schwegler 20
'starling' box

Schwegler 28 'kestrel' box

Schwegler 5KL 'nuthatch' box

Surface-mounted Designs

Schwegler 1MR general box

Vivara Pro open-front
'robin' box

Vivara Pro ova open-front
'robin' box

Vivara Pro 'starling' box

Vivara Pro 28/32mm
general box

Vivara Pro 28/32mm
oval general box

PHOTOGRAPHS OF SITE (May 2020)

Overview of neutral maritime grassland adjacent to hardstanding in the south-west of the site.

White poplar tree with PRF situated upon a roundabout in the north-west of the site.

Close-up of PRF upon white poplar tree.

Car parking area with ornamental shrub planting in the west of the site.

Neutral maritime grassland along the northern boundary, in the west of the site.

Tennis court situated within a fenced compound near northern boundary in the centre of the site.

Pre-existing bat box situated upon tree within fenced compound, adjacent to tennis court area.

Overview of abandoned pleasure garden area in the centre of the site.

Internal perspective of abandoned pleasure garden area.

Overview of neutral maritime grassland in the east of the site.

Hardstanding car parking area in the north-west corner of the eastern portion of the site.

Neutral maritime grassland along the northern site boundary.

Virginia creeper along northern site boundary.

Sea buckthorn near the mobile dune system.

Mobile dune system in the east of the site.

Sea buckthorn within the mobile dune system.

Neutral maritime grassland near to the eastern site boundary.

Overview of the Coney Beach fairground area.

Missing hatch as possible entrance into building within the Coney Beach facility.

Possible roosting feature for bats within Coney Beach facility.

Possible roosting feature for bats within Coney Beach facility.

Possible roosting feature for bats within Coney Beach facility.

Possible roosting feature for bats within Coney Beach facility.

Hardstanding area to the north of the Coney Beach facility.

Overview of the Rhych Point SINC in the south of the site.

Highlighting the intertidal rock of the Rhych Point SINC.

Sandy Bay, Porthcawl
Ecological Assessment

Plan 1: Site Location & Context

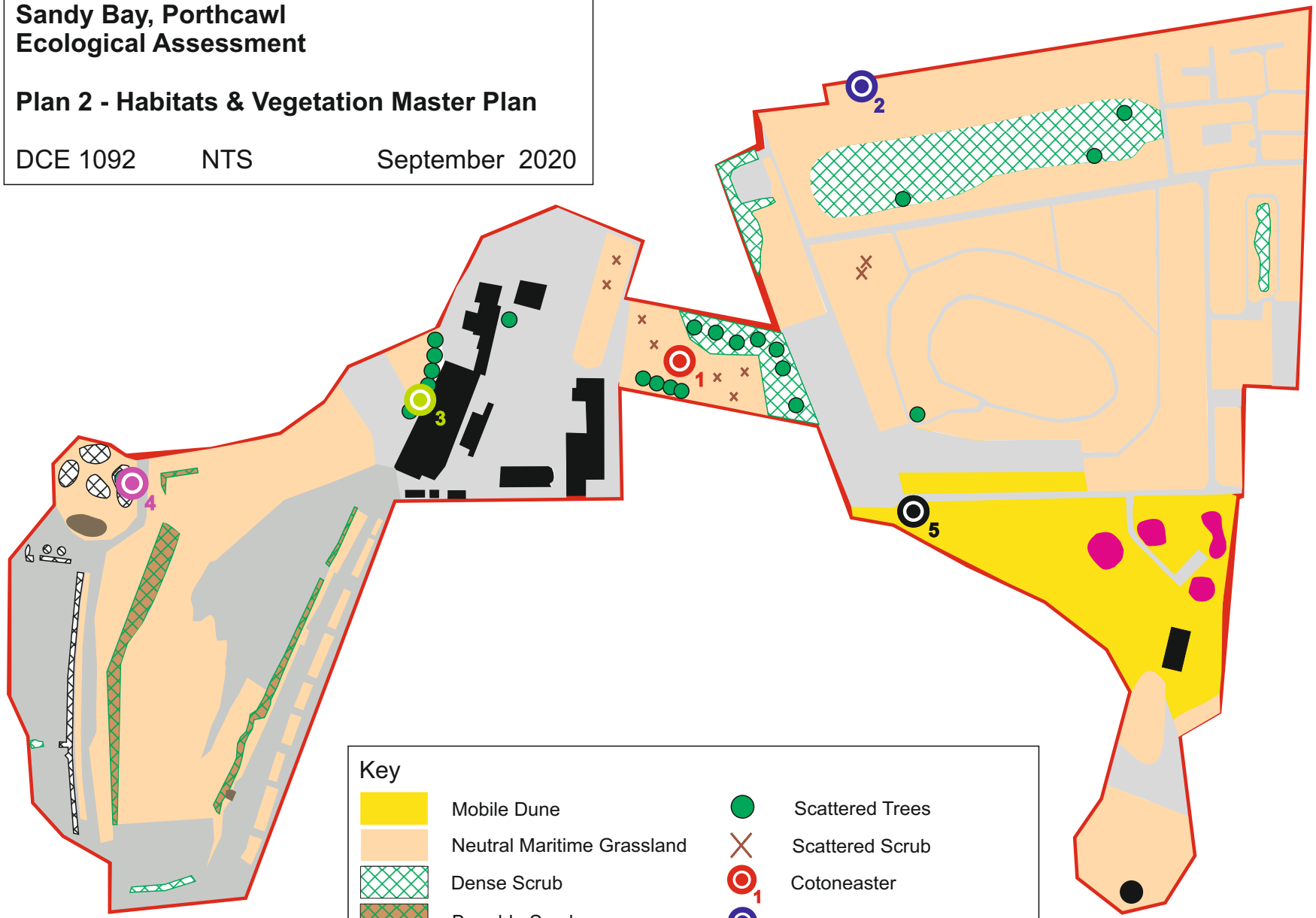
DCE 1092 NTS September 2020

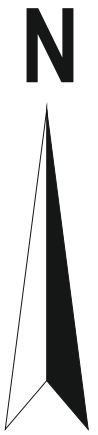
Courtesy of Google Maps

Sandy Bay, Porthcawl
Ecological Assessment

Plan 2 - Habitats & Vegetation Master Plan

DCE 1092 NTS September 2020





Key

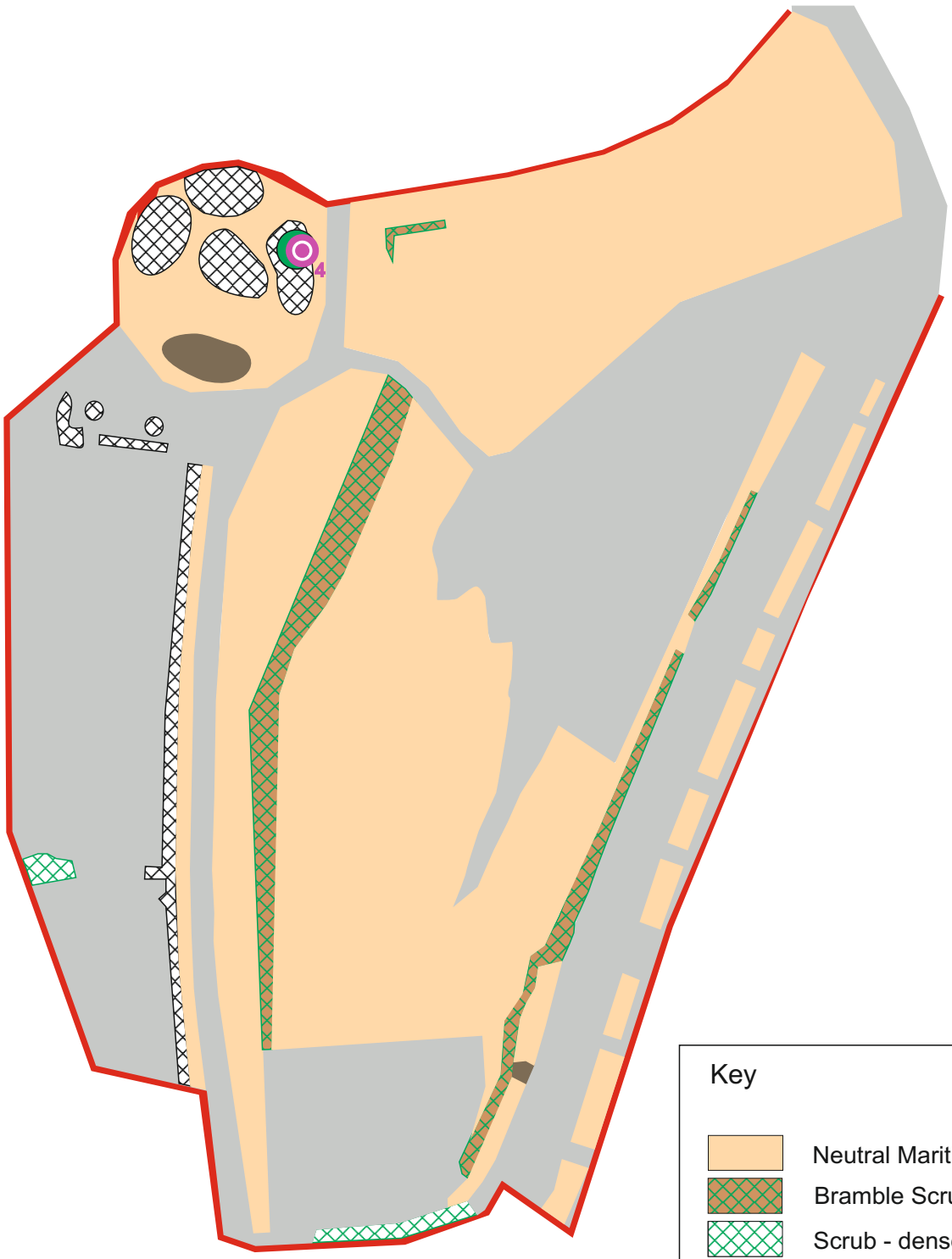
- Mobile Dune
- Neutral Maritime Grassland
- Dense Scrub
- Bramble Scrub
- Ornamental Shrub
- Invasive Sea Buckthorn
- Hardstanding
- Building
- Scattered Trees
- Scattered Scrub
- 1 Cotoneaster
- 2 Virginia Creeper
- 3 Pre-existing Bat Boxes
- 4 Potential Roosting Feature
- 5 Common Lizard Sighting
- Site Boundary

Sandy Bay, Porthcawl
Ecological Assessment

Plan 2a: Habitats & Vegetation (West)

DCE 1092 NTS September 2020

N



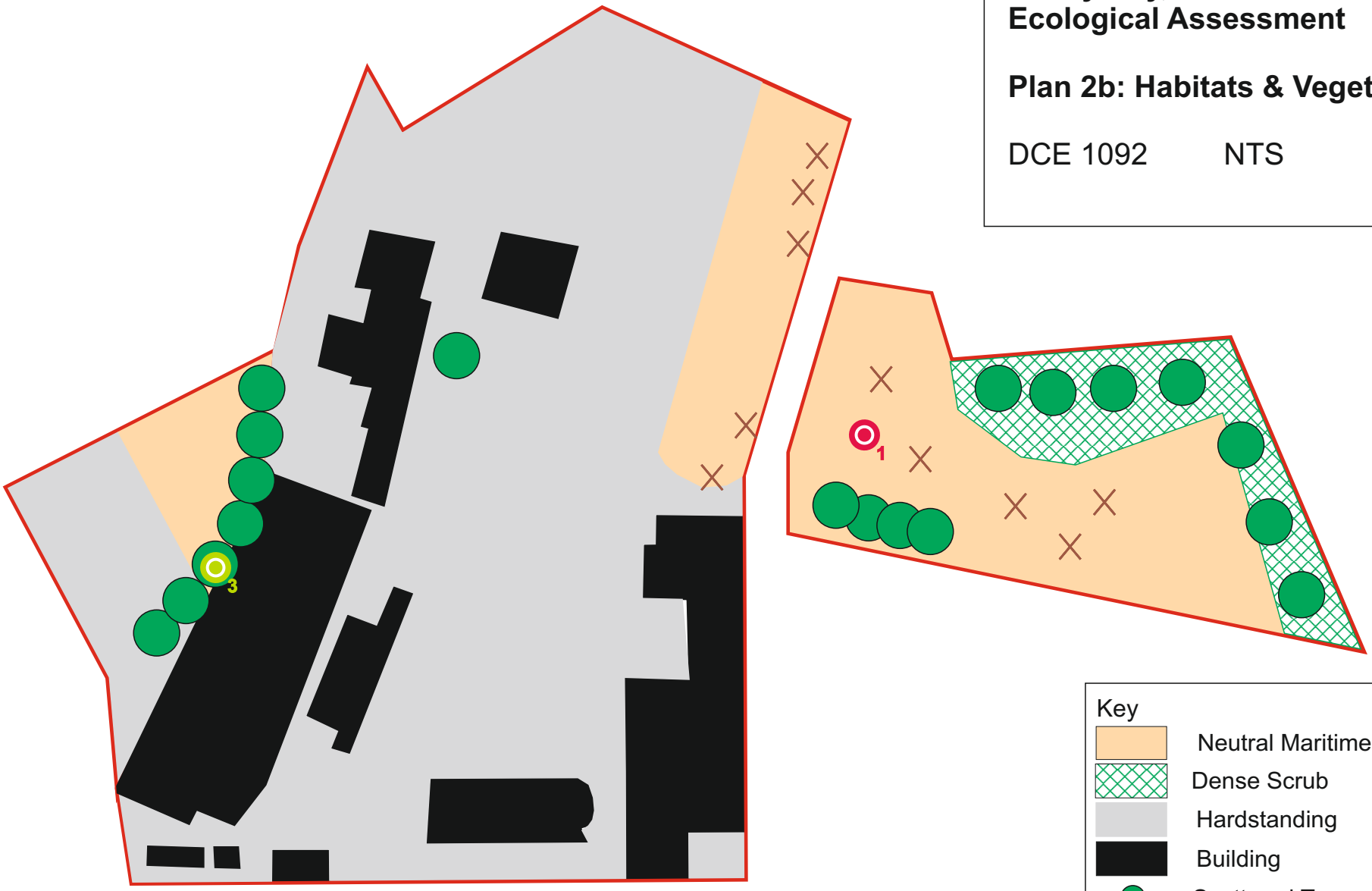
Key

- Neutral Maritime Grassland
- Bramble Scrub
- Scrub - dense continuous
- Ornamental Shrub
- Hardstanding
- Scattered Trees
- Potential Roosting Feature
- Site Boundary

Sandy Bay, Porthcawl
Ecological Assessment

Plan 2b: Habitats & Vegetation (Centre)

DCE 1092 NTS September 2020



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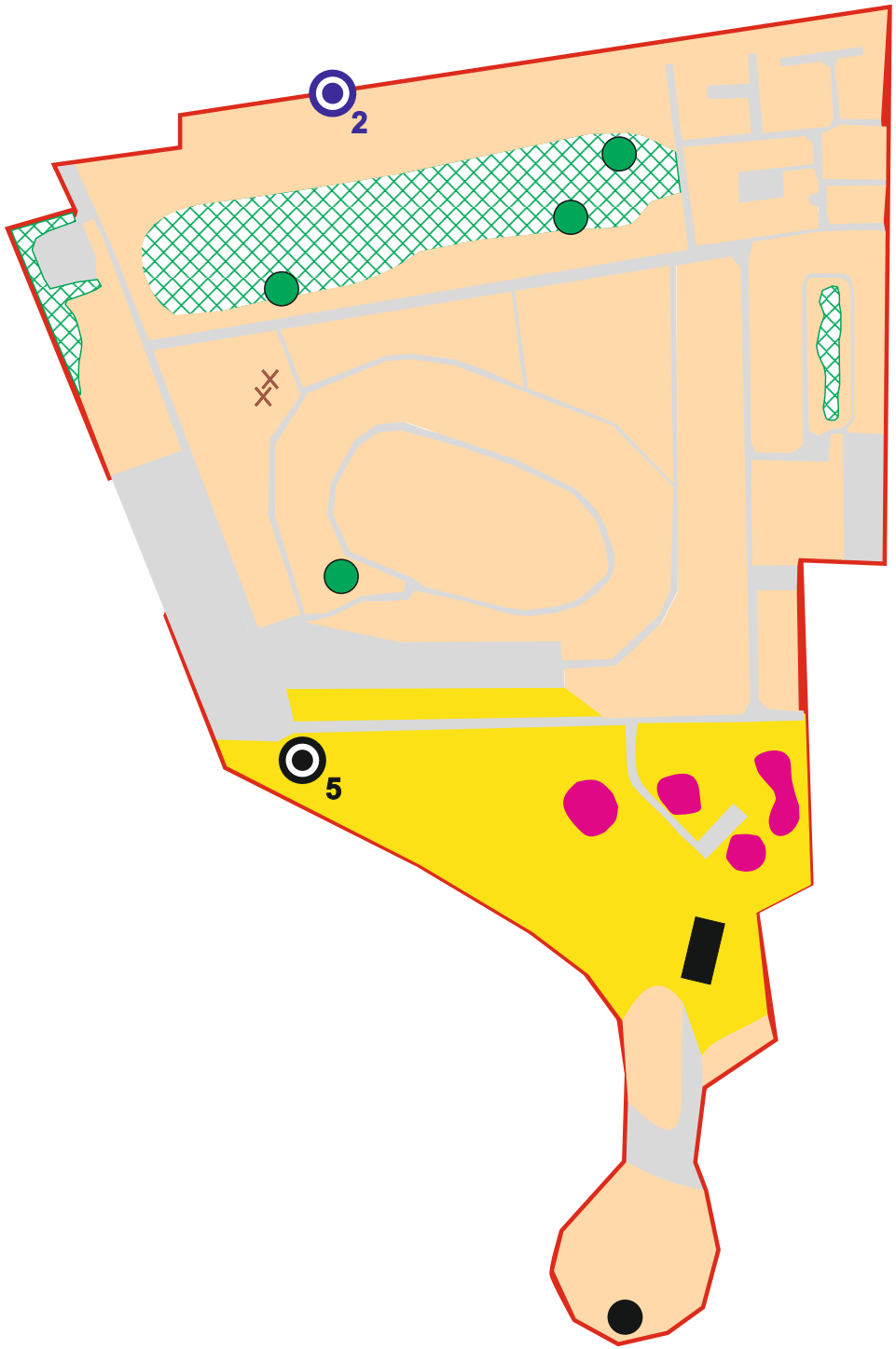
Key

- Neutral Maritime Grassland
- Dense Scrub
- Hardstanding
- Building
- Scattered Trees
- Scattered Scrub
- Cotoneaster
- Pre-existing Bat Boxes
- Site Boundary



Sandy Bay, Porthcawl
Ecological Assessment

Plan 2c: Habitats & Vegetation (East)

DCE 1092 NTS September 2020

N

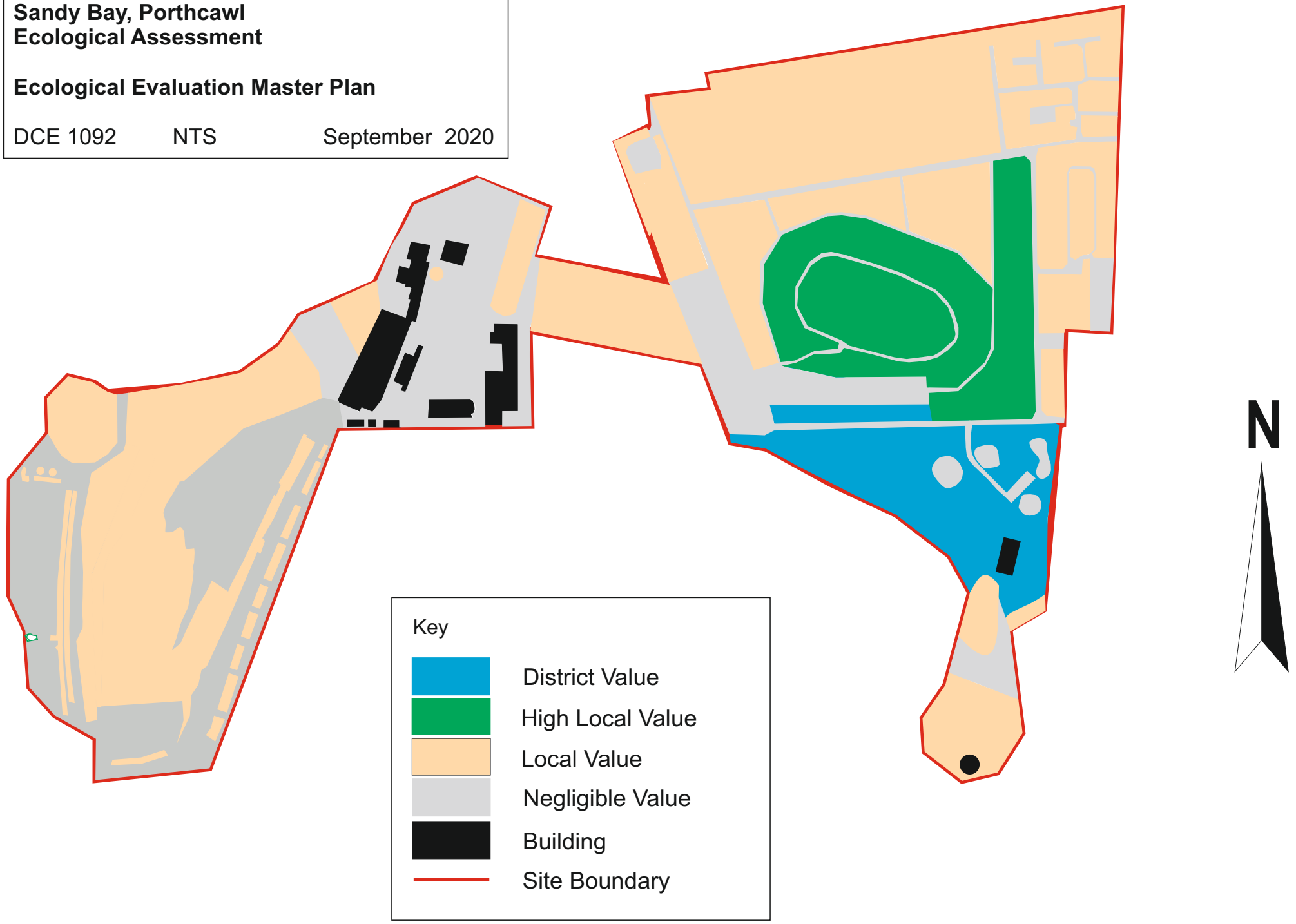
Key

- Mobile Dune
- Neutral Maritime Grassland
- Invasive Sea Buckthorn
- Dense Scrub
- Hardstanding
- Building
- Scattered Trees
- Scattered Scrub
- 2 Virginia Creeper
- 5 Common Lizard Sighting

Sandy Bay, Porthcawl
Ecological Assessment

Ecological Evaluation Master Plan

DCE 1092 NTS September 2020



Sandy Bay, Porthcawl
Ecological Assessment

Plan 3a: Ecological Evaluation (West)

DCE 1092 NTS September 2020

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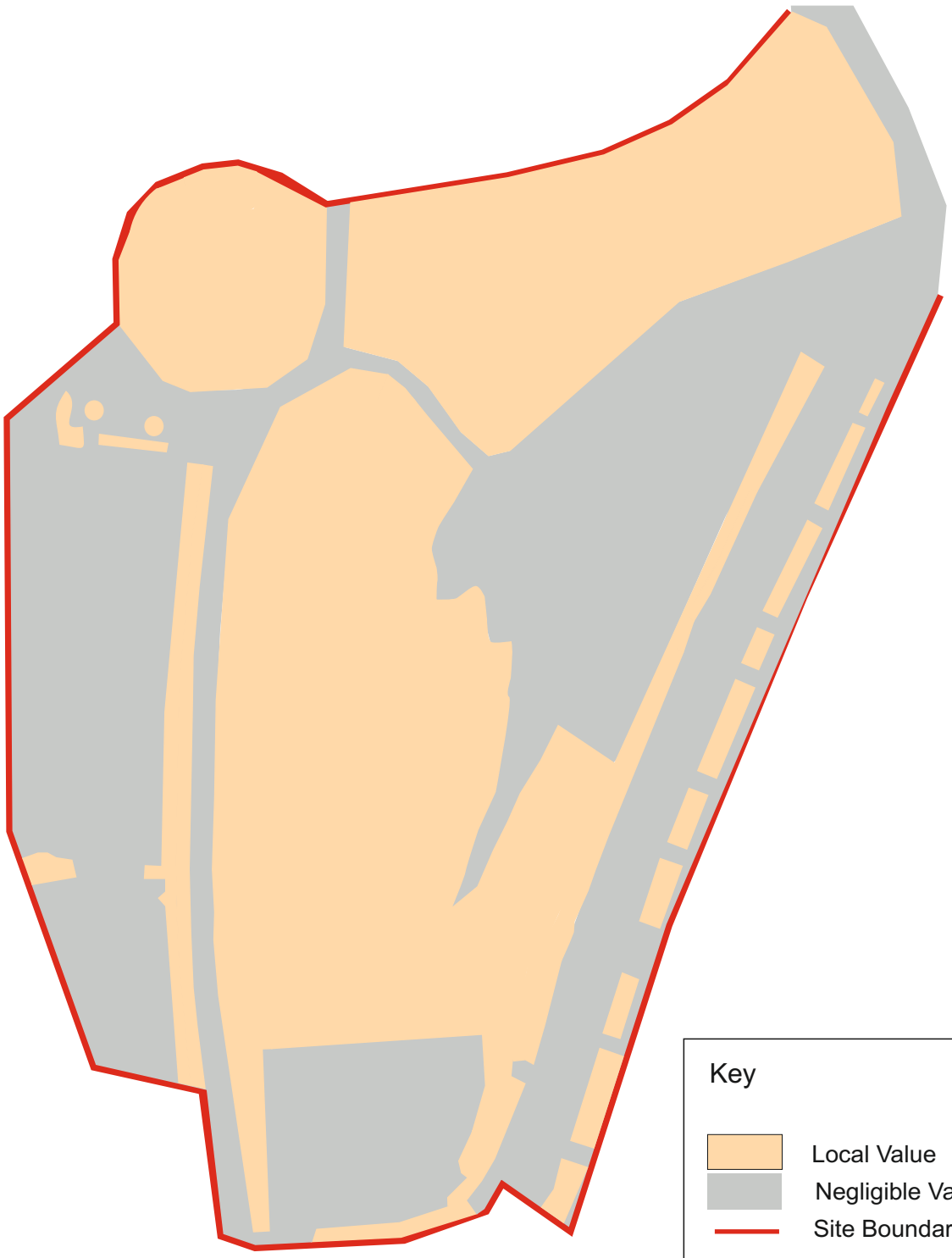

Key

Local Value

Negligible Value

Site Boundary

Sandy Bay, Porthcawl
Ecological Assessment

Plan 3b: Ecological Evaluation (Centre)

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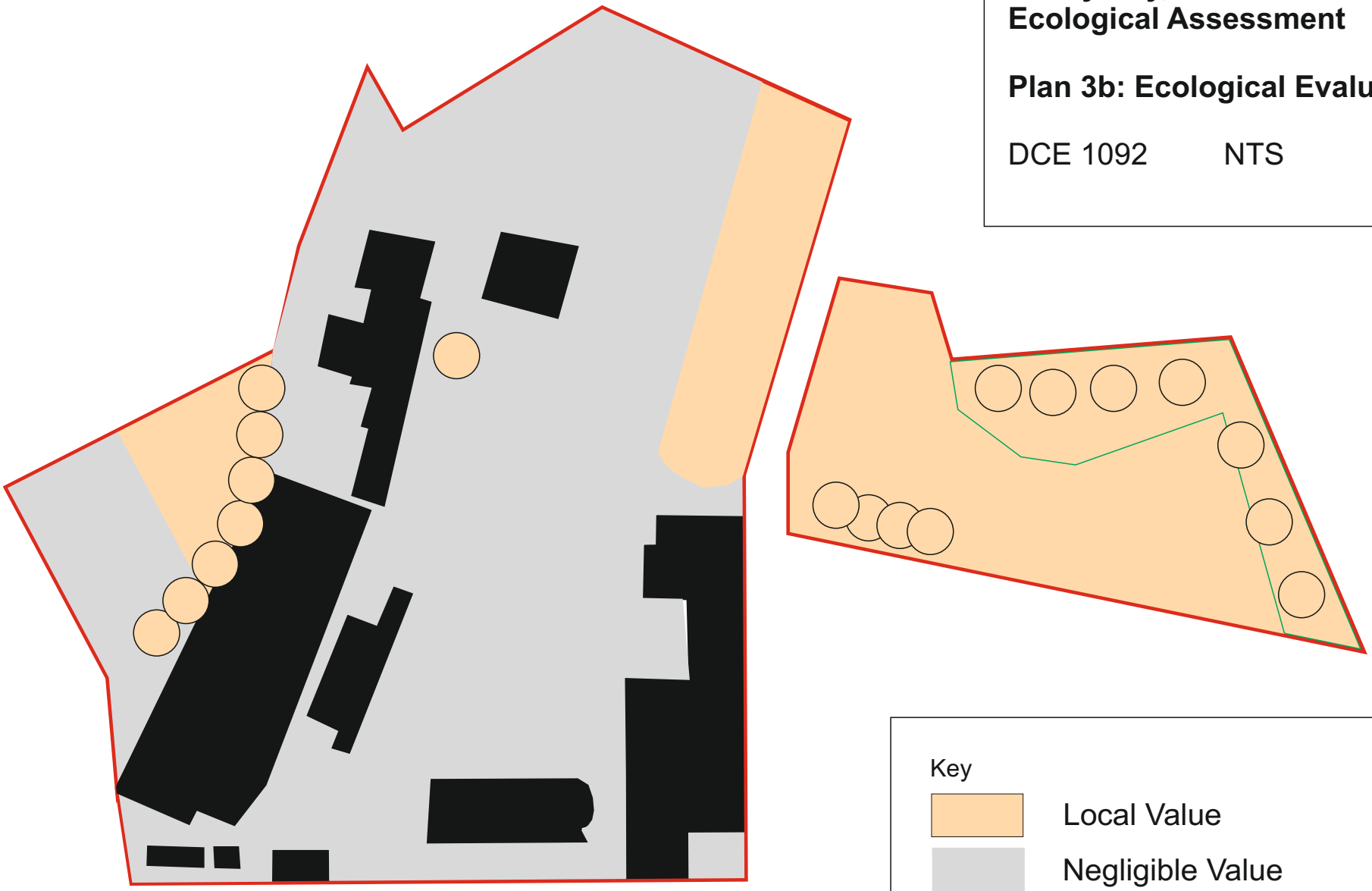

N

Key

Local Value

Negligible Value

Building

Sandy Bay, Porthcawl
Ecological Assessment

Plan 3c: Ecological Evaluation (East)

DCE 1092 NTS September 2020

N

Key

- District Value
- High Local Value
- Local Value
- Negligible Value
- Building