

PLÉMONT BAY HOLIDAY VILLAGE
ST. OUEN, JERSEY

Plémont
30 House Development

ECOLOGICAL
STATEMENT

BIODIVERSITY &
NATURE CONSERVATION REPORT

Report submitted to:
Plémont Estates Ltd

Report produced by:
Michel Hughes Associates
33 Fore Street
Chudleigh
Devon
TQ13 0HX

author: Michel Ragody Hughes
May 2009

Michel Hughes Associates disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with all reasonable skill, care and diligence, within the terms of the Contract with the Client. The report is confidential to the Client and Michel Hughes Associates accepts no responsibility of whatever nature to third parties to whom this report, or any part thereof, may be made known. No part of this document may be reproduced without the prior written approval of Michel Hughes Associates.

Michel Hughes Associates is the trading name of MHA Consulting Ltd.
Registered in England & Wales No. 6811610. VAT Registration No. 860 6606 22.

© Michel Hughes Associates 2009

**Plémont 30 House Development - Ecological Statement:
Biodiversity & Nature Conservation Report**

Michel Hughes Associates, May 2009

Contents

	<u>Page</u>
Non-technical Summary	iii
1.0 INTRODUCTION	1
2.0 METHODOLOGY	3
3.0 BASELINE CONDITIONS	6
4.0 NATURAL ENVIRONMENT POLICY CONTEXT	21
5.0 POTENTIAL ENVIRONMENTAL EFFECTS	28
6.0 MITIGATED ENVIRONMENTAL DESIGN	37
7.0 RESIDUAL ENVIRONMENTAL EFFECTS	43
8.0 SUMMARY AND CONCLUSION	46
References	49
Annex 1 Survey boundaries: <i>Core and Extended Survey Areas</i>	54
Annex 2 Habitats, vegetation communities and site features: <i>Core Survey Area</i>	56
Annex 3 Habitats, vegetation communities and site features: <i>Extended Survey Area</i>	63
Annex 4 Flora: <i>Core Survey Area</i>	68
Annex 5 Birds: <i>Core and Extended Survey Areas</i>	72
Annex 6 Survey of bats	76
Annex 7 Other mammal species	94
Annex 8 Reptiles and Amphibians: <i>Core Survey Area</i>	96
Annex 9 Invertebrates: <i>Core and Extended Survey Areas</i>	99

**Plémont 30 House Development - Ecological Statement:
Biodiversity & Nature Conservation Report**

Non-technical Summary

1. This Ecological Statement (ES) which examines issues relative to biodiversity and nature conservation forms part of the Environmental Impact Statement (EIS) which has been submitted with the planning application for this site. This ES has been carried out generally in accordance with current good practice and has been informed by guidance provided by the States of Jersey, the UK Government and professional bodies. The findings from a number of complementary disciplines which have contributed to this ES have additionally served to inform the process.
2. For the purpose of this ES the assessment of the redevelopment proposal has considered both the Plémont Holiday Village site (the *Core Survey Area*) and also the wider geographic context (the *Extended Survey Area*). The process has, in the light of the redevelopment proposal and the findings of the ecological surveys and evaluations, given consideration to: i). the ecological context of the site at a local and European level; ii). the potential environmental effects of the development; iii). the environmental design of the development with a view to identifying potential mitigation measures which may be incorporated in the proposals where environmental effects have been identified; and iv). the implications of any identified residual effects further to proposed mitigation measures.
3. The *Core Survey Area* was identified to support only a limited diversity of essentially common and widespread habitats and species, reflecting the intensive use of the site as a holiday village over a long period of time.
4. The ecological potential of the *Core Survey Area*, particularly improved habitats giving enhanced opportunities for wildlife diversity, will be substantially increased by this proposal. Nature conservation land within the site will be increased to 2.33ha (48.3% of total site area) by removing all development from substantial tracts across northern and western sections of the site. The total amount of undeveloped natural landscape will be increased to 3.26ha (67.6% of total site area), together with a further 0.62ha (12.7% of total site area) comprising gardens within the housing clusters. Other measures such as incorporating reedbed ponds and open jointed granite walls offer the potential for additional increased habitat and species diversity.
5. The coastal sections of the *Extended Survey Area* were identified to support an outstanding assemblage of vegetation communities, flora and breeding sea birds. The redevelopment proposal is identified not to impinge directly on the *Extended Survey Area*.
6. Concern is expressed at the long-term viability of the declining breeding puffin colony on the cliffs below the existing holiday village. The specific causes of the decline are not known but various factors may be implicated. Land-based human disturbance is not considered to impact on seabirds, although sea-based recreational and commercial activities in proximity to the cliffs during the breeding season are flagged-up as a potential source of disturbance. Brown rats and cats are identified as potential predators of the puffins. Brown rats were identified to be widespread in the holiday village buildings and peripheral banques as well as scrub, fields and banques in the surrounding countryside. A programme of control is proposed prior to demolition of the buildings through to the end of the construction phases. However the control of this species by the developer outside of the proposal site is recognised not to be feasible. Cats were not thought to reside within the holiday village complex at the time of the study, although when the holiday village was operational it is likely that cats were present. A significant number of residential properties are considered to be within the roaming range of cats in relation to the cliffs. A ban on cat ownership by residents at the proposed dwellings is considered neither feasible nor enforceable. Furthermore, such measure would not prevent

cats from outside the proposal site from continuing to roam and potentially predate the puffins. Fencing set-back from the cliff top is considered the only assured means of excluding cats. The urgent need for the setting up of a steering group to address the future conservation of the puffins has previously been identified. Such a group has been established in 2009.

7. The proposal site was identified to be of only low conservation significance for bats (a single common pipistrelle bat was detected at the centre of the holiday village complex at emergence time) by virtue of the exposed nature of the site, lack of habitat features providing suitable foraging areas and sheltered flight lines and the buildings offering few suitable roost sites. The ecological and landscape enhancement measures proposed offer the prospect for improved sheltered habitats for foraging, extended flight lines and greater integration into the surrounding countryside as well as offering the potential for bat roost provision in the new dwellings.
8. Green lizard and common toad were the sole reptile and amphibian species identified at the time of the 2006 study. The species are considered likely to favour peripheral habitat zones of the proposal site as well as habitats within the *Extended Survey Area*. A further survey to determine use of the site by species designated as *protected* under the *Conservation of Wildlife (Jersey) Law 2000* is to be undertaken during June/July 2009. The outcome of the survey will further inform the design and mitigation strategy and will be incorporated into the proposals, as appropriate, and agreed with the States of Jersey Environment Section of the Planning and Environment Department. It is acknowledged the design proposals will provide substantially enhanced habitat opportunities for protected species. Measures to control brown rats within the proposal site and habitat restoration and enhancement measures proposed in the design scheme are considered beneficial to these species.
9. The biodiversity and nature conservation appraisals, evaluations and assessments have informed the design process, identifying areas where potential negative change needed to be addressed or designed out of the scheme and where positive change to the local environment could be reinforced.
10. The proposal is identified not to result in direct impact on local wildlife features and species. The fully mitigated redevelopment proposals are considered capable of supporting and maintaining a balanced, integrated, adaptive community of species.

1.0 INTRODUCTION

Outline

- 1.1 This biodiversity and nature conservation component of the Environmental Impact Assessment (EIA) has been carried out generally in accordance with current good practice. The process has been informed by guidance provided by the *SoJ Supplementary Planning Guidance – Environmental Impact Assessment: A Guide to Procedures* (SoJ, 2008b), as well as guidance given in *Environmental Impact Assessment: guide to procedures* (DETR, 2000), *Guidelines for Ecological Impact Assessment in the United Kingdom* (IEEM, 2006), *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System* (ODPM, 2005) and *Planning for Biodiversity and Geological Conservation – A Guide to Good Practice* (ODPM, 2006).
- 1.2 The findings from a number of complementary disciplines that have contributed to this ES have additionally served to inform the process. This includes a separate specific study on Puffin and Seabirds resulting in a report produced by Durrell Wildlife Conservation Trust, January 2008, which accompanies and is referred to in this ES. Other specialist studies on Habitats, Flora and Wildlife are incorporated into the Annexes within this report.
- 1.3 The SoJ EIA Guidance (SoJ, 2008b) closely reflects the principles of the European Union *Council Directive 85/337/EEC on the Assessment of effects of certain public and private projects on the environment*, as amended by *Council Directive 97/11/EC*, as well as the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999* which interprets the European Directives in England and Wales for projects requiring planning permission under the town and country planning system.
- 1.4 The following principles, recommended by the Royal Town Planning Institute (RTPI, 1999) which are endorsed by UK Government (ODPM, 2006) and the Institute of Ecology and Environmental Management (IEEM, 2006) have been followed for optimising the biodiversity outcomes of the proposal:

Information: Obtain sufficient information on the environmental resources and natural processes to assess the impacts of the project.

Avoidance: Consider options that avoid harm to environmental resources or natural processes.

Reduction: Where adverse effects are unavoidable then these should be mitigated either through the design of the project or through measures that can be subsequently guaranteed – for example, through a condition or planning obligation.

Compensation: Where, despite the mitigation proposed, there are significant residual adverse environmental effects, these must be offset by appropriate compensatory measures nearby/elsewhere.

New Benefits: Seek to provide net benefits for biodiversity over and above requirements for mitigation or compensation.

The Proposal and Ecological Statement

- 1.5 The proposed redevelopment of the Plémont site entails the demolition of all existing buildings (except a WWII German ammunition bunker), removal of all hard-standings and construction of 30 new houses. It is proposed to construct 15 no. three bedroom houses, 11 no. four

- bedroom houses and 4 no. five bedroom houses, together with access roads, garden areas next to the houses and landscaping.
- 1.6 The site layout is shown on BDK Architects Drawing No. 1871/8/02/vD with technical details of the proposal provided in BDK Architects Design Statement. The new houses are grouped into two principal clusters, conceived as traditional 'hamlets' echoing groupings of dwellings elsewhere in the St. Ouen countryside. In the south-west of the site is proposed a group of 11 houses, a group of 16 houses in the south-east cluster and 3 houses located on the site currently occupied by the existing site manager's bungalow. All houses are of traditional Jersey design as is frequently found throughout the countryside of this part of the Island.
- 1.7 A previous scheme for the redevelopment of the Plémont Holiday Village site, which involved the demolition of existing buildings and structures and the construction of 36 residential properties with associated facilities, was rejected on the 2nd May 2008 further to a Ministerial Hearing before the Minister for Planning and Environment. An Environmental Statement, which included a Biodiversity, Nature Conservation and Environment Report (dated June 2006), had been submitted with the original application for this proposal.
- 1.8 A further scheme for the redevelopment of the site, which would involve the demolition of existing buildings and structures (except for the existing staff cottage) and the construction of a self-catering complex of 73 no. units within the existing built area together with a clubhouse, was submitted to the States of Jersey Planning and Environment Department in February 2009 and currently remains to be decided. An Ecological Statement and Environmental Impact Statement were submitted with this application.
- 1.9 Insofar as the self-catering proposal was concerned the EIA Scoping Opinion (SoJ, issued 6th November 2008) identified that the "*Principal Ecologist, Mike Freeman has confirmed that it would be acceptable to re-submit the ecological parts of the ES for the previous application on this site*". Further, the EIA Scoping Checklist (SoJ, issued 6th November 2008) identifies that "*Ecological Studies: Mike Freeman has confirmed that studies and mitigation measures proposed within previous application's ES is satisfactory. However, this will need to be reproduced within the final ES for this specific application and not merely referred to.*"
- 1.10 In respect of the present proposal the EIA Scoping Opinion (SoJ, issued 1st May 2009) identifies that "*With regard to the impact on Puffins, Mike Freeman has confirmed that studies and mitigation measures proposed within previous application's ES is satisfactory. However, this will need to be reproduced within the final ES for this specific application and not merely referred to*"¹. The Scoping Opinion additionally identifies a requirement for ecological baseline surveys to be conducted for species afforded protection under the Conservation of Wildlife (Jersey) Law 2000 (eg. green lizard, slow-worm).

¹ The Scoping Opinion statement supports comments made by M. Freeman in an internal email of 20 April 2009 to K. Johnson as part of SoJ internal consultations for the EIA Scoping, namely that "*I presume that the previous EIA for the site will be taken into consideration for this revised application*".

2.0 METHODOLOGY

Introduction

- 2.1 The ES provides an assessment of the biodiversity and nature conservation resources within and adjacent to the Plémont Bay Holiday Village site. For the purpose of the ES the study area is considered as two entities, namely that area comprising the 'red line' planning application boundary which is here referred to as the *Core Survey Area* (a distinct area of land, the subject of a long history of development, including the extant holiday village site), and a wider area outside of the application site (the "setting of the site" which has regard to potential wider environmental sensitivities, which includes the Plémont Headland, adjoining coastal areas and agricultural land), which is here referred to as the *Extended Survey Area* (refer to Drawing No. MHA-16343-1). Of necessity the *Extended Survey Area* has had to be considered separately as it comprises land outside of the application boundary, over the majority of which the applicant exercises no legal control. Nevertheless, equal consideration has been given to both areas.
- 2.2 The *Core Survey Area* had previously been surveyed for its ecology (Environ UK Ltd, 2001). The present ES notes the findings of that survey but considerably extends its scope. In respect of the *Extended Survey Area* the flora and plant communities of the Plémont Headland were surveyed for the SoJ in 1997 (Penny Anderson Associates, 1997). A walk-over survey of the headland in 2006 identified that this work remains relevant and as a consequence it is referred to in the ES.
- 2.3 Formal survey work was conducted on the 8th and 9th of June 2006 with follow-up site visits on the 31st August 2006, 26th April 2007 and 3rd May 2008. Additional survey work in relation to protected reptile species is proposed during June 2009 (refer to paragraph 2.13 by reference to paragraph 1.10).

Habitats and vegetation communities

- 2.4 Habitats were mapped using the nationally recognised Phase 1 Habitat Survey methodology (Nature Conservancy Council, 1990).
- 2.5 Vegetation communities were mapped using the National Vegetation Classification (NVC) (Rodwell, 1991, 1992) and cross-referenced to Corine Biotope categories (Bissardon *et al.*, 1997). The NVC is the standard framework for describing the range of variation in natural and semi-natural plant communities in Great Britain². The pattern of vegetation, its physiognomy and the frequency and abundance of species enable the determination of vegetation stands to community and sub-community level.
- 2.6 In the course of carrying out the mapping of habitats and vegetation communities species of trees, shrubs, ferns, grasses, sedges, rushes and flowering plants were recorded. The nomenclature of species follows that given in Stace (1997).

Birds

- 2.7 It was not possible to conduct a standard Common Bird Census (CBC) (BTO, 1983) of breeding bird species within either the *Core* or *Extended Survey Areas* due to time available for field work. This method, which has been in use in the UK since 1962, was originally

² Although the NVC when devised did not extend to the Channel Islands, in the author's experience common vegetation communities observed on Jersey, Guernsey as well as the near-continent French Regions of Basse-Normandie and Bretagne can be broadly attributed. This premise recognises, however, that there are inevitable variations in species composition, association and distribution, reflecting biogeography, soils and historical and modern land use.

developed at the instigation of the Nature Conservancy³ to monitor bird populations in different habitats.

- 2.8 However, an acceptable understanding of the diversity and nature of the population of breeding birds was determined through the registration of species, noting their songs and/or calls and observing their activities and/or behaviour. Information from Jersey Bird Reports and provided by the SoJ Environment Department has also been used.
- 2.9 In 2008 a report on puffins and other breeding seabirds at Plémont was commissioned from the Durrell Wildlife Conservation Trust (Young, 2008) to inform the process of design and mitigation requirements for the re-development of the site.

Bats

- 2.10 Standard survey methodology was used and is fully described in Annex 6.

Other mammal species

- 2.11 Evidence for the presence of brown rat within the buildings and associated structures of the Plémont Holiday Village were specifically searched for in the course of the bat surveys of those buildings. Peripheral hedgerows and those enclosing neighbouring fields were also searched for evidence of brown rat. Other species were essentially recorded in the course of other fieldwork.

Reptiles and Amphibians

- 2.12 No detailed investigation or trapping programme was undertaken during the 2006 survey due to the time available for fieldwork. Nevertheless, species were searched for in the course of other fieldwork.
- 2.13 However, a survey of species protected under the Conservation of Wildlife (Jersey) Law 2000 within the proposal site has been commissioned from the Durrell Wildlife Conservation Trust. Durrell have advised the survey is best undertaken during June/July 2009 when species are more likely to be out during warmer weather. They are in the process of establishing survey methodology and agreeing this with the States of Jersey Environment Division of the Planning and Environment Department prior to commencing survey work. It has been agreed with the Planning Case Officer this survey can follow submission of the planning Application for this proposal. The findings of the study will further inform the process of design and mitigation requirements for the re-development of the site, as appropriate.

Invertebrates

- 2.14 Butterflies were recorded on the basis of casual observation in the course of other fieldwork.
- 2.15 The uncommon ant species *Formica pratensis* was specifically searched for given a previous record from within the Core Survey Area.

Site evaluation

- 2.16 Site evaluation was conducted by applying recognised criteria to habitats and species (adapted from Radcliffe, 1977). These are identified as:

³ Nature Conservancy - a predecessor organisation of the present Natural England.

- 2.17 Habitats
- Naturalness* Habitats least modified by man are generally rated more highly. However, the vast majority of sites have been influenced by man's activities to some extent.
- Size* In general, larger sites are more highly valued than smaller ones, all else being equal. Amongst aspects of size considered are the extent of individual components of the site and whether the site is of sufficient size that small changes within will lead to the loss of the site's interest.
- Rarity* The presence of one or more rare habitats on a site gives it higher value than another comparable site with no rarities.
- Diversity* An important site attribute is variety in numbers of communities, which in turn depend largely on the diversity of habitats. Diversity in certain instances may also reflect habitat instability.
- 2.18 Species
- Diversity* Similar to above, the variety of species is an important site attribute.
- Rarity* The presence of one or more rare species in a site gives it higher value than another comparable site with no rarities.
- 2.19 Additional criteria
- Fragility* This reflects the degree of sensitivity of habitats, communities and species to environmental change.
- Position in an ecological unit* In the event of two sites representing a certain formation being of equivalent intrinsic value, the close proximity of one site to a highly rated example of another type increases the value of that site.
- Potential value* Certain sites could, through appropriate management or even natural change, eventually develop a nature conservation interest substantially greater than that existing at present.
- Intrinsic appeal* While science may view all creatures as equal, pragmatism dictates that in nature conservation it is realistic to give more weight to the more popular appeal of some species or groups than others.
- 2.20 The distribution and status of habitats, vegetation communities and species in a British Isles, near-Continent and Jersey context has been determined, as appropriate, through standard reference publications (eg. Asher *et al.*, 2001; Preston *et al.*, 2002; Le Sueur, 1984; Rodwell, 1991, 1992; Stace, 1997; Stewart *et al.*, 1994; UKBG, 1998-99; Bissardon *et al.*, 1997).

3.0 BASELINE CONDITIONS

Site description

- 3.1 The proposal site (the *Core Survey Area*) (refer to Drawing No. MHA-16343-1) is located on the north-west side of La Route de Plémont at Plémont, Cueillette de Vinchelez, in the Parish of St. Ouen, Jersey. The property, which is centred on NGR WV/564565, extends to some 4.82ha and is situated between 67m and 75m above mean sea level.
- 3.2 The solid geology of the site comprises coarse-grained granite of the St. Mary's type (BGS, 1989). The granite occurs close to the surface in the northern part of the site and is exposed in a number of places in proximity to the coastal path to the north. The drift geology comprises generally thin loess, with soils becoming deeper southwards away from the coast.
- 3.3 The site is approached via the C105 secondary road forming part of the eastern site boundary and which today terminates at the north-east site boundary. The western site boundary is defined by a narrow 'Parish road', metalled for the most part, and identified as the Rue de Petit Plémont, which extends to a small informal car park (12 parking places) and turning area at Plémont Headland at the north-western margin of the proposal site. The lane was established and the land ceded to the Parish of St. Ouen in the late 1960s, by the site owner at that time, to enable the part closure of the C105 for redevelopment of the site.
- 3.4 The site has been used as a visitor or holiday resource since 1874 with the opening of the Plémont Hotel, in proximity to the headland. It was still used as a hotel until at least 1934 but the buildings (then used for storage and as a hostel) were destroyed by fire a few years later (an aerial photo seen by the author dated 1947 shows the building destroyed). In 1935 the 'Jubilee Holiday Camp Hotel' was built on the site of the present buildings. The facility was considerably damaged by fire in 1937 but was rebuilt and re-opened in 1946 as the Parkin's Holiday Camp, after the hiatus of the war years. In 1961 the site was acquired by Pontin's and re-developed in the late 1960s. Although such 'holiday camp' venues started falling out of fashion in the late 1970s-early 1980s, it struggled to continue, was re-branded as the 'Plémont Bay Holiday Village' in 1998, but finally closed in 2000. The holiday village was able to accommodate up to 488 guests in 206 rooms in 8 residential blocks (Rozel, Bouley, Gorey, Sorel, Grosnez, Grouville, Brelade, Corbière) with up to 60 staff in 52 rooms in 2 residential blocks (A and B). The site also included a large building with kitchen, dining hall, ballroom and bar, a shop, swimming pool, and a number of ancilliary buildings. Two tennis courts, lawns, a play ground and large playing field were also provided for visitors. The holiday village has been effectively disused as a public facility since its closure, although a bungalow remains occupied by a site manager and the grounds and buildings have been used on occasions for training Jersey police dogs.
- 3.5 The *Extended Survey Area* extends around the *Core Survey Area* and includes the cliffs and cliff tops to the north and north-west including the Plémont Headland (La Tête de Plémont, La Pièce Michel, Le Petit Plémont), the remains of the Fort and World War II German emplacement, Le Creux de la Houge, Le Betier, east to La Grève es Bantchets (refer to Drawing No. MHA-16343-1), over which the owners of the holiday village retain legal rights. To the east and south are a number of small arable fields in private ownership. An SoJ official car park is located to the south-west margin of the site and provides up to 39 parking places for visitors to the beach at Plémont Bay and the coastal path. Abutting the northern boundary of the SoJ car park is a parcel of land extending to 0.23ha which is in the same ownership as the holiday village site. The coastal path, which was opened in 1981, extends around the northern margin of the proposal site, only abutting the site boundary along a section of the 'Parish Road' and the informal car park.

Ecological designations

- 3.6 Through the provisions of Part 6 of the Planning and Building (Jersey) Law 2002 Sites of Special Interest (SSI) may be designated by the Minister for Planning and Environment to protect places of *public importance* by virtue of their special zoological, botanical, geological or scientific interest. No area of land within the *Core* or *Extended Survey Areas* have been so designated. The closest biological SSI's are identified at *Les Landes*, 99 ha designated in 1996, located some 0.5km (at the nearest point) to the west of the Plémont proposal site (including *La Cote de la Chèvre* some 1.1km to the west of the Plémont proposal site) and *Crabbé (Rouge Nez)*, a 12ha headland located some 2.5km east-south-east of the proposal site. *L'île Agois* was designated a geological SSI in February 2009 and *Crabbé* is identified as a proposed geological SSI located some 3.3km east-south-east of the proposal site.
- 3.7 The heathlands at *Les Landes* and the headland at *Crabbé* are identified as the nearest Important Bird Areas to the Plémont proposal site (Veron, 1997) (refer to paragraph 4.10). The *North Coast Cliffs* (approximately 2500ha extending from L'Étacq in the west to the breakwater at St. Catherine's Bay in the east), which includes the cliffs and headland at Plémont, are, however, identified as a Site of Channel Islands Importance for Birds (Veron, 1997) (refer to paragraph 4.13).

Habitats and vegetation communities

Core Survey Area

- 3.8 The 4.82ha site comprises 2.46ha (51%) of built land and hard standings and 2.36ha (49%) of amenity and species-poor grassland, gorse-dominated and bracken-dominated vegetation communities. The distribution of habitats within the site are identified in Drawing No. MHA-16343-2 and the composition of individual communities described in Annex 2.

Grassland

- 3.9 Grassland is the overwhelmingly dominant vegetation type and extends to some 1.63ha (35.5%). It occurs as unmanaged amenity grassland around most of the holiday village buildings and associated structures as well as a large expanse to the south of the buildings, previously used as a playing field. A range of ornamental plant species have seeded into some of the grasslands around the buildings. The grasslands are 'improved' and of generally low species diversity. The effect of rabbit grazing is particularly evident in the playing field.
- 3.10 The vegetation provides some affinity to the National Vegetation Classification (NVC) **MG1a *Arrhenatherum elatius* grassland; *Festuca rubra* sub-community** (False Oat-grass grassland; Red Fescue sub-community), which equates to the European Corine biotope **C38.22 *Prairies des plaines médio-européennes à fourrage*** ('*Arrhenatherum*'). Although only one of the community constants is present in these grasslands a sufficient range of community preferentials and associates are present at required frequency and abundance values to allocate them to the MG1a sub-community. Within the playing field grassland is a small, seasonally damp area (site feature 8), approximately 5m x 8m, comprising a sparsely vegetated buck's-horn plantain and mossy stonecrop dominated community which provides an affinity to a form of the NVC community **U1b *Festuca ovina-Agrostis capillaris-Rumex acetosella* grassland; Typical sub-community** (Sheep's-fescue-Common Bent-Sheep's Sorrel grassland; Typical sub-community) which equates to the Corine biotope **C35.22 *Pelouses siliceuses ouvertes permanentes*** ('Perennial open siliceous grassland').
- 3.11 Evaluation: The grasslands are 'improved' and of generally low species diversity and low overall nature conservation significance. The MG1a/C38.22 grassland community is widespread in lowland Britain, widely noted on Jersey and Guernsey and widespread in the near-continent French Regions of Basse-Normandie and Bretagne, with the particular community composition more typically associated with coastal areas. However, the playing field area may be of some value for invertebrates, small mammals and reptiles by virtue of the

structural complexity of the vegetation, particularly to the southern and eastern margins. In the UK the U1b sub-community variant is a grassland community associated with the Brecklands of eastern England. Its distribution or extent within the Channel Islands or northern France is not known but the characteristic species mossy stonecrop is quite widespread on Jersey (Le Sueur, 1984; M. Freeman, pers. comm.).

Gorse-dominated community

3.12 The vegetation type was only identified from the north-west corner of the site (site feature 16) on sloping ground adjacent to the 'Parish road'. The vegetation provides close affinity to the NVC **W23c *Ulex europaeus*-*Rubus fruticosus* scrub; *Teucrium scorodonia* sub-community** (Gorse-Bramble scrub; Wood Sage sub-community) which equates to the Corine biotope **C31.85 (*Fourrés*) *Landes à Ajoncs* (du domain atlantique)** ('Atlantic gorse thickets'). The road margin of this area supports a tall grassland community which is gradually being invaded by gorse and bramble.

3.13 Evaluation: W23c/C31.85 gorse scrub community is found widespread on marginal land throughout the lowlands (and upland fringes) of Britain (Rodwell, 1991) and is recognised to be frequent and widespread in coastal areas of Jersey and in the near-continent French coastal areas of Basse-Normandie and Bretagne, becoming less common inland.

Bracken-dominated community

3.14 The second most common vegetation type within the proposal site and associated with peripheral zones. The vegetation provides close affinity to the **W25b *Pteridium aquilinum*-*Rubus fruticosus* underscrub; *Teucrium scorodonia* sub-community** (Bracken-Bramble underscrub; Wood Sage sub-community) which equates to the Corine biotope **C31.831 *Roncées*** ('Acid-soil Bramble thicket'). The north-eastern site margin provides a more disturbed community with numbers of 'weed' species present. To the south-western site margin the community grades to grassland along the 'Parish road' where small-flowered catchfly (*Silene gallica*) is prevalent. The community forming the northern boundary of the site merges to similar vegetation within the Extended Survey Area.

3.15 Evaluation: W25b/C31.831 bracken underscrub is common and widespread in the lowlands of Britain (Rodwell, 1991) and is recognised to be very common on Jersey and the near-continent French regions of Basse-Normandie and Bretagne. It is characteristic of deeper, free-draining, circumneutral to moderately acid and fairly fertile soils (Rodwell, 1991).

3.16 The value attached to these scrub habitats in nature conservation terms reflects criteria such as structure, diversity and extent and suitability as feeding, refuge or breeding habitat for birds, small mammals and invertebrates. That value may be considered enhanced where scrub is transitional to other habitats such as woodland or hedgerows or where it forms part of a mosaic of habitats. The identified areas of scrub are considered unlikely to be anything other than of very local nature conservation significance for a small diversity of common breeding birds and invertebrates.

Pond

3.17 A very small ornamental pond (1m x 2m) is located within the site. At the time of the survey the pond was entirely choked with vegetation with no open water evident.

3.18 Evaluation: The pond is identified to be of little nature conservation significance in its present management state.

Hedgebanks

3.19 The southern and eastern site boundaries are defined by hedgebanks (banques). They support a diversity of flowering plants including agricultural 'weeds', but tree or shrub species are scarce.

3.20 Evaluation: The hedgebanks are typical of the Island's hedgebanks found within the agricultural landscape of the north coast.

Extended Survey Area

- 3.21 The distribution of habitats within the *Extended Survey Area* are identified in Drawing No. MHA-16343-3 and the composition of particular communities described in Annex 3.

Bracken-dominated community

- 3.22 This is the overwhelmingly dominant vegetation type seaward of the *Core Survey Area* extending to the margin of the cliffs. The cliffs west and east over many kilometres were seen to be similarly cloaked by this vegetation type. The vegetation provides close affinity to the **W25b *Pteridium aquilinum-Rubus fruticosus* underscrub; *Teucrium scorodonia* sub-community** (Bracken-Bramble underscrub; Wood Sage sub-community) which equates to the Corine biotope **C31.831 *Roncées*** ('Acid-soil Bramble thicket'). This community overall supports a relatively limited diversity of plant species due to the density of growth. Greatest diversity is associated with more open conditions especially to the higher margin of the coastal path, which is evidently maintained cut regularly, and in the vicinity of rock outcrops.

- 3.23 Evaluation: W25b/C31.831 bracken underscrub is common and widespread in the lowlands of Britain (Rodwell, 1991) and is recognised to be very common on Jersey and the near-continent French regions of Basse-Normandie and Bretagne. It is characteristic of deeper, free-draining, circumneutral to moderately acid and fairly fertile soils (Rodwell, 1991).

- 3.24 This habitat type has become very extensive on Jersey's cliffs and for the most part is of historically recent origin. It has successionaly developed from grassland further to the cessation of grazing the cliff tops by sheep. At Plémont sheep grazing is thought to have ceased either during or shortly after World War II (author advised by an elderly resident of the Parish of St. Ouen who recalled seeing the cliffs grazed). An aerial photograph of the Parkin's Holiday Camp taken in 1947 identifies the coastal habitat to be short grassland becoming somewhat more tussocky towards the boundary of the camp.

Gorse-dominated community

- 3.25 The vegetation type has a generally patchy distribution within the survey area but appears to be most closely associated with shallow soils, areas of disturbance or rock outcrops. It is particularly abundant on the visibility bunds that were constructed around the SoJ car park. The vegetation provides close affinity to the NVC **W23c *Ulex europaeus-Rubus fruticosus* scrub; *Teucrium scorodonia* sub-community** (Gorse-Bramble scrub; Wood Sage sub-community) which equates to the Corine biotope **C31.85 (*Fourrés*) *Landes à Ajoncs* (du domain atlantique)** ('Atlantic gorse thickets').

- 3.26 Evaluation: W23c/C31.85 gorse scrub community is found widespread on marginal land throughout the lowlands (and upland fringes) of Britain (Rodwell, 1991) with the particular *Teucrium scorodonia* sub-community commonly associated with sea cliffs (Rodwell, 1991). The community is also recognised to be frequent and widespread in coastal areas of Jersey and in the near-continent French coastal areas of Basse-Normandie and Bretagne, becoming less common inland. It is considered that the community may represent an end-point in the development of woody vegetation on exposed sea cliffs, with trees only invading in more sheltered areas (Rodwell, 1991).

Bramble-dominated community

- 3.27 A very small area of this community was identified in proximity to the fort and WWII German emplacement (site feature 36). The vegetation conformed to the **W24b *Rubus fruticosus-Holcus lanatus* underscrub; *Arrhenatherum elatius-Heracleum sphondylium* sub-community** (Bramble-Yorkshire-fog underscrub; False Oat-grass-Hogweed sub-community) which equates to the continental Corine biotope **C31.8112 *Fruticées à Prunus spinosa* et *Rubus fruticosus*** ('Blackthorn-Bramble scrub').

- 3.28 Evaluation: It is a ubiquitous community typically associated with abandoned and neglected ground. It is found throughout the British lowlands (Rodwell, 1991), is widespread on Jersey and equally widespread in the near-continent French regions of Basse-Normandie and Bretagne.

Plémont Headland

- 3.29 Plémont Headland, which extends to 4.96ha (including the splash zone), was surveyed for the States of Jersey in 1997 (Penny Anderson Associates, 1997). In the course of the present study the headland was not re-surveyed, as such, but a walk-over survey in June 2006 concluded that previously identified vegetation communities, their distribution and character remained valid. The communities described in 1997 were identified as bracken-dominated areas (1.27ha), bracken and bramble areas (0.04ha), coastal community (1.58ha), coastal grassland (0.74ha), gorse (0.88ha), and other grasslands (0.45ha). A survey of the lichens of the headland identified it to support a considerable diversity of species (M. Freeman, pers. comm.).
- 3.30 Evaluation: The 1997 survey evaluated the Plémont Headland to be “...*typical but, at the same time, with special character which differentiates it from the average coastal cliff site. This small-scale and local distinctiveness, together with the scarce plants⁴ and animals⁵, give the site a significant nature conservation value within the Jersey context. This does not equate to the specially high value of the larger heathland and coastal sites, but does merit the heathland being considered in the second tier of sites of nature conservation value on the island, or as part of the more extensive north coast heathland and bracken covered sites*” (Penny Anderson Associates, 1997).

Grasslands

- 3.31 In proximity to the remains of the Fort and World War II German emplacement some very small areas of species-diverse coastal grassland were identified. Three areas at site feature 37 are mere relics of the grassland present prior to the successional development of the cliff top vegetation to bracken. That at site feature 35 has a heathy character with bell heather patchily distributed. A field to the south of the SoJ car park was found to have been recently sown with rye-grass providing a clear match with the **MG7 *Lolium perenne* leys and related grasslands** (Rye-grass leys) which equates to the Corine biotope **C81.1 Prairies sèches améliorées** ('Fertilised and reseeded grassland').
- 3.32 Evaluation: The very small areas of cliff-top grassland are mere relics of once more extensive grasslands, which are now best represented on the Plémont Headland. Bracken is rapidly encroaching onto the grasslands.

Arable fields and banques

- 3.33 The southern and eastern extent of the *Extended Survey Area* comprises small arable fields defined by hedgebanks. At the time of the survey crops of Jersey Royal potatoes had been lifted from most of the fields. The hedgebanks are reasonably diverse in flowering plant species, including 'weed' species, but virtually devoid of shrub and tree species.
- 3.34 Evaluation: The pattern of fields and hedgebanks is typical of the Island's north coast agricultural landscape.

⁴ 'scarce plants' in a British context but not Jersey context, "As far as the flora is concerned, none of the species recorded are rare in Jersey, and all are typical of the coastal heaths, grass, bracken and scrub patches" (Penny Anderson Associates, 1997).

⁵ 'animals' refers to near-by cliffs which support breeding puffins and fulmars, "The animal life on Plémont (Headland) has been insufficiently recorded to be able to judge its relative abundance, diversity or rarity..." (Penny Anderson Associates, 1997).

Flora

Core Survey Area

- 3.35 A total of 108 species of flowering plants were identified from the *Core Survey Area*, comprising 1 species of fern, 9 species of trees and shrubs, 18 species of grasses, 1 species of rush and 79 other vascular plant species (species are listed in Annex 4). A range of ornamental shrubs, trees and flowering plants associated with the formal planted areas of the holiday village were also noted but not specifically identified.
- 3.36 Evaluation: The total number of plant species (including species, sub-species, aggregates and hybrids) recorded on Jersey during the last national survey (survey data collected 1987-1999) was 995, of which 413 (41.5%) were categorised as 'alien' species, with 582 (58.5%) categorised as 'native' species (Preston *et al.*, 2002). Of the native species on Jersey 36 are categorised as 'Nationally Scarce'⁶ and 2 as 'Nationally Rare'⁷, with 25 of the Nationally Scarce and 1 Nationally Rare species recorded from 10km square WV55 (Stewart *et al.*, 1994), within which is located the *Core Survey Area*. Of the species recorded from the *Core Survey Area* mossy stonecrop (*Crassula tillaea*) and small-flowered catchfly (*Silene gallica*) are identified as Nationally Scarce in a British context (Stewart *et al.*, 1994). However, in a Jersey context the former species is identified as *locally frequent* and the latter *frequent on light soils* (Le Sueur, 1984). None of the species identified from the *Core Survey Area* are recognised as Plant Species of Conservation Concern on Jersey (States of Jersey, 2004) and none are afforded protection through the provisions of Part III of the Conservation of Wildlife (Jersey) Law 2000 and listing on the Conservation of Wildlife (Amendment No. 4) (Jersey) Order 2009.
- 3.37 The *Core Survey Area* was identified to support only a modest diversity of plant species typically associated with the grassland, hedgebanks, scrub and other habitats and as such may be considered to be common and/or widespread where similar habitat conditions prevail within their geographical range (Le Sueur, 1984; Stace, 1997; Preston *et al.*, 2002).

Extended Survey Area

- 3.38 The *Extended Survey Area* was found to support a range of plant species additional to those identified from the *Core Survey Area*. The plant species have not been listed but are detailed in the habitat features descriptions in Annex 3. Those for the Plémont Headland are detailed in a separate report (Penny Anderson Associates, 1997).
- 3.39 Evaluation: The *Extended Survey Area* was identified to support a diversity of plant species typically associated with the coastal grasslands, scrub communities, agricultural land and other habitats and as such may be considered to be common and/or widespread where similar habitat conditions prevail within their geographical range (Le Sueur, 1984; Stace, 1997; Preston *et al.*, 2002).

Birds

Core Survey Area

- 3.40 A total of 19 species of birds were either observed or heard within or over the *Core Survey Area* during the survey conducted in June 2006, of which 9 species (pheasant, wren, dunnock, blackbird, common whitethroat, blue tit, house sparrow, chaffinch and greenfinch) were considered to be breeding within or holding a breeding territory over at least part of the *Core Survey Area* (refer to Annex 5).

⁶ 'Nationally Scarce' species – recorded as a native plant in 16-100 10km squares from 1970 onwards.

⁷ 'Nationally Rare' species – recorded as a native plant in 15 or fewer 10km squares from 1970 onwards.

- 3.41 **Evaluation:** The *Core Survey Area* is identified to support a limited assemblage of breeding bird species, comprising essentially widespread and/or common or abundant species in a Jersey context (Société Jersiaise Annual Bird Reports), typically associated with the habitats and features of the site.

Extended Survey Area

- 3.42 A total of 20 species of birds were either observed or heard within or over the *Extended Survey Area* during the survey conducted in June 2006, of which 9-10 species (northern fulmar, pheasant, lesser black-backed gull, Atlantic puffin, feral pigeon, wren, dunnock, common stonechat, common whitethroat and possibly linnet) were considered to be breeding within or holding a breeding territory over at least part of the *Extended Survey Area* (refer to Annex 5). A number of additional cliff-breeding species are known to breed in small numbers within the general area between Grosnez (to the west) and Grève de Lecq (to the east) but were either not seen (ie. razorbill, described as a *rare breeding species*) or there was no evidence of them breeding (ie. great black-backed gull, described as a *scarce breeding species*) within the *Extended Survey Area* at the time of the survey.
- 3.43 **Evaluation:** During the last national breeding bird survey (survey data collected 1988-1991) a total of 83 species were recorded breeding on Jersey, of which 70 species were specifically recorded from 10km square WV55 (Gibbons, *et al.*, 1993), within which are located the *Core* and *Extended Survey Areas*. The assemblage of cliff-breeding and associated cliff-top breeding bird species within the survey area is assessed to be of great importance in a Channel Island context.

The following species observed are of particular significance⁸:

Atlantic Puffin

- 3.44 Puffins are a northern Atlantic species found in both North America (estimated breeding pairs 350,000-400,000) and northern Europe (estimated breeding pairs 5,700,000-7,300,000), with the British Isles on the southern fringes of its range, holding some 10% of the world population. The most southerly extant European populations are located around the English Channel coasts, namely the Isles of Scilly (several islands), Cornwall (several sites), Dorset (Portland Bill), the Channel Islands and northern Brittany (Île Rouzic in the Sept-Îles). Channel Island colonies are found in Jersey (Plémont and Grand Becquet), Guernsey (Jethou, Herm and Les Amfroques), Sark (L'Etac, Moie de Brenière and Moie Fano) and Alderney (Burhou and Hannaine Bay). It is recognised to be something of an iconic species in Jersey and the other Channel Islands.
- 3.45 Major UK seabird surveys (*Operation Seabird* in 1969-1970; *The Seabird Colony Register* in 1985-1988; and *Seabird 2000* in 1998-2002) have shown an overall increase in puffin numbers in each survey period. The *Seabird 2000* counts of puffin numbers between 1998-2002 identified an increase of 1.7% when compared with the previous 1985-1988 national survey (Mitchell *et al.*, 2004). However, although some colony declines have been recorded across the species' European range, the overall population in the British Isles would appear to be currently stable⁹. Nevertheless, colony decline has not escaped the Jersey population where it is identified as a *Scarce breeding species and rare migrant* (Jersey Bird Reports). Numbers on Jersey are thought to have declined from some 200-300 pairs during the period 1911-1914 (Dobson, 1952) to 20 pairs by 1992 (Pritchard, *et al.*, 1992), with only 10-20 pairs identified in Veron (1997). However, the UK seabird surveys have tended to combine Channel Island colony data, thus preventing closer examination of figures (eg. 1,116 in 1969-1970; 335 in 1985-1988; and 311 in 1998-2002, given in Mitchell *et al.*, 2004).

⁸ Permission to use information provided in Young, (2008) has kindly been granted by the author.

⁹ Letter from Mr. C. Alluto (Chief Executive of The National Trust for Jersey) to SoJ, dated 26 March 2008, referring to information provided by Prof. Mike Harris.

- 3.46 Figures for the maximum numbers of puffins seen at Jersey's north coast colony since 1998 are given¹⁰:

Year of count	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Max. no. birds	22	32	16	16	12	10	16	22	18	5	8

- 3.47 M. Dryden and T. Paintin (Chairman and Recorder respectively of the Société Jersiaise Ornithology Section) are separately quoted in an SoJ internal consultation letter from M. Freeman (dated 23 October 2006), that the maximum number of puffins seen in 2006 was 18 individuals in the coastal section between Plémont and Le Grand Becquet with around 4-5 at Plémont. T. Paintin additionally states that *the population has been about the same for the last 10 years*. The 2007 maximum count (refer to table above) may represent a significant decline, although it is recognised that counts may have been influenced by poor observational conditions during that particular breeding season. Young (2008) extrapolates that for the 10-year period 1998-2007 there is no obvious recent population trend, with a 10-year mean of 16.9 birds¹¹.
- 3.48 It is, however, more difficult to determine the actual numbers of pairs successfully breeding. A survey conducted in 2003 (EAG Environ, 2003), which deployed the RSPB recommended breeding bird census methodology (Gilbert *et al.*, 1998), identified 7 breeding pairs between Grosnez and Grève de Lecq (with a maximum of 12 individuals seen on any one visit), of which 5 pairs were located between Plémont and Le Grand Becquet. Relating counts of birds to actual breeding numbers in the Plémont area Pollock and Barton (2007) considered the number to be between 5-10 pairs. However, working on the principle that late season counts (ie. July) include non-breeding birds, Young (2008) advances that *a population of 10-50 pairs is likely*. By whatever means of calculation it is recognised that numbers of breeding puffins are now very small, possibly reduced to an unsustainable level (M. Freeman, pers. comm.). The lack of information on the age and sex structure, survival and recruitment of the Jersey population only serves to compound determination of the true status of the species on the Island.
- 3.49 A similar overall decline is identified from the other Channel Island colonies. On Guernsey 94-100 birds were seen in 1987-1988 (Hill, 1991), reduced to 40 in 2005 and only 10 birds seen around Herm and Jethou in 2006 and 2007. A population of 50,000 on Alderney in the early 1950s was reduced to 10,000 by 1959, and possibly only 122 pairs in 2005, although it is understood the population may have since stabilised. From a peak of 750 pairs on L'Étac de Serk in 1946, the overall population on Sark was estimated as 20-25 pairs in 1972 and 45 individuals in 1987-1988 (Hill, 1991). More recently a possible 100 birds were seen at L'Étac in 2006 but only 33 seen in 2007.
- 3.50 Once occurring on three islands of the Sept-Îles group puffins are now only found on Île Rouzic, with an overall decline from some 7,000 pairs in 1930-1950 to approximately 165 pairs in 2006. On the Isles of Scilly a population of as many as 100,000 birds on Annet in 1908 was reduced to less than 100 by the mid-1960s, with only 167 pairs estimated to be on eight islands in 1999, 174 pairs in 2006 (Mavor *et al.*, 2008), reduced to approximately 100 birds on four islands in 2007. A north Cornwall colony of over 3,000 in the 1940s slumped to 600 in the 1960s and has since died out. Recent counts at the three remaining Cornwall colonies have identified totals of 8, 16 and 72 birds respectively, variously in 2006 and 2007. At their sole Dorset site the population has remained around 2-3 pairs for the last 20 years, although may have numbered over 25 pairs prior to then.

Various causes for the decline of puffins on Jersey have been proposed. These include:

¹⁰ Figures for 1998-2007 taken from Jersey Bird Reports.

Figure for 2008 taken from www.jerseybirds.co.uk, entry for 15 April 2008.

¹¹ If the 2008 maximum figure of 8 is accepted the 11-year trend reduces to 16.1 birds.

3.51 Human disturbance

Seabirds are known to be disturbed by humans at breeding colonies, both through direct scaring by lone individuals approaching nests or by larger numbers of individuals at some distance. Sources of potential disturbance to the puffin colony at Plémont come from both land and sea.

3.52

Significant numbers of walkers, and in more recent years also mountain bikers, use the coastal path which was opened in 1981. The SoJ car park located above Plémont Bay (39 parking places) and the 'informal' car park located at the end of Rue de Petit Plémont above the Plémont headland (12 parking places) provide ready access for visitors and local residents to the coastal path and the headland. The coastal path in proximity to the Plémont Holiday Village is set well back from the cliff edge by a steep, sometimes rocky, and densely vegetated slope. The potential for direct public disturbance along this section is considered limited (refer to Annex 3, photos 18 and 23), although further eastwards the coastal path is, in places, located much closer to the cliff edge. The Plémont headland, located in close proximity to the breeding cliffs, is identified as a popular venue for sea anglers. The potential for this activity to be a source of disturbance to puffins and other cliff breeding seabirds at this location has not been researched. A clay pigeon shoot takes place at Lecq Farm. Shotgun pellets and clays have been reported falling in the area of the breeding cliffs and into the sea to the west of Douet de la Mer (Young, 2008). Over many decades the Plémont Holiday Village accommodated a large number of visitors who would have used the local coastal facilities. The average guest occupancy during the period 1991-2000 was 355, with a maximum of 548. No study of impacts on the puffins had been conducted in relation to the authorised use of the site as a holiday camp. Nevertheless, it is evident that puffin numbers have remained low despite closure of the holiday village site in 2000.

3.53

Young (2008) reports that the level of boat activity in the vicinity of the Plémont seabird colony has increased in recent years. Fishermen regularly set lobster and crab pots offshore in the bay below the cliffs. Only a single fisherman is known to use nets in the area (trammel nets which lie near the seabed), and no puffins are known to have been accidentally netted and killed in local waters. The puffins themselves have become the subject of interest and are now regularly visited by kayakers and other boat operators both as well-organised groups and in increasing numbers by individual boats. Young (2008) identifies observing (a sunny afternoon in June 2007) two jet skis and two motor-boats repeatedly travelling at speed between Grève de Lecq and Plémont/Grosnez. The potential for watercraft to be a source of disturbance to puffins at this location has not been investigated but may be considerable. Disturbance has been implicated in declines at the Burhou puffin colony¹². Young (2008) identifies that in a year with low food availability, disturbance from boats might make the difference between nesting success and failure.

3.54 Decline in food stocks

Puffins are known to feed on several fish species, typically in shallow waters, some 3-5km from the breeding colony, but they have been recorded travelling up to 137km in times of food shortage. The consequences of overfishing of sandeels *Ammodytes spp.* on the success of seabirds is documented from several northern breeding colonies. This has been matched by an increase in population levels of snake pipefish *Entelurus aequoreus* in the north-east Atlantic, which may be related to an increase in sea temperatures. At many colonies in the UK young seabirds have been recorded being fed this species which they are unable to digest or even swallow, resulting in choking or starvation (Harris *et al.*, 2007; Mavor *et al.*, 2008). Young (2008) states that local fishermen from Grève de Lecq have reported reduced numbers of sandeels from the vicinity of the Island's north coast¹³. Other sources have indicated that stocks of sandeels are in fact healthy, although the increasing presence of snake pipefish has also been noted. Prof. M. Harris noted on the near-by island of Burhou (Alderney) the higher quality food being brought to young puffins than that seen at North Sea colonies (refer to

¹² Burhou island has since been closed to visitors between 15th March and 27th July each year. Boat owners are recommended not to disturb birds on the water and restrict boat speed when near the colonies.

¹³ The bay to the west of Plémont headland is known as La Grève au Lanchon. Lanchon translates as sandeel.

footnote 8). However, at the present time it is not known where Jersey's puffins feed nor on what species (Young, 2008).

3.55 Oil pollution

The wrecks of the *Torrey Canyon* (1967) between the Isles of Scilly and Cornwall, the *Amoco Cadiz* (1978) off the Brittany coast and the *Erika* (1999) in the Bay of Biscay have been implicated in the decline of the Breton puffin colonies, with particularly deleterious impact to birds wintering at sea. Consequent to the *Amoco Cadiz* spillage 1391 puffins were found dead and the Sept-Îles population halved. Puffins from further north were probably also killed as well as potentially from the Channel Islands.

3.56 Rodent and cat predation

The impact of chick and eggs predation at seabird colonies world-wide, variously by species such as brown rats *Rattus norvegicus*, black rats *Rattus rattus* and feral/domestic cats *Felis catus*, is well documented. In the UK, the extermination of island breeding puffin colonies through rat predation is identified from Ailsa Craig (Ayrshire), the Shiant Islands (Western Isles) and Handa Island (Sutherland), with serious population reductions on Lundy Island¹⁴ (Devon), Canna (Highlands) and Puffin Island (Anglesey). The 2006 MHA survey identified brown rat to be widespread and common within the buildings and banques of the *Core and Extended Survey Areas*, though cats were considered to be scarce, at that time. Young (2008) additionally notes domestic ferret *Mustela furo* also being present.

3.57 Gull predation

Although often co-existing with puffins, the larger gulls such as great black-backed *Larus marinus*, lesser black-backed *Larus fuscus* and herring *Larus argentatus* are known to predate the species (adults, young and eggs), impacting on numbers and recruitment levels. Studies to determine the apparent decline of the puffin colony on the nearby island of Burhou (Alderney) have identified gull predation as a significant factor (Soames *et al.*, 2005; L. Soames pers. comm.).

3.58 Kleptoparasitism

Theft of food by gulls, from puffins carrying fish to the nest, is recognised to have a bigger impact than predation (Mitchell *et al.*, 2004).

3.59 Habitat

Puffins will excavate one metre long burrows on turf slopes facing the sea or use rock crevices where insufficient soil has developed to enable burrowing. The grassland slopes of the Plémont headland would appear to offer potentially suitable burrowing conditions (in the absence of human disturbance, predation, etc.). It is identified that the cessation of grazing on the Plémont cliff tops has resulted in the succession of previous coastal grassland to dense bracken-bramble scrub¹⁵ (refer to paragraphs 3.25-3.27). It is possible this may have deprived puffins of potential burrow sites and lead to their reliance on inaccessible cliff crevices. Bracken encroachment has also been identified as a factor in the decline of the burrow nesting puffin colony on Burhou (Alderney) (Soames *et al.*, 2005; L. Soames pers. comm.). Viewed through binoculars the cliffs immediately below the Plémont Holiday Village site do not appear to offer particularly good crevice conditions to accommodate significant numbers of puffins.

However, no exact cause for historical declines has been determined and it is considered most likely that the causes are multiple.

¹⁴ A decline in the puffin colony on Lundy from 3,500 pairs in 1939 to only 13 individuals in 2000 was attributed to rat predation. Subsequent eradication of the rats resulted in 1 puffin chick being sighted in 2005 (Jones & Davis, 2006), the first since 1972. A maximum of 15 birds were seen in 2006, with several burrows in active use, but no conclusive proof of successful breeding (Jones & Davis, 2007). In 2008 4 successful breeding pairs plus 10 non-breeding were observed (D. Appleton, pers. comm.).

¹⁵ At Plémont sheep grazing is thought to have ceased during or shortly after WWII. An aerial photo of the Parkin's Holiday Camp taken in 1947 identifies the habitat of the cliff top to be short turf becoming more tussocky towards the seaward boundary of the camp.

- 3.60 The species is identified as an *Amber List species of medium conservation concern*¹⁶ (Eaton *et al.*, 2007) and a *Species of European Conservation Concern Category 2*¹⁷, recognising that it is very vulnerable to adverse changes in the environment, particularly as its breeding populations are concentrated at a small number of sites. It is afforded protection through EU, French, UK and Jersey¹⁸ legislation and is listed on the *Bern Convention on the conservation of wildlife and natural habitats* (COE, 2007).

Northern Fulmar

- 3.61 The northern fulmar, which is described as a *common resident and migrant* (Jersey Bird Reports), first bred on Jersey in 1975. There were some 165 pairs counted in 1998 and subsequently some 170+ pairs breeding in most years, primarily on the north coast cliffs, with *numbers having steadily increased over the past 10 years*. In 2006 M. Dryden estimated *30 pairs in the area, which means something between 7-10% of the Island population breed here*, whereas T. Paintin in the same year identified there to be 70+ Fulmar nests between Plémont and Grève de Lecq with *at least 40 pairs in the Plémont area* (M. Dryden and T. Paintin, quoted in SoJ internal consultation letter from M. Freeman, dated 23 October 2006). During the 2006 MHA survey some 20 pairs were visible on the cliffs immediately below the holiday village (between Le Creux de la Houx east to below the rock outcrop of Le Betier)¹⁹, a figure comparable to that of the EAG Environ survey in 2003 when the species was identified as *common along the cliffs, at least 19 occupied sites directly below the Pontin's camp*. The presence over many decades of a holiday village, predators, as well as a range of other perceived threats would appear not to have inhibited the species from becoming established nor evidently thrive in close proximity to Plémont and they would appear to be tolerant of human activity nearby (Young, 2008). The species is identified as an *Amber List species of medium conservation concern* (Eaton *et al.*, 2007).

Eurasian Stonechat

- 3.62 Stonechats are identified as a *scarce resident species* (Jersey Bird Reports), essentially restricted to coastal areas (Handschuh, 2004). Serious declines were first noticed in the mid-1980s with no more than 5-10 pairs recorded each year during the early 1990s. Recent breeding numbers on the Island have generally fluctuated during the 12 years from 1996-2007, though the species would appear to be currently experiencing a decline. Peaks numbers over that period of 15 pairs in 1996, 13 in 1998 and 14 in both 2003 and 2004 have been followed by low numbers of 4 in 1997, 5 in both 2000 and 2001, 3 in 2002 and 4 in 2007, with only 2 breeding pairs apparently recorded in 2008 (www.jerseybirds.co.uk). Several possible causes for the decline have been mooted including loss of habitat, deterioration of preferred habitat through the spread of bracken, resulting in reduction in the availability of food both during the breeding season and winter, disturbance from humans and dogs and predation by cats and ferrets (SoJ, 2007). The breeding pair with two young seen at the time of the MHA survey in June 2006 on the Plémont Headland is understood to have provided a new breeding location for the species, although a pair is known to have bred in 2005 within 1 km of this location to the west (M. Freeman, pers. comm.).
- 3.63 The species is identified as an *Amber List species of medium conservation concern* (Eaton *et al.*, 2007) and is afforded full protection under the Conservation of Wildlife (Jersey) Law 2000. The future conservation of the species is being addressed through a Biodiversity Action Plan (SoJ, 2007).

¹⁶ A species where ≥50% the UK population occurs in 10 or fewer sites.

¹⁷ SPEC2: species whose global populations are concentrated in Europe and which have Unfavourable Conservation Status in Europe.

¹⁸ Conservation of Wildlife (Jersey) Law 2000.

¹⁹ Other fulmar were evidently breeding on the cliffs to the west and east of this location in 2006 but were not specifically counted by MHA because, a). limited accessibility/views of all facets of the cliffs would have resulted in an inaccurate overall count, and b). whether a greater or lesser count was made would not, in itself, have altered the overall significance of the species at this site. The separate figures provided by M. Dryden and T. Paintin evidently differ from those of MHA and EAG but are considered to solely reflect the extent of the cliffs over which the species was counted.

Other notable species recorded from the Plémont area but not specifically recorded from the *Extended Survey Area* at the time of the MHA survey in 2006 include:

Razorbill

- 3.64 The species is identified as a rare breeding species, although a common winter visitor and common, occasionally abundant, autumn migrant (Société Jersiaise, 2008). The EAG Environ survey of 2003 estimated there to be 7 breeding pairs between Grosnez and Grève de Lecq, of which 6 pairs were located between Plémont and Le Grand Becquet, with a maximum of 10 individuals seen on any one visit. A maximum of 6 breeding birds were seen along the Island's north coast in May 2007 with 8 at Plémont in June 2007 (Société Jersiaise, 2008). Overall, numbers of this species on Jersey would appear to fairly stable at around 10-20 pairs with breeding recorded each year in the Plémont-Grand Becquet and Wolf's Caves area of coastline (Young, 2008).

European Storm Petrel

- 3.65 The species is identified as an *Amber List species of medium conservation concern* (Eaton *et al.*, 2007). Storm petrels are known to breed at 7 sites in the Channel Islands with estimated numbers in the region of 49-83 apparently occupied sites (AOS)²⁰ (Mitchell *et al.*, 2004). To date there is no proven breeding on Jersey, where the species is described as a *scarce summer visitor and autumn migrant* (Société Jersiaise, 2008). In recent years ringing recoveries (controls) of storm petrels have shown regular movement of birds between English Channel breeding sites as well as some a little further afield, namely birds ringed off the western coast of Brittany, the Isles of Scilly, Gwennap Head (Cornwall) and Portland Bill (Dorset) have been controlled on Burhou (Alderney). Two-way movement has been identified between Plémont and Gwennap Head, Wooltack Point (Dyfed, Wales) and Old Head of Kinsale (Cork, Eire) (Jersey Bird Reports). Tape lures are deployed to draw birds in off the sea (sometimes large numbers of birds), a practice which is commonly used in the UK. Recent studies have shown that storm petrels attracted to tape lures tend to be non-breeding or *wandering* birds that have been shown to *cover large distances of over 200km in three days or less* and tend to move close inshore at night to feed (Mitchell *et al.*, 2004; and in Young, 2008).

- 3.66 Night netting and ringing of storm petrels has taken place at the Plémont headland (La Tête de Plémont) for a number of years with a total of 35 caught over four nights in 2001, 25 on five nights in 2003, 33 on three nights in 2004, 24 on three nights in 2005, 17 in June 2006, 25 in 2007 (Jersey Bird Reports) and 12 on three nights in 2008 (www.jerseybirds.co.uk). T. Paintin (quoted in an SoJ internal consultation letter from M. Freeman, dated 23 October 2006), identifies that some re-trapping of storm petrels had occurred suggesting a possible colony in the area, *but we have not been able to prove this yet*. Suitable burrow breeding habitat may be a key constraint to colony establishment, although in that respect, the Plémont headland may, in the absence of predators and disturbance, offer the most suitable conditions. All other cliff areas along this section of coast support dense bracken and bramble and offer far from optimum conditions. In the absence of records of birds calling at night from potential nest sites it is not, however, possible to make any assumptions on their breeding status.

Manx Shearwater

- 3.67 The species is identified as an *Amber List species of medium conservation concern* (Eaton *et al.*, 2007) and described as a common, spring and autumn migrant and summer visitor to Channel Island waters (Société Jersiaise, 2008). There are no known colonies of this species on Jersey although elsewhere in the Channel Islands it has bred on Sark and Jethou in the last few decades, though the population is very small with estimates of 5 pairs on each island (Mitchell *et al.*, 2004). Other English Channel colonies are known from the Isles of Scilly and the Sept-Îles (Brittany).

²⁰ A tape play-back survey on Burhou (Alderney) in July 1999 found 60 AOS; a repeat survey in July 2006 obtained 28 responses, indicating 80 AOS, with the colony having expanded into burrows at the eastern end of the island (Mavor *et al.*, 2008).

- 3.68 Since 2002 small numbers of the species has been caught and ringed at La Tête de Plémont in the course of night netting of storm petrels (refer to paragraph 3.67). M. Dryden indicates *six to eight Manx Shearwaters* during the five year period (quoted in an SoJ internal consultation letter from M. Freeman, dated 23 October 2006) and that *these birds appear to be flying low over the headland at night, and coming from or going to the area below the Holiday Camp. We believe, but have no proof yet, that there may be a small colony in the vicinity.* This latter view is re-iterated by T. Paintin (quoted in the same SoJ letter). Numbers given in Jersey Bird Reports indicate 2 seen but only 1 caught in May 2003; 2 caught in June 2004 and 1 in July 2004; 1 heard at night in June 2005 and 2 caught in July 2005, 2 in June 2006 and *several night records from Plémont Point in June and July 2007.* The status of this species on Jersey remains unclear. In similar fashion to that stated for the storm petrel, in the absence of records of birds calling at night from potential nest sites it is not possible to make any assumptions on their breeding status.

Mammals

Bats

- 3.69 A survey of bats was conducted to determine the presence of bats and bat roosts within the site buildings, the presence of foraging bats within the boundaries of the site, identify the species present and to appraise the site's present value to roosting and/or foraging bats (refer to survey report in Annex 6).
- 3.70 No bats or evidence of bat use, either current or historical, was noted for any of the buildings entered and inspected. However, a single individual of the species common pipistrelle *Pipistrellus pipistrellus* was detected by ultrasound at emergence time within the area of the swimming pool. Timing, call types and behaviour indicated emergence from a roost location within surrounding buildings. A single common pipistrelle was also detected in the vicinity of the sheltered section of the coastal path in proximity to the café at Plémont Bay. A post-emergence survey conducted along the road from Plémont to Grève de Lecq identified common pipistrelle bats from south of the holiday village, with most activity recorded around settlements, sheltered treed hedgerows and under continuous tree canopy, descending from Léoville to Grève de Lecq.
- 3.71 Evaluation: From the results of the survey, the existing building complex and the immediate habitats are considered to have a low conservation value for bats due to their exposed and isolated position, lack of suitable habitat features to provide sheltered flight lines and reduced levels of insect abundance. These findings broadly accord with the previous Island-wide bat survey (Magris, 2003) where positive correlation between bats, treed hedgerows, sheltered wooded valleys and other linear features was recognised. The survey also found positive correlation between bat roost choice and residential properties.
- 3.72 All bat species are afforded protection through the Conservation of Wildlife (Jersey) Law 2000. The future conservation of the species is being addressed through a Biodiversity Action Plan (SoJ, 2007).

Brown rat

- 3.73 The species was identified from a number of the holiday village buildings as well as peripheral hedgebanks (refer to Annex 7).
- 3.74 Evaluation: The species is identified as widespread and common within the *Core and Extended Survey Areas*. This is understood to reflect the Island-wide status of the species (M. Freeman, pers. comm.).

Domestic cat

- 3.75 A single domestic cat was observed in the vicinity of the SoJ car park. The appearance of the cat suggested that it was not a feral animal but probably belonging to a property in proximity. No cats are known to be kept at the holiday village and none have been observed by the site manager.

- 3.76 Evaluation: At the present time cats are considered likely to be scarce within the *Core* and *Extended Survey Areas*.

Rabbit

- 3.77 The species was identified in considerable numbers throughout the survey area.
- 3.78 Evaluation: The species is considered to be widespread and common on Jersey.

Reptiles and Amphibians

Green Lizard

- 3.79 A single female green lizard *Lacerta viridis* was identified from the boundary of the *Core Survey Area* with the *Extended Survey Area* (details given in Annex 8). No other reptile species were observed at the time of the survey. However, more recently, J. Pinel (SoJ Head of Countryside Management) observed two green lizards “to the north of the existing staff bungalow” on the 15th September 2008²¹.
- 3.80 Evaluation: The green lizard is found over much of Europe. In Britain it is currently only found in the Channel Islands. On Jersey it is found mostly in the south-west and west of the Island (SoJ, undated; www.greenlizard.org.je) and is probably more widely distributed on the north coast than current records suggest (M. Freeman, pers. comm.). There is an historical record of the species being found within the 1 km grid square within which is located the Plémont Holiday Village (SoJ, 2007). The species is often associated with dense bushy vegetation and bramble thickets, particularly where there is good exposure to sun, predominantly on dune systems and cliff and coastal heaths, plus a few inland sites including private gardens (SoJ, 2007). They feed on invertebrates, fruit and the eggs and the young of small birds (Arnold and Burton, 1978). Declines have been attributed to encroachment of preferred habitat by bracken and scrub further to cessation of management, loss and fragmentation of sites through development and agricultural intensification, and cat predation (SoJ, 2007; SoJ, undated). It is, however, categorised as ‘common’ being found in more than 16 km grid squares. On Jersey all lizard species and their nests are protected from damage or disturbance under the Conservation of Wildlife (Jersey) Law 2000. The future conservation of the species is being addressed through a Biodiversity Action Plan (SoJ, 2007).

Common Toad

- 3.81 A single common toad *Bufo bufo* was identified (as a road casualty) from the boundary of the *Core Survey Area* with the *Extended Survey Area* (details given in Annex 8). No other amphibian species were recorded at the time of the survey.
- 3.82 Evaluation: The common toad (also known on Jersey by the French name for the species *Crapaud*) is the unofficial symbol of Jersey (SoJ, 2007). Formerly very common on the Island it declined substantially during the latter half of the 20th century. It is now restricted to as few as three natural breeding sites in the west of the Island and a single re-introduction site. The vast majority of breeding populations are found in ponds within private gardens (SoJ, 2007; Freeman, 2008). The reasons for its decline are not fully understood but would appear to mirror the pattern found in the UK and continental Europe. The species is afforded full protection under the Conservation of Wildlife (Jersey) Law 2000. The future conservation of the species is being addressed through a Biodiversity Action Plan (SoJ, 2007).

²¹ Sighting referred to in SoJ internal letter (ref. L/Env Dep/20) from J. Pinel to K. Johnson dated 16 April 2009.

Invertebrates

Butterflies

- 3.83 A total of 12 species of butterflies were recorded from the *Core* and *Extended Survey Areas* (refer to list in Annex 9) of which 10 species may be expected to breed given the range of necessary larval food plants, nectar sources and habitat niches present.
- 3.84 Evaluation: The number of butterfly species recorded on Jersey during the last national survey (survey data collected 1995-1999) was 30, of which 28 species were recorded from 10km square WV55 (Asher *et al.*, 2001), within which the *Core* and *Extended Survey Areas* are located. The species recorded are all identified as common and widespread in a Jersey context. None are identified by Butterfly Conservation as being other than of Low Conservation Priority and none are considered threatened in a European context.

Formica pratensis

- 3.85 A single nest of the wood-ant species *Formica pratensis* was identified within the *Extended Survey Area*, from the northern margin of the informal car park at the end of La Petite Route de Plémont²² (refer to Drawing No. MHA-15338-7).
- 3.86 Evaluation: In Britain the species is now only found on Jersey and Guernsey, the final mainland colony having been lost in Dorset in the late 1980s (Skinner, 1998; Baldock, 2006). On both islands it has primarily been found on cliff tops although it is also been found on sand dunes in Jersey. A recent record of a nest at the margin of the private car park at the holiday village was not re-found. However, the nest found during the current survey provides a further north coast location for the species. The species is identified by the International Union for the Conservation of Nature (IUCN) as a Red Data Book Species ('Vulnerable to extinction'). However, it should be noted that all mound-building *Formica* ant species have been included as a group in this category. The threat to the species is identified as destruction of nests or nest habitat (Shirt, 1987). No recent French distribution maps have been produced which would provide an indication of its status on the near-continent (Dr. David Sheppard, Natural England, pers. comm.).

Conclusion

Core Survey Area

- 3.87 The *Core Survey Area* is identified to support only a relatively small diversity of habitats and species, closely reflecting the historical use of the site. The sightings of green lizard are, however, of significance, suggesting the presence of a population in the general area.

Extended Survey Area

- 3.88 The *Extended Survey Area*, more particularly the area seaward of the holiday village, is identified to be of considerable nature conservation significance for its breeding bird populations, short maritime grassland communities and associated flora, and the presence of the ant species *Formica pratensis*.

²² The land is thought to be owned and managed by the Parish of St. Ouen. The location is outside the control of the Applicant.

4.0 NATURAL ENVIRONMENT POLICY CONTEXT

- 4.1 This section addresses the legislative and policy framework in which the proposal is considered, as it relates to environmental legislation and policies.

International

- 4.2 The UK Government has, over the last few decades, ratified a significant number of inter-governmental Conventions and Directives and put in place a legislative framework relating to the environment, habitats and species. These have confirmed the importance of environmental issues on the wider political agenda through recognition of such factors as the fragility and significant diminishment of global natural heritage, the importance of protecting the environment, the cross-border movement of species, and the conservation of habitats and species for this and future generations. As a Crown Dependency several Conventions pertinent to current considerations have been extended to Jersey. Additionally, there are several Conventions and Directives which have either not been extended or which are not yet effective.

Convention on Biological Diversity

- 4.3 Signed by 150 states at the United Nations Conference on Environment and Development [the 'Earth Summit'] in Rio De Janeiro in June 1992, the UK ratified the Convention in 1994. Through Article 6A of the Convention each contracting party is required to '*develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity, or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in the Convention*'. Shortly after the Earth Summit the then Prime Minister announced an 8-point plan for follow-up action which included publishing an Action Plan for Biodiversity (DoE, 1994). Major outputs from the Earth Summit included the Rio Declaration, a Statement of Principles which addressed the need to balance the protection of the environment with the need for sustainable development and Agenda 21, an Action Plan with the aim of integrating environmental concerns across a broad range of activities such as industry, agriculture, energy, transport, recreation and tourism, land use and fisheries.

The Convention has been extended to the States of Jersey and became effective there on 1 September 1994.

Convention on the Conservation of European Wildlife and Natural Habitats

- 4.4 The UK ratified the '*Bern Convention*' in 1982. It seeks to conserve wild plants, birds and animals, particularly those that are endangered and vulnerable, together with their habitats. It is a treaty rather than a law and carries requirements rather than obligations. The provisions of the Convention are, however, implemented in the UK through the Wildlife and Countryside Act 1981 and in the European Union through the 'Habitats Directive' (92/43/EEC).

The Bern Convention was extended to the States of Jersey and became effective on the 25 October 2002.

Convention on the Conservation of Migratory Species of Wild Animals

- 4.5 The '*Bonn Convention*' was adopted in 1979, entered into force in 1983 and the UK ratified it in 1985. The UK has ratified several agreements relative to the Convention including the Agreement on the Conservation of Bats in Europe (EUROBATS) in 1994, the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS) in 1993 and the Agreement on the Conservation of African-Eurasian Migratory Waterbird Agreement (AEWA) in 1999. The Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

The Bonn Convention was extended to the States of Jersey and became effective on the 1 October 1985. The Eurobats Agreement was extended and became effective from 29 October 2001 (with amendments 9 May 2002).

Convention on Wetlands of International Importance especially as Waterfowl Habitat

- 4.6 The '*Ramsar Convention*' was signed in 1971 and ratified by the UK in 1976. The official name of the treaty reflects its original emphasis on the conservation and wise use of wetlands primarily to provide habitat for waterbirds. Over the years the Convention has broadened its scope to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation and for the well-being of human communities. In ratifying the Convention Contracting Parties agree to designate wetlands in accordance with stated criteria²³, for inclusion in a list of 'Wetlands of International Importance'.

The Ramsar Convention was extended to the States of Jersey on 1 May 1976 and became effective on the 5 May 1976. A wetland site of international importance known as *South-east coast of Jersey* (EU code: UK23001) which extends from La Collette (St. Helier) to Gouray Pier was designated a Ramsar site on the 25 September 2000. In addition, the off-shore reefs of *Les Minquiers* (EU code: UK23002), *Les Écréhous & Les Dirouilles* (EU code: UK23003) and *Les Pierres de Lecq (the Paternosters)* (EU code: UK23004) were designated Ramsar sites on the 2 February 2005.

The proposal site is not in immediate proximity to designated Ramsar sites.

The two most important protection and conservation measures at a European level are the Birds and Habitats Directives.

Directive on the conservation of wild birds (79/409/EEC)

- 4.7 The '*Birds Directive*' provides for the protection of all species of birds naturally occurring wild in the European Union and it applies also to their eggs, nests and habitats. Measures are identified to preserve a sufficient diversity of habitats for all species in order to maintain populations at ecologically and scientifically sound levels. Species listed in Annex I are the subject of special conservation measures requiring the conservation of their habitat through the establishment of Special Protection Areas (SPAs), in order to ensure their survival and reproduction in their area of distribution. The provisions of the Birds Directive are delivered in part in the UK through the Wildlife and Countryside Act 1981 (as amended) and formally transposed into law through The Conservation (Natural Habitats, &c.) Regulations 1994 (the '*Habitats Regulations*') (as amended).

Directive on the conservation of natural habitats and wild fauna and flora (92/43/EEC)

- 4.8 The '*Habitats Directive*' aims to contribute towards biodiversity by conserving natural habitats and wild fauna and flora of Community importance. The Directive promotes the selection of Special Areas of Conservation (SACs) for their importance as natural habitat types listed in Annex I and habitats of the species listed in Annex II. Member States are required to take appropriate steps to avoid deterioration of Annex I natural habitats and the habitats of species as well as disturbance of Annex II species for which the sites has been designated. Species listed in Annexes II and IV of the Directive are afforded strict protection. In addition, proposals of all types which are not directly connected with or necessary to the management of SAC sites, which are likely to have a significant effect on the SAC or SPA should be assessed according to their implications for the site's conservation objectives. The requirements of the Habitats Directive are formally transposed into UK law through The Conservation (Natural Habitats, &c.) Regulations 1994 (the '*Habitats Regulations*') (as amended). The regulations are, however, additional to, and not fully integrated with the Wildlife and Countryside Act 1981 (as amended).

- 4.9 **The States of Jersey are not represented in the UK Parliament and Acts of Parliament do not apply automatically to it. The States of Jersey are not bound by European legislation and as such these two Directives and enabling UK legislation currently have no basis in law on the island. However, the underlying principles of the two Directives are used as guidelines for best practice by the States of Jersey in the conduct of its environmental duties and responsibilities (M. Freeman, pers. comm.).**

²³ A wetland is considered to be of international importance based on one or more qualifying criteria which include the representative or unique status of the wetland, the assemblage of rare, vulnerable or endangered species or subspecies of plants or animals, its special value for maintaining the genetic and ecological diversity of a region or the site regularly supports 20,000 waterfowl or 1% of the individuals in a population of one species or subspecies of waterfowl.

Important Bird Areas

- 4.10 A designation applicable to special sites recognised to be of international or national importance for populations of a particular bird species or an assemblage of species, variously during migration, breeding or wintering periods. The importance of the Channel Islands for their bird populations and assemblages, including Jersey, has been identified in Pritchard *et al.* (1992), which lists IBAs in the UK. IBAs can include sites which qualify for designation as Ramsar sites or as SPAs through the Birds Directive. IBAs specifically listed for the Channel Islands are given in Veron (1997).

The closest IBAs to the proposal site are identified at *Les Landes* (some 0.5km to the west at the nearest point) and the coastal headland at *Crabbé* (2.5km to the east-south-east).

Jersey Legislation and Policies

The following legislative, policy and other considerations have relevance or directly apply.

Biodiversity Strategy

- 4.11 Further to the publication of the UK Biodiversity Action Plan (DoE, 1994) and to fulfil obligations imposed by the Convention on Biological Diversity the UK Government established the Biodiversity Steering Group. Their subsequent report (UKBSG, 1995) identified priorities for UK habitats and species conservation and included costed action plans for 116 species [Species Action Plans (SAPs)] considered to be globally threatened or rapidly declining in the UK and for 14 key habitats [Habitat Action Plans (HAPs)]. Costed action plans were subsequently produced for a further 275 species and 31 habitats, together with 84 species statements (UKBG, 1998-1999). A revised UK list of Priority species and habitats (1149 taxa and 65 habitats) was adopted by the four UK Government administrations in 2007 (Biodiversity Reporting and Information Group, 2007). The objectives and targets of the UK Biodiversity Action Plan (the '*UK BAP*') have since been developed into Regional, County and District-wide action plans for most parts of metropolitan UK.

- 4.12 A Biodiversity Strategy for Jersey has been produced (SoJ, 2002a) and Habitat Action Plans are to be produced for a number of Key habitat types²⁴ (ie. of International importance) and habitats of Local importance²⁵ (ie. important in a Jersey context) [source: States of Jersey, 2002a; M. Freeman, pers. comm.]. Species Action Plans to enable the future conservation of identified species have been produced (SoJ, 2007).

Of the habitats identified specifically from the proposal site (the *Core Survey Area*) only *Walls and Banques* would be the subject of a Habitat Action Plan on account of their Local importance in a Jersey context. Species Action Plans have been produced for species identified from the *Core Survey Area*, namely common toad, green lizard and bat species as well as the *Extended Survey Area*, namely heath grasshopper (*Chorthippus vagans*) and stonechat.

Sites of Channel Islands Importance for Birds

- 4.13 These are sites identified in Veron (1997) which are important for birds in the context of the Channel Islands but which do not meet the criteria for designation as internationally or nationally Important Bird Areas.

The cliff area at Plémont is included in the *North Coast Cliffs Site of Channel Islands Importance for Birds*. The proposal site is situated in proximity to but outside of the designated area.

Jersey Wildlife Law

- 4.14 Through the provisions of Article 2 of the Conservation of Wildlife (Jersey) Law 2000 protection is afforded to certain wild animals listed in Part I of the First Schedule, wild birds

²⁴ Coastal heathland; Sea cliff and slope; Sand dunes; Intertidal zone (various habitats); and Marine (various habitats).

²⁵ Wet meadows; Semi-natural broadleaved woodland; Marsh and Freshwater; Walls and Banques.

described in Part II of the First Schedule, special protected wild birds listed in the Second Schedule and wild plants through the provisions of Schedule 3. Amendments to the 2000 law have conferred the status of protected wild bird on the house sparrow through the provisions of the Conservation of Wildlife (Amendment) (Jersey) Order 2001 and removed the feral pigeon from the protected wild bird schedule through the provisions of the Conservation of Wildlife (Amendment No. 2) (Jersey) Order 2003. The Conservation of Wildlife (Amendment No. 4) (Jersey) Order 2009 which protects certain species of plants came into force on 3 February 2009.

Several species of birds and animals identified from the proposal site (the *Core Survey Area*) and adjacent land (the *Extended Survey Area*) are afforded legal protection through the provisions of Jersey wildlife legislation. No plant species identified from the proposal site is afforded legal protection through the legislation.

Jersey Planning Law

- 4.15 Through the provisions of Part 6, Chapter 1 of the Planning and Building (Jersey) Law 2002, the States of Jersey is able to designate and protect as Sites of Special Interest (SSI's) *places of public importance* by reason of their special zoological, botanical, geological or scientific interest.

Neither the proposal site nor the immediate coastal land at Plémont are identified for designation as a SSI (M. Freeman, pers. comm.). The closest designated biological SSI is at *Les Landes* and the closest designated geological SSI is at *La Cotte à la Chèvre*, both to the west of the proposal site.

Jersey Countryside Character Appraisal

- 4.16 The Appraisal (States of Jersey, 1999) was produced as part of the review process for the Jersey Island Plan. The specific purposes of the study included:

- * *to assist in ensuring that the planning policies formulated for the revised Island Plan are appropriate for the future protection and enhancement of the Island's countryside;*
- * *to inform development control decisions;*
- * *to avoid the countryside being detrimentally affected by poorly located development; and*
- * *to help ensure that any necessary new development respects or enhances the distinctive character of the countryside.*

The project brief included the need to *establish the relative capacity of the various character areas to accept new development without undue detrimental impact on their character.*

The Appraisal identifies the entire north coast of Jersey within the *North Coast Heathland Character Area (A1)* and the *Cliff edge with Deep Sea Character Area (F)*. The *North-West Headland (St Ouen) Character Area (E1)* extends to the southern agricultural hinterland of the proposal site.

The Jersey Island Plan 2002

- 4.17 The Island Plan (States of Jersey, 2002b) was produced in accordance with the Island Plan objectives and is driven by economic, community, environmental and transport policies with sustainability a key strategic policy. The following selective policies are of relevance to the ecological, biodiversity, nature conservation and the natural environment considerations and have been taken into account in this study:

- 4.18 Policy G2: General development considerations: It is necessary to demonstrate that the proposed development (selective list):

- (i) *will not unreasonably affect the character and amenity of the area;*
- (ii) *will not have an unreasonable impact on neighbouring uses and the local environment by reason of visual intrusion or other amenity considerations;*
- (iv) *will not have an unreasonable impact on the landscape, ecology, archaeological remains or architectural features and includes measures for the enhancement of such features and the landscaping of the site;*
- (v) *incorporates satisfactory provision of amenity and public open space where appropriate;*
- (vi) *will not have an unreasonable impact on important open space of natural or built features, including trees, hedgerows, banks, walls and fosses;*

The proposal is considered to satisfy the requirements of the Policy.

- 4.19 Policy G11: Sites of Special Interest: Sites are so designated by virtue of their public importance in terms of *special zoological, ecological, botanical or geological interest; or architectural, archaeological, artistic, historical, scientific, or traditional interest that attaches to a building or place*. There is a presumption against development that would have an adverse impact on the special character of the sites.
There are no designated or proposed SSIs in proximity to the proposal site.
- 4.20 Policy C2: Countryside Character: The development control process seeks to promote the conservation, management, enhancement and restoration of the Island's countryside character. The Countryside Character Appraisal (SoJ, 1999) emphasises the need to relate planning decisions to the landscape context of the site, and wherever possible, to link planning consents with measures to conserve or enhance the local landscape character, recognising that this will, over time, add to the Island's environmental capital.
The proposal seeks to remove what by common-consent is considered to be an eye-sore in one of the Island's most important coastal landscape areas, to provide a more appropriate development by virtue of scale, massing and design, set back from the visually sensitive cliff top, which is to be restored and 'returned to nature'. The proposal incorporates restoration and enhancement of the site's countryside character and landscape.
- 4.21 Policy C3: Biodiversity: In the interests of sustaining and enhancing biodiversity it is proposed to integrate the aims of the Biodiversity Strategy with the aims of enhancing landscape character and stewardship set out in the countryside and agricultural policies.
The proposal substantially enhances the site's biodiversity potential and is not considered to negate the objectives of this policy.
- 4.22 Policy C4: Zone of Outstanding Character: The Zone of Outstanding Character is given the highest level of protection due to the exceptional quality of the natural environment. It is given priority over all other planning considerations. There is the strongest possible presumption against new development and the redevelopment of existing buildings will only be permissible where environmental benefit is secured.
The proposal site lies outside of the zone. The limit of the zone is defined by the coastal path and extends seaward of it. The proposal will effectively move the development further from the zone than the present Plémont Holiday Village complex and significantly decreases the built envelope within the site.
- 4.23 Policy C5: Green Zone: Further to the Jersey Countryside Character Appraisal (SoJ, 1999) the *Agricultural landscapes of the north coast* have been afforded a level of protection through inclusion in the *Green Zone Countryside Planning Zone* of the Island Plan. The Plan recognises that the Zone comprises *a landscape largely created by human intervention* and that it would be *unreasonable to preclude all forms of development, with exceptions to the general presumption against development but only where this does not serve to detract from or harm the distinctiveness of the landscape character type of this zone*. Of particular relevance, the redevelopment of commercial buildings may be approved where there are *substantial environmental gains and a significant contribution to the character of the area*, particularly where this may result in *changes in the nature and intensity of use and careful consideration of siting and design*.
The proposal would produce immediate substantial environmental gains through demolition of the derelict holiday camp which is recognised to be a significant eye-sore in a highly valued landscape area, and significantly increases the amount of natural landscape within the site. The design proposal demonstrates respect for the objectives of the policy.
- 4.24 Policy C10: Walls, Fosses, Banques and Hedgerows: Where a development site contains, or is bounded by historic field boundary features, whatever their condition, every effort should be made to retain them.
It is proposed to retain existing features within the design scheme.

- 4.25 Policy M1: Marine Protection Zone: A Marine Protection Zone has been established around the coast of Jersey which is aimed at maintaining and enhancing the Jersey seascape. The zone extends from Mean High Water to the territorial limit and sets a presumption against development in the zone.
The existing holiday village complex is set back from the Zone of Outstanding Character (Policy C4), which in turn is landward of the Marine Protection Zone. The proposed development would be further landward from the zone than the present holiday village complex.
- 4.26 Policy M2: Coastal Zone Management Strategy: *The Coastal Zone includes the terrestrial parts of the Island having a direct influence on the shores, the inter-tidal areas and waters out to the limits of the Marine Protection Zone* (refer to Policy M1). The need for an Integrated Coastal Zone Management Strategy is recognised through this policy to realise the purpose of the Marine Protection Zone. It would address such issues as archaeology, marine ecology, recreation, fishing and other economic interests with a view to formulating an integral plan and programme to achieve objectives.
The existing holiday village complex is set back from the Zone of Outstanding Character (Policy C4), which in turn is landward of the Marine Protection Zone. The proposed development would be further landward from the zone than the present holiday village complex. The proposal is considered to appropriately reflect the objectives of the policy.
- ‘State of Jersey’ Report**
- 4.27 The report (SoJ, 2005) lays the basis for a cohesive environmental strategy for Jersey in fulfilment of a commitment made in the Strategic Plan 2006-2011 (refer to paragraphs 4.28-4.30), namely to *maintain and enhance the natural and built environment*. Of twelve environmental perspectives identified in the report are included ‘*The biodiversity of Jersey’s natural and semi-natural habitats*’ and ‘*The conservation status of key biological populations*’. From these perspectives are developed environmental priorities, including *Changes in the countryside and our natural history*, with the key action of developing *robust, long-term scientific evidence* to explain the causes of change, which are identified as *Encroaching development, Changes through habitat succession* and *Changes to the local economy*.
The proposal is considered not to conflict with the identified priorities and key actions.
- Strategic Plan 2006-2011**
- 4.28 A ‘road map’ produced by the Council of Ministers which sets out the direction that the government of Jersey wishes to follow. Six commitments are identified, including *Maintain a strong, successful and environmentally sustainable economy* (Commitment 1) and *Maintain and enhance the natural and built environment* (Commitment 4).
- 4.29 In Commitment 1 an outcome identified to be achieved includes *Show the world that economic and environmental success can work together*, with an indicator required to be measured being the *Conservation and enhancement of biological diversity locally and contribution towards the conservation of global biodiversity where appropriate*, to be achieved within the stated timescale by implementing the five Environmental Priorities set out in the State of Jersey Report (SoJ, 2005) and adopting the overall goal and pursuing the five objectives for conserving biodiversity set out in the draft Biodiversity Strategy for Jersey (SoJ, 2002a).
- 4.30 In Commitment 4 the need to protect the Island’s coast, countryside and natural habitats is identified as an issue, recognising that this needs to be achieved at the same time as maintaining a diverse, working countryside. An outcome identified to be achieved is *Jersey’s natural and built heritage is sympathetically managed*, with indicators required to be measured include increasing the area of natural habitats achieving favourable conservation status, no loss of indigenous species and reintroduction of those that have been lost, increasing the number of registered Sites of Special Interest (SSI) and ensuring that conservation sites are protected from damage and development. The designation of additional ecological and geological SSI’s is identified.
The proposal is considered not to conflict with the identified Commitments.
-

Integrated Coastal Zone Management Strategy

- 4.31 A report entitled *Making the Most of Jersey's Coast* (SoJ, 2008c) was submitted for debate, in fulfilment of Policy M2 of the Jersey Island Plan 2002 and objectives stated in the Strategic Plan 2006-2011 (SoJ, 2006). It sets out a management strategy whose aim is to bring together all parties that develop, manage or use the coast to ensure that the coast is sustainably managed in an integrated way.

The proposal is considered not to conflict with the strategy.

Strategic Plan 2009 to 2014

- 4.32 The 1st draft of the States of Jersey new Strategic Plan (SoJ, 2009), which is sub-titled "Working together to meet the needs of the community", addresses a range of social, environmental and economic priorities which are required to maintain the special way of life that exists within the Island. It seeks to do this through focusing on five areas of activity which include: *Meeting our health, housing and education challenges* and *Protecting the countryside and our environment*. These are translated into plan priorities, one of which is identified as:

Priority 13: Protect and enhance our natural and built environment

The priority recognises that the challenge is to *Protect and enhance these most valuable assets whilst remaining economically viable and housing our population and We must continue to protect our environment, countryside, agricultural land, marine environment and coastal areas now and for future generations.*

The proposal is considered not to conflict with the strategy.

Résumé of findings

- 4.33 International and Island legislative and policy considerations as they relate to the environment and which are pertinent to the proposal lead to the following conclusions:
- That there is an inseparable link between habitats, biodiversity, landscape character and man's historic and on-going influence in moulding those interests.
 - That the countryside and coastal zones are the Island's environmental '*capital*'.
 - That it is essential that biodiversity, countryside and community considerations are appropriately addressed in relation to development proposals.
 - That development should be conducted in accordance with sustainability principles.
 - That development proposals which are likely to have an adverse impact on biodiversity, landscape and community interests will be subject to the most rigorous examination.
 - That protection of the natural environment and development need not be incompatible and may through appropriate design result in significant benefits.

5.0 POTENTIAL ENVIRONMENTAL EFFECTS

Assessment of Effects

- 5.1 This section of the Environmental Statement identifies how the proposed redevelopment scheme may affect the habitats, species and general environment of the proposal site (*Core Survey Area*) and adjoining land (*Extended Survey Area*).
- 5.2 English Nature (1997) (succeeded by Natural England) recommend that when identifying potential effects on habitats and species of National importance it is necessary to show how *“those effects are likely to affect the site’s conservation objectives. This will involve considering, for example, the nature, scale, geographic extent, timing, duration and magnitude of direct and indirect effects; considering the degree of certainty in the prediction of effects”*. In England and Wales it is necessary to consider whether the proposal would adversely affect a protected site (either individually or in combination with other developments), and that where an adverse effect on a site’s notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special interest and any broader impacts on the network of protected sites. Furthermore, local authorities are urged to use conditions and/or planning obligations to mitigate the harmful aspects of the development and where possible, to ensure the conservation and enhancement of the site’s biodiversity or geological interest (ODPM, 2005a). In considering the potential effects on the integrity of the site the precautionary approach is recommended, in line with the UK Government’s principles for sustainable development (DoE, 1994b; DEFRA, 2005). This approach accords with The Jersey Island Plan 2002.
- 5.3 The nature of the potential effects on the ecological interest of both the proposal site and adjoining land are addressed in this section, together with the ecological significance of the effects, prior to mitigation measures which would avoid or reduce any identified effects. The ‘significance’ of effects is defined in this chapter in broad accordance with the definition of ‘ecologically significant’ given by the IEEM’s Guidelines for Ecological Impact Assessment (IEEM, 2006), as impacts that are significant in ecological terms to the integrity of a defined site or ecosystem and/or to the conservation status of habitats or species within a given geographical area, including any cumulative impacts. The subsequent ‘consequences’ of effects for decision-making (in terms of legal requirements and policy objectives, and implications for design and implementation) are taken account of and discussed throughout Sections 5-7. The following terminology of significance of effects has been adopted:

- None:** Effects would be irrelevant.
Benefits of improvements or losses due to damage would be negligible.
- Minor:** Effects would be small or restricted.
Benefits of improvements or losses due to damage would be small but identifiable.
- Moderate:** Effects would be generally noticeable.
Benefits of improvements or losses due to damage would be distinct but limited.
- Major:** Effects would be very conspicuous.
Benefits of improvements or losses due to damage would be important.
- Very High:** Effects would be dramatic.
Benefits of improvements or losses due to damage would be extremely important.
- Uncertain:** Where there is uncertainty over the degree of significance.

The nature of the effects are given as *Direct* or *Indirect*, *Reversible* or *Irreversible*, as appropriate.

- 5.4 The following terminology in reference to the degree of confidence in predicting an impact on an ecological structure and function is given as (IEEM, 2006):

Certain/near-Certain: Probability estimated at 95% chance or higher;

Probable: Probability estimated between near-certain and 50:50;

Unlikely: Probability less than 50:50 but above 5%; and

Extremely Unlikely: Probability estimated at less than 5%.

Effects on habitats and flora

Core Survey Area

- 5.5 The proposal site extends to 4.59ha, of which the built footprint of the existing holiday village complex (all buildings and hardstandings) extends to 2.46ha (51%), and areas of unmanaged playing fields and peripheral bracken- or gorse-dominated areas extend to 2.36ha (49%). Improved grassland is identified as the overwhelmingly dominant vegetation type of generally low species diversity and assessed to be of low overall nature conservation significance. The smaller bracken- and gorse-dominated habitats are identified to be abundant and widespread in surrounding areas, particularly within the adjoining coastal zones. These small areas in themselves are assessed to be of probably only local nature conservation significance for a small diversity of common breeding birds and invertebrates.
- 5.6 The *Core Survey Area* was identified to support only a modest diversity of plant species typically associated with the habitats present, all of which are considered to be common and/or widespread in an Island context. The overall impact of the proposed development on the site's habitats and flora would be substantially beneficial.
- 5.7 The proposal would result in the replacement of some areas of improved grassland which have previously been used as the holiday village playing fields. These areas would be lost for construction of the south-west and south-east clusters of dwellings, associated access, hardstandings and gardens, as well as linear reedbed filters and footpaths. This loss is not considered of ecological significance given the nature of the grassland vegetation, particularly as the replacement nature conservation grassland in the northern and western sectors of the site (replacing built footprint and hardstandings) substantially exceeds the extent of existing grassland. Some small loss of peripheral bracken-dominated habitat would occur to enable footpath access.
- 5.8 The proposal includes creating substantial new open landscape areas within the site, providing additional habitats giving enhanced opportunities for a more diverse flora. Nature conservation land within the site will be increased to 2.33ha (48.3% of the total site area) by removing all development from substantial tracts of the northern and western sections of the site. The total amount of undeveloped natural landscape will be increased to 3.26ha (67.6% of the total site area), plus another 0.62ha (12.7% of the total site area) comprising gardens within the housing clusters. Other measures such as incorporating reedbed ponds and open jointed granite walls will further increase the potential quality and diversity of available habitats.
- 5.9 Existing banques would be retained as site boundaries. However, a short section of the low unvegetated banque which defines the western margin of the C105 access road would have a new opening made to enable vehicular access to the south-east cluster of dwellings. A short section of the unvegetated banque which defines the eastern margin of the C105 access road would be realigned to facilitate a vehicle passing place. One small opening would be made in

La Route de Plémont boundary wall to enable vehicular access to a property within the south-east cluster of dwellings.

5.10 Summary of effects on habitats and flora of the Core Survey Area:

Ecological significance of effects:	Major
Nature of effects:	Direct, Irreversible
Confidence in assessment:	Certain

5.11 The proposed landscaping of the site has sought not only to reduce any visual impact, through appropriate restoration of the landscape character of the site disfigured by the holiday village complex, integration of the housing clusters with adjoining areas and defining the extent of the domestic curtilage, but also aiding the transition with semi-natural habitats around through creating new areas of ecologically more diverse grassland, planting new areas of native trees and shrubs and the creation of wetlands.

5.12 There is currently no public access to the development site land. However, the proposal includes the provision of footpaths into and through the site, with a link to the coastal path. In total it is proposed to offer 0.93ha (equates to 19% of the site) as Publicly Accessible open land with a further 1.75ha (41% of the site) offered as nature conservation land.

The proposals are considered to provide a major ecological improvement to this part of the Island's north coast.

5.13 Summary of effects on local ecology:

Ecological significance of effects:	Major
Nature of Effects:	Direct, Indirect, Irreversible
Confidence in assessment:	Certain

Extended Survey Area

5.14 A diversity of habitat types were identified from the *Extended Survey Area*, including bracken- and gorse-dominated communities, coastal grassland and associated communities, grass leys, arable fields and banques. The flora of these habitats is identified to be diverse. The coastal semi-natural habitats of the area are identified to be of considerable nature conservation significance. There is no evidence to suggest that habitats have been affected by the large numbers of the public who visit this part of the Island, for coastal views and access to the coastal path, nor from the significant numbers of holiday makers who used the Plémont Holiday Village and adjoining coastal facilities over decades (average guest occupancy 1991-2000 was 355, with a maximum of 548). The redevelopment proposal would remain wholly contained within the curtilage of the ownership boundary. The identified important habitats of the *Extended Survey Area* would remain unaffected by the proposal.

5.15 Summary of effects on habitats and flora of the Extended Survey Area:

Ecological significance of effects:	None
Nature of effects:	(not applicable)
Confidence in assessment:	Probable

Effects on birds

Core Survey Area

5.16 The proposal site was identified to support only a limited assemblage of essentially common and widespread bird species typically associated with the habitats of the site. Most breeding bird species were identified from denser vegetation within peripheral zones. It is proposed to retain and enhance the vegetation of the peripheral zones. Species such as house sparrow

were predictably found associated with the unoccupied buildings and structures. The planned demolition of the buildings would deprive the species of these potential nest sites. However, over time, the proposed enlarged nature conservation and publicly accessible open landscape with accompanying shrub and tree vegetation, together with the houses and accompanying gardens, offer the potential of an increase in the diversity of potential nest sites.

- 5.17 The potential consequences of noise disturbance to birds from the proposal during demolition and construction phases are difficult to determine as issues of noise in developments address potential impacts in relation to human disturbance based on legal definitions. By way of example, quarries are a source of noise limited by the extraction process, the size of extraction vehicles used, the process of phased working of short duration, site topography and benefits afforded by screening, facts which can be borne out by noise assessments. It is not possible, however, to equate the level of human disturbance from noise with that experienced by wildlife as there are many factors which influence human sensitivity.
- 5.18 However, birds would appear to be able to adapt to predictable or regular noise disturbance and are seemingly unaffected by it. This fact is borne out across a significant number of active quarries across southern England, where, in the author's experience over many years, species such as little grebe (using quarry sumps) and colonies of sand martins (using sand and gravel quarry faces) as well as European protected bird species such as peregrine falcon (using hard rock quarry faces), and nightjar and Dartford warbler (both using sand and gravel quarries) are regularly recorded breeding, utilising extensively both the working and peripheral zones of operational sites. All of these species appear unaffected by predictable and regular site traffic as well as blasting.
- 5.19 It is recognised that demolition works should be conducted outside of the breeding season to ensure no disturbance. However, those breeding bird species which utilise the *Core Survey Area* peripheries are considered unlikely to be overtly affected by noise associated with the construction phases of the proposal and their survival and reproduction is considered to remain ensured.
- 5.20 **Summary of effects on birds of the *Core Survey Area*:**

Ecological significance of effects:	Minor
Nature of effects:	Direct, Reversible in part
Confidence in assessment:	Certain

Extended Survey Area

- 5.21 The coastal zone of the *Extended Survey Area* was identified to support an outstanding assemblage of breeding birds. It has been previously identified that the habitats of the *Extended Survey Area* would be unaffected directly by the proposal. However, four potential impacts on nesting seabirds in proximity to the northern boundary of the site from the proposed development are identified.

Demolition and construction effects

- 5.22 Demolition and site clearance works would result in a localised increase in noise with possible attendant ground vibration in relative proximity to the breeding cliffs used by Atlantic puffin and other seabirds (Pollock and Barton, 2007; Young, 2008). That phase of the proposed redevelopment could potentially last up to two months with possible negative impact on the seabirds and in particular if conducted during the puffin breeding season (April to August). Subsequent construction works could potentially also result in some level of disturbance (Young, 2008) over an estimated period of eighteen months. Sudden loud noise and vibration will disturb nesting seabirds, with the puffin prone to desert nests and eggs if unduly disturbed when incubating (Young, 2008). Persistent noise and vibration from vehicles and machinery would be disturbing if conducted in close proximity to the colonies. Potential noise and vibration levels would, however, be less during the construction phase of the development than during the demolition and site clearance phase and would inevitably diminish the further away the activity takes place from the cliffs. The northern built margin of the extant holiday

village is situated variously 70-130m from the seabird breeding cliffs with the furthest structure inland for demolition located some 200m from the cliffs. There is also a widely used public car park located a similar distance from the seabird breeding cliffs at the seaward margin of the holiday village. In contrast, the location of the nearest property for construction, within the north-east cluster of dwellings, would be some 110m from the cliffs with the furthest property for construction located some 280m from the cliffs.

5.23 Summary of effects of demolition on seabirds:

Ecological significance of effects:	Major
Nature of effects:	Indirect, Reversible
Confidence in assessment:	Certain

5.24 Summary of effects of construction on seabirds:

Ecological significance of effects:	Minor
Nature of effects:	Indirect, Reversible
Confidence in assessment:	Probable

Human disturbance effects

- 5.25 Uncontrolled human access can impact seabird colonies notably through disturbance to incubating birds. Seabirds are known to be disturbed by humans at nesting colonies both through direct scaring by lone individuals approaching nests or by large numbers of visitors a further distance away (Beale and Monaghan, 2004). The desertion of sites by species, including Atlantic puffin, is a potential outcome. Such disturbance has been implicated in the decline of the puffin at the near-by Burhou colony.
- 5.26 With regard to land-based activities which could potentially result in disturbance to breeding seabirds, the following are identified. When the holiday village was in operation the full residential occupancy level was 548 persons (comprising 488 guests together with a compliment of 60 staff). As well as using the site's recreational facilities the holiday-makers and staff had free and open access to the Plémont headland and the coastal path. Opened in 1981, the coastal path extends seaward of the holiday village boundary, variously 22-75m from the breeding cliffs used by the seabirds. The coastal path is today a very popular walk used by hundreds of 'locals' and visitors each month. Dense Bracken-Bramble and Gorse-Bramble scrub which has developed between the coastal path and cliff edge (developed through the process of vegetation succession further to cessation of grazing after World War II) today forms a substantial barrier to potential human incursion. In addition, many anglers fish in relative proximity to the breeding cliffs from rocks at La Tête de Plémont, Le Petit Plémont and Le Creux de la Hougue. However, it is considered unlikely that land-based human disturbance at this site is an issue relative to breeding seabird success.
- 5.27 In respect of sea-based activities, the potential for watercraft to be a source of disturbance to breeding seabirds at this location may be considerable. Fishing boats set lobster and crab pots close in to the seabird cliffs with a single vessel also known to trawl in the bay. Kayakers and other boats (both individuals and operator-lead trips) increasingly visit the bay to observe the puffins and other seabirds. Jet-skiers and motor-boats have also been observed off the cliffs.
- 5.28 Although the breeding puffin population has declined over a period of approximately 100 years, numbers over the last decade, although low, suggest they may now have stabilised. Populations of other cliff nesting species in the Plémont area such as the razorbill would appear to be fairly stable (Young, 2008) and the fulmar, which first bred on the Island in 1975, now supports in excess of 170 pairs, with some 20 pairs nesting immediately below the holiday village site. The proposal for the former holiday village site is considered unlikely to result in an increase in levels and threats of disturbance from land-based activities.

5.29 Summary of effects of human disturbance on seabirds:

Ecological significance of effects:	Minor
Nature of effects:	Indirect, Reversible
Confidence in assessment:	Certain

Rats

5.30 The presence of brown rats have been implicated directly in the extinction or decline of many island seabird populations around the world. Burrow nesting seabirds such as the puffin are particularly vulnerable to rat predation of eggs and chicks. On the island of Lundy in the Bristol Channel puffin numbers declined from 3,500 pairs in 1939 to only 13 individuals in 2000 and Manx shearwater, also a burrow breeding species, declined from an estimate of 7000 pairs to 166 pairs in 2000 (Appleton *et al.*, 2002). Further to the island-wide eradication of the rats a single puffin chick was sighted in 2005 (the first on the island since 1972) with 4 successful breeding pairs observed in 2008, and breeding Manx shearwater increased to approximately 1000 pairs in 2008 (D. Appleton, pers. comm.). A small population of puffins off the mainland of Alderney, which is accessible at low water, has declined from over 100 pairs to approximately 10 pairs. Brown rats may be a factor in this population decline (L. Soanes, pers. comm.).

5.31 Concern has been expressed that the decline in Jersey's puffin numbers may be attributed, at least in part, to brown rats. It is also suggested that Jersey's puffins may have been restricted in their nest site choice to areas free of brown rats (ie. cliff crevices inaccessible to brown rats) (Young, 2008). Rats are known to have been present on the Island for a very long time, with the black rat introduced by the Romans (but now extinct on the Island) and the brown rat in the 18th century. Brown rats are known to be present in large numbers along the north coast of the Island (Young, 2008). The present study identified the species to be widespread in the extant holiday village buildings as well as banques of the site, surrounding potato fields, leys and scrub areas. Attempts at control would appear to have been conducted around the holiday village buildings as a number of bait trays were noted at the time of the 2006 survey.

5.32 The demolition of the existing buildings would effectively result in the mass eviction of the resident brown rat population into the local countryside and coastal areas, potentially resulting in further puffin predation. Equally, the proposed development when occupied could potentially attract numbers of rats which in turn could predate the puffin colony sites in the course of foraging activity. However, it is considered extremely unlikely that the development proposed would result in any increased predatory pressure by brown rats on puffins given that rats are identified present on site, are likely to have been present over a long period of time and may be the biggest existing pressure on the Island's puffin numbers and distribution.

5.33 Summary of effects of rats on seabirds:

Ecological significance of effects:	probably None
Nature of effects:	Indirect, Reversible
Confidence in assessment:	Certain

Cats

5.34 Similar concern has been expressed at possible puffin predation by domestic or feral cats. Feral cats are known to have had a devastating effect on island bird species world-wide. Burrow-nesting sea birds are identified to be particularly vulnerable (Young, 2008). It is understood that cats were responsible for eliminating an entire colony of Manx shearwater (28 birds) on the island of Sark in a single season. In such cases eradication of the predator is a common management technique.

5.35 Most cats are opportunistic hunters that will catch whatever they come across rather than actively hunting a particular species. They will thus catch whatever is most abundant or vulnerable and will also catch prey even if they are not hungry (RSPB, 2002). A major survey by the Mammal Society found that birds comprise a relatively small proportion of their catch

(about 20%), the rest comprising mice and voles (RSPB, 2002). Although on the island of Lundy feral cats were eradicated in the late 1980s there are currently 7 domestic cats on the island, all sterilised, which are known to predate rabbits (and previously rats, refer above), but there have been no known cases of seabird predation (Appleton *et al.*, 2002).

- 5.36 The number of cats on Jersey is unknown but may be proportionally similar to that identified in Bristol where it has been estimated there are 0.28 cats per household (28 cats per 100 households; 229 cats/km², Baker *et al.*, 2005)²⁶. Young (2008) identifies that domestic cats may have a mean nocturnal home range²⁷ of 7.89ha while feral cats typically have larger home ranges, with a mean 24 hour range of 249.7ha determined in an Australian study. However, the exact range size will be dependent on overall habitat quality. In a New Zealand study it has been determined that the mean home range of female cats may be 53-59% those of males.
- 5.37 Hughes (2006) and Young (2008) identify that the seabird cliffs at Plémont and elsewhere on the north coast of the Island are within the typical home ranges of cats, both those resident in domestic situations and likely feral animals. Some 150 dwellings are identified within a typical cat's range of the Plémont seabird cliffs (eg. the Plémont Beach Café is some 0.4km away, Portinfer some 0.8km and the houses at West View some 1.6km away). By extrapolation this equates to at least 33.6 domestic cats and an unknown number of feral cats within range of the cliffs potentially having predated the seabird colonies over many years.
- 5.38 Further, given the number of resident staff it is most probable that domestic cats were kept at the holiday village when it was operating, with feral cats also potentially using the site. These animals could also have potentially predated the seabirds given the close proximity of the cliffs. Subsequent to the closure of the holiday village no domestic cats are known to have been kept and feral cats have apparently not been seen within the site boundary²⁸. The Plémont puffin colony would appear to nest in cliff crevices inaccessible to cats. However, despite the presence of potentially significant numbers of cats from existing dwellings within roaming range of the cliffs, and although forming a latent threat to the puffin population, they evidently have minimal impact. Colonisation and significant expansion of the population of breeding fulmar in close proximity to Plémont would appear not to have been impeded by these predators. The introduction of further cats associated with the proposal is considered extremely unlikely to result in an increase in any potential impact to breeding seabirds.
- 5.39 **Summary of effects of cats on seabirds:**

Ecological significance of effects:	potentially Minor
Nature of effects:	Indirect, Reversible in part
Confidence in assessment:	Certain

Effect on Bats

- 5.40 A single *Pipistrellus pipistrellus* bat was detected at emergence time from the central open area with swimming pool, indicating emergence from a roost location within surrounding buildings. However, no bats or evidence of bat use was noted further to an inspection of the buildings entered. A single bat of the same species was also detected in the sheltered area of the coast path in proximity to the café at Plémont Bay. A post-emergence survey along the road between Plémont and Grève de Lecq identified the same species around settlements, sheltered treed hedgerows and under continuous tree cover. The former holiday village site is identified to be of low conservation value for bats due to its exposed and isolated position, lack

²⁶ The number of cats in Great Britain in 1998 was estimated at 7.8 million living in domestic situations with a further 813,000 living ferally (Woods *et al.*, 2003).

²⁷ Domestic cats venture further at night.

²⁸ Information provided to the author by the site caretaker. However, a single domestic cat (deduced from its 'groomed' appearance), most probably from local dwellings, was seen by the author in 2006 on the road near to the SoJ car park.

of suitable habitat features providing sheltered flight lines and the buildings offering few suitable roost sites due to their construction.

- 5.41 Demolition of the buildings would result in the loss of a roost site identified to be used by a single bat. There is the possibility that the site is used by a small number of individual bats. However, there is no evidence for the site supporting a breeding roost.
- 5.42 The immediate landscape of the site has little in the way of tree and shrub cover, with cover only occurring inland from the site in hedgebanks. Such fact correlates with the detection of bats during the post-emergence survey. Demolition of existing buildings and construction of the new dwellings will not result in loss of existing features of value to bats.
- 5.43 The site is considered to be too exposed for effective feeding and extensive cover of buildings and hard standings do not provide insects. The grassland areas by virtue of their composition, management state and exposure are not considered to be of particular value to feeding bats. An individual pipistrelle bat is considered to require some 6ha of suitable foraging area to remain sustainable. Demolition of the buildings and hard standings and construction of the new dwellings will not result in loss of potential feeding areas.
- 5.44 Substantial new natural landscape proposed around and between the housing clusters with associated shrub and tree cover have, over time, the potential to provide improved habitat features for bats. This may be supplemented by incorporating new roost sites into a restricted number of house roofs.
- 5.45 Lighting of the holiday village whilst it was in operation involved external floodlighting with high level spillage. It is recognised that illuminated areas create a barrier that bats will avoid and can also isolate bat roosts from feeding areas and other roost sites. This effectively reduces the amount of foraging area and range of roost sites that bats depend on. Perception by bats of extended daylight length through artificial lighting produces many behavioural and physiological effects. Light spill beyond the illuminated area can affect the emergence of bats from local roosts, reducing the optimum feeding period following sunset and influence the seasonal timing of reproductive and hibernation cycles. The correlation between these effects on bats and similar effects on nocturnal insects that bats predate effects the seasonal presence and abundance of food resources for bats. Lighting of the proposed complex of dwellings, structures, hardstandings and paths within the housing clusters could result in restriction of areas that bats would enter, disrupt flight routes and feeding patterns (Outen, 1998; Jones, 2000).
- 5.46 **Summary of effects on recorded bats:**

Ecological significance of effects:	Moderate
Nature of effects:	Direct, Reversible
Confidence in assessment:	Certain

Effect on Reptiles and Amphibians

- 5.47 The 2006 study identified green lizard (a single female at the margin with agricultural land to the eastern site boundary) and common toad (a single animal as a road casualty on the access road). It is also feasible that slow-worm may use the site. The identified species are considered most likely to be using the less managed peripheries of the *Core Survey Area* as well as the adjoining *Extended Survey Area*. The design scheme for the proposal will ensure the retention of these areas. Proposed new landscape and nature conservation features, including open jointed granite walling, will provide further potential suitable habitat.

5.48 **Summary of effects on reptiles and amphibians:**

Ecological significance of effects:	Moderate
Nature of effects:	Direct, Irreversible
Confidence in assessment:	Certain

5.49 However, it is not known what impact cats or brown rats may potentially have on local green lizard or other reptile populations at this locality.

5.50 **Summary of effects of cats and brown rats on reptiles:**

Ecological significance of effects:	Uncertain
Nature of effects:	Not known
Confidence in assessment:	-

Effect on Invertebrates

Butterflies

5.51 A small diversity of essentially common and widespread butterfly species was identified from both the *Core* and *Extended Survey Areas* in 2006. Within the *Core Survey Area* the diversity of breeding species is restricted by the range of necessary larval food plants, nectar sources and habitat niches. Substantial proposed species and structurally diverse new grassland areas and associated vegetation within the Plémont site have the potential of providing enhanced beneficial habitat conditions for the species group.

5.52 **Summary of effects on butterflies:**

Ecological significance of effects:	Minor
Nature of effects:	Direct, Irreversible
Confidence in assessment:	Certain

Formica pratensis

5.53 A single nest of the ant species *Formica pratensis* was identified from the *Extended Survey Area* adjacent to the coastal path at the edge of the informal car park²⁹. A nest of this species previously identified from the holiday village staff car park was not refound. The location of the nest identified in 2006 is outside of the proposal site boundary. The proposed development is considered not to result in impact on the nest site.

5.54 **Summary of effects on *Formica pratensis*:**

Ecological significance of effects:	None
Nature of effects:	(not applicable)
Confidence in assessment:	Certain

²⁹ The nest was recorded outside of the 'red line' planning application boundary. The location is on land outside of the ownership of the applicant and over which he is able to exercise no control. The land is thought to be in the ownership of the Parish of St. Ouen.

6.0 MITIGATED ENVIRONMENTAL DESIGN

Introduction

- 6.1 The nature and potential effects of the proposal on the identified features, habitats, species and environment of the *Core* and *Extended Survey Areas* have been considered in Section 5 of this report. The assessment process has enabled a refinement of the scheme design through the identification of mitigation measures that aim to avoid, reduce or remedy potential adverse effects.
- 6.2 The objectives of the design proposals are:
- i). To mitigate against any identified likely adverse effect upon features of interest within the proposal site (*Core Survey Area*).
 - ii). To enhance the management condition of further areas within the proposal site.
 - iii). To mitigate against any likely additional adverse effect upon features of Jersey or European interest in the *Extended Survey Area*.
- 6.3 The implementation of the mitigation proposals should result in the following outcomes:
- a). No adverse effect on features of interest associated with the proposal site.
 - b). No adverse effect on the integrity of habitats or species of Jersey or European interest.
 - c). Habitats and species of Jersey or European interest maintained at *favourable conservation status*.
- 6.4 The duration of effects, including recreatability, further to mitigation are given below. It should be recognised, however, that in some instances a degree of uncertainty is inevitable in predicting outcome.
- Short Term:* Effects (0-5 years) will only be achieved by the retention of existing features of wildlife significance, or by advance nature conservation or environmental design and management to encourage re-establishment of features and species.
- Medium Term* Effects would be those continuing five to fifteen years after the commencement of the proposal.
- Long Term* Effects would be those remaining fifteen years after commencement of the proposal.
- 6.5 The approach accords fully with UK environmental assessment guidance (DoE, 1995). The time-scales given accord with the UK Government's position on sustainable development (DoE, 1990), which suggests that 25 years (a human generation span) is an appropriate time scale within which to judge environmental sustainability.

Habitats and flora

Core Survey Area

- 6.6 The *Core Survey Area* was identified to support only a modest diversity of essentially common and/or widespread species of plants typically associated with the limited range and ecological quality of the site habitats. The proposal site is recognised to comprise degraded habitats

which have been subject to an ecologically unsympathetic management régime over a long period. The proposal envisages no loss of those existing habitats of some ecological value identified primarily from peripheral zones. However, the ecological and landscape design proposals for the development site, which include the provision of wetland habitats, offer the opportunity for enhanced habitat conditions, integrating restored and new landscape and ecological features with those of the adjoining countryside (refer to Michael Felton Ltd. Landscape proposals).

6.7 Duration of effects further to mitigation proposals:

Habitats and flora: Short Term and Long Term

Extended Survey Area

6.8 Proposals identified for the *Core Survey Area* are identified not to impinge on valued habitats and plant species of the *Extended Survey Area* and would thus be unaffected by the development. Ownership of the proposal site does not accord any position of influence in the future management or ecological enhancement of those valued habitats and species of the *Extended Survey Area* not within the same control.

6.9 Duration of effects further to mitigation proposals:

Habitats and flora: Short Term and Long Term

Birds

Core Survey Area

6.10 The proposal site was identified to support only a limited diversity of essentially common and widespread bird species, with breeding species primarily associated with peripheral habitats. The development offers the prospect of localised habitat enhancement of potential benefit to bird species.

6.11 Duration of effects further to mitigation proposals:

Birds: Short Term and Long Term

Extended Survey Area

6.12 The *Extended Survey Area* is recognised to support an important assemblage of coastal breeding bird species. The proposal itself is not considered likely to have any direct effect on that valued assemblage.

Demolition and construction

6.13 To avoid potential impact to seabirds breeding at the Plémont cliffs from noise and vibration it is proposed that demolition of the extant holiday village buildings and structures and construction of foundations associated with the proposed housing development should be undertaken between September and March (ie. outside of the seabird breeding season April to August). Further, during the construction phase noise levels will be limited through use of effective noise dampeners to all plant and machinery. These proposed measures are considered satisfactory mitigation to counter potential impacts (Pollock & Barton, 2007; Young, 2008; Freeman, 2008³⁰) and are incorporated into the *Demolition and Construction Site Waste Management Plan* (SWMP) and outline *Construction Environmental Management Plan* (CEMP) produced by BDK Architects which accompany this application.

³⁰ SoJ internal review of report by G. Young (2008) by SoJ Ecologist M. Freeman, dated 10 March 2008.

6.14 **Duration of effects further to mitigation proposals:**

Breeding seabirds: Short Term

Human disturbance

6.15 A number of potential human disturbance issues have been identified (refer to paragraphs 5.21-5.24). It is considered unlikely that past or existing land-based recreational activities have been a source of disturbance relative to breeding seabird success (Hughes, 2006; Young, 2008). The holiday village whilst in use catered for a maximum of 488 guests plus 60 staff. In contrast, the proposed residential development is for a total of 30 dwellings with a maximum of 199 residents, set considerably further back from the sensitive cliff margin than the extant holiday village. This is identified as a significant reduction in potential threat. The proposal is considered unlikely to result in an increase in the levels and threats of land-based disturbance. Increasing sea-based recreational and current commercial activities are considered likely to be a greater source of potential disturbance. As such, no specific mitigation measures are proposed relative to the proposal site. However, fencing set-back from the cliffs, which is proposed as a mitigation measure to counter the potential impacts to breeding seabirds from cats (refer below), would also mitigate against impacts from any future potential increase in land-based recreational activities by restricting access to sensitive areas.

6.16 **Duration of effects further to mitigation proposals:**

Breeding seabirds: Short Term and Long Term

Rats

6.17 Brown rats are found Island-wide and were identified in quantity during the present study within disused holiday village buildings and widespread in surrounding banques, all in close or relative proximity to the seabird breeding cliffs. It has been suggested that the decline in Jersey's puffin numbers may be attributed, at least in part, to predation by brown rats (Hughes, 2006; Pollock & Barton, 2007; Young, 2008). Concern has been expressed that the mass eviction of brown rats into the local countryside consequent to demolition of the holiday village buildings may exacerbate an existing problem.

6.18 By way of mitigation it is proposed that a sustained programme of eradication is conducted within the proposal site (the *Core Survey Area*), both prior to the start of demolition and on-going through to completion of the proposed development. This approach has previously been considered satisfactory by the SoJ (source: refer to footnote 27). It will be necessary to design an eradication scheme which recognises the need to prevent impact to non-target species (ie. through bait station design and rat carcasses regularly collected) and deployment of second generation anti-coagulant poison (ie. Difenacoum) in order to minimise the risk to non-target species (rather than first generation anti-coagulents such as Warfarin which rats will develop resistance to) (Appleton *et al.*, 2002). Use of traps and exclusion fencing are further measures that could be deployed to ensure success. Protocols for successful control of rats are available and the mitigation will need to be professionally monitored to ensure effectiveness. This is considered to be the only realistic scale of brown rat management that can be considered to mitigate against the mass eviction scenario. In addition, the design scheme, in particular the drainage system, will need to incorporate traps to prevent rats spreading into the development.

6.19 It should be recognised that these measures can only address the immediate brown rat problem of the proposal site. However, the control of brown rats in adjoining States of Jersey, Parish of St. Ouen or privately owned land is outside the immediate sphere of influence of the proposal site. To ensure the future safeguard of breeding seabirds from predation by brown rats would require a significantly more ambitious eradication scheme than that proposed for the holiday village site and on land over which the developer has no legal control or able to exert influence.

6.20 **Duration of effects further to mitigation proposals:**

Breeding seabirds: Short Term and Long Term

Cats

6.21 Domestic and feral cats have also been identified in this report as potential puffin predators. No cats are currently thought to be resident within the proposal site and only a single domestic cat was seen in the vicinity of the SoJ car park at the time of the study. It is considered likely that cats were resident when the holiday village was operational, which in turn could potentially have predated breeding seabirds on the Plémont cliffs. The presence of some 150 dwellings in proximity to the cliffs and within the roaming range of cats could also have contributed a further source of cat predation over a long period.

6.22 Secure fencing has been found to be the most efficacious means of excluding cats from sensitive seabird colonies in many parts of the world (Young, 2008). The Plémont headland and adjoining cliff areas could be considered for permanent exclusion. However, such a measure would most likely be unpopular with certain recreational interests as well as for landscape considerations.

6.23 British cats are estimated to kill tens of millions of birds, small mammals, reptiles and amphibians each year. The RSPB have examined the use of collar-mounted bells and sonic devices for cats to see if the level of predation of birds and small mammals could be reduced. In the event the devices were found to reduce total prey returned by 31% (birds by 42% and mammals by 34%), with no difference in efficacy between the devices (RSPB, 2005a; RSPB, 2005b; Nelson *et al.*, 2004). However, the use of such devices would most likely alert adult puffins and other seabirds but probably not prevent cats predated their eggs and chicks. A study in Australia found that fitting cats with brightly coloured bibs hindered their ability to stalk and pounce but they were still able to run, eat and groom themselves. Fitting cats with the bibs resulted in preventing 81% from catching birds, 45% from capturing mammals and 33% from taking amphibians and reptiles (source: The Guardian, 26 May 2007). In the event, these types of mitigation could only realistically be considered as possible voluntary measures.

6.24 The proposal is for the construction of dwellings for freehold tenure. It is probably unrealistic (and probably unenforceable) to consider a ban on cat ownership by the residents of the development. However, even if it were considered feasible and enforceable such a mitigation measure may well be ineffective as it would not prevent domestic or feral cats from outside of the proposal site from roaming and potentially continuing to predate seabirds. In other words, to be effective such a measure would need to be policed over a very large area and on land predominantly outside of the legal control of the developer. The trapping and removal of all cats and the repatriation of household cats found in the vicinity of the seabird cliffs would be a permanent undertaking and would likely be unpopular.

6.25 **Duration of effects further to mitigation proposals:**

Breeding seabirds: Short Term and Long Term

6.26 The issue of declining puffin numbers is, however, considered to be rather more fundamental. Until recently there had been no Jersey-wide scheme in place to consider the future conservation of the species on the Island, despite its emblematic status. The need for such a scheme on Jersey has previously been highlighted (Hughes, 2006; Hughes, 2007; Young, 2008). Such schemes are in place at numerous other colonies around Britain, including close-by on Burhou (Alderney). The Jersey Seabird Working Group has been set-up and in March 2009 a Jersey Marine and Coastal Wildlife Watching Code was agreed with representatives from fishing, leisure boating and angling groups. There is rarely any single cause of colony decline, rather a combination of often complex inter-related causes and effects. It is not feasible for a single organisation, landowner or occupier to address the situation, rather representation and concerted action is required from a range of interested parties. It is viewed

as an Island problem which needs to be urgently addressed if the future conservation status of the Atlantic puffin on Jersey is to be assured.

Bats

- 6.27 A single *Pipistrellus pipistrellus* bat was detected at emergence time, indicating a potential roost location within surrounding buildings. A single bat of the same species was detected from a sheltered coastal section in proximity to the café at Plémont Bay. Bats of the same species were detected along the road between Plémont and La Grève de Lecq, preferentially associated with dwellings, treed hedgerows and under continuous tree cover. The proposal site was identified to be of only low conservation significance for bats by virtue of the exposed position of the site, lack of habitat features providing suitable foraging areas and sheltered flight lines and the buildings offering few suitable roost sites.
- 6.28 The timing of demolition of existing site buildings should coincide with the breeding season as no evidence of a breeding roost has been identified. The demolition process should adhere to the Island's good practice guidelines in relation to bats (SoJ, 2002c).
- 6.29 The ecological and natural landscape enhancement scheme offers, over time, some prospect for improved sheltered habitats for foraging, extended flight lines and greater integration into the surrounding countryside. The proposal could also offer the potential for bat roost provision in the new dwellings.
- 6.30 **Duration of effects further to mitigation proposals:**

Bats species: Short Term and Long Term

Reptiles and Amphibians

- 6.31 Single individuals of green lizard and common toad were identified during the 2006 study with the former species also reported in 2008. The species are considered unlikely to be at risk during the demolition and construction phases, although it will be necessary to ensure that Island law is not infringed with regard to possible disturbance or damage to the species or their breeding sites. A study into the status of protected species within the proposal site has been commissioned and is to report during summer 2009. Necessary protection and mitigation measures will be proposed, as appropriate, in accordance with Island law. The proposed design scheme is considered to provide potential enhanced habitat conditions for reptile and amphibian species.
- 6.32 The potential for predation of species by brown rats and domestic and feral cats has been identified. The brown rat control measures proposed for the *Core Survey Area* are considered likely to enhance the survival possibilities of these species.
- 6.33 **Duration of effects further to mitigation proposals:**

Reptiles and Amphibians: Short Term and Long Term

Invertebrates

Butterflies

- 6.34 A small diversity of essentially common and widespread butterfly species were identified from the proposal site. Their diversity is considered restricted by the current availability of larval food plants, nectar sources and habitat niches. The proposed ecological and landscape design scheme is considered to provide enhanced habitat conditions.

Formica pratensis

6.36 The single nest site was identified from the *Extended Survey Area*, from a location outside of the immediate sphere of influence of the proposal site. The proposed ecological and landscape design scheme has the potential to provide enhanced habitat conditions which may favour the spread of this species.

6.37 **Duration of effects further to mitigation proposals:**

Butterflies and *Formica pratensis*: Short Term and Long Term

7.0 RESIDUAL ENVIRONMENTAL EFFECTS

Introduction

- 7.1 The residual effects on the range of habitat features and species identified, subsequent to the fully mitigated redevelopment proposals are considered. It should be recognised that in some instances a degree of uncertainty in predicting outcome is inevitable.

The following terminology of 'Residual Effects' further to mitigation measures, which would avoid or reduce those identified effects, has been adopted:

None: There would be no or negligible residual effects.

Minor: Residual effects would be small or restricted.

Moderate: Residual effects would be generally noticeable.

Major: Residual effects would be very conspicuous.

Very High: Residual effects would be dramatic.

Habitats and flora

Core Survey Area

- 7.2 The fully mitigated landscape and ecological design proposals for the development are identified to provide enhanced habitat conditions, contributing to the overall ecology of the area.

7.3 **Residual Effect:**

Habitats and flora: Major, Positive

Extended Survey Area

- 7.4 The redevelopment proposals are identified not to impact on the habitats and flora of the *Extended Survey Area*. The fully mitigated landscape and ecological design proposals seek to integrate restored ecological features with those of the adjoining countryside.

7.5 **Residual Effect:**

Habitats and flora: Moderate, Positive

Birds

Core Survey Area

- 7.6 The redevelopment proposal and fully mitigated landscape and ecological design proposals are identified to provide enhanced habitat conditions of potential value to birds.

7.7 **Residual Effect:**

Birds: Moderate, Positive

Extended Survey Area

- 7.8 The redevelopment proposal is not considered to have any direct effect on the valued assemblage of breeding seabirds.

Demolition and construction

7.9 Demolition of the existing holiday village outside of the seabird breeding period would result in no impact from noise and vibration. During construction of the dwellings noise and vibration would be limited through effective management of plant, machinery and the site. Appropriate procedures are detailed in the outline *Construction Environmental Management Plan* which accompanies the application. It is considered that with these measures in place it is extremely unlikely there would be any impact on the puffins or other breeding seabirds populations.

7.10 **Residual Effect:**

Breeding seabirds: None

Human disturbance

7.11 Sea-based recreational and commercial activity in proximity to the cliffs during the seabird breeding season is considered a potential source of disturbance. The need to address this issue is outside of the scope of this ES. Past and current land-based recreational activities are not identified to be a source of disturbance to breeding seabirds. The proposal is not considered likely to result in an increase in levels and threats of disturbance. However, even adopting the precautionary principal, there are no specific measures that can be put in place directly as part of the development to off-set any potential increase in human disturbance, given the location of the cliffs in relation to the proposal site, the nature of adjoining ownerships and public lands. Exclusion fencing, which is proposed to ensure no land-based human disturbance or potential cat predation, would only be effective if set-back from the cliffs. This would be most appropriately considered as part of a concerted strategy for the conservation of the puffins and other seabirds and further to extensive consultation and debate.

7.12 **Residual Effect:**

Breeding seabirds: None

Rats

7.13 The potential for predation of the puffin population by brown rats is considered likely to have been a long-term issue, regardless of the history of developments and land use at Plémont. The ES has identified that the demolition of the existing holiday village buildings would result in the mass-eviction of brown rats into the local countryside with the potential for increased predation of puffins. A scheme for the eradication of brown rats within the development site is proposed during the demolition and construction phases. However, it is recognised that brown rats within the *Extended Survey Area* and elsewhere would continue to have access to the cliffs and potentially continue to predate the puffin colonies. The eradication of brown rats in the wider countryside, outside of the development site, is not a matter that can be specifically addressed by the developer given the pattern of land ownership. Rather it is an issue that can only be addressed as part of a concerted strategy for the conservation of the puffins and other seabirds.

7.14 **Residual Effect:**

Breeding seabirds: None

Cats

7.15 Possible predation of puffins by domestic and feral cats is identified, although at the time of the study no cats were thought to be currently resident at the holiday village site. However, given the number of dwellings situated within the roaming range of cats in relation to the cliffs, there was the potential for a considerable number of cats in the general locality. An outright ban on cat ownership at the proposal site is considered unrealistic and unenforceable. Total exclusion of cats from the seabird cliffs through erection of appropriate fencing is, however, the only sure means of preventing predation. For reasons previously identified this could only

be considered as part of a concerted strategy for the conservation of the puffins and other seabirds and further to extensive consultation and debate.

7.16 **Residual Effect:**

Breeding seabirds: None

7.17 The issue of Atlantic puffin and other breeding seabird conservation is complex and requires a collective initiative. Such an initiative has recently been put in place.

Bats

7.18 The overall design scheme for the proposal and its setting offers the potential for considerably enhanced habitat conditions for bats.

7.19 **Residual Effect:**

Bats: Moderate, Positive

Reptiles and Amphibians

7.20 The overall design scheme for the proposal and its setting offers the potential for enhanced habitat conditions for the species. The brown rat control measures proposed for the development site are considered to enhance the survival possibilities of the species.

7.21 **Residual Effect:**

Reptiles and Amphibians: Moderate, Positive

Invertebrates

7.22 **Butterflies**

The proposed ecological and landscape design scheme is considered to provide enhanced habitat conditions for butterfly species at this location.

7.23 **Residual Effect:**

Butterflies: Moderate, Positive

7.24 **Formica pratensis**

The proposed ecological and landscape design scheme offers the potential for enhanced habitat conditions which may favour the spread of this species.

7.25 **Residual Effect:**

Formica pratensis: Minor, Positive

8.0 SUMMARY AND CONCLUSION

- 8.1 Surveys of the habitats, vegetation communities, flora and fauna of the *Core Survey Area* (the proposal site) and adjoining *Extended Survey Area* have contributed to the Ecological Statement submitted with the planning application. The scope of the survey work and methodologies employed has enabled a good understanding of the wildlife diversity of the area and identified potential issues that required examination in the context of the proposal.
- 8.2 The process of the Ecological Statement has, in the light of the redevelopment proposals and the findings of the ecological surveys and evaluations, given consideration to:
- i. The ecological context of the site at a European and local level;
 - ii. The potential environmental effects of the development;
 - iii. The environmental design of the development with a view to identifying potential mitigation measures which may be incorporated in the proposals where environmental effects have been identified; and
 - iv. The implications of any identified residual effects further to proposed mitigation measures.

The assessment of the redevelopment proposals has identified that:

- 8.3 The *Core Survey Area* supports only a limited diversity of essentially common and widespread habitats and species, reflecting the intensive use of the site as a holiday village over a long period of time.
- 8.4 The ecological potential of the *Core Survey Area*, particularly improved habitats giving enhanced opportunities for wildlife diversity, will be substantially increased by this proposal. Nature conservation land within the site will be increased to 2.33ha (48.3% of total site area) by removing all development from substantial tracts across northern and western sections of the site. The total amount of undeveloped natural landscape will be increased to 3.26ha (67.6% of the total site area), together with a further 0.62ha (12.7% of the total site area) comprising gardens within the housing clusters. Other measures such as incorporating reedbed ponds and open jointed granite walls offer the potential for additional increased habitat and species diversity.
- 8.5 The coastal sections of the *Extended Survey Area* were identified to support an outstanding assemblage of vegetation communities, flora and breeding birds. The redevelopment proposal is identified not to impinge directly on the *Extended Survey Area*.
- 8.6 Concern is expressed at the long-term viability of the declining breeding puffin colony on the cliffs below the existing holiday village. The specific causes of the decline are not known but various factors may be implicated. Land-based human disturbance is not considered to impact on seabirds, although sea-based recreational and commercial activities in proximity to the cliffs during the breeding season are flagged-up as a potential source of disturbance. Brown rats and cats are identified as potential predators of the puffins. Brown rats were identified to be widespread in the holiday village buildings and peripheral banques as well as scrub, fields and banques in the surrounding countryside. A programme of control is proposed prior to demolition of the buildings through to the end of the construction phases. However the control of this species by the developer outside of the proposal site is recognised not to be feasible. Cats were not thought to reside within the holiday village complex at the time of the study, although when the holiday village was operational it is likely that cats were present. A significant number of extant residential properties are considered to be within the roaming range of cats in relation to the cliffs. A ban on cat ownership at the proposed housing development is not considered feasible and enforceable. However, even if feasible and

enforceable such measure would not prevent cats from outside the proposal site from continuing to roam and potentially predate the puffins. Fencing set-back from the cliff top is considered the only assured means of excluding cats. The Jersey Seabird Working Group has recently been established to address the future conservation of the puffins and other breeding seabirds.

- 8.7 A single *Pipistrellus pipistrellus* bat was detected at the centre of the holiday village complex at emergence time, indicating a potential roost location within surrounding buildings. The proposal site was identified to be of only low conservation significance for bats by virtue of the exposed nature of the site, lack of habitat features providing suitable foraging areas and sheltered flight lines and the buildings offering few suitable roost sites. The ecological and landscape enhancement measures proposed offer the prospect for improved sheltered habitats for foraging, extended flight lines and greater integration into the surrounding countryside as well as offering the potential for bat roost provision in the roof voids of the new dwellings.
- 8.8 Green lizard and common toad were the sole reptile and amphibian species identified. The species are considered likely to favour peripheral habitat zones of the proposal site as well as habitats within the *Extended Survey Area*. Measures to control brown rats within the proposal site and habitat restoration and enhancement measures proposed in the design scheme are considered beneficial to these species.
- 8.9 The biodiversity and nature conservation appraisals, evaluations and assessments have informed the design process, identifying areas where potential negative change needed to be addressed or designed out of the scheme and where positive change to the local environment could be reinforced.
- 8.10 The proposal is identified not to result in direct impact on local wildlife features and species. The fully mitigated redevelopment proposals are considered capable of supporting and maintaining a balanced, integrated, adaptive community of species.
- 8.11 The redevelopment proposal demonstrates the potential to improve the integration of the built and natural environments and further demonstrates that a well designed high quality scheme can be acceptable in the countryside.

Summary of Assessment					
EFFECT ON BIODIVERSITY & NATURE CONSERVATION					
Feature	Significance of effects of proposal	Nature of effects	Confidence in assessment	Duration of effects further to mitigation proposals	Residual effects further to mitigation proposals
Habitats and flora					
<i>Core Survey Area</i>	Major	Direct, Irreversible	Certain	Short Term and Long Term	Major, Positive
Local ecology	Major	Direct, Indirect, Irreversible	Certain	Short Term and Long Term	Moderate, Positive
<i>Extended Survey Area</i>	None	(not applicable)	Probable	Short Term and Long Term	Moderate, Positive
Birds					
<i>Core Survey Area</i>	Minor	Direct, Reversible in part	Certain	Short Term and Long Term	Moderate, Positive
<i>Extended Survey Area</i> (Seabirds incl. Puffins)					
Demolition	Major	Indirect, Reversible	Certain	Short Term	None
Construction	Minor	Indirect, Reversible	Probable	Short Term	None
Human disturbance	Minor	Indirect, Reversible	Certain	Short Term and Long Term	None
Rats	probably None	Indirect, Reversible	Certain	Short Term and Long Term	None
Cats	potentially Minor	Indirect, Reversible in part	Certain	Short Term and Long Term	None
Bats					
	Moderate	Direct, Reversible	Certain	Short Term and Long Term	Moderate, Positive
Reptiles and Amphibians					
Identified species	Moderate	Direct, Irreversible	Certain	Short Term and Long Term	Moderate, Positive
Effect of cats & brown rats	Uncertain	Not known	-	Short Term and Long Term	Minor, Positive
Invertebrates					
Butterflies	Minor	Direct, Irreversible	Certain	Short Term and Long Term	Moderate, Positive
<i>Formica pratensis</i>	None	(not applicable)	Certain	Short Term and Long Term	Minor, Positive

References

- Appleton, D., Booker, H., Bullock, D., Cordrey, L., Sampson, B. and Cole, L. (2002). Lundy Seabird Recovery Project – Project Summary (February 2002). English Nature, The Landmark Trust, The National Trust and RSPB.
- Arnold, E.N. and Burton, J.A. (1978). A Field Guide to the Reptiles and Amphibians of Britain and Europe. Collins, London.
- Asher, J., Warren, M., Fox, R., Harding, P., Jeffcoate, G. and Jeffcoate, S. (2001). The Millennium Atlas of Butterflies in Britain and Ireland. Oxford University Press, Oxford.
- Baldock, D. (2006). Wildlife Reports: Bees, Wasps and Ants. British Wildlife, 17, 5: 361-363.
- Beale, C.M. and Monaghan, P. (2004). Human disturbance: people as predation-free predators? Journal of Applied Ecology, 41: 335-343.
- Bell, M. (2001). A feasibility study into the eradication of rats from Lundy Island, Bristol Channel, UK. Wildlife Management International Ltd report to English Nature.
- Biodiversity Reporting and Information Group. (2007). Report on the Species and Habitat Review (June 2007). Report to the UK Biodiversity Partnership.
- Bissardon, M., Guibal, L. et Rameau, J.-C. (1997). Corine biotopes: Types d'habitats français (Version originale). École Nationale du Génie Rural, des Eaux et des Forêts, Nancy, France.
- British Geological Survey. (1989). Classical areas of British geology: Jersey. HMSO, London.
- British Trust for Ornithology. (1983). Common Bird Census instructions. BTO, Tring.
- British Trust for Ornithology. (2007). The population status of birds in the UK: Birds of conservation concern 2002-2007. BTO, Thetford.
- Cheffings, C.M. & Farrell, L. (Eds.), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Rumsey, F.J. and Taylor, I. (2005). The Vascular Plant Red Data List for Great Britain. Species Status No. 7: 1-116. Joint Nature Conservation Committee, Peterborough.
- Commission of the European Communities. (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities, L206, Volume 35, 22 July 1992.
- Council of Europe. (1979). Convention on the Conservation of European Wildlife and Natural Habitats, (adopted Bern, 19 September 1979). European Treaty Series No. 104. Council of Europe, Strasbourg.
- Department of the Environment. (1994a). The Conservation (Natural Habitats, &c.) Regulations 1994 (SI 1994, No. 2716). HMSO, London.
- Department of the Environment. (1994b). Sustainable Development – The UK Strategy (Cm. 2426). HMSO, London.
- Department of the Environment, Transport and the Regions. (2000). Environmental Impact Assessment: Guide to Procedures. HMSO, London.

Department for Environment, Food and Rural Affairs. (2005). The UK Government Sustainable Development Strategy (Cm. 6467). HMSO, London.

Dobson, R. (1952). The Birds of the Channel Islands. Staples Press, London.

EAG Environ. (2003). Survey of puffins and other seabirds around Plémont, Jersey, 12th-14th May 2003. Unpublished report to Scottish and Newcastle plc.

Eaton, M.A., Austin, G.E., Banks, A.N., Conway, G., Douse, A., Grice, P.V., Hearn, R., Hilton, G., Hoccom, D., Musgrove, A.J., Noble, D.G., Ratcliffe, N. Rehfisch, M.M., Worden, J. and Wotton, S. (2007). The State of the UK's birds 2006. RSPB, BTO, WWT, CCW, EHS, NE and SNH, Sandy, Bedfordshire.

English Nature. (2004). Reptiles: guidelines for developers. English Nature, Peterborough.

Environ UK Ltd. (2001). Environmental Report: Redevelopment of the Plémont Holiday Village Site. (Unpublished) Report to Scottish and Newcastle plc.

Environmental Resource Management, the NEP Lighting Consultancy and the Carl Bro Group. (1997). Lighting in the Countryside: Towards Good Practice. Countryside Commission and Department of the Environment.

Freeman, M. (2008). Conservation of the Crapaud – The results of a PhD study. JARGON-Newsletter of the Jersey Amphibian & Reptile Group, Vol. 1, Issue 2, Autumn 2008.

Gent, T. and Gibson, S. (1998). Herpetofauna Workers' Manual. Joint Nature Conservation Committee, Peterborough.

Gibbons, D.W., Reid, J.B. and Chapman, R.A. (1993). The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991. T. & A.D. Poyser, London.

Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird monitoring methods: a manual of techniques for key UK species. Royal Society for the Protection of Birds, Sandy.

Gregory, R.D., Wilkinson, N.I., Noble, D.G., Robinson, J.A., Brown, A.F., Hughes, J., Proctor, D.A., Gibbons, D.W. and Galbraith, C.A. (2002). The population status of birds in the United Kingdom, Channel Islands and Isle of Man: an analysis of conservation concern 2002-2007. British Birds 95: 410-450.

Handschuh, M. (2004). The Stonechat *Saxicola torquata rubicola* in Jersey: Distribution and breeding biology. In: Jersey Bird Report 2003, 34-40.

Harris, M.P., Beare, D., Toresen, R., Nøttestad, L., Kloppmann, M., Dörner, H., Peach, K., Rushton, D.R.A., Foster-Smith, J. and Wanless, S. (2007). A major increase in snake pipefish (*Entelurus aeqoreus*) in northern European seas since 2003: potential implications for seabird breeding success. Marine Biology, 151: 973-983.

Hill, M.G. (1991). The Distribution of the Breeding Seabirds in the Bailiwick of Guernsey 1986-1990. La Société Guernesiale, Guernsey.

Hughes, M.R. (2006). Plémont Bay Holiday Village, St. Ouen, Jersey – Housing Redevelopment Proposal. Environmental Impact Assessment: Biodiversity, Nature Conservation and Environment Report. Report produced by Michel Hughes Associates for Plémont Estates Ltd.

Hughes, M.R. (2007). Proposed Development – Plémont Holiday Village: Environmental Impact Assessment Consultation (Letter of 19 February 2007 addressed to BDK Architects in response

to consultation from States of Jersey Ecologist dated 23 October 2006). Michel Hughes Associates.

Institute of Ecology and Environmental Management. (2006). Guidelines for Ecological Impact Assessment in the United Kingdom (*last update* 26 June 2006). Institute of Ecology and Environmental Management, Winchester.

Institute of Lighting Engineers. (2000). Guidance Notes for the Reduction of Light Pollution (revised May 2003). Institute of Lighting Engineers, Rugby.

Jones, J. (2000). Impact of lighting on bats (unpublished guidelines) English Nature, Peterborough.

Jones, T. and Davis, T. (2006). Birds on Lundy in 2005 – selected highlights. In: (S. Geary and P. Reay), Devon Bird Report 2005, 78: 18-19.

Jones, T. and Davis, T. (2007). Lundy – selected highlights. In: Devon Bird Report 2006, J. of the Devon Bird Watching & Preservation Society, 60: 14-16.

Le Sueur, F. (1984). Flora of Jersey. Société Jersiaise, Jersey.

Magris, L. (2003). The Jersey Bat Survey. Environment Department, States of Jersey.

Mavor, R.A., Parsons, M., Heubeck, M., Pickerell, G. and Schmitt, S. (2003). Seabird numbers and breeding success in Britain and Ireland, 2002. UK Nature Conservation No. 27. Joint Nature Conservation Committee, Peterborough.

Mavor, R.A., Parsons, M., Heubeck, M. and Schmitt, S. (2004). Seabird numbers and breeding success in Britain and Ireland, 2003. UK Nature Conservation No. 28. Joint Nature Conservation Committee, Peterborough.

Mavor, R.A., Parsons, M., Heubeck, M. and Schmitt, S. (2005). Seabird numbers and breeding success in Britain and Ireland, 2004. UK Nature Conservation No. 29. Joint Nature Conservation Committee, Peterborough.

Mavor, R.A., Heubeck, M., Schmitt, S. and Parsons, M. (2008). Seabird numbers and breeding success in Britain and Ireland, 2006. UK Nature Conservation No. 31. Joint Nature Conservation Committee, Peterborough.

Mitchell, P.I., Newton, S.F., Ratcliffe, N. and Dunn, T.E. (2004). Seabird Populations of Britain and Ireland. T. & A.D. Poyser, London.

Mitchell-Jones, A.J. (2004). Bat mitigation guidelines (Version January 2004). English Nature, Peterborough.

Nature Conservancy Council. (1990). Handbook for Phase 1 habitat survey - a technique for environmental audit. Nature Conservancy Council, Peterborough.

Nelson, S.H., Evans, A.D. and Bradbury, R.B. (2004?). The efficacy of collar-mounted devices in reducing the rate of predation of wildlife by domestic cats. (Unpublished report). RSPB, Sandy.

Office of the Deputy Prime Minister. (2005a). Planning Policy Statement 9: Biodiversity and Geological Conservation. HMSO, London.

Office of the Deputy Prime Minister. (2005b). Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System. ODPM Circular 06/2005. HMSO, London.

Office of the Deputy Prime Minister. (2006). Planning for Biodiversity and Geological Conservation – A Guide to Good Practice. HMSO, London.

Outen, A.R. (1998). The possible ecological implications of artificial lighting. (3rd edition). Hertfordshire Biological Records Centre.

Penny Anderson Associates. (1997). Plémont Headland: An Ecological Assessment. Report to Planning and Environment Committee, Jersey.

Pollock, C. and Barton, C. (2007). Review of Plémont Holiday Village Housing Redevelopment EIA & associated comments. Unpublished report by Cork Ecology for Plémont Estates Ltd.

Preston, C.D., Pearman, D.A. and Dines, T.D. (2002). New Atlas of the British and Irish Flora. Oxford University Press, Oxford.

Pritchard, D.E., Housden, S.D., Mudge, G.P., Galbraith, C.A. and Pienkowski (Eds.). (1992). Important Bird Areas in the UK including the Channel Islands and the Isle of Man. Royal Society for the Protection of Birds, Sandy, Beds.

Ratcliffe, D.A. (1977). A Nature Conservation Review. Cambridge University Press, Cambridge.

Rodwell, J.S. (ed.) (1991). British Plant Communities, Volume 1 - Woodland and scrub. Cambridge University Press, Cambridge.

Rodwell, J.S. (ed.) (1992). British Plant Communities, Volume 3 – Grasslands and montane communities. Cambridge University Press, Cambridge.

RSPB. (2002). Cats and garden birds. (information leaflet). Royal Society for the Protection of Birds, Sandy.

RSPB. (2005a). Collar that cat to save wildlife! Royal Society for the Protection of Birds web site.

RSPB. (2005b). RSPB endorses ultrasonic cat deterrent. Royal Society for the Protection of Birds web site.

Royal Town Planning Institute. (1999). Good Practice Guide: Planning for Biodiversity. RTPI, London.

Shirt, D.B. (ed.) (1987). British Red Data Books: 2. Insects. Joint Nature Conservation Committee, Peterborough.

Skinner, G. (1998). British Wood Ants. British Wildlife, 10, 1: 1-8.

Société Jersiaise. Jersey Bird Reports 2003-2007. Ornithology Section, La Société Jersiaise, St. Helier, Jersey.

Soames, L. *et al.* (2005). Report of the Scientific Steering Committee on the Burhou puffin project. Unpublished report.

Stace C.A. (1991). New Flora of the British Isles (2nd edition). Cambridge University Press, Cambridge.

States of Jersey. (2000). Conservation of Wildlife (Jersey) Law 2000 (Jersey Law 6/2000). (as amended by: Jersey R&O 72/2001; Jersey Law 15/2002; Jersey R&O 62/2003).

States of Jersey. (2002a). Biodiversity: a strategy for Jersey. Planning and Environment Committee, States of Jersey.

States of Jersey. (2002c). Bats, Buildings and the Law. Professional Support Series Issue 1. Environmental Services Unit, States of Jersey.

States of Jersey. (2004). Jersey List of Plant Species of Conservation Concern. Unpublished provisional list.

States of Jersey. (2007). Biodiversity Action Plans for Jersey. Department of Planning and Environment, States of Jersey.

States of Jersey. (2008b). Supplementary Planning Guidance - Environmental Impact Assessment: A Guide to Procedures. (Final Draft Version, July 2008). Department of Planning and Environment, States of Jersey.

States of Jersey. (2008c). Making the Most of Jersey's Coast: Integrated Coastal Zone Management Strategy (March 2008). [Lodged au Greffe on 23 May 2008; Lodged for State debate on 15 July 2008]. Environment Department, States of Jersey.

States of Jersey. (2009). Strategic Plan 2009 to 2014 (1st Draft, 3 March 2009). Council of Ministers, States of Jersey.

States of Jersey. (undated). About Green Lizards. (leaflet).

UK Biodiversity Steering Group. (1995). Biodiversity: The UK Steering Group Report. HMSO, London.

Veron, P.K. (ed.) (1997). Important Sites for Birds in the Channel Islands. La Société Guernesiaise.

Woods, M., McDonald, R.A. and Harris, S. (2003). Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review*, 33: 174-188.

Young, H.G. (2008). Atlantic Puffin *Fratercula arctica* and other seabirds at Plémont, Jersey, Channel Islands. Unpublished report to Plémont Estates Ltd.

www.greenlizard.org.je Jersey Green Lizard Project.

www.gov.je/PlanningEnvironment/Environment/Countryside/Research+and+Monitoring/Species+Based+Research+Projects/The+Jersey+Toad+Project.htm. The Jersey Toad Project.

Annex 1

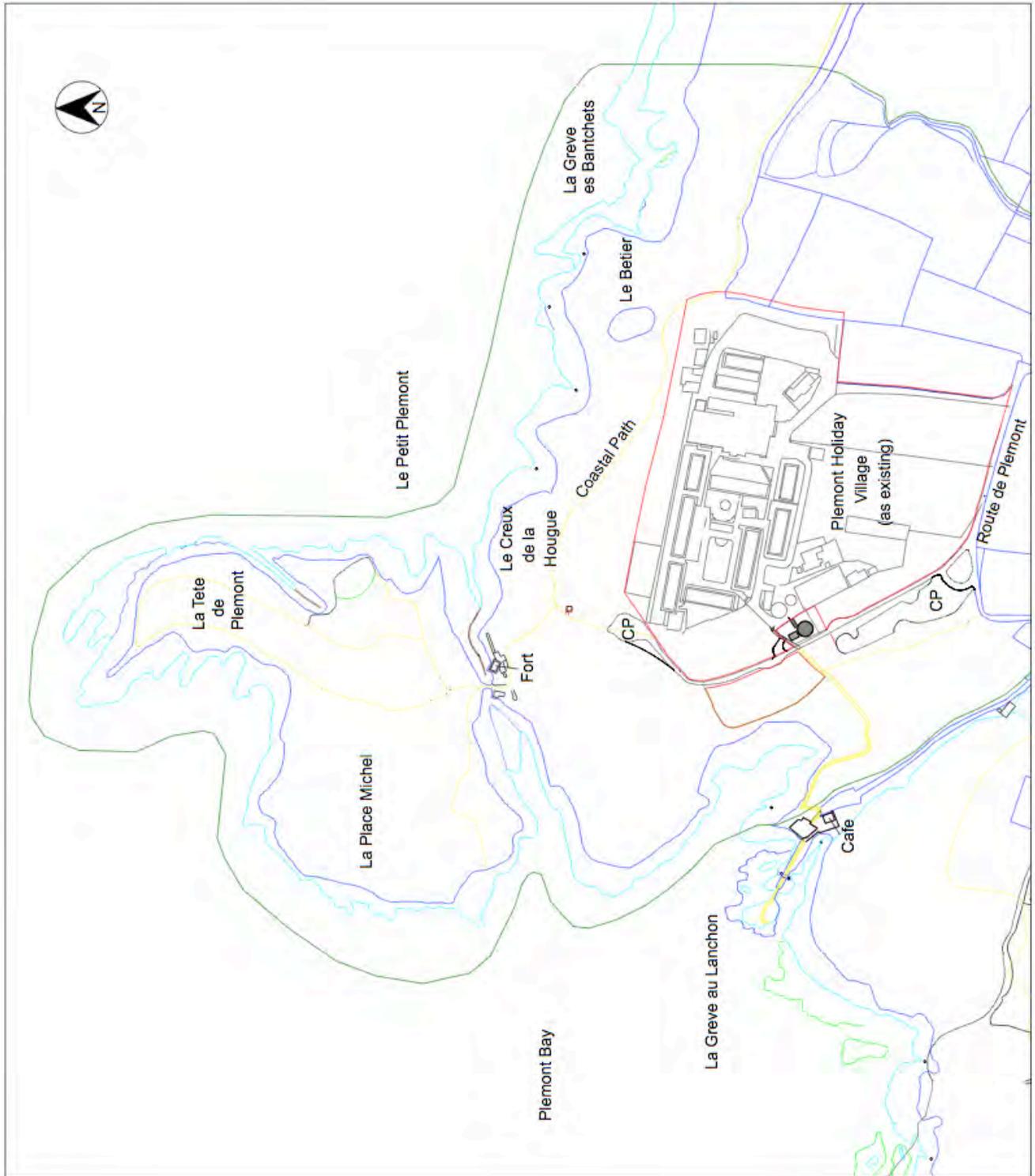
CORE AND EXTENDED SURVEY AREAS

Survey boundaries

 Core Survey Area	 Extended Survey Area	 Roads, Fields and other boundaries	 Mean High Water	 Footpaths	 Car Park
--	--	--	---	---	--



Client: Plémont Estates Ltd
Project: Plémont Bay Holiday Village 30 House Development Environmental Statement
Title: Core & Extended Survey Areas Biodiversity & Nature Conservation
Drawing: MHA-16343 - 1
Draw by: MV Checked by: MRH
Scale: NTS Date: May 2009



Annex 2

**HABITATS,
VEGETATION COMMUNITIES
& SITE FEATURES**

Core Survey Area

	Core Survey Area
	Site feature (refer to text and photos)/Species-poor grassland
	Species-poor grassland
	Hedge
	Pond
	Ruderal/'Weed' community
	U1b Grassland community
	W23 Gorse-dominated community
	Bank
	W25 Bracken-dominated community
	Fence



Client: Plémont Estates Ltd
Project: Plémont Bay Holiday Village 30 House Development Environmental Statement Biodiversity & Nature Conservation
Title: Core Survey Area Habitat Features
Drawing: MHA-16343 -2
Draw by: MV Checked by: MRH
Scale: NTS Date: May 2009



Habitats, Vegetation Communities and Site Features (Nos. 1-25)

Core Survey Area

(for location of habitat features refer to **Drawing No. MHA-16343-2** and for building reference numbers refer to Drawing No. **MHA-16343-4**)

1. **Lawn.** Species-poor, managed, amenity grassland with narrow flower border at the front of the 'Main House' (building no. 18).
2. **Grassland.** Species-poor, un-managed, amenity grassland, which includes an abundance of self-seeded ornamental species, some within remnant flower beds (refer to **photo 1**). The site includes a section of privet hedge.



photo 1



photo 2

3. **Hedge.** Tall Privet hedge (visible in **photo 2**).
4. **Hedgebank.** Low earth and stone hedge banque which part defines the eastern limit of the Plémont Holiday Village site (bank at left of **photo 2**). The banque extends along the western margin of the Route de Plémont (C105), which also serves as the access road to the former holiday village site. The eastern banque is similar in all respects to the western hedge bank along this road (bank at right of **photo 2**). The banque supports a diversity of species including hogweed, common nettle (frequent), sheep's-bit, great quaking-grass (abundant), cock's-foot (dominant), sea radish, bracken, bramble, yarrow, common sorrel, sheep's sorrel, shaggy mouse-ear hawkweed and common vetch. The banque was identified to support extensive runs and holes used by brown rats.
5. **Hedgebank.** Earth and stone banque which part defines the eastern boundary of the application site. It forms the separation between a track to field No. 53 and field No. 48. The banque was identified to support extensive runs and holes used by brown rats. The flora of the banque comprises similar species to that at feature 4. above. A female green lizard was seen crossing the track from the bank.

6. **Banque.** A stone-faced bank which defines the southern boundary of the application site (bank at left of **photo 3**). The banque supports scattered shrubs and a diversity of plant species.



photo 3



photo 4

7. **Field.** A large area of essentially unmanaged amenity grassland (refer to **photo 4**) but which in parts is closely grazed by rabbits. Species include cock's-foot (dominant), daisy and ribwort plantain (abundant), Yorkshire-fog (occasional to locally abundant), white clover (frequent), barren brome, slender parsley-piert and hogweed (locally frequent), yarrow, common mouse-ear, buck's-horn plantain, squirreltail fescue and common vetch (occasional), with cat's-ear, scarlet pimpernel, common ragwort and common sorrel (rare to occasional). The vegetation provides some affinity to NVC community **MG1a *Arrhenatherum elatius* grassland; *Festuca rubra* sub-community** [= Corine biotope C38.22 *Prairies des plaines médio-européennes à fourrage*], recognising that only one of the community constants is present (cock's-foot) but a sufficient range of community preferentials and associates are present at required frequency and abundance values. The southern and south-western margins of the site comprise taller, unmanaged grassland with hemlock, common nettle, bramble and sea radish prevalent with gorse spreading from the roadside bank. Some disturbed ground is evident in the vicinity of building no. 21.

8. **Part of Field 7.** A small area measuring approximately 5m x 8m within site feature 7. It comprises predominantly damp, bare sand/loam soil with a close-grazed, sparse vegetation community (refer to **photo 5**) which includes buck's-horn plantain (abundant), mossy stonecrop (abundant), sheep's sorrel and sheep's-fescue. The vegetation provides reasonable affinity to a form of the NVC community **U1b *Festuca ovina-Agrostis capillaris-Rumex acetosella* grassland; Typical sub-community** [= Corine biotope C35.22 *Pelouses siliceuses ouvertes permanentes*].



photo 5

9. **Pond.** A very small overgrown pond supporting some bulrush and soft-rush.
10. **Building no. 21.** The building was identified to contain brown rat droppings, probably a single family group.
11. **'White House'** (Building no. 20). The building was identified to contain heavy brown rat infestation within all the rooms and the roof. The garden comprises an unmanaged lawn with bramble spreading. To the margin of the property is a privet hedge.
12. **'Old Shop'** (Building no. 19). The building was identified to contain evidence of use by rats.
13. **'Pontins Pumping Station'**. Located outside the curtilage of the Core Survey Area (refer to **photo 6**).



photo 6



photo 7

14. **Tennis courts.**
15. **Vegetated bank.** A bank extending from the level of the amenity field at site feature 7, structures at site 10 and the tennis court at site 14 down the level of the 'Parish road'. The unmanaged vegetation comprises bracken (dominant) with common nettle, hogweed, bramble and gorse with affinity to the NVC community **W25b *Pteridium aquilinum-Rubus fruticosus*; *Teucrium scorodonia* sub-community** [= Corine biotope C31.831 *Ronciers*]. To the road margin the vegetation becomes somewhat more diverse with cock's-foot dominant together with such species as sea radish, tree mallow, foxglove and small-flowered catchfly.
16. **Vegetated bank.** Gorse and bramble dominate the northern extent of the bank, with common nettle and hogweed (both abundant), elder (occasional) and spear thistle (rare), becoming more grass dominated with a greater diversity of species southwards and to the road margin (refer to **photo 7**).
17. **Bracken dominated parcel.** An unmanaged area between the cliff edge and the 'Parish road' (refer to **photo 8**), in the same ownership as the proposal site, which has become dominated with bracken with hogweed and common nettle (both abundant) and with ivy dominant beneath the bracken. The vegetation has affinity to the NVC community **W25b *Pteridium aquilinum-Rubus fruticosus*; *Teucrium scorodonia* sub-community** [= Corine biotope C31.831 *Ronciers*]. Gorse occurs to the cliff edge. Several paths cross the southern section in an area where the W25 community becomes less defined and cock's-foot dominates in a more grassy sward which includes thrift and sheep's fescue.



photo 8



photo 9

18. **Amenity grassland.** Unmanaged amenity grassland of low species-diversity associated with the buildings of the holiday village (refer to **photo 9** - accommodation blocks Grouville and Brélade). The grassland is typically dominated by cock's-foot with sea carrot, hogweed and bramble together with a range of ornamental plants and shrubs.
19. **Holiday Village.** Core part of the holiday village with accommodation blocks (Bouley, Sorel, Grouville), swimming pool and areas of amenity grassland (refer to **photo 10**).



photo 10



photo 11

20. **Amenity grassland.** Unmanaged amenity grassland of low species-diversity associated with the buildings of the holiday village (refer to **photo 11** - accommodation block Sorel and main social building). The grassland is typically dominated by cock's-foot with sea carrot, hogweed and bramble together with a range of ornamental plants and shrubs.
21. **Amenity grassland.** Unmanaged amenity grassland of low species-diversity associated with the buildings of the holiday village (refer to **photo 12** - accommodation block Rozel and tennis court). The grassland is typically dominated by cock's-foot with hogweed abundant and spreading from the eastern side, together with bracken spreading from the seaward boundary.



photo 12



photo 13

22. **Banque.** An earth and stone banque defining part of the eastern margin against an arable field and the north-eastern corner of the site in proximity to the coastal path. It is predominantly bracken dominated on the eastern boundary (refer to **photo 13**) with Yorkshire-fog abundant, bramble and common nettle frequent to locally abundant and hogweed frequent, providing an affinity to the NVC community **W25b *Pteridium aquilinum-Rubus fruticosus*; *Teucrium scorodonia* sub-community** [= Corine biotope C31.831 *Ronciers*]. The north-eastern extent comprises part made-up ground and supports a small diversity of essentially 'weed' species such as sea radish, alexanders, tree mallow, common mallow and hemlock (refer to **photo 14**).



photo 14



photo 15

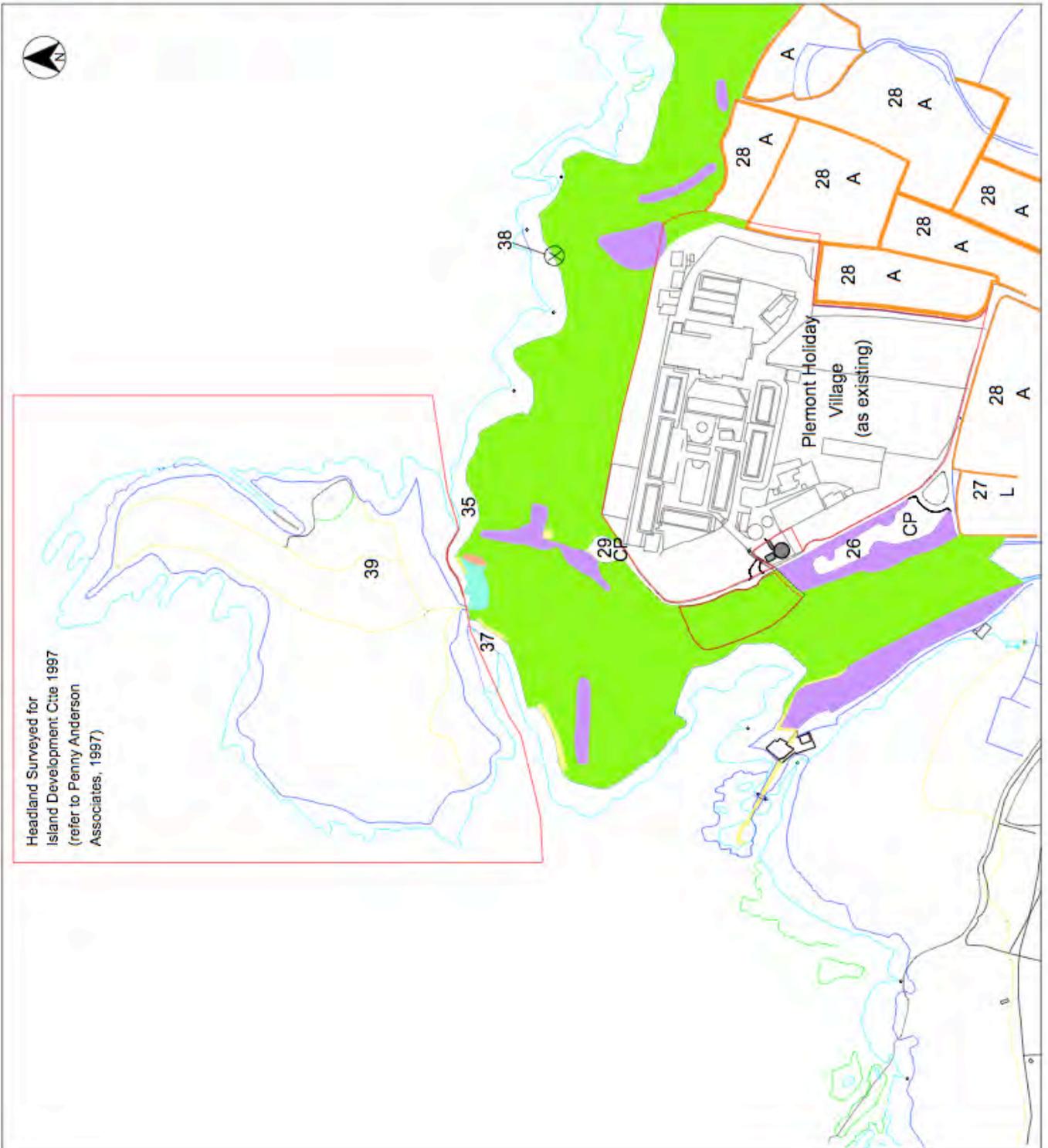
23. **Maintenance building.** Brown rat droppings and shredded bedding material were identified from this building.
24. **Bracken area.** All of the northern boundary of the proposal site in proximity to the coastal path comprises bracken (dominant) with gorse (locally frequent), hogweed, common nettle and bramble (all frequent) and elder and hawthorn (both rare) (refer to **photo 15**). The vegetation has affinity to the NVC community **W25b *Pteridium aquilinum-Rubus fruticosus*; *Teucrium scorodonia* sub-community** [= Corine biotope C31.831 *Ronciers*].
25. **Amenity grassland.** An area of unmanaged amenity grassland of low species-diversity with cock's-foot dominant and oxeye daisy rare. The grassland is fenced along its western and northern boundaries.

Annex 3

**HABITATS,
VEGETATION COMMUNITIES
& SITE FEATURES**

Extended Survey Area

<p>Site Features (refer to text and photos)</p> <p>26  W23 Gorse-dominated community</p> <p> W25 Bracken-dominated community</p> <p> Coastal grassland community</p> <p> Heath grassland</p> <p> W24 Bramble-dominated community</p> <p> Bank</p> <p> Arable</p> <p> Grass ley</p> <p> Car Park</p>		<table border="1"> <tr> <td>Client: Plémont Estates Ltd</td> </tr> <tr> <td>Project: Plémont Bay Holiday Village 30 House Development Environmental Statement Biodiversity & Nature Conservation</td> </tr> <tr> <td>Title: Extended Survey Area Habitat Features</td> </tr> <tr> <td>Drawing: MHA-16343 -3</td> </tr> <tr> <td>Draw by: MV Checked by: MRH</td> </tr> <tr> <td>Scale: NTS Date: May 2009</td> </tr> </table>	Client: Plémont Estates Ltd	Project: Plémont Bay Holiday Village 30 House Development Environmental Statement Biodiversity & Nature Conservation	Title: Extended Survey Area Habitat Features	Drawing: MHA-16343 -3	Draw by: MV Checked by: MRH	Scale: NTS Date: May 2009
Client: Plémont Estates Ltd								
Project: Plémont Bay Holiday Village 30 House Development Environmental Statement Biodiversity & Nature Conservation								
Title: Extended Survey Area Habitat Features								
Drawing: MHA-16343 -3								
Draw by: MV Checked by: MRH								
Scale: NTS Date: May 2009								



Habitats, Vegetation Communities and Site Features (Nos. 26-40) *Extended Survey Area*

(for location of habitat features refer to **Drawing no. MHA-16343-3**)

26. **Car park.** The car park (refer to **photo 16**) is owned and managed by the States of Jersey and can accommodate up to 39 cars. It is surrounded by a dense gorse-covered visibility bund. The vegetation conforms to the NVC **W23c *Ulex europaeus-Rubus fruticosus* scrub; *Teucrium scorodonia* sub-community** [= Corine biotope C31.85 *Landes à Ajoncs*]. The margins of the bund support a tall grass community similar to that described at feature 15.



photo 16



photo 17

27. **Ley.** A recently sown rye-grass ley, the vegetation identified as NVC **MG7 *Lolium perenne* leys and associated grasslands community** [= Corine biotope C81 *Prairies améliorées*].
28. **Arable fields.** A number of small arable fields, predominantly growing Jersey Royal potatoes. They are all surrounded by low hedge banks, with only a few supporting tree or shrub species.
29. **Car park.** The 'unofficial' car park at the end of the 'Parish road' which is able to hold up to 12 cars. A single nest of the ant *Formica pratensis* was identified from the northern end of the car park at a point where the coastal path descends to a possible 18th century stone defensive structure. An ant trail was noted crossing east-west at that point.
30. **Coastal slopes and rock outcrops.** The vegetation of these areas is dominated by gorse with a small diversity of associated species including sweet vernal-grass, cock's-foot, wood sage, foxglove, common nettle and bramble (refer to **photo 17** and **photo 21**—orange arrow). The vegetation conforms to the NVC **W23c *Ulex europaeus-Rubus fruticosus* scrub; *Teucrium scorodonia* sub-community** [= Corine biotope C31.85 *Landes à Ajoncs*].
31. **Stone defensive structure.** A possible 18th century stone defensive structure located on a small rock outcrop. Associated vegetation includes sheep's fescue, thrift, sweet vernal-grass, common bird's-foot-trefoil, sheep's sorrel, oxeye daisy and mouse-eared hawkweed.
32. **Rock outcrop.** The vegetation includes gorse, bramble, ivy, thrift, navelwort, English stonecrop, oxeye daisy and sea campion.
33. **Coastal path.** Owned and maintained by the States of Jersey, it was constructed in 1981.

- 34. Coastal slopes.** Bracken-dominated vegetation is the most extensive habitat type on coastal slopes, extending down to the edge of the cliffs (refer to **photo 18**). Over most of the area bracken is overwhelmingly dominant with ivy and bramble (abundant), wood sage (occasional to locally frequent), hogweed (rare to locally frequent), and common nettle (rare) (refer to **photo 19**).



photo 18



photo 19

At the margins of the coastal path and on some rock outcrops a greater diversity of species is evident including common dog-violet (frequent to locally abundant), cock's-foot (frequent), sweet vernal-grass (locally frequent), sheep's fescue, navelwort, foxglove, cleavers, cat's-ear, common sorrel, sheep's-bit, slender St. John's-wort, English stonecrop and sea campion (all occasional), and rock sea-spurrey, shaggy mouse-ear-hawkweed and oxeye daisy (rare). The vegetation has close affinity to the NVC community **W25b *Pteridium aquilinum*-*Rubus fruticosus*; *Teucrium scorodonia* sub-community** [= Corine biotope C31.831 *Ronciers*].

- 35. Coastal slopes.** A very small area of heath grassland comprising bell heather, gorse, bracken, ivy, sheep's fescue, common bird's-foot-trefoil, oxeye daisy, hogweed, common sorrel and dodder (refer to **photo 20** and **photo 21**—pink arrow).



photo 20



photo 21

- 36. Coastal slopes.** A small area in proximity to a World War II German defensive structure (searchlight battery and quarters) where bramble dominates with bracken, sheep's fescue, hogweed and abundant common nettle (refer to **photo 21**—green arrow). The vegetation provides some affinity to the NVC **W24b *Rubus fruticosus*-*Holcus lanatus* underscrub; *Arrhenatherum elatius*-*Heracleum sphondylium* sub-community** [= Corine biotope C31.8112 *Fruticées à *Prunus spinosa* et *Rubus fruticosus**].

- 37. Coastal grassland.** Very little coastal grassland remains, the cliff slopes and edges having become dominated by bracken (refer to **photo 23**). The few remaining areas of

grassland are linear at the cliff edge and inaccessible. Viewed through binoculars they would appear to support sheep's fescue, thrift, oxeye daisy, hogweed, common bird's-foot-trefoil, ivy, cock's-foot, ribwort plantain and common sorrel, with variously bracken or gorse spreading.

- 38. Defense structure.** A World War II German defensive structure which supports reasonable amounts of the fern sea spleenwort (refer to **photo 22**).



photo 22

- 39. Breeding puffin.** A single male puffin was observed by the author on 9th June 2006 carrying sand-eels to a burrow (refer to **photo 23**) located just below the uppermost part of the cliff, below the rock outcrop known as Le Bétier. Note bracken growth extends to the cliff edge.



photo 23



photo 24

- 40. Plémont Headland.** The vegetation communities and flora of the headland were surveyed for the Island's Development Committee in 1997 (refer to plan and text in Penny Anderson Associates, 1997). The vegetation of the headland was not re-mapped during the present study as a walk-over survey found that the pattern and distribution of communities had not significantly changed in the interim period.

Annex 4

FLORA

Core Survey Area

FLORA OF THE CORE SURVEY AREA

Nomenclature: after Stace (1997)

Recorder: Michel Ragody Hughes, 8th & 9th June 2006

Species

Ferns and allies

Pteridium aquilinum Bracken

Trees and shrubs

<i>Acer pseudoplatanus</i>	Sycamore
<i>Buddleja davidii</i>	Butterfly-bush
<i>Cotoneaster</i> sp.	Cotoneaster
<i>Crataegus monogyna</i>	Hawthorn
<i>Hebe</i> sp.	Hebe species
<i>Ligustrum ovalifolium</i>	Garden Privet
<i>Rubus fruticosus</i> agg.	Bramble
<i>Tamarix gallica</i>	Tamarisk
<i>Ulex europaeus</i>	Gorse

Grasses

<i>Agrostis capillaris</i>	Common Bent
<i>Aira praecox</i>	Early Hair-grass
<i>Anisantha sterilis</i>	Barren Brome
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Arrhenatherum elatius</i>	False Oat-grass
<i>Briza maxima</i>	Greater Quaking-grass
<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft-brome
<i>Cortaderia selloana</i>	Pampas-grass
<i>Dactylis glomerata</i>	Cock's-foot
<i>Elytrigia repens</i>	Common Couch
<i>Festuca ovina</i>	Sheep's Fescue
<i>Festuca rubra</i>	Red Fescue
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Hordeum murinum</i> ssp. <i>murinum</i>	Wall Barley
<i>Lolium perenne</i>	Perennial Rye-grass
<i>Poa annua</i>	Annual Meadow-grass
<i>Poa pratensis</i>	Smooth Meadow-grass
<i>Vulpia bromoides</i>	Squirreltail Fescue

Flora continued

Species

Sedges and rushes

Juncus effusus

Soft-rush

Other vascular plant species

<i>Achillea millefolium</i>	Yarrow
<i>Anagallis arvensis</i>	Scarlet Pimpernel
<i>Aphanes australis</i>	Slender Parsley-piert
<i>Arctium minus</i>	Lesser Burdock
<i>Arenaria serpyllifolia</i>	Thyme-leaved Sandwort
<i>Armeria maritima</i>	Thrift
<i>Artemisia vulgaris</i>	Mugwort
<i>Bellis perennis</i>	Daisy
<i>Beta vulgaris ssp. maritima</i>	Sea Beet
<i>Carduus tenuiflorus</i>	Slender Thistle
<i>Carpobrotus edulis</i>	Hottentot-fig
<i>Centranthus ruber</i>	Red Valerian
<i>Cerastium diffusum</i>	Sea Mouse-ear
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Chenopodium album</i>	Fat-hen
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cirsium vulgare</i>	Spear Thistle
<i>Conium maculatum</i>	Hemlock
<i>Convolvulus arvensis</i>	Field Bindweed
<i>Crassula tillaea</i>	Mossy Stonecrop
<i>Crocosmia x crocosmiiflora</i>	Montbretia
<i>Daucus carota ssp. gummifer</i>	Sea Carrot
<i>Digitalis purpurea</i>	Foxglove
<i>Erodium cicutarium</i>	Common Stork's-bill
<i>Erysimum cheiri</i>	Wallflower
<i>Foeniculum vulgare</i>	Fennel
<i>Galium aparine</i>	Cleavers
<i>Galium mollugo</i>	Hedge Bedstraw
<i>Geranium molle</i>	Dove's-foot Crane's-bill
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Hydrangea macrophylla</i>	Hydrangea
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Iris germanica</i>	Bearded Iris
<i>Jasione montana</i>	Sheep's-bit
<i>Lathyrus latifolius</i>	Broad-leaved Everlasting-pea
<i>Lavatera arborea</i>	Tree-mallow
<i>Leontodon autumnalis</i>	Autumn Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Malva sylvestris</i>	Common Mallow
<i>Medicago arabica</i>	Spotted Medick
<i>Oxalis articulata</i>	Pink-sorrel
<i>Papaver dubium</i>	Long-headed Poppy

Flora continued

Species

<i>Papaver rhoeas</i>	Common Poppy
<i>Papaver somniferum</i>	Opium Poppy
<i>Parietaria judaica</i>	Pellitory-of-the-wall
<i>Pilosella peleteriana</i>	Shaggy Mouse-ear-hawkweed
<i>Plantago coronopus</i>	Buck's-horn Plantain
<i>Plantago lanceolatum</i>	Ribwort Plantain
<i>Polycarpon tetraphyllum</i>	Four-leaved Allseed
<i>Potentilla</i> sp.	a shrubby Cinquefoil
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Raphanus raphanistrum</i> ssp. <i>maritimus</i>	Sea Radish
<i>Rosmarinus officinalis</i>	Rosemary
<i>Rumex acetosella</i>	Sheep's Sorrel
<i>Rumex acetosa</i> ssp. <i>acetosa</i>	Common Sorrel
<i>Rumex crispus</i> ssp. <i>crispus</i>	Curled Dock
<i>Sagina procumbens</i>	Procumbent Pearlwort
<i>Sedum anglicum</i>	English Stonecrop
<i>Senecio jacobaea</i>	Common Ragwort
<i>Senecio sylvaticus</i>	Heath Groundsel
<i>Senecio vulgaris</i>	Groundsel
<i>Silene alba</i>	White Campion
<i>Silene gallica</i>	Small-flowered Catchfly
<i>Silene uniflora</i>	Sea Campion
<i>Smyrnium olusatrum</i>	Alexanders
<i>Sonchus asper</i>	Prickly Sow-thistle
<i>Sonchus oleraceus</i>	Smooth Sow-thistle
<i>Stellaria media</i>	Common Chickweed
<i>Trifolium dubium</i>	Lesser Trefoil
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover
<i>Tripleurospermum inodorum</i>	Scentless Mayweed
<i>Typha latifolia</i>	Bulrush
<i>Umbilicus rupestris</i>	Navelwort
<i>Urtica dioica</i>	Common Nettle
<i>Veronica arvensis</i>	Wall Speedwell
<i>Vicia sativa</i>	Common Vetch

The *Core Survey Area* in the vicinity of the holiday village buildings was additionally identified to support a diversity of ornamental shrubs and other flowering plant species, which have not been listed.

The *Extended Survey Area* was additionally identified to support a diversity of flowering plant species closely reflecting species previously recorded by Penny Anderson Associates (1997) and Environ UK Ltd (2001).

Annex 5

BIRDS

Core and Extended Survey Areas

BIRDS

Species observed or heard within or over the *Core* and *Extended Surveys Areas*

recorder: Michel Ragody Hughes

Species		Status
		Jersey (source: Jersey Bird Report 2005) Observations made 8 th & 9 th June 2006
Procellariidae		
Northern Fulmar	<i>Fulmarus glacialis</i>	Common resident and migrant, pop. estimated at 170+ prs. At least 20prs. breeding Plémont Headland between La Creux des Hêches and La Grève ès Bantchets.
Accipitridae		
Common Buzzard	<i>Buteo buteo</i>	Rare, mainly autumn, migrant and winter visitor. 1 seen hunting over fields to east of <i>Extended Survey Area</i> .
Falconidae		
Kestrel	<i>Falco tinnunculus</i>	Common resident and scarce migrant, widespread. 1 seen hunting over adjoining fields and Plémont Headland.
Peregrine Falcon	<i>Falco peregrinus</i>	Rare resident, scarce migrant, winter visitor, 3 prs. bred 2005. 1 seen hunting evening of 8 th June along cliffs between Plémont Headland (La Pièce Michel) and La Grève ès Bantchets.
Phasianidae		
Common Pheasant	<i>Phasianus colchicus</i>	Common, throughout Island, numbers increasing. Numerous seen, probably breeding, in <i>Core</i> and <i>Extended Survey Areas</i> .
Haematopodidae		
Oystercatcher	<i>Haematopus ostralegus</i>	Scarce resident, very common, occasionally abundant migrant and winter visitor. 2 seen and heard on Plémont Headland (rocks between Le Creux à Musc and Le Petit Plémont).
Laridae		
Lesser Black-backed Gull	<i>Larus fuscus</i>	Common breeding species, migrant and scarce winter visitor. Occasional over <i>Core Survey Area</i> , breeding on cliffs of <i>Extended Survey Area</i> .
Herring Gull	<i>Larus argentatus</i>	Abundant resident. Frequent over/within <i>Core Survey Area</i> , cliffs of <i>Extended Survey Area</i> .
Great Black-backed Gull	<i>Larus marinus</i>	Scarce breeding species, very common migrant and winter visitor. Breeding pop. estimated >100 prs. 2 seen on rocks at Le Petit Plémont and over bay.
Alcidae		
Puffin	<i>Fratercula arctica</i>	Scarce breeding species and rare migrant. 1 seen on several occasions early evening of 8 th June flying from surface of sea in bay off Le Petit Plémont carrying sand eels to burrow in upper cliffs below rocks at Le Bétier (below holiday village).

Birds continued

Species		Status
		Jersey (source: Jersey Bird Report 2005) Observations made 8 th & 9 th June 2006
Columbidae		
Feral Rock Dove	<i>Columba livia</i>	Resident. Several prs. breeding within <i>Extended Survey Area</i> , cliffs at Le Haute Falaise.
Wood Pigeon	<i>Columba palumbus</i>	Very common resident and very common, often abundant, autumn migrant. Several seen flying within/over <i>Core Survey Area</i> .
Apodidae		
Swift	<i>Apus apus</i>	Common summer visitor and migrant. Flying/foraging over <i>Core</i> and <i>Extended Survey Area</i> , including flock of c. 40 over La Tête de Plémont and adjoining sea on 9 th June.
Hirundinidae		
Barn Swallow	<i>Hirundo rustica</i>	Common breeding species and very common, occasionally abundant, migrant. Small numbers flying/foraging over <i>Core Survey Area</i> , but not breeding within site.
House Martin	<i>Delichon urbica</i>	Common breeding species and very common, sometimes abundant, migrant. Small numbers flying/foraging over <i>Core Survey Area</i> , but not breeding within site.
Troglodytidae		
Wren	<i>Troglodytes troglodytes</i>	Abundant resident and occasional migrant. 3 whole/partial territories within <i>Core Survey Area</i> , numerous in <i>Extended Survey Area</i> .
Prunellidae		
Dunnock	<i>Prunella modularis</i>	Abundant resident and occasional migrant. 2 whole/partial territories within <i>Core Survey Area</i> , several seen/heard in <i>Extended Survey Area</i> .
Turdidae		
Common Stonechat	<i>Saxicola torquata</i>	Scarce resident and common winter visitor (at least 4 breeding prs in 2005). 1 pr. with 2 young in low gorse scrub on Plémont Headland.
Blackbird	<i>Turdus merula</i>	Abundant resident and common autumn migrant. 1 seen margin of holiday village car park (presumed breeding locally).
Sylviidae		
Common Whitethroat	<i>Sylvia communis</i>	Common breeding species, common spring and autumn migrant. 1 pr. breeding in gorse/bramble scrub on northern periphery of <i>Core Survey Area</i> , 1 singing adjacent coastal path in <i>Extended Survey Area</i> .

Birds continued

Species		Status
		Jersey (source: Jersey Bird Report 2005) Observations made 8 th & 9 th June 2006
Paridae		
Blue Tit	<i>Parus caeruleus</i>	Very common resident. 1 seen in Privet hedge within <i>Core Survey Area</i> (bird agitated, presumed breeding).
Corvidae		
Magpie	<i>Pica pica</i>	Very common resident. 2 seen on several occasions around buildings of <i>Core Survey Area</i> and inland parts of <i>Extended Survey Area</i> .
Carrion Crow	<i>Corvus corone</i>	Abundant resident. 2 seen on several occasions within/over <i>Core and Extended Survey Areas</i> .
Passeridae		
House Sparrow	<i>Passer domesticus</i>	Very common resident. Several (presumed breeding) around buildings of <i>Core Survey Area</i> and foraging in fields to east within <i>Extended Survey Area</i> .
Fringillidae		
Chaffinch	<i>Fringilla coelebs</i>	Common resident, very common, often abundant migrant, especially in autumn and very common winter visitor. 1 pair seen on western boundary of <i>Core Survey Area</i> with <i>Extended Survey Area</i> .
Greenfinch	<i>Carduelis chloris</i>	Abundant resident and very common migrant. 1 heard/seen singing frequently over 2 days on western boundary of <i>Core Survey Area</i> (presumed breeding).
Linnet	<i>Carduelis cannabina</i>	Abundant breeding species and migrant. Several seen flying around coastal sections of <i>Extended Survey Area</i> extending into western and northern margins of <i>Core Survey Area</i> .

Annex 6

SURVEY OF BATS

**Christopher Shaw
Kingsmoor Bats Consultancy**

SURVEY OF BATS

Objectives

- 1.1 The objectives of the survey were identified to:
- Determine the presence/absence of bats/bat roosts within the buildings;
 - Determine the presence/absence of foraging bats within the boundaries of the site;
 - Determine the species of bats present; and
 - Appraise the site's present value to roosting/foraging bats.

Methodology

- 2.1 Personnel
The survey was conducted by Christopher Shaw³¹. Within the English jurisdiction he was a licenced bat worker (English Nature Licence No. 2005 2498). The nature and methodology of the survey at Plémont did not require a States of Jersey Bat Licence (L. Magris, pers. comm.).
- 2.2 Habitat survey
A visual appraisal of the site and adjacent habitats was made to identify potential flight lines, shelter and feeding areas for bats. The survey was conducted on the 8th June 2006.
- 2.3 Buildings survey
The exterior and interior (where feasible) of the buildings and other structures within the site were carefully searched for bats and evidence of bats (ie. droppings, insect remains and scuff marks) using natural light, torches, binoculars and an endoscope. The survey was conducted on the 8th and 9th June 2006 (refer to **Drawing No. MHA-16343-4** for extent of buildings survey).
- 2.4 Ultrasound detection survey
An emergence survey was conducted on the 8th June 2006 from 21.25 hrs to 22.30hrs to determine the presence of bats roosting in the buildings and those coming into the site to feed, using heterodyne/frequency division detectors. Recordings made on the site were later analysed using 'Batscan' computer analysis.
- 2.5 Two 'static' detector/recorders were stationed at appropriate locations within the holiday village site (refer to **Drawing No. MHA-16343-5** for location of static recorders). A further detector/recorder was used by the surveyor to record bats/bat activity along transects within the boundaries of the holiday village site (refer to **Drawing No. MHA-16343-5** for route of ultrasound detection survey).
- 2.6 A wider transect was also walked outside of the site boundary at the end of the emergence survey period to detect bat activity on the west-facing headland slope. A route was taken along the lane to Plémont Bay, returning to the site via the cliff path (refer to **Drawing No. MHA-16343-5** for route of ultrasound detection survey).

³¹ Since this survey was conducted Christopher Shaw has sadly died after a short illness.

- 2.7 A post-emergence survey was also conducted along the road from Plémont to Grève de Lecq on the 8th June 2006 from 22.45hrs to 23.55hrs. The route followed the C105 Route de Plémont to Portinfer, the B55 via Les Blanches Pierres, Le Haut de la Rue to Léoville and the B65 to La Grève de Lecq (refer to **Drawing No. MHA-16343-6**). This was carried out to collect data that would allow comparisons to be made with the bat activity, habitat and weather conditions identified at the site.

Survey results

3.1 Buildings

No bats or evidence of bats were found within the interiors of those buildings and structures that were examined (refer to **Drawing No. MHA-16343-5**).

No bats or evidence of bats were found within peripheral building features that could be viewed or more closely inspected.

3.2 Emergence survey

Recording Station 1

No bats were recorded within the immediate vicinity of this recorder. However, some faint ultrasounds were recorded but these were too indistinct to identify. These sounds may have feasibly been produced by wind blown vegetation or loose fittings on buildings.

3.3 Emergence survey

Recording Station 2

One bat (*Pipistrellus pipistrellus*) was recorded at emergence time, within the area around the swimming pool. Timing, call types and behaviour indicate emergence from a roost location within the surrounding buildings. Bat activity was continuously recorded for 11 minutes following emergence. A number of single bat passes were recorded during this period and from analysis these are considered to have been produced by a single individual.

3.4 Transect survey

No bats were recorded or seen within the holiday village complex beyond the immediate vicinity of the swimming pool area. The surveyor recorded intermittent calls from the bat recorded at Station 2 when passing openings between the buildings around the pool. One bat (*Pipistrellus pipistrellus*) was recorded feeding over the slope below the camp in the vicinity of the cliff path. This area was sheltered from the strong easterly wind blowing along the cliff top and the northern boundary of the camp. No bats were recorded elsewhere.

3.5 Post-emergence survey

Bats (*Pipistrellus pipistrellus*) were first recorded along the C105 Route de Plémont under hedgerow trees close to the entrance to field No. 37, some 120m south of the holiday village access. Further inland, where the hedges were taller and denser, giving shelter from the strong wind experienced across the holiday village and headland, increased levels of bat activity were recorded. Inland, bats were absent in those areas exposed to the wind. Most activity was recorded around settlements, where higher hedges bounded properties, and under trees, particularly where there was continuous canopy along the road descending to Grève de Lecq from Léoville.

Survey constraints

- 4.1 A single survey was conducted that would primarily identify the presence or otherwise of summer roosts and feeding locations that are dependant on the weather conditions at the time of the survey and bat activity at this time of year. Bat presence and activity associated with other conditions and seasons are not accounted for.

Buildings

- 4.2 Many of the individual accommodation units could not be opened and entered due to seized locks. The uniformity of the unit design and fittings reduced the necessity to search every individual unit.
- 4.3 The main central building (building No. 12) was entered and all floors searched but entry into the roof void was not possible due to its inaccessibility and asbestos risk (Normandie Analytical Services, 2004). This void was visually searched, in part, from the floor below using torch and binoculars. Those ceiling panels from the central ceiling section that had been taken down to floor level were inspected for the typical staining and detritus that bats deposit below their roost locations.
- 4.4 The internal roof sections of the accommodation blocks were only accessible from two locations where ladders could be placed and where large sections of fascia and soffit had been removed or fallen away. Inspections within the narrow void between the roof covering and the ceilings had to be restricted to viewing from the openings, to avoid contact with asbestos.
- 4.5 Although the buildings survey was in part restricted, due to the asbestos risk and being unable to open some of the accommodation units, the apparent complete lack of any bat evidence indicates that there is no significant bat presence associated with the buildings.
- 4.6 The extent of the survey is considered adequate, in relation to the constraints, in order to provide an appropriate opinion.

Bat detection

- 4.7 The survey period within the holiday village site was restricted to cover the roost-emergence period of bats. The duration of the survey would, however, account for both early- and late-emerging species.
- 4.8 Two sets of detection/recording equipment were available for static recording stations and one surveyor for mobile detecting within the holiday village complex. Due to the limited number of static stations, only sheltered locations, where bats were most likely to be active in relation to the prevailing weather conditions, were chosen.
- 4.9 Although only one surveyor was engaged in mobile detecting along transects within the site complex, the small size of the site allowed for a full coverage of the site every five minutes throughout the survey period of one hour.
- 4.10 Although the static recording and detection capability was limited to only two locations and one surveyor for mobile detection, the size and nature of the site proved suitable for this treatment. The aim of the survey was to determine the presence of bats and in this regard was successful. Although the exact location from which the bat emerged was not identified by this survey, its general position can be inferred to be within the vicinity of the central courtyard by the swimming pool and in proximity to Recording Station 2. Time was not available for a follow-up emergence survey in order to locate the roost.

Adverse weather conditions

- 4.11 Roosts
The hot and sunny weather at the time of the survey resulted in very high temperatures within the roof voids. Roosting bats need to conserve energy during daylight hours by lowering their body temperature to the ambient level and enter a torpid state. The hot conditions in most of the roof voids inspected would maintain high body temperatures and prevent bats from entering torpor. A survey was not conducted during cooler weather

conditions when more potential roost sites would have favourable conditions. In contrast, maternity roosts require 'hot' conditions. There was no evidence to suggest that such roosts were present.

Foraging

- 4.12 Bats require calm conditions to forage extensively. During periods of strong winds they will seek out sheltered areas for localised feeding. The strong wind (>40kph) blowing along the northern cliff top boundary and through the site at the time of the survey will have restricted those areas where bats would have been encountered. A survey conducted during a period of calm conditions may have shown more overall activity within the site boundaries. If the weather conditions experienced during the survey are typical and frequent for the site, the survey results may be taken as a reasonably true evaluation of the site's value to bats.

Evaluation

Buildings

Accommodation blocks (buildings Nos. 1-8 and 16-17)

- 5.1 The interiors of both upper and lower floor accommodation units are well sealed against entry by bats with intact windows, doors and ceilings. The interiors are brightly lit by natural light and have no internal features that provide roost locations for vesper bats.
- 5.2 Some upper floor staff accommodation units (buildings Nos. 16 and 17) have glass louvers that were partly open. Those entered had no bats or evidence of bats within. Extensive growth of creeper over the southern end walls of the same staff accommodation blocks could provide conditions for temporary roosting on cool days. At the time of the survey these areas were receiving full sunlight and attendant high temperatures that would make it untenable for roosting bats.
- 5.3 The flat roofs of the accommodation blocks are of bitumen felt laid over corrugated iron, supported on timber and steel joists. The void between the roof and the ceilings below is approximately 300mm. These voids can be entered by bats via a variety of small gaps in the soffit boards over the balconies, missing fascia boards and the gap around the rainwater down-pipes at the ends of the buildings. The roof voids, with internal divisions formed by supports provide suitable roost locations for bats.
- 5.4 The internal temperatures were noted to be very high.

Main building (building No. 12)

- 5.5 A two-storey building, containing the ballroom, bar, kitchens, dining hall and recreation rooms. All rooms, stairways and corridors were searched for bats and evidence of bats but none were found.
- 5.6 The large roof void was not entered but could be inspected in part through missing sections of hung ceiling, where panels had been removed. Panels were laid out on the ballroom floor and the original upper surfaces could be inspected for the typical staining and detritus that bats deposit below their roost locations. No signs were found.
- 5.7 The roof is of corrugated iron laid over an earlier but intact corrugated asbestos/cement roof. The main roof covering appeared to have no obvious entry points for bats that could be seen internally or externally. The soffit boards missing from the south-east corner provide an access for bats to enter the cavity under the roof eave at this point.

-
- Maintenance building (building No. 13)
- 5.8 This is a single storey building housing a heating plant and filled with an assortment of goods and lumber. There are many potential roost sites for individual bats within the interior where the light levels are also very low but no bats or evidence of bats were found. A medium level of rat infestation was noted. In the author's experience rat infested buildings are usually devoid of bats.
- Swimming pool plant/boiler (building No. 11)
- 5.9 This building has a flat roof but no access around its edges for bats to enter and roost behind fascias. No bats or evidence of bats were found.
- Shop (building No. 19)
- 5.10 A small, single storey building. No bats or evidence of bats were found.
- White House (building No. 20)
- 5.11 A dwelling house (bungalow) with a roof void and missing ceiling hatch that would allow bats to enter all dwelling areas. Bat access to the building is provided by broken windows although no obvious access, directly into the roof void, was found.
- 5.12 The roof void was extremely hot to work in when first entered in the afternoon and was subsequently re-entered the following morning before heating up. No bats or evidence of bats were found. A high level of rat infestation throughout the building and roof was noted.
- Water treatment plant building (building No. 21)
- 5.13 A small barn-like building with a glazed Roman tile roof laid over bitumen felt on timber sarking. The majority of the ceiling board is in place forming a darkened roof void. No bats or evidence of bats were found. A low level of rat infestation was noted.
- Résumé
- 5.14 No bats or evidence of bat use, either current or historic, was noted for any of the buildings entered and inspected. At the time of the survey the site would appear to be virtually devoid of bats. There are a number of potential roost locations in the peripheral areas of many buildings (fascias, soffits, eaves, etc.) that could potentially be adopted by bats.
- 5.15 The absence of bats and bat activity in the site will be due in part to the location of breeding roosts elsewhere, where the majority of bat populations would be at the time of the survey. The extreme temperatures and strong wind experienced on the site during the survey created unfavourable conditions for bats to be frequenting the site at this time.

Habitat and topography

- Site location
- 5.16 The site is located in an exposed position on the cliff top and considered likely to be subject to extremes of wind and temperature. Personal knowledge of bat activity on coastal cliffs in Devon and Cornwall have shown them to be generally unfrequented by bats on any regular basis where similar conditions prevail.
- 5.17 The immediate habitat lacks any significant and connective network of linear features such as hedgerows, tree lines or woodland edges, used by bats to navigate and feed within their territories. Some privet hedges exist along the path by the White House (building No. 20) and by the site access road but these are fragmented, of short section and do not connect to the wider habitat. The site is somewhat isolated from the areas of bat activity found further inland where such a network exists.

- 5.18 The approach road to the site and adjoining fields have banks with some Sycamore and Privet hedgerow but this network is some 240m away from the nearest site buildings. In light of the weather conditions and the lack of strong linear features to provide flight lines and shelter, it is unlikely that significant numbers of bats will frequent the site.
- 5.19 Invertebrates in feeding areas need to be available in sufficient density to provide a sufficient energy return to replace the energy expenditure of a bat visiting the site. The insect abundance found in frequently-used foraging areas is associated with diverse habitat. Such habitat is not present on the site or its immediate surroundings. The combination of the built area and poor floral diversity and extent, limits the numbers of bats that can be supported in this location. The dense stands of bracken on the adjoining cliff slopes has further reduced the potential 'fair weather' feeding areas for bats.

Wider habitat

- 5.20 The post-emergence survey between Plémont and Grève de Lecq sampled bat presence and activity found in the differing habitats and landscapes that occur along the road route. All bats observed and recorded were *Pipistrellus pipistrellus*.

Bats were first observed and recorded some 120m from the holiday village access where hedges of a relative stature provide shelter from the wind and are connected to the inland network. Bats were recorded at a number of locations along this route, primarily in areas of settlement where high stature hedges and trees were present. It was noted that bats were absent in exposed, windy sections with most numbers present in the stable microclimate under continuous tree canopy.

Summary

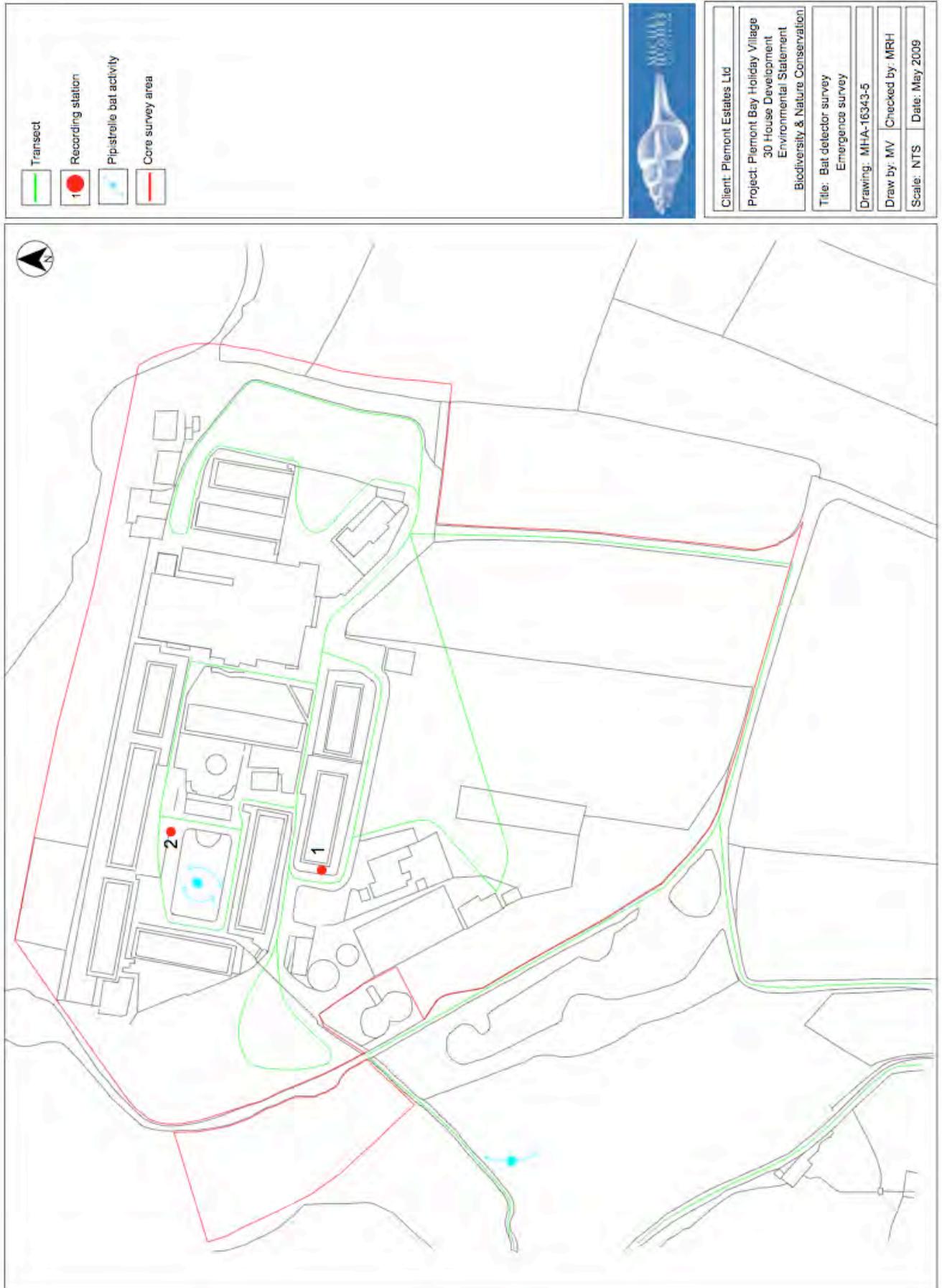
- 6.1 From the results of this survey, the existing building complex and immediate habitats are considered to have a low conservation value for bats due to their exposed and isolated position, lack of suitable habitat features to provide sheltered flight lines and reduced levels of insect abundance.

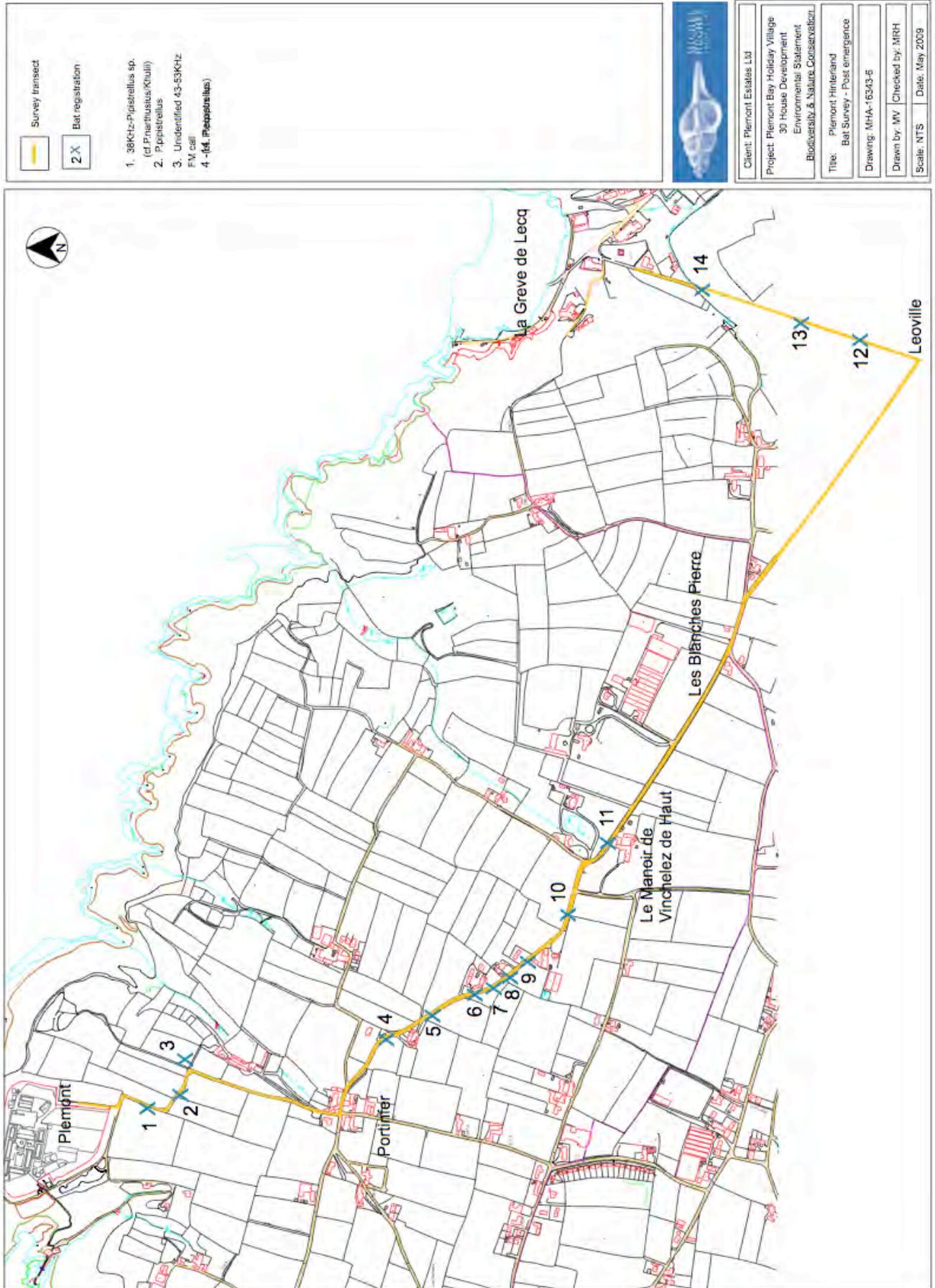


Plémont Holiday Village

Buildings Survey - Key to Drawing No. MHA-16343-4

1. Accommodation - Rozel
2. Accommodation - Bouley
3. Accommodation - Gorey
4. Accommodation - Grosnez
5. Accommodation - Grouville
6. Accommodation - Brélade
7. Accommodation - Corbière
8. Accommodation - Sorel
9. Outdoor swimming pool
10. Laundrette
11. First Aid, Swimming pool plant, Boiler house
12. Main building – Ballroom, Bar, Kitchens, Dining Hall, Recreation rooms
13. Maintenance building
14. Garage/Stores
15. Incinerator
16. Staff accommodation - A
17. Staff accommodation - B
18. Main house (currently occupied by site manager)
19. Shop
20. 'White House'
21. Water treatment plant building





SITE PHOTOGRAPHS



photo 1

Central courtyard with swimming pool. One bat was detected flying within courtyard. Location of Recorder Station 2 shown in red.



photo 2



photo 3



photo 4

Exposed roof void in accommodation block and view within



photo 5



photo 6

Potential roost access features on peripheral areas of buildings – broken fascias



photo 7
Gaps around downpipes



photo 8
Missing soffit boards



photo 9
Gaps in soffit boards.



photo 10
Missing pointing and loose blockwork.



photo 11
Interior of main building (building No.12).



photo 12
View within exposed roof void with part removed ceiling.



photo 13
The White House.



photo 14
The White House roof void.



photo 15
West side of small extension to the White House with typical access point for bats to roost under roof covering.

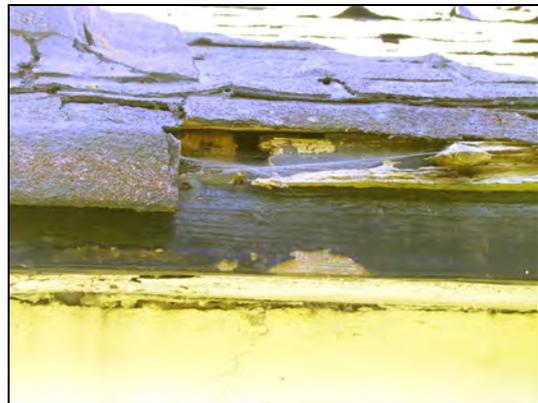


photo 16



photo 17
Barn-like building (building No. 21) by reservoir tank.



photo 18
Roof interior above ceiling boards.



photo 19
View of barn from fragmented boundary hedge.



photo 20
Location of Recording Station 1 shown in red – junction of flight routes formed by internal roads and hedges. Note short runs and fragmentation of hedges.



photo 21
View east along northern site boundary.



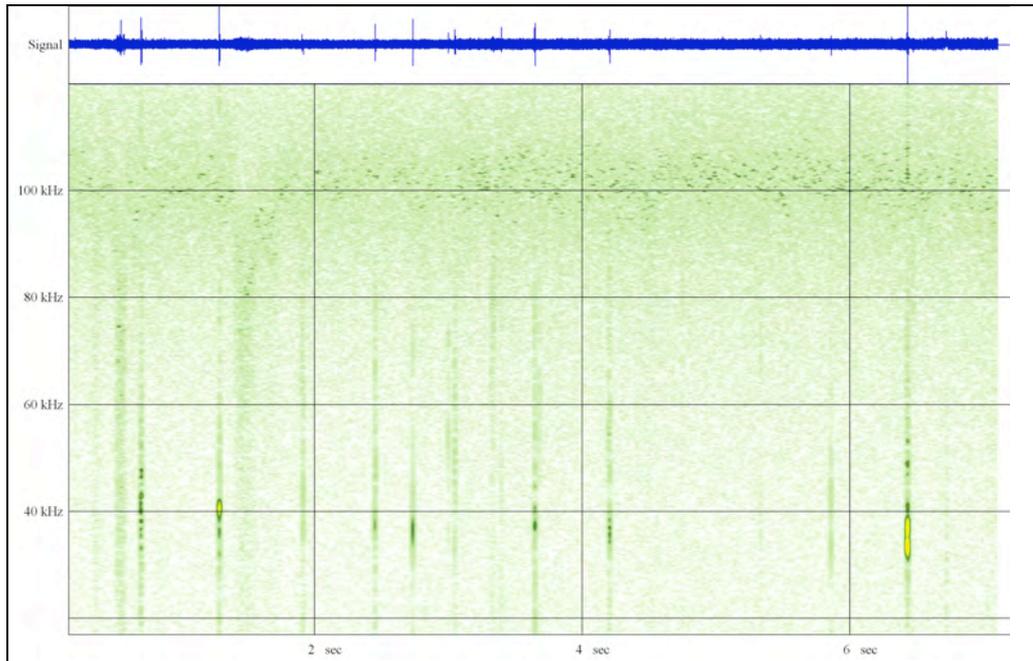
photo 22
View of holiday village site from Plémont Headland.



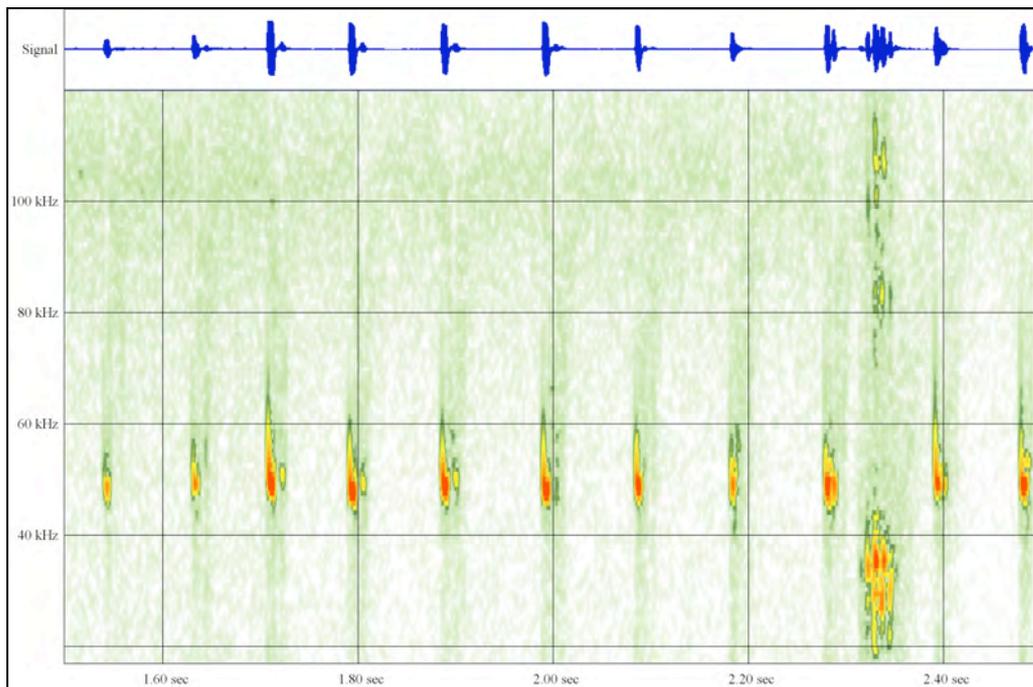
photo 23

View inland from entrance to holiday village site. The network of hedges supporting shrubs and trees can be seen to terminate some 100m (in direct line) from the site.

SONOGRAM SAMPLES RECORDED AT PLÉMONT

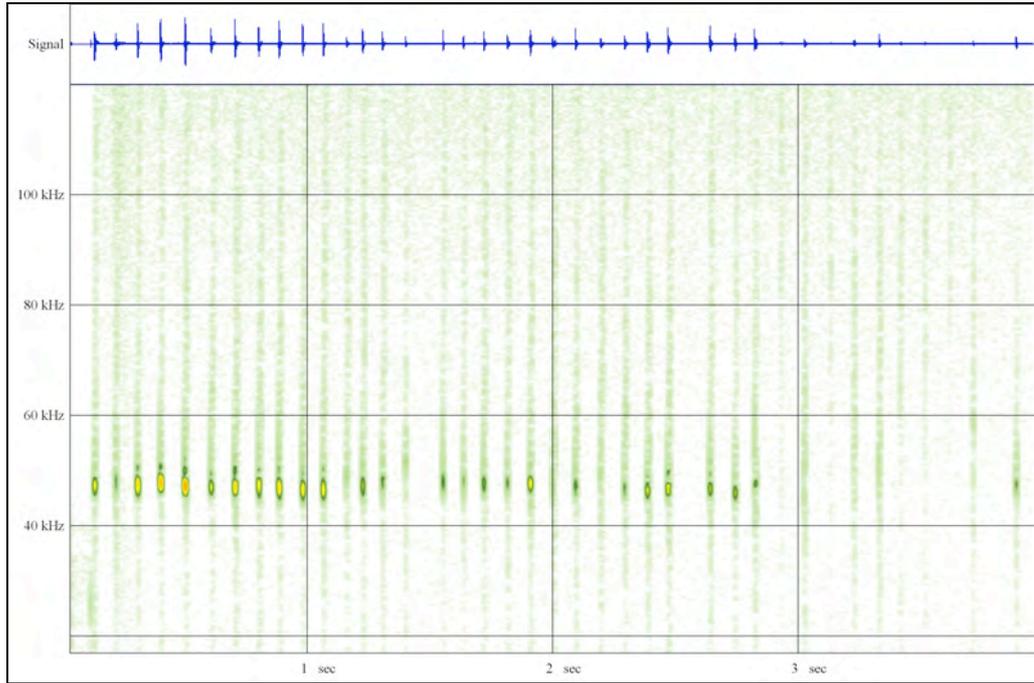


1. Pre-emergence calls from *Pipistrellus pipistrellus* within swimming pool courtyard



2. Echolocation calls and 'social' call³² from *Pipistrellus pipistrellus* by central courtyard

³² Bat ultrasound calls are primarily used as sonar for navigation and prey detection in low light and dark conditions. Bats also emit a whole range of calls that are believed to be for announcing an individual's presence and/or communication signals between members of the same species or colony. These unclassified calls are generally referred to as 'social' calls though their exact nature and functions are currently not fully understood.



3. Echolocation calls from *Pipistrellus pipistrellus* flying by path leading to café at Plémont Bay

Annex 7

OTHER MAMMAL SPECIES

Core and Extended Survey Areas

OTHER MAMMAL SPECIES

Core and Extended Survey Areas

recorders: Michel Ragody Hughes & Christopher Shaw, 8th-9th June 2006

Species		Notes
Carnivora		
Domestic Cat	<i>Felis catus</i>	<i>Extended Survey Area</i> , a single seen by SoJ car park.
Rodentia		
Common (brown) Rat	<i>Rattus norvegicus</i>	<i>Core and Extended Survey Areas</i> , widespread and common. Rat droppings and/or shredded material in buildings Nos. 13, 19, 20 and 21. Rat holes and/or runs in field banks: southern boundary of site, parallel banks of access road and banks of adjacent potato fields to east of site.
Lagomorpha		
Rabbit	<i>Oryctolagus cuniculus</i>	<i>Core and Extended Survey Areas</i> , widespread and common.

Annex 8

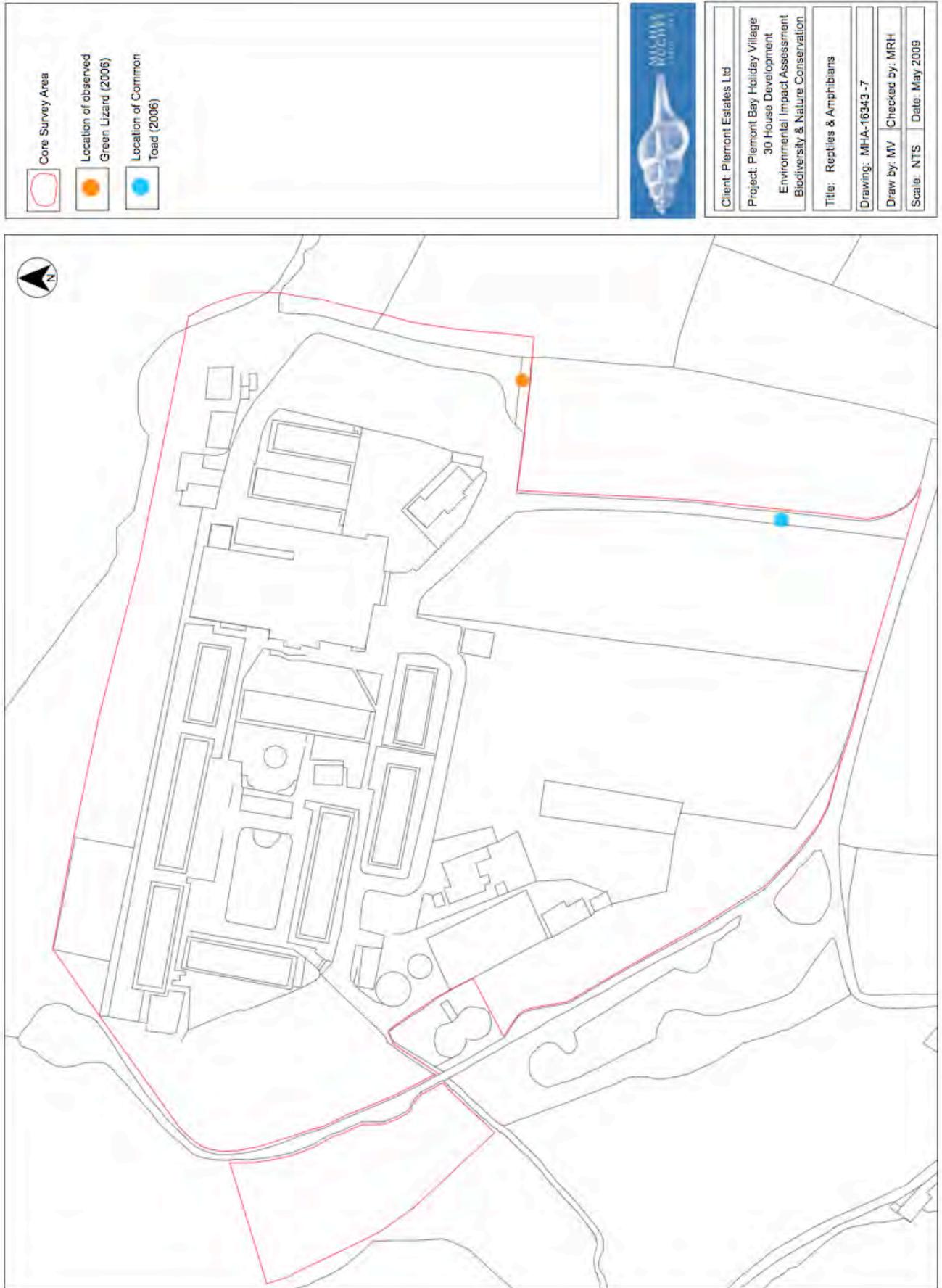
REPTILES & AMPHIBIANS

Core Survey Area

REPTILES & AMPHIBIANS

recorders: Michel Ragody Hughes & Christopher Shaw, 8th & 9th June 2006

Species		Notes
Green Lizard	<i>Lacerta viridis</i>	1 crossing vegetated track between holiday village car park and potato field to east.
Common Toad	<i>Bufo bufo</i>	1 dead on holiday village access road.



Annex 9

INVERTEBRATES

Core and Extended Survey Areas

BUTTERFLIES

recorder: Michel Ragody Hughes, 8th-9th June 2006

Species		Notes	Status
Hesperiidae			
Large Skipper	<i>Ochlodes venata</i>	Core and Extended Survey Areas	BCp: Low; E: Not threatened
Pieridae			
Large White	<i>Pieris brassicae</i>	Core and Extended Survey Areas	BCp: Low; E: Not threatened
Small White	<i>Pieris rapae</i>	Core Survey Area	BCp: Low; E: Not threatened
Green-veined White	<i>Pieris napi</i>	Core Survey Area	BCp: Low; E: Not threatened
Lycaenidae			
Green Hairstreak	<i>Callophrys rubi</i>	Extended Survey Area	BCp: Low; E: Not threatened
Common Blue	<i>Polyommatus icarus</i>	Core and Extended Survey Areas	BCp: Low; E: Not threatened
Nymphalidae			
Red Admiral	<i>Vanessa atalanta</i>	Core and Extended Survey Areas	BCp: n/a; E: n/a
Painted Lady	<i>Cynthia cardui</i>	Core and Extended Survey Areas	BCp: n/a; E: n/a
Satyridae			
Speckled Wood	<i>Pararge aegeri</i>	Core Survey Area	BCp: Low; E: Not threatened
Wall	<i>Lasiommata megera</i>	Core Survey Area	BCp: Low; E: Not threatened
Meadow Brown	<i>Maniola jurtina</i>	Core Survey Area	BCp: Low; E: Not threatened
Small Heath	<i>Coenonympha pamphilus</i>	Extended Survey Area	BCp: Low; E: Not threatened

BCp – Butterfly Conservation priority; E - European status; n/a – not assessed

MOTHS

recorder: Michel Ragody Hughes, 8th-9th June 2006

Species		Notes
Humming-bird	<i>Macroglossum stellatarum</i>	Core Survey Area, several seen
	Hawkmoth	

