

6 Biodiversity

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6.1 Introduction

This section of the EIAR has been prepared by Brian Keeley, Malgorzata Goska Wilkowska and Donna Mullen of Wildlife Surveys Ltd.

Under the EIA Directive as well as best practice methodology from the EPA, the analysis of impacts to biodiversity is an essential component of the EIA process, and so is a required chapter in any EIAR.

Under Article 6(3) of the Habitats Directive an 'appropriate assessment' of projects must be carried out to determine if significant effects are likely to arise to the integrity of Natura 2000 sites. An Appropriate Assessment Screening Report has been prepared as a separate stand-alone report.

This proposal is for a strategic housing development at a site of approx. 2.74 ha at 'Saint Joseph's House' and adjoining properties at Brewery Road and Leopardstown Road, Dublin 18. The site consists of (1) 'Saint Joseph's House', Brewery Road, Stillorgan, Co. Dublin (A94 Y7F4); (2) 'Madona House', Silverpines, Stillorgan, Blackrock, Co. Dublin (A94 Y230); and (3) Properties at 'Woodleigh' (D18 F3F4), 'Cloonagh' (D18 P5P9), 'Souk El Raab' (D18 Y6C5), 'Wellbrook' (D18 HoC6), 'Calador' (D18 W1Y2), 'Alhambra' (D18 E3C4), 'Dalwhinnie' (D18 P2P4), 'Annaghkeen' (D18 Y2W1) and 'The Crossing' (D18 W8 W2); all located at Leopardstown Road, Dublin 18.

The development will consist of a new residential and mixed use scheme to include apartments, residential amenity space, a café and a childcare facility. A detailed description is now set out as follows:

The proposal provides for the demolition of 10 no. properties and associated outbuildings at 'Madona House' (single storey), 'Woodleigh' (2 storeys), 'Cloonagh' (2 storeys), 'Souk El Raab' (2 storeys), 'Wellbrook' (2 storeys), 'Calador' (2 storeys), 'Alhambra' (2 storeys), 'Dalwhinnie' (2 storeys), 'Annaghkeen' (1-2 storeys) and 'The Crossing' (single storey) (combined demolition approx. 2,291.3 sq m GFA).

The new development will provide for (a) the refurbishment, separation and material change of use of Saint Joseph's House (a Protected Structure, RPS No. 1548) from residential care facility to residential use and a childcare facility; and (b) the construction of a new build element to provide for an overall total of 463 no. residential units, residential amenity space and a café.

The extent of works proposed to Saint Joseph's House (a Protected Structure) include:

- The demolition of a single storey office, conservatory, glazed link, external store, external enclosed escape stairs with associated canopies, toilet extension and 3 no. associated outbuildings to the west of Saint Joseph's House (demolition total approx. 173.4 sq m GFA);
- The removal of external steel gates, all external steel escape stairs, canopies, existing disabled access ramps, concrete steps, an external wall and associated roof area;
- Relocation of external granite steps and the provision of a new raised entrance terrace, concrete steps and ramp areas;
- Replacement of existing rooflights, the addition of roof lights, part new roof / new zinc roof, new external wall and roof to the east of the structure;
- The provision of new door and window openings;
- Modifications to internal layout including the removal of walls and partitions and the addition of new dividing walls.

The associated site and infrastructural works include provision for water services; foul and surface water drainage and connections; waste water pumping station; attenuation proposals; permeable paving; all landscaping works including tree protection, tree removal and new tree planting; green roofs; boundary treatment; internal roads and footpaths; and electrical services.

6.2 Statement of Competence

Brian Keeley is a Zoology graduate of University College Dublin and has been an ecological consultant for over 20 years and has been undertaking ecological surveys for 30 years. Brian specialises in vertebrate studies including bats and ground mammals and birds and has undertaken work throughout Ireland for private individuals, organisations, developers, county councils and state authorities. Brian formed Dublin Bat Group in 1988 and was a founder of Bat Conservation Ireland.

Malgorzata (Goska) Wilkowska is a graduate of Adam Mickiewicz University and undertook further studies to acquire a Masters in Science in Poznan, Poland in Environmental Biology and an Environmental Protection and Shaping Postgraduate Course in Wroclaw University. Goska specialises in habitat and botanical assessment and has worked with Westmeath County Council in producing the Biodiversity Action Plan 2014 - 2020 and has undertaken surveys for road projects in addition to extensive ecological work for the Irish Wildlife Trust and Nature's PATCH Network.

Donna Mullen has been undertaking bat surveys for over 30 years and has surveyed on behalf of private individuals, County Councils, OPW, Heritage Council, Tidy Towns and for Bat Conservation Ireland in addition to surveying for developments throughout Ireland. Donna has worked for the Heritage Council to undertake surveys for the Buildings at Risk scheme and the Traditional Farm Buildings for over 20 years. Donna also specialises in enhancement of urban areas for biodiversity and has been working with Fingal County Council to roll out Biodiversity Action Plans across Fingal, north Dublin. Donna has studied at National University of Ireland, Cork and at Kevin Street, Dublin. Donna was a founder of Bat Conservation Ireland and represents the interests of Irish conservation concerns on the board of Batlife Europe. Donna has undertaken training in the use of ultrasound in medical measurements (MPPM) and has a Diploma in environmental science and social policy from NUIC.

6.3 Study Methodology

6.3.1 Desktop study

Desktop studies were undertaken for all flora and fauna within the site and availed of data from the National Biodiversity Data Centre, Birdwatch Ireland and Bat Conservation Ireland. Spatial boundary data on the Natura 2000 network and nationally protected sites (NHAs and pNHAs) was extracted from the NPWS website (www.npws.ie) on the 20th April 2021.

6.3.2 Flora and habitats

General botanical and habitat surveys were conducted on several dates throughout the summer of 2019 including 10th and 11th July, 8th, 16th and 17th August (which is within the optimum period for undertaking botanical and habitat surveys, as well as suitable for a general habitat survey). A survey was undertaken on 15th April 2021 to provide current data for the site. The number and timing of these surveys was appropriate according to Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. (CIEEM, 2018)

Habitats were assessed and evaluated according to their occurrence as protected habitats under Annex I of the EU Habitats Directive (92/43/EEC) and for their capacity to support rare, threatened and endangered species. Botanical species were assessed in accordance with their occurrence on the Flora Protection Order (1999) and The Irish Red Data Book (Curtis & McGough, 1988).

6.3.3 Mammals

Ground Mammals

The site was examined on a number of dates in 2019 (10th and 11th July, 8th, 16th and 17th August) and in 2021 (11th and 18th April and 10th to 11th June) to provide information on the potential for ground mammals. All treelines and garden boundaries and patios were examined for mammal evidence. For

badgers, the evidence sought includes paw prints, dung pits, latrines and the burrows dug by badgers for their underground homes; setts.

There is limited potential for otters within the site based on the known otter data, the limited availability of suitable cover and connectivity with watercourses etc within the area. Otter “holts” are sometimes associated with tree roots but may even be abandoned badger setts. Given the relatively isolated nature of this site, it was considered unlikely to serve as an otter shelter. Nonetheless, all signs of otters were sought including paw prints and spraints.

Any other protected mammal was considered given the fact that the site is surrounded by very busy roads, is devoid of waterbodies, woodland, wetlands. Because of this lack of suitable habitats and ecological corridors, the likelihood of their presence in this area is limited with the exception of bats, which are dealt with below.

Bats

The site was examined by means of a dedicated bat survey in two periods of mid to late summer 2019; 10th July and 16th August and again on two separate dates in April 2021 (11th to 12th April and 18th to 19th April) and one further date in June 2021 (10th June). These dates cover two separate phases in the life cycle of bats. The survey in June 2021 provides further update to the summer surveys of 2019. All buildings and trees were examined. Refer to Table 6.1 for a summary of all survey dates.

June, July and August are within a period when the young are born and maternity roosts are established. The young may be on the wing in July and August with some annual variation in their development. During these surveys, the site was walked by two surveyors (see below for June 2021) equipped with an Echometer 3 ultrasonic monitor which allows the recording and pinpointing of bat signals within the area. A static monitor (a Songmeter 2 Bat+) was placed within the site to the rear of the site in July and in line with the row of houses in August (a house named Souk el Raab). Surveying commenced immediately prior to sunset. All survey periods were highly suited to bat activity in 2019. The bat surveys were undertaken with reference to the following bat survey guidelines: Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins 2016, 3rd edition) and Kelleher, C. & Marnell, F. (2006) Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

All trees were assessed for their potential as roosts in June 2021 and visually inspected from ground level for any obvious features suitable as roost entry / exit points. All buildings were examined internally and externally for the presence of bats. This included an external search for bat droppings, staining, obvious access points (such as slipped slates, broken fascia, lead flashing gaps around chimneys). All attics were examined internally for evidence of bats including actual living bats, bat corpses, bat droppings and staining. Residents were questioned regarding any encounters with bats over their period of occupancy including seeing bats feeding or discovering bats within buildings.

The second phase of survey at the proposed development site was undertaken in April 2021- in a period when bats have exited hibernation but may enter into torpor regularly even during the night as temperatures range between suitable and unsuitable for foraging. In April 2021, the first survey date concentrated on a number of houses within the proposed development. The survey included internal inspection of all buildings proposed for demolition as part of the application on April 11th 2021. The remaining buildings (i.e. the buildings previously approved for demolition) in addition to St. Joseph's which will be renovated were all examined for the presence of bats or evidence of previous usage on April 18th 2021. The following buildings for demolition were inspected: Dalwhinnie, Madona House, Annaghkeen House, Woodleigh, Cloonagh, Souk el Raab, Wellbrook, Calador, Alhambra and The Crossing.

Another bat activity survey was undertaken around all buildings and within all gardens on 11th to 12th and 18th to 19th April 2021. This involved repeat active survey around all buildings by two surveyors equipped with EM3 monitors and the installation of a Songmeter Mini at one house (Calador) on 11th to 12th April before it was relocated to the final house of the site (The Crossing) from 12th April to 18th April 2021. The Mini was re-located on the boundary of Calador and Wellbrook at 21.30 hours. A third

type of bat detector, a Songmeter 2 Bat was used for the second visit of April 18th 2021. This monitor was placed at St. Joseph’s for the night of 18th April to 19th April.

A further bat survey was undertaken on 10th June 2021 by four surveyors to cover the entire site within a single visit to determine all bat occupancy and activity at any one time across the entire site. This involved a bat detector survey as previously and a ground-level examination of all trees for evidence of cavities, crevices, loose bark, sheltered areas provided by the meeting of branches, exposed root areas and all other spaces sufficient to house bats. A thermal imaging device was available to check all potential roost areas (a “Seek Thermal Reveal Pro”).

As in all previous surveys, all buildings were examined externally for evidence of bat occupancy (droppings, staining etc.). Attics were not entered on this occasion as should bats be breeding within the attics, the disturbance may be severe from entry at this time in particular during the Covid 19 pandemic where the bats may be placed at risk from human contact.

Surveyors were stationed at each of four locations to cover the buildings for bat emergence and return. This included one surveyor at St. Joseph’s, a second surveyor between The Crossing and Annaghkeen House, a surveyor between Alhambra, Dalwhinnie and Calador and a survey to cover the remaining houses (overlapping at Calador and covering Souk el Raab, Cloonagh and Woodleigh).

Surveyors were stationed at each of four locations to cover the buildings for bat emergence and return. This included one surveyor at St. Joseph’s, a second surveyor between The Crossing and Annaghkeen House, a surveyor between Alhambra, Dalwhinnie and Calador.

All bat identification provided in the Results are based on the initial field identification from signals displayed on the EM3 screens or android phone screens using Echometer Touch2 Pro in the field and their later identification with Kaleidoscope Pro software. Signals recorded by static monitors were also analysed with Kaleidoscope Pro and checked manually where less common species were proposed by the automatic identification system.

6.3.4 Birds

Data on the bird fauna of the site was gathered during the visits to the site in July and August 2019 and during three further visits 11th to 12th April and 18th to 19th April 2021 and 10th to 11th June 2021 (refer to Table 6.1 below). Bird surveying involved aural identification and visual identification of the birds encountered within the nesting period and towards the end of this period to determine the breeding species of this area. This was based on casual visual observations, birdsong, young birds (nestlings or fledglings) and if obvious, nests. Nests were not exposed to ensure that birds were not placed at risk. The entire site was walked covering all treelines, garden walls and shrubbery.

6.3.5 Dates of surveys

Table below lists all the ecological surveys carried out within the Proposed Development site.

Table 0-1: Dates and weather conditions for surveys for habitats, flora and fauna in 2019 and 2021

Date	Survey	Weather conditions	Constraints
10 th July 2019	Botanical and Habitat	Occasional light rain	None
11 th July 2019	Botanical and Habitat	As above	
10 th July 2019	Bat and bird survey	Temperature 15°C, Light rain. Insect activity evident.	Suitable for bat survey
11 th July 2019 (to sunrise)	Bat and bird survey	As above	None
8 th August 2019	Botanical and Habitat	Dry and mild	None
16 th August 2019	Bat and bird survey	Temperature 13°C, Occasional showers. Insect activity evident.	Suitable for bat survey
17 th August 2019 (to dawn)	Bat and bird survey	As above	None

11 th April 2021	Bat and bird survey	Temperature 8°C, Raining	Low bat activity but static monitor left in place over following nights. Survey included visual inspection of attics.
15 th April 2021	Botanical and Habitat	Dry	None
18 th April 2021	Bat and bird survey	Temperature 11°C, Dry.	None
19 th April 2021	Bat and bird survey	As above	
10 th June 2021	Bat and bird survey	Temperature 22°C dropping to 14°C,	None
11 th June 2021	Bat and bird survey	As above	None

6.4 Receiving Environment (Baseline)

6.4.1 Designated sites

Designated Natura 2000 sites which are located within a 15km radius of the proposed development at St. Joseph's House SHD were included in the assessment following the guidance published by the NPWS (2010). Any additional sites situated further than 15 km away from the proposed works were looked at in terms of any hydrological connection as impacts can be transported over longer distances via this route.

No sites outside 15 km were identified as likely to be affected by the Proposed Development. Figure 6.1 below shows Natura 2000 sites within 15 km of the proposed development site.

The Proposed Development site is located within the Liffey and Dublin Bay catchment and Dodder sub-catchment. There are no waterbodies within or adjacent to the Proposed Development site. There are two streams near the Proposed Development site which are hydrologically connected with Natura 2000 sites (see Figure 6.2):

- Carrickmines Stream 850 m south from the Proposed Development site connected with the Rockabill to Dalkey Island SAC (distance: c. 8.7 km downstream, via Irish Sea). This stream lies within Dargle subcatchment;
- Brewery Stream 570 m north from the Proposed Development site connected with the South Dublin Bay SAC and the River Tolka Estuary SPA (distance: c. 3.2 km downstream).

There are no Natural Heritage Areas (NHAs) within 15km of the Proposed Development site. However, there are several Proposed Natural Heritage Areas (pNHAs) within this distance. There is no possibility for significant effects on any of these sites by the Proposed Development. However, there is the Carrickmines Stream 850 m south from the site is hydrologically connected with Loughlinstown Woods pNHA and Dalkey Coastal Zone and Killiney Hill pNHA (see Figure 6.3). The Carrickmines stream does not adjoin the Proposed Development site, and the ground is sloping towards north-east (as stated in the report by IE Consulting ('Hydrological Assessment of proposed soakway'), therefore it would not be a pathway between the Proposed Development site and aforementioned proposed National Heritage Areas. No likelihood of affecting any other European site was identified.

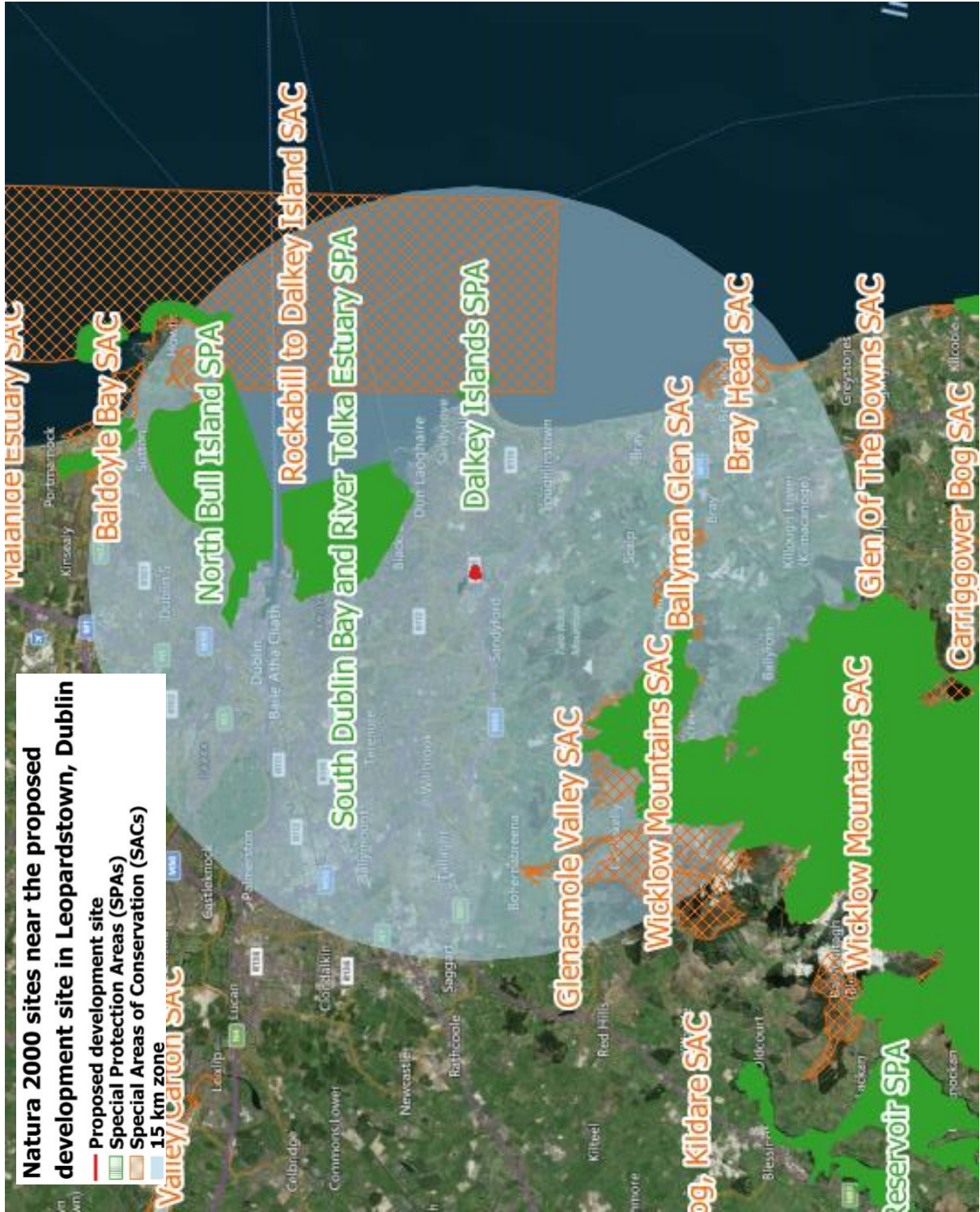


Figure 6.1. Natura 2000 sites in the vicinity of the Proposed Development site.



Figure 6.2. Proposed Development in the context of local watercourses and Natura 2000 sites

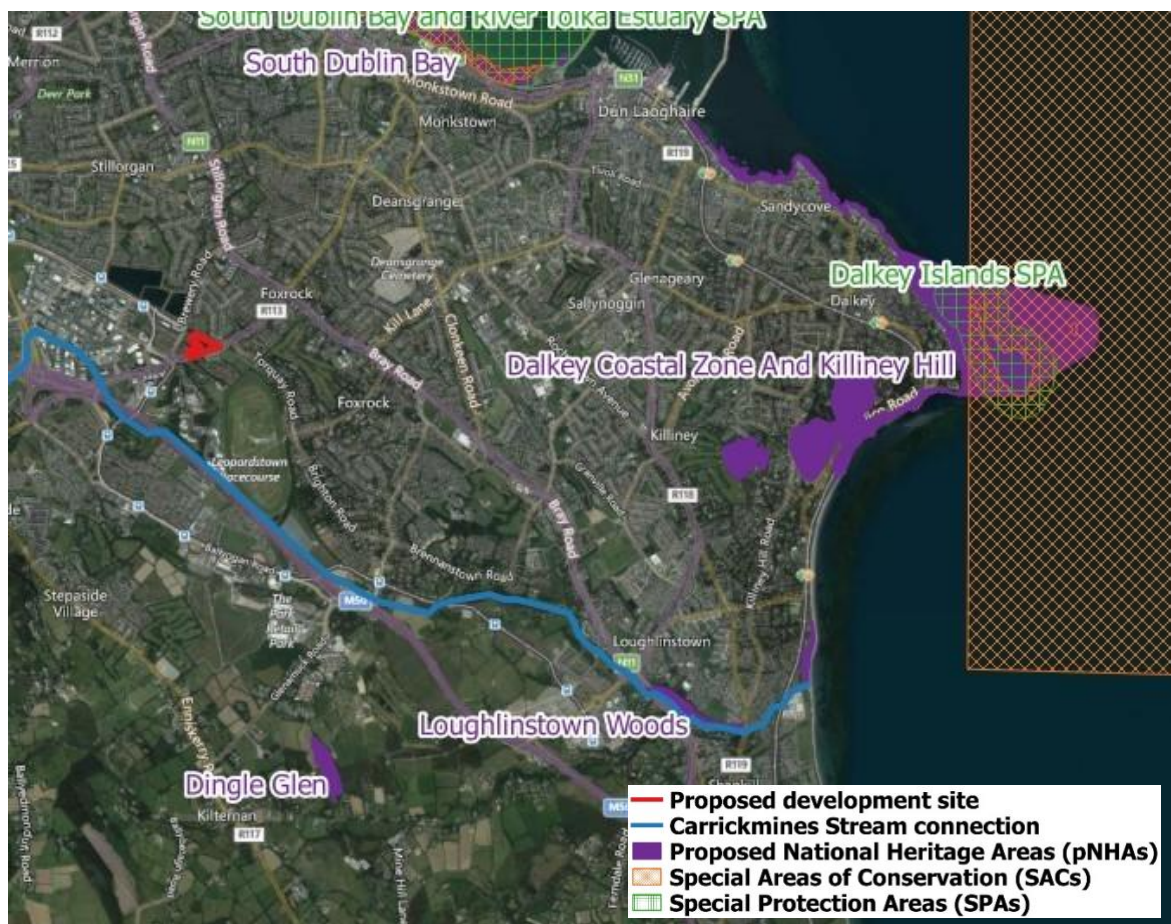


Figure 6.3. The Proposed Development site in the context of Carrickmines Stream and pNHAs.

6.4.2 Flora and habitats

The list of recorded habitats within the proposed development site is listed in the table below (Table 6.2).

Table 6.2 Habitats within the proposed development site

Habitat Name	Habitat Code (Fossitt 2000)
Flower beds and borders	BC4
Buildings and artificial surfaces	BL3
Spoil and bare ground	ED2
Recolonising bare ground	ED3
Amenity grassland (improved)	GA2
Dry meadows and grassy verges	GS2
Treelines	WL2
Scrub	WS1
Ornamental/non-native shrub	WS3

There are several buildings within the site. These, along with access roads and hard surface yards, can be classified as the Buildings and artificial surfaces (BL3) habitat. Some houses and walls are covered with Ivy (*Hedera helix*) or other (ornamental) climbers. The buildings have a potential as a roosting site for bats and nesting site for some bird species (see relevant sections on bats and birds)

Some herbaceous colonisation takes place on the edges of hard surfaces. These areas belong to the Recolonising bare ground (ED3) habitat with such common ruderal plants as *Taraxacum officinale* or *Epilobium montanum*. This habitat is short-lived, supports little biodiversity and has low ecological significance.

Gardens and sub-sites are commonly divided or screened by Treelines (WL2) or Ornamental/non-native shrub (WS3). They contain many ornamental non-native species, although some neglected stretches of these were colonised by native shrubs and trees: Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Bird cherry (*Prunus padus*), Elder (*Sambucus nigra*). Most of mature trees are either non-native Pine species or Leyland's cypresses. There is also a mature Lime tree (*Tilia cordata*) present (and some stumps of felled Lime trees). Base of the neglected tree lines and ornamental hedges are covered with some herbaceous vegetation such as Colt's foot (*Tussilago farfara*), Thistles (*Cirsium* sp.), Broad-leaved dock (*Rumex obtusifolius*), Nettle (*Urtica dioica*). Brambles (*Rubus fruticosus*) and Ivy (*Hedera helix*) are common. These habitats contain mostly non-native shrub and tree species.

Ornamental/non-native shrub (WS3) habitat is of low ecological importance nationally, but of medium local importance due to providing cover for local urban fauna.

Treelines (WL2) habitat's representation within the proposed development site is of low ecological importance nationally due to the fact, that it is dominated by non-native species. However, it provides cover for local fauna, therefore it is of medium local importance. Furthermore, trees should be protected in accordance with the objective 'To protect and preserve Trees and Woodlands' of the Dun Laoghaire Rathdown Development Plan 2016 – 2022. This was taken into consideration in the planning process and a considerable number of trees will remain on site. As per Arboricultural Report prepared by The Tree File Consulting Arborists, the "red line" area supports a total of 277no. individually described trees. At the same time, it is noted that the site supports numerous "groups", including thicket areas, shrubberies and hedges, each of which might consist of numerous individual plants. Therefore and in the interest of clarity, the figures below concentrate on individual or multi-stemmed trees only. These figures show that the overall review area supports:

- No good quality category "A" trees,
- 110no. fair quality category "B" trees,
- 146no. poor quality category "C" trees,

- 21no. unsustainable category “U” trees,
- Total - 277

Normally, all category “U” trees (21 in total across survey area) identified in the survey would be removed. Many should be removed regardless of development works. The tree loss breakdown for the proposed development will be:

- 55 Category “B” items,
- 66 category “C” items,
- 21 category “U” trees,
- Total development related tree loss - 142 trees. This equates to 51% of the pre-development tree population.

In addition to the above, the development will result in the loss of numerous shrubs and hedges, particularly associated with the ornamentation of the domiciliary garden areas of the existing site. The landscape proposals associated with this scheme call for the planting of 200 new trees. Therefore and notwithstanding the tree losses associated with the proposed development, there will be a net gain in tree numbers as well as an increased and improved degree of tree sustainability.

Grassland habitats within the site are represented by Amenity grassland (GA1) – regularly mown lawns of low ecological value; and areas of uncut grass which developed into the Dry meadows and grassy verges (GS2) habitat. The latter habitat has developed due to lack of management and contains numerous herb species like Yarrow (*Achillea millefolium*), White clover (*Trifolium repens*), Ox-eye daisy (*Leucanthemum vulgare*), Selfheal (*Prunella vulgaris*), Dandelion (*Taraxacum officinale*), Hawksbeards (*Crepis* sp.), Lady’s bedstraw (*Galium verum*), Meadow buttercup (*Ranunculus acris*). Grasses are represented by *Arrhenatherum elatius*, *Dactylis glomerata*, *Poa* species. This habitat supports numerous pollinators and other fauna and is of medium local importance.

Scrub habitat (WS1) is represented mainly by Bramble (*Rubus fruticosus* agg.) scrub. It provides shelter and food for a variety of invertebrates and vertebrates. However, it is a very common habitat, developing wherever grassland management ceases. Therefore, it is of low ecological importance.

Ruderal plants such as docks (*Rumex* sp.), Scarlet pimpernel (*Anagallis arvensis*), Willowherbs (*Epilobium montanum*, *E. hirsutum*), Rose-bay willowherb (*Chamerion angustifolium*) grow closer to walls or bare ground. These areas can be classified as Spoil and bare ground (ED2) and Recolonising bare ground (ED3). They are short-lasting habitats and, although provide feeding plants for pollinators, it is of low ecological value.

Flower beds and borders (BC4) is a common habitat where ornamental plants were planted. This habitat is man-made and of low ecological value.

No habitats protected under Annex I of the EU Habitats Directive (92/43/EEC) were recorded within the proposed development site.

None of the recorded species are listed in the Flora Protection Order (1999) and The Irish Red Data Book.

No non-native species subject to restrictions listed in the Third Schedule (Regulations 49 and 50, European Communities (Birds and Natural Habitats) Regulations 2011) were recorded within the proposed development site.

Figure 6.4. below shows habitat maps within the Proposed Development site in April 2021.



Berwick Pines Habitat Map

- Proposed development site boundary
- Treelines (WL2)
- Scrub (WS1)
- Ornamental / non-native shrub (WS3)
- Amenity grassland (GA2)
- Dry meadows and grassy verges (GS2)
- Buildings and artificial surfaces (BL3)
- Spoil and bare ground (ED2) / Recolonising bare ground (ED3)
- Group of mature trees
- Residential houses with gardens (BL3 / GA2 / BC4 / WS3)

Figure 0-4 The proposed development site (outlined in red) and habitat map.

6.4.3 Fauna

6.4.3.1 Mammals

Ground mammals

There was no evidence of badgers and certainly there was no evidence of otters and the occurrence of this species within the site is highly improbable due to lack of suitable habitat and ecological corridors. One young fox and one adult fox (*Vulpes vulpes*) were seen in several gardens in 2019 and one fox was noted on 10th June 2021 travelling between gardens. Foxes have been noted on several occasions during this assessment including scent marking in several gardens (Cloonagh, Souk el Raab, Wellbrook). The residents of Cloonagh observed that a fox had at one stage lived in the garden and was regularly seen jumping the garden wall. No active fox earth was noted during this assessment but one inactive fox earth was noted. There was evidence of House mouse (*Mus musculus*) in all houses visited. There was a Brown rat (*Rattus norvegicus*) burrow under one garden shed and patio

stones and rabbit burrows in a number of gardens. Ground mammal species recorded during these surveys are listed in Table 6.3 below.

Table 6.3 Ground mammal species recorded during surveys within the Proposed Development site.

Species group	Species name	Designation
mammal	Fox (<i>Vulpes vulpes</i>)	n/a
mammal	House mouse (<i>Mus musculus</i>)	n/a
mammal	Brown rat (<i>Rattus norvegicus</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

The National Biodiversity Data Centre records the presence of hedgehog, fox and brown rat within the 2 km square of the Ordnance Survey national grid O22D (see section 6.4.2.5 below).

Bats

Based on the desktop survey (Bat Conservation Ireland database), of the nine species of bat in Ireland, all the most widespread species are present within a 5-km radius: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Leisler's bat, brown long-eared bat, Daubenton's bat, Natterer's bat and whiskered bat (the ninth species is not present in Dublin). Of these, only Nathusius' pipistrelle and whiskered bat are absent from a radius of 3 km from the site. The National Biodiversity Data Centre records the presence of Common and Soprano pipistrelles and Leisler's bat within the NBDC 2 km square O22D (see section 6.4.2.5 below).

Bats were noted feeding throughout the site at low density while common pipistrelle bats (*Pipistrellus pipistrellus*) were noted to roost within houses (Alhambra and Dalwhinnie) that would be demolished as part of this proposal (under the supervision of a bat specialist as approved by a derogation issued by NPWS - DER BAT 2020 – 25, see Appendix to this report 6.17.1). A single bat was seen to enter and remain in Dalwhinnie. This bat examined both houses (Alhambra and Dalwhinnie) before entering Dalwhinnie. Neither these nor any other buildings examined showed evidence of large numbers of bats and usage by bats is very low and attributable to individual bats rather than a breeding roost, for example. However, there are three buildings used as bat roosts within the site and other bats are roosting nearby off-site and feeding within the site including soprano pipistrelle and potentially brown long-eared bat.

The bat species roosting within the buildings were Common pipistrelle in two buildings (Alhambra and Dalwhinnie) and Leisler's bat in St. Joseph's. A Leisler's bat was seen to enter the roof of St. Joseph's on 18th April 2021. There were two Leisler's bats feeding over the buildings (St. Joseph's and Ann Sullivan Centre) and around mature pines within the site over a relatively sustained period in April 2021 and this species was also noted in this area in 2019. Leisler's bat activity was evident during the June survey, especially south of St. Joseph's and in the neighbouring gardens from The Crossing over to Wellbrook / Souk el Raab.

While bats were seen to approach St. Joseph's prior to sunrise on 11th June 2021, no bats entered the building.

Another Derogation Licence (DER/BAT 2021 – 42, see Appendix to this report 6.17.2) was issued by NPWS in connection with the Renovation and Demolition works located at St. Joseph's House, Brewery Road.

Other species noted include soprano pipistrelle and a single Brown long-eared bat signal over the two periods of survey (2019 and 2021). No bats emerged from or returned to trees within the site.

From an examination of the trees within the site and in adjoining areas of St. Joseph's, no bat roosts were identified. Overall, roost potential was considered to be very low or entirely absent for most trees and shrubs. There was good potential for individual roosting bats behind loose bark on pine

trees. Most other trees offered no cavities or were growing in cluttered conditions that would limit their accessibility to bats.

Bat species recorded during these surveys are listed in Table 6.4 below.

Table 6.4 Bat species recorded during surveys within the Proposed Development site.

Species group	Species name	Designation
mammal	Common pipistrelle (<i>Pipistrellus pipistrellus sensu stricto</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
mammal	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
mammal	Leisler's bat (<i>Nyctalus leisleri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
mammal	Brown long-eared bat (<i>Plecotus auritus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

6.4.3.2 Birds

There is a relatively limited diversity of bird species as there is a high ratio of buildings to land, limited insect opportunities and the site is surrounded by busy roads. The species of bird noted were the following:

Great tit (*Parus major*), Blue tit (*Cyanistes caeruleus*), Coal tit (*Periparus ater*), Chaffinch (*Fringilla coelebs*), Goldcrest (*Regulus regulus*), Willow warbler (*Phylloscopus trochilus*), Blackcap (*Sylvia atricapilla*), Barn swallow (*Hirundo rustica*), House martin (*Delichon urbicum*), Robin (*Erithacus rubecula*), Wren (*Troglodytes troglodytes*), Jackdaw (*Corvus monedula*), Magpie (*Pica pica*), Rook (*Corvus frugilegus*), Dunnock (*Prunella modularis*), Blackbird (*Turdus merula*), Song thrush (*Turdus philomelos*), Mistle thrush (*Turdus viscivorus*), Starling (*Sturnus vulgaris*), Wood pigeon (*Columba palumbus*), Collared dove (*Streptopelia decaocto*). Herring gull (*Larus argentatus*) and Black headed gull (*Chroicocephalus ridibundus*) were observed flying over.

A Long-eared owl (*Asio otus*) was seen flying between the gardens at Alhambra and landing in a pine tree at St. Joseph's on 10th June 2021. This bird was also heard to call in the vicinity of Souk el Raab. No nest was identified within the site or in the pine trees in the adjoining lands. A swift (*Apus apus*) was seen over the gardens (Alhambra and Calador) on 10th and 11th June 2021. No swift nest sites were noted in any of the buildings.

A small number of nests were visible in April 2021 including magpie and wood pigeon nests. Goldcrests were noted to call from the mature conifers in the garden of The Crossing and from the pines at St. Joseph's. Blue tits were nesting in the garden of Wellbrook and were heard in several areas. There were jackdaws nesting in the chimneys of St. Joseph's and a large disused nest in the attic of St. Joseph's.

As noted in the report of Ecology Ireland Wildlife Consultants Ltd., intensive surveys of inland Brent Goose feeding sites in Dublin have been carried out in recent years. These have identified the sites, mostly parkland and playing fields, used with any regularity by foraging Brent Geese (e.g. as described in the NIS prepared in relation to a proposed SHD development near St. Paul's College, Raheny: ABP 305680). The foraging sites identified were concentrated in areas to the centre and north of the urban centre. A few foraging sites were recorded somewhat closer to Leopardstown, with the

playing fields of Naomh Olaf CLG situated closest to the Berwick Pines site (c. 1.6km distant). The other inland foraging sites located within 5km of the site include the lands around Blackrock Park/Williamstown Castle (c. 3.2km) and at Kilbogget Park/Cabinteely Football Club (c. 4.0km). None of these sites are located close to the St. Joseph's House and Adjoining Properties SHD Development.

Observations in April 2021 provided an opportunity to identify the presence of Light bellied Brent geese (*Branta bernicla hrota*) foraging (either from visual observation or from the presence of droppings) or flying over the site. This species is a QI for three Natura 2000 sites screened within this document (South Dublin Bay and River Tolka Estuary SPA, 004024, distance c. 3.3 km; North Bull Island SPA, 004006, distance c. 8.4 km; and Baldoyle Bay SPA, 004016, distance c. 14.1 km). The presence of this species is very unlikely as the site offers no suitable foraging areas for species such as Brent geese or other shorebirds. The site is composed of numerous narrow gardens with scattered mature trees and numerous shrubs. There are no large areas of amenity grassland suitable for geese or other shorebirds. The largest green space within the site is surrounded by walls and scrub and is not easily accessible to geese. There are no important Brent goose foraging areas adjacent to or in the vicinity of the site. There are no important feeding areas.

As there will be no significant amount of foraging or roosting potential on site for such species it is highly unlikely that Brent geese will occur on site. It is possible that more mobile species, may commute across the site, flying through, or over the site, while moving from one area of local resource to another. Such species are adept at navigating around our cities and would be expected to rapidly habituate to the presence of new structures in their environment. Therefore,

Bird species recorded during these surveys are listed in Table 6.5 below.

Table 6.5 Bird species recorded during surveys within the Proposed Development site.

Species group	Species name	Designation
bird	Barn swallow (<i>Hirundo rustica</i>)	Birds of Conservation Concern - Amber List
bird	Black headed gull (<i>Chroicocephalus ridibundus</i>) (flying over)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
bird	Blackbird (<i>Turdus merula</i>)	n/a
bird	Blackcap (<i>Sylvia atricapilla</i>)	n/a
bird	Blue tit (<i>Cyanistes caeruleus</i>)	n/a
bird	Chaffinch (<i>Fringilla coelebs</i>)	n/a
bird	Coal tit (<i>Periparus ater</i>)	n/a
bird	Collared dove (<i>Streptopelia decaocto</i>)	n/a
bird	Dunnock (<i>Prunella modularis</i>)	n/a
bird	Goldcrest (<i>Regulus regulus</i>)	Birds of Conservation Concern - Amber List
bird	Great tit (<i>Parus major</i>)	n/a
bird	Herring gull (<i>Larus argentatus</i>) (flying over)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
bird	House martin (<i>Delichon urbicum</i>)	n/a
bird	Jackdaw (<i>Corvus monedula</i>)	n/a
bird	Long-eared owl (<i>Asio otus</i>)	n/a
bird	Magpie (<i>Pica pica</i>)	n/a

Species group	Species name	Designation
bird	Mistle thrush (<i>Turdus viscivorus</i>)	n/a
bird	Robin (<i>Erithacus rubecula</i>)	n/a
bird	Rook (<i>Corvus frugilegus</i>)	n/a
bird	Song thrush (<i>Turdus philomelos</i>)	n/a
bird	Starling (<i>Sturnus vulgaris</i>)	n/a
bird	Willow warbler (<i>Phylloscopus trochilus</i>)	Birds of Conservation Concern - Amber List
bird	Wood pigeon (<i>Columba palumbus</i>)	n/a
bird	Wren (<i>Troglodytes troglodytes</i>)	n/a

6.4.3.3 Amphibia

Frog spawn (*Rana temporaria*) was noted within remnants of a small ornamental pond in the grounds of Annaghkeen House. Thus, there are frogs within the site. In Ireland, frogs are protected under the Irish Wildlife Act (1976, amended 2000) and are listed on Annex V of the Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC), hereafter referred to as the Habitats & Species Directive. Species are listed on Annex V in recognition of the fact that they may be exploited in certain EU countries, and to ensure that such exploitation is sustainable. Article 17 of the Directive requires that signatory states report regularly to the European Commission on the species' conservation status. A Smooth newt was recorded in the 2 km grid including the proposed development site in 2011 (NBDC record, see section 6.4.2.5).

6.4.2.4 Invertebrates

A number of bee species are recorded on the NBDC database from the 2km grid including large red tailed bumble bee (*Bombus (Melanobombus) lapidarius*), Tawny Mining Bee (*Andrena (Andrena) fulva*)(threatened, regionally extinct). Other invertebrate species noted include common moth and butterfly species, damselflies and the Green shield bug (*Palomena prasina*), none of which are classified as endangered (see Table 6.6 below).

6.4.2.5 NBDC Data

Data of species from National Biodiversity Data Centre from 2 km square O22D, containing the Proposed Development site is listed below.



Figure 6.5 The 2 km square O22D of National Biodiversity Data Centre records including the proposed development site

Table 0.6 National Biodiversity Database Centre records from the 2 km grid O22D

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
amphibian	Common Frog (<i>Rana temporaria</i>)	4	16/04/2020	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
amphibian	Smooth Newt (<i>Lissotriton vulgaris</i>)	2	30/04/2011	Newt Survey 2010-2014	Protected Species: Wildlife Acts
bird	Black Redstart (<i>Phoenicurus ochruros</i>)	1	24/02/2016	Birds of Ireland	
bird	Black-billed Magpie (<i>Pica pica</i>)	3	22/05/2016	Birds of Ireland	
bird	Blackcap (<i>Sylvia atricapilla</i>)	2	24/02/2016	Birds of Ireland	
bird	Blue Tit (<i>Cyanistes caeruleus</i>)	1	22/05/2016	Birds of Ireland	
bird	Bohemian Waxwing (<i>Bombycilla garrulus</i>)	1	06/01/2006	Birds of Ireland	
bird	Common Blackbird (<i>Turdus merula</i>)	3	22/05/2016	Birds of Ireland	

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
bird	Common Linnet (Carduelis cannabina)	1	31/03/2012	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Common Wood Pigeon (Columba palumbus)	3	22/05/2016	Birds of Ireland	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
bird	Eurasian Collared Dove (Streptopelia decaocto)	1	31/12/2011	Bird Atlas 2007 - 2011	
bird	European Goldfinch (Carduelis carduelis)	1	22/05/2016	Birds of Ireland	
bird	European Robin (Erithacus rubecula)	1	24/02/2016	Birds of Ireland	
bird	Great Tit (Parus major)	1	22/05/2016	Birds of Ireland	
bird	Hedge Accentor (Prunella modularis)	2	22/05/2016	Birds of Ireland	
bird	Hooded Crow (Corvus cornix)	1	24/02/2016	Birds of Ireland	
bird	Mew Gull (Larus canus)	1	22/02/2016	Birds of Ireland	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Rock Pigeon (Columba livia)	1	24/02/2016	Birds of Ireland	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Flatworm (Turbellaria)	Arthurdendyus triangulatus	1	17/02/1993	New Zealand Flatworm (Arthurdendyus triangulates) Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
flowering plant	Alexanders (Smyrniolum olusatrum)	1	28/04/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
flowering plant	Beautiful-leaved Dandelion (<i>Taraxacum pulchrifolium</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Bluebell (<i>Hyacinthoides non-scripta</i>)	1	11/04/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Broad-stalked Dandelion (<i>Taraxacum expallidiforme</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Common Duckweed (<i>Lemna minor</i>)	1	16/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Cowslip (<i>Primula veris</i>)	3	13/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Creeping Buttercup (<i>Ranunculus repens</i>)	1	09/06/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Cuckooflower (<i>Cardamine pratensis</i>)	1	26/04/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Dull-leaved Dandelion (<i>Taraxacum undulatiflorum</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Early Dog-violet (<i>Viola reichenbachiana</i>)	1	31/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Ekman's Dandelion (<i>Taraxacum ekmanii</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Few-lobed Dandelion (<i>Taraxacum ancistrolobum</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Great Mullein (<i>Verbascum thapsus</i>)	1	23/06/2014	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Hoary Cress (<i>Lepidium draba</i>)	1	31/12/1986	BSBI tetrad data for Ireland	
flowering plant	Horse-chestnut (<i>Aesculus hippocastanum</i>)	1	09/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Japanese Knotweed (<i>Fallopia japonica</i>)	2	02/07/2018	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Large Hook-lobed Dandelion (<i>Taraxacum subhamatum</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Lesser Celandine (<i>Ranunculus ficaria</i>)	1	05/03/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Lords-and-Ladies (<i>Arum maculatum</i>)	1	26/04/2021	Vascular plants: Online Atlas of	

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
				Vascular Plants 2012 Onwards	
flowering plant	Purple Toadflax (<i>Linaria purpurea</i>)	1	19/06/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Rape (<i>Brassica napus</i>)	1	20/09/2014	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Selland's Dandelion (<i>Taraxacum sellandii</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Smooth Dandelion (<i>Taraxacum sagittipotens</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Sweet Violet (<i>Viola odorata</i>)	1	19/02/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
flowering plant	Taraxacum aggregate	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Tar-blotched Dandelion (<i>Taraxacum pannulatiforme</i>)	1	31/12/1999	BSBI tetrad data for Ireland	
flowering plant	Winter Heliotrope (<i>Petasites fragrans</i>)	1	17/01/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
fungus	<i>Perenniporia fraxinea</i>	1	29/05/2006	Fungal Records for Ireland	
insect - beetle (Coleoptera)	2-spot Ladybird (<i>Adalia bipunctata</i>)	2	22/06/2015	Ladybirds of Ireland	
insect - beetle (Coleoptera)	7-spot Ladybird (<i>Coccinella septempunctata</i>)	10	07/03/2019	Ladybirds of Ireland	
insect - butterfly	Holly Blue (<i>Celastrina argiolus</i>)	5	22/11/2020	Butterflies of Ireland	
insect - butterfly	Orange-tip (<i>Anthocharis cardamines</i>)	1	15/04/2020	Butterflies of Ireland	
insect - butterfly	Peacock (<i>Inachis io</i>)	4	03/05/2020	Butterflies of Ireland	
insect - butterfly	Red Admiral (<i>Vanessa atalanta</i>)	2	17/09/2017	Butterflies of Ireland	
insect - butterfly	Small Tortoiseshell (<i>Aglais urticae</i>)	1	28/08/2012	Butterflies of Ireland	
insect - butterfly	Speckled Wood (<i>Pararge aegeria</i>)	1	08/05/2020	Butterflies of Ireland	
insect - dragonfly (Odonata)	Common Blue Damselfly (<i>Enallagma cyathigerum</i>)	1	05/06/2020	Dragonfly Ireland 2019 to 2024	
insect - dragonfly (Odonata)	Large Red Damselfly (<i>Pyrrhosoma nymphula</i>)	1	08/05/2020	Dragonfly Ireland 2019 to 2024	
insect - dragonfly (Odonata)	Variable Damselfly (<i>Coenagrion pulchellum</i>)	1	05/06/2020	Dragonfly Ireland 2019 to 2024	
insect - hymenopteran	Bombus (<i>Bombus lucorum</i>)	1	15/04/2020	Bees of Ireland	
insect - hymenopteran	Bombus (<i>Bombus terrestris</i>)	9	15/04/2020	Bees of Ireland	
insect - hymenopteran	Bombus <i>lucorum</i> agg.	11	18/06/2019	Bees of Ireland	
insect - hymenopteran	Common Carder Bee (<i>Bombus</i>)	6	10/09/2019	Bees of Ireland	

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
	(Thoracombus) pascuorum)				
insect - hymenopteran	Early Bumble Bee (Bombus (Pyrobombus) pratorum)	1	22/04/2015	Bees of Ireland	
insect - hymenopteran	Gooden's Nomad Bee (Nomada goodeniana)	1	31/12/1894	Bees of Ireland	Threatened Species: Endangered
insect - hymenopteran	Honey Bee (Apis mellifera)	1	13/05/2020	Bees of Ireland	
insect - hymenopteran	Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)	2	25/05/2016	Bees of Ireland	Threatened Species: Near threatened
insect - hymenopteran	Nomada panzeri	1	31/12/1894	Bees of Ireland	Threatened Species: Near threatened
insect - hymenopteran	Tawny Mining Bee (Andrena (Andrena) fulva)	4	31/03/2021	Bees of Ireland	Threatened Species: Regionally Extinct
insect - mayfly (Ephemeroptera)	Rhithrogena semicolorata	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	
insect - moth	Apple Ermine (Yponomeuta malinellus)	2	31/12/1945	Microlepidoptera collections (National Museum of Ireland)	
insect - moth	Bright-line Brown-eye (Lacanobia oleracea)	1	28/06/1984	Moths Ireland	
insect - moth	Broom Moth (Melanchra pisi)	1	28/06/1984	Moths Ireland	
insect - moth	Buff Arches (Habrosyne pyritoides)	1	28/06/1984	Moths Ireland	
insect - moth	Buff Ermine (Spilosoma luteum)	1	28/06/1984	Moths Ireland	
insect - moth	Common Carpet (Epirrhoe alternata)	1	30/05/1944	Moths Ireland	
insect - moth	Common Marbled Carpet (Chloroclysta truncata)	1	28/06/1984	Moths Ireland	
insect - moth	Crescent Dart (Agrotis trux)	1	28/06/1984	Moths Ireland	
insect - moth	Dark Arches (Apamea monoglypha)	1	28/06/1984	Moths Ireland	
insect - moth	Dusky Brocade (Apamea remissa)	1	28/06/1984	Moths Ireland	
insect - moth	Elachista albifrontella	1	28/06/1984	Moths Ireland	
insect - moth	Eucosma cana	1	28/06/1984	Moths Ireland	
insect - moth	Garden Grass-veener (Chrysoteuchia culmella)	1	28/06/1984	Moths Ireland	
insect - moth	Green Carpet (Colostygia pectinataria)	1	20/06/1944	Moths Ireland	
insect - moth	Heart & Dart (Agrotis exclamationis)	1	28/06/1984	Moths Ireland	
insect - moth	Large Yellow Underwing (Noctua pronuba)	1	28/06/1984	Moths Ireland	
insect - moth	Light Arches (Apamea lithoxylaea)	1	28/06/1984	Moths Ireland	
insect - moth	Lime-speck Pug (Eupithecia centaureata)	1	07/07/1944	Moths Ireland	

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
insect - moth	Map-winged Swift (Hepialus fusconebulosa form gallicus)	1	28/06/1984	Moths Ireland	
insect - moth	Mottled Beauty (Alcis repandata)	1	07/07/1944	Moths Ireland	
insect - moth	Pale-shouldered Brocade (Lacanobia thalassina)	1	28/06/1984	Moths Ireland	
insect - moth	Peppered Moth (Biston betularia)	1	01/07/2013	Moths Ireland	
insect - moth	Rustic (Hoplodrina blanda)	1	28/06/1984	Moths Ireland	
insect - moth	Rustic Shoulder-knot (Apamea sordens)	1	28/06/1984	Moths Ireland	
insect - moth	Small Fan-footed Wave (Idaea biselata)	1	28/06/1984	Moths Ireland	
insect - moth	Straw Dot (Rivula sericealis)	1	07/07/1944	Moths Ireland	
insect - moth	Tawny Marbled Minor (Oligia latruncula)	1	28/06/1984	Moths Ireland	
insect - true bug (Hemiptera)	Green Shieldbug (Palomena prasina)	2	06/04/2018	True Bugs (Heteroptera) of Ireland	
terrestrial mammal	Brown Rat (Rattus norvegicus)	1	12/08/2018	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
terrestrial mammal	Eastern Grey Squirrel (Sciurus carolinensis)	10	18/04/2016	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
terrestrial mammal	Lesser Noctule (Nyctalus leisleri)	1	07/10/2006	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Pipistrelle (Pipistrellus pipistrellus sensu lato)	1	07/10/2006	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
terrestrial mammal	Red Fox (<i>Vulpes vulpes</i>)	17	29/04/2018	Mammals of Ireland 2016-2025	
terrestrial mammal	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	1	07/10/2006	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	West European Hedgehog (<i>Erinaceus europaeus</i>)	3	27/09/2020	Hedgehogs of Ireland	Protected Species: Wildlife Acts

6.5 Characteristics of the Proposed Development

In terms of the flora and fauna within the site, the changes that will occur within the site include the following:

1. Demolition of almost all buildings, renovation of St. Joseph's House, removal of existing trees and shrubs, removal of grassy areas.
2. Noise, dust and movement of equipment and people during construction.
3. Construction of apartment buildings and roads through the site.
4. Increased density of people and vehicles.
5. Increased lighting.
6. New planting.

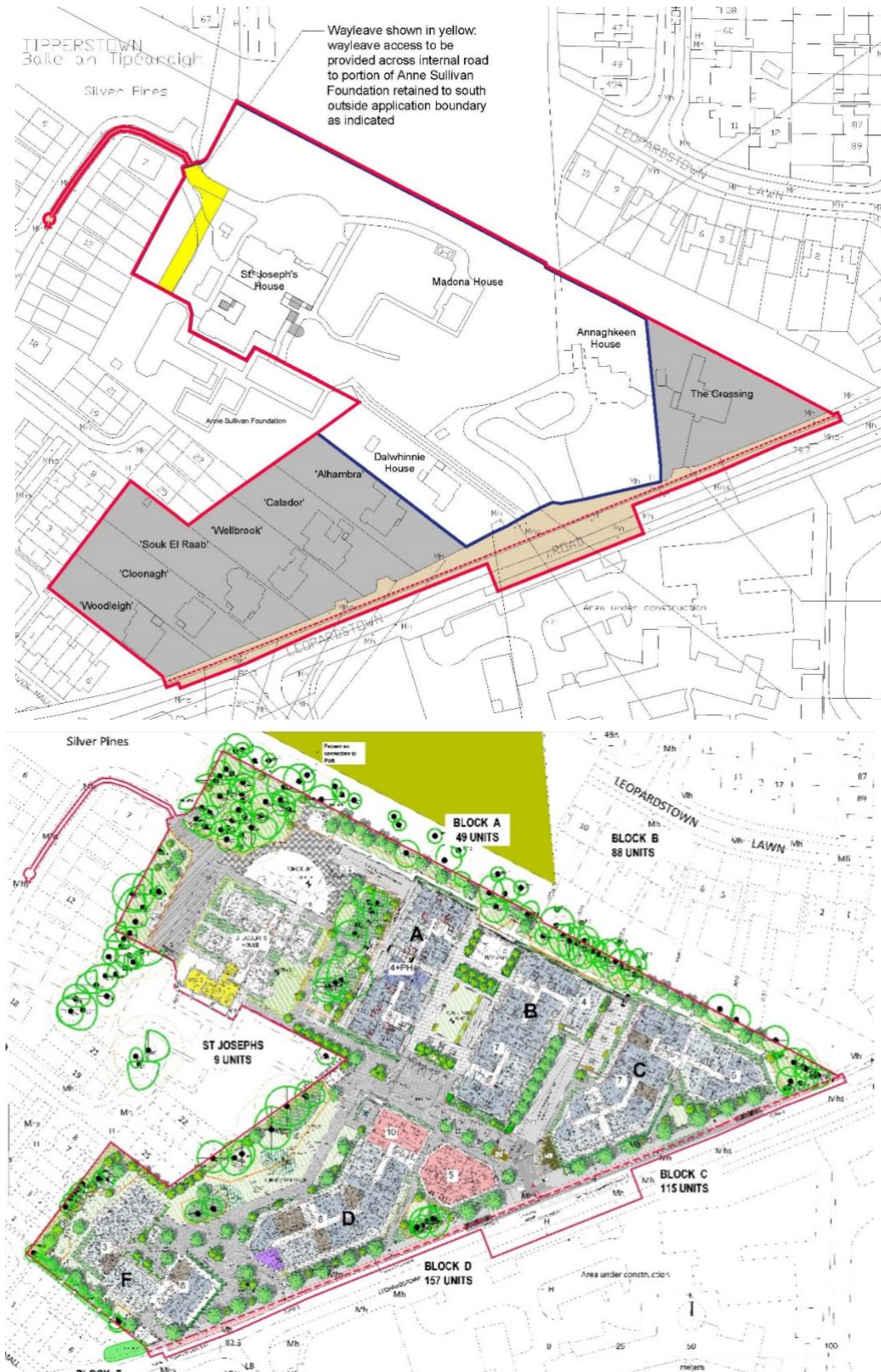


Figure 6.6. Proposed development site (top, outlined in red) and proposed development (bottom)

6.6 Potential Impact of the Proposed Development

6.6.1 Designated sites and their Qualifying Interests

The Proposed Development does not overlap with the boundary of any European site. Therefore, there are no European sites at risk of direct habitat loss impacts. The Proposed Development does not traverse any European Designated sites. Therefore, there is no potential for habitat fragmentation to occur.

One fauna species being a Qualifying Interest for Natura 2000 sites within the ZOI was identified during surveys within the Proposed Development site: Black-headed Gull (*Chroicocephalus ridibundus*) (QI for South Dublin Bay and River Tolka Estuary SPA (004024) and North Bull Island SPA (004006). However, the observed single bird was flying over the site and did not use the site. Black-headed gulls are typically associated with coastal areas, ploughed fields and urban areas outside of the breeding season. Considering the large areas of suitable habitat (urban areas) to the proximity of the site for black-headed gulls to forage and roost in, the proposed development will not result in displacement of populations of black-headed gull for which there are European sites designated within the vicinity of the Proposed Development.

Considering the above and the significant distance between the Proposed Development site and European sites, it can be concluded that the Proposed Development site does not support populations of any fauna species linked with the QI populations of any European site(s).

The Proposed Development will not have any measurable effects on water quality in Dublin Bay or the Irish Sea due to the following:

1. The scale and location of the Proposed Development relative to the receiving surface water network
2. The substantial distance between the Proposed Development site and downstream Natura 2000 sites and potential for pollution to be dissipated in the drainage network
3. The relatively low volume of any surface water run-off or discharge events from the Proposed Development site relative to the receiving surface water and marine environments,
4. The level of mixing, dilution and dispersion of any surface water run-off/discharges from the Proposed Development site in the receiving watercourses, Dublin Bay and the Irish Sea, and
5. The distance from the site to the nearest watercourses.

Furthermore, as the Civil Infrastructure Report states, urban run-off, when drained by pipe systems, results in run-off from virtually every rainfall event with high levels of pollution, particularly in the first phase of run-off, with little rainfall percolating to the ground. To prevent this happening, interception storage and/or treatment storage is provided, thereby replicating the run-off characteristics of the pre-development greenfield site. Interception storage is provided for the site by a variety of measures so there is no need for extra treatment storage and even the infiltration provided in the soakaway will provide some tertiary treatment for this site. Finally, the chosen SuDS measures have been analysed for various rainfall scenarios to ensure that all the SuDS design criteria are met, and these measures are effective in treating rainfall on the site to GSDSDS and CIRIA criterion.

Surface water run-off and discharges from the Proposed Development will enter the downstream receiving environment via the surface water drainage network and will ultimately drain to Dublin Bay.

The SUDS features associated with the Proposed Development are not included within the design to avoid or reduce any potential harmful effects to any European sites. It is an objective of the Greater Dublin Strategic Drainage Study, and the South Dublin County Council Development Plan 2016-2022, to incorporate Sustainable Urban Drainage Systems (SUDS) within new developments.

Therefore, there is no possibility of the Proposed Development having negative impact on any Natura 2000 site within Dublin Bay and Irish Sea as a result of surface water run-off or discharges.

The proposed Foul Drainage System for this development has been designed in accordance with the relevant requirements of the Irish Water Code of Practice for Wastewater Infrastructure. The foul sewerage will ultimately discharge to the Ringsend WWTP. The Confirmation of feasibility and Statement of Design Acceptance regarding the foul drainage system was issued by Irish Water.

Despite the capacity issues associated with the Ringsend WWTP, the Liffey Estuary Lower and Dublin Bay are currently classified by the EPA as being of “Unpolluted” water quality status. The pollution load of future foul water discharges to Dublin Bay is likely to decrease in the long-term because An Bord Pleanála granted planning permission for an upgrade to the Ringsend WWTP in April 2019, which will increase capacity at the plant. Furthermore, there is a commitment in the National Development Plan 2018-2027 to invest in and progress the Greater Dublin Drainage Project which will involve the provision of a new regional wastewater treatment plant. This will augment the waste water treatment capacity currently provided by Ringsend WWTP across the Greater Dublin Area. It is also an objective of the Greater Dublin Strategic Drainage Study, and all development plans within the catchment of Ringsend WWTP, to include Sustainable Urban Drainage Systems (SUDS) within new developments, as mentioned earlier in this section.

For a full assessment of impacts on Designated sites, refer to the AA Screening document.

6.6.2 Flora and habitats

Construction Phase

- Loss of habitats

There is a high potential of loss of the following habitats present within the site:

- Flower beds and borders (BC4)
- Buildings and artificial surfaces (BL3)
- Spoil and bare ground (ED2)
- Recolonising bare ground (ED3)
- Amenity grassland (improved) (GA2)
- Dry meadows and grassy verges (GS2)
- Ornamental/non-native shrub (WS3)
- Scrub (WS1)

These habitats were assessed as of low ecological importance with the exception of Dry meadows and grassy verges and Ornamental/non-native shrub, which were assessed as of medium local importance. However, these habitats will be re-created as part of the proposed development.

Also, it is expected that the Treelines (WL2) habitat will lose some of its area during the construction phase, but new tree planting is part of the proposed development.

This is likely to be a medium-term slightly negative reversible effect.

- Introduction of alien invasive plant species

Alien invasive plants can be introduced via equipment used at the site or with imported soil used for landscaping. This would lead to changes in local habitats and species composition.

This impact is negative with long-lasting duration.

Operational Stage

- Tree planting

The landscape proposals associated with this scheme call for the planting of 200 new trees. Therefore and notwithstanding the tree losses associated with the proposed development, there will be a net gain in tree numbers as well as an increased and improved degree of tree sustainability.

This impact is positive with long-lasting duration.

6.6.3 Fauna

Construction Phase

- Increased lighting

There will be increased lighting for construction work during winter periods and security lighting within the site out of construction hours. There are consequences for nocturnal mammals (in particular, bats) and daytime birds from these alterations that would contribute to a short-term moderate negative reversible impact where lighting is not properly controlled.

- Injury or death of bats during building demolition

Bats undergo a seasonal as well as daily torpor and if present within a building may not be sufficiently active to avoid risk of injury or death during demolition procedures. Bats may sustain a life-ending injury or be crushed during roof removal or complete demolition activities. Bats were present in Alhambra and Dalwhinnie houses, during the August survey and demolition of these buildings without mitigation could create a risk to bats.

This is a medium-term negative, non-reversible impact.

- Injury or death of nesting birds or their eggs / young during tree felling / scrub clearance

Birds may be unintentionally killed if tree felling, building demolition or scrub clearance is undertaken in the nesting season (officially March 1st to August 31st). Nestlings and eggs are the most obvious and immediate groups affected but even broody females may be unwilling to abandon the nest and may be killed.

This would be a medium-term negative non-reversible impact.

- Injury or death of bats during tree felling

As for buildings, bats may be torpid in trees and be incapable of escape when felling commences. Bats may be killed on impact or by crushing within crevices, loose bark, broken limbs of trees etc. There is very low potential for bats within trees earmarked for removal within the site. This is a medium-term negative, non-reversible impact.

Operational Stage

- Disruption to mammal movement

The introduction of housing may increase the disturbance to native fauna moving across the surrounding area. As there is no evidence of badgers or otters, the main impact will be upon bat movement. This would be brought about through ornamental scrub removal and lighting changes. Bat activity will be altered by the loss of the buildings as there are no established roosts within the site once the buildings are removed. This is likely to be a long-term to permanent slight negative reversible impact.

- Loss of roost sites

Bird night roosts and bat day roosts may be lost through building and tree removal. There is no evidence of bat roosts within the trees but such roosts may be facilitated over time by limb damage or bark peeling and these opportunities are removed by tree removal. This is a medium to long-term reversible impact with potential to be a long-term impact in terms of vegetation loss.

- Loss of nest sites

As for the above, there will be a loss of nest sites for some birds within the site. This may be a slight long-term negative reversible impact for the species noted within the site.

- Loss of feeding and cover

There will be a limited loss of plant fruit, insect shelter and vegetation that will contribute to a loss of feeding and cover for a wide variety of species. This is a long-term slight negative reversible impact on the species within the site.

- Increased lighting

There will be increased lighting due to access and security lighting. There are consequences for nocturnal mammals (in particular, bats) and daytime birds from these alterations that would contribute to a long-term moderate negative reversible impact where lighting is not properly controlled.

- Bird collisions with buildings

Glass reflectivity and transparency create an illusion of clear airspace that birds do not see as a barrier. The majority of collisions with both residential and urban buildings happen during the day, as birds fly around looking for food. This potential impact is dealt with in the document Assessment of the Potential of Collision Risk for Birds (Ecology Ireland Wildlife Consultants Ltd. September 2021).

St. Joseph's House and Adjoining Properties Strategic Housing Development, Dublin

It is concluded that the design of the St. Joseph's House SHD has not included features that would increase the risk of attracting and disorienting birds flying overhead. The lighting is low-level and directional and the materials used in the tall structures do not present the glass-wall high-reflective finish that has been shown to increase collision risk for certain bird species. Given the location and scale of the development and the nature of the receiving environment there is no obvious concern in relation to bird collision risk at the proposed development site.

This impact is long term, negative and reversible by modifications to large windows to increase their visibility to birds. This is a potentially moderate long-term negative impact.

- Creation of nesting opportunities for gull species

The provision of flat roofs may provide future nest sites for species such as the herring gull (*Larus argentatus*) a Red Conservation Status under the Birdwatch Ireland BoCCI categorisation.

This would be a long-term slight positive impact for this species.

6.7 Potential Cumulative Impacts

There are a number of projects involving demolition of existing building and building new ones within 1.2 km of the proposed development project (Planning ref.: D19A/0972 & ABP 3007574/20, D21A/0294, ABP304068/19, D16A/0904 & ABP PL06D.248703, D18A/1112 & ABP 303816-19, D17A/0441 & ABP PL06D.249014, D16A/0158, ABP301428-18, ABP305940-19). Other projects within this distance involve construction of new buildings (which may result in removal of mature vegetation): Plan. ref. ABP305345-19, ABP310104-21, ABP303467-19, D21A/0247).

Given the development of sites within the surrounding area and similar projects to this, where existing houses are replaced by apartments or new houses at higher density and the removal of existing vegetation, there is a cumulative loss of mature vegetation and buildings used as nesting and roosting sites by bats and birds which may add to the impacts of the existing proposal until the mitigation for each project is established over time.

6.8 Do Nothing Scenario

In the absence of this project, the permitted development for part of the site (D17A/ 0337)would likely be implemented. One building (Dalwhinnie) that has been noted to be a bat roost has approval for demolition under the existing permitted development and in the event that the current proposal does not progress, this building would be demolished with the mitigation measures approved by

NPWS taking effect to protect bats and provide an alternative roost. The seven large, detached houses on large plots fronting Leopardstown Road (i.e. the part of the site added subsequent to the granting of the above permission) would remain in use as individual dwellings. St. Joseph's House would be renovated and these works are covered by an approved derogation to allow work on a bat roost following the conditions laid out in the derogation application to NPWS.

The existing vegetation (primarily cultivated plants and the more robust native plants) would remain and the lawns would be mown, and the diversity of plants would be relatively stable. Species such as common pipistrelle would be present in similar, low numbers and foraging species such as common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat, fox, rabbit would continue to feed in similar abundance to the present. Bird species (often termed "common or garden birds") as listed would be present in the hedges and trees and species such as starling and house sparrow may enter roof spaces while house martin and swallow would roost outside the buildings (or in garden sheds etc. in the case of swallows).

There would be no change in the flora and fauna of the site relative to the situation pertaining in the remainder of unchanged areas of Dublin. Given the current Biodiversity Crisis, this may see a reduction in biodiversity even in the "Do Nothing Scenario" unrelated to the project proposed.

6.9 Risks to Human Health

There is no inherent increased risk to human health brought about by the changes in the site and its impact upon the biodiversity of the site. On balance, there is neither increased nor decreased risks brought about by the proposed development.

6.10 Mitigation Measures

Construction Stage

- Alien invasive plant species

All equipment shall be checked and washed before introduction to the site. All soil and plants introduced to the site shall be confirmed as being free from Alien invasive species.

- Derogation for buildings known to be bat roosts

The Alhambra house is a roost of at least three pipistrelles and a derogation has been secured for its removal from the NPWS of the Department of Housing, Local Government and Heritage. This licence must be updated to allow demolition to proceed should the planning application be successful. This house must be checked for bats prior to demolition, and an exclusion carried out if necessary. Roof tiles and ridge tiles must be removed by hand. The demolition must be supervised by an ecologist. The licence for derogation for the Dalwhinnie house was also secured. Original derogation (DER BAT 2020 – 25) was issued on February 18th 2020 and its extension was renewed on 7th May 2021. The licence applies to Alhambra and Dalwhinnie and is active up to 31st March 2022 (see Appendix 6.17.1).

St. Joseph's House is a roost to a minimum of one Leisler's bat as noted on 18th April 2021. The derogation was approved on 6th May 2021. (Licence No.: DER/BAT 2021 – 42) and is active up to 31st March 2022 (See Appendix 6.17.2).

No work can take place on the buildings from May to September in the absence of a bat survey to confirm the absence of bats prior to work or demolition as bats may be breeding in this period.

- Examination of all buildings for bat potential prior to removal

All buildings shall be surveyed for bats prior to demolition. In the eventuality of bats being noted or where the survey is inconclusive, a derogation shall be secured from NPWS by a suitably qualified ecologist and the conditions stipulated within the licence must be implemented. If bats are

discovered at any stage of the development, building work must cease and the bat specialist and the NPWS Conservation Ranger must be contacted.

- Examination of all mature trees for bat potential prior to felling

All trees shall be evaluated by a bat specialist prior to felling. Where trees with roost potential are identified, these must be examined in a manner sufficient to rule out bat usage. In the winter, this is only possible where a tree can be fully accessed by a bat specialist to examine all suitable crevices and cavities with a fibrescope. In the active periods of the year, a bat detector survey may be sufficient to identify roost trees and rule out unused trees. Where there is any doubt regarding the presence of bats within any tree or trees, an inspection of the trees from height access shall be undertaken by a bat specialist.

In the eventuality of bats being noted or where the survey is inconclusive, a derogation shall be secured from NPWS by a suitably qualified ecologist and the conditions stipulated within the licence must be implemented. If bats are discovered at any stage of tree felling, all felling or tree surgery must cease and the bat specialist and the NPWS Conservation Ranger must be contacted. The tree in question shall require a derogation from NPWS to allow felling and all mitigation agreed with NPWS shall be implemented.

- Tree felling outside of the bird nesting period

All trees shall be felled outside of the nesting season (March 1st to August 31st) unless it has been satisfied beyond question that there are no birds nesting within them by a suitably qualified ecologist. To ensure that bats are given adequate consideration, felling should avoid the period November to March unless it is possible for a bat specialist to examine all cavities and crevices prior to any felling or major surgery.

Operational Stage

- Bat boxes and swift boxes

Five 2F and four 1MF swift and bat boxes shall be incorporated into the gables facing the tree protection zones within the proposed apartment blocks. They are designed to be used by both swifts and bats. They must be placed in a dark area. Monitoring of the attached bat boxes (not inbuilt 1MF boxes) shall take place within a year of the development being built, and the location of the bat boxes shall be changed if they are unused, and their site is unsuitable.

For further enhancement of biodiversity, the 1FF bat boxes originally proposed to NPWS in the derogation applications are being replaced by four 1MF Schwegler swift and bat boxes and will be incorporated into the buildings as shown in the following images. These combined bird / bat boxes are less likely to be removed or vandalised and are therefore longer-lasting.

Schwegler 1MF swift and bat box



- Internal: H170 x W360 x D160mm
- External: H460 x W430 x D225 mm
- Weight: 24kgs
- 25 Year warranty from Schwegler

This Double Chamber Swift Nest Box can be installed within an external wall to a maximum depth of 17 cm in order to prevent the underneath entrance hole being blocked. It can also be attached to the surface of an external wall (or within render or an external insulation layer) using the optional Fixing Bracket. The box can be painted using standard air-permeable external wall paint if this is required.

When it is fixed on a wall, the clever design ensures that space is left between the nest box and the wall for bats to occupy. When it is fixed within a wall, a Bat Slope can be added underneath to provide a sloping entrance to the back of the box for bats.

This Swift box allows for two pairs of swifts to brood separately from each other in the 1MF Box producing offspring successfully, two brood chambers are provided for this purpose. The rear wall is set back, providing sufficient space between the building wall and the box for Bats to use it as a roost. The design shape and texture of the rear Bat area is created to meet the needs of Bat species that live in buildings such as the Pipistrelle Bat. Thanks to its robust design the 1MF Swift and Bat box can be used in sunny and exposed areas without any problem at all.



Figure 0-7 Northern boundary - Location of two 1MF bird and bat boxes



Figure 0-8 Southern boundary - Location of two 1MF bird and bat boxes

Lighting

A “dark sky area” must be designated within the development to provide commuting and feeding corridors (see below), and light spillage and pollution must be kept to a minimum with the use of cowls, caps, and low-level bollard lighting where possible.

Lighting design will be in accordance with

- 1) Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010);
- 2) Bats and Lighting in the UK – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2018).
- 3) Guidance Notes for the Reduction of Obtrusive Light GNo1 (Institute of Lighting Professionals, 2011);

Lighting shall be used as a function and not as an ornament and shall be of a design that allows a high level of control and directability. LED allows for controls on timing, directionality and wavelength and should be the source of light.

- Lighting should be directed downwards away from the treetops.
- Tree crowns shall remain unilluminated
- All luminaires shall lack UV elements when manufactured and shall be LED
- A warm white spectrum (ideally <2700 Kelvin but as low as the Council limitations allow) shall be adopted to reduce blue light component
- Luminaires shall feature peak wavelengths higher than 550 nm
- Planting shall provide areas of darkness suitable for bats to feed and commute past and through the site (dark sky area as noted above).

The following is the summary from Fallon Lighting Design Public Lighting Report - St. Josephs House And Associated Properties to meet these measures:

Ecological Impact Design Considerations: Careful consideration has been given to the design of the Public Lighting with regard to the existing natural habitat and the wildlife. The chosen luminaire Veelight Tech Series has a full cut off lantern type, that offers with a G6 Glare rating and no upward light making it dark sky friendly. - An inbuilt multi step dimming program within this luminaire allows for night time hours to be dimmed by up to 25%. This means during peak hours of nocturnal foraging, feeding and activity the adjacent public lighting can be further designed to minimize impact on the local wildlife. –

The colour rendering of the selected pole light fitting is 2700k resulting in a warmer light, helping to further minimize the impact on the local wildlife. Some of the wall lights are 3000k and only light at path level. - Greater energy savings will also result using the inbuilt multi-step dimming program during late hours of darkness along the public lighting spaces. - The particular local ecology and wildlife as referenced in the environmental services report has been incorporated into the scheme with a dark sky area designated around Block F.

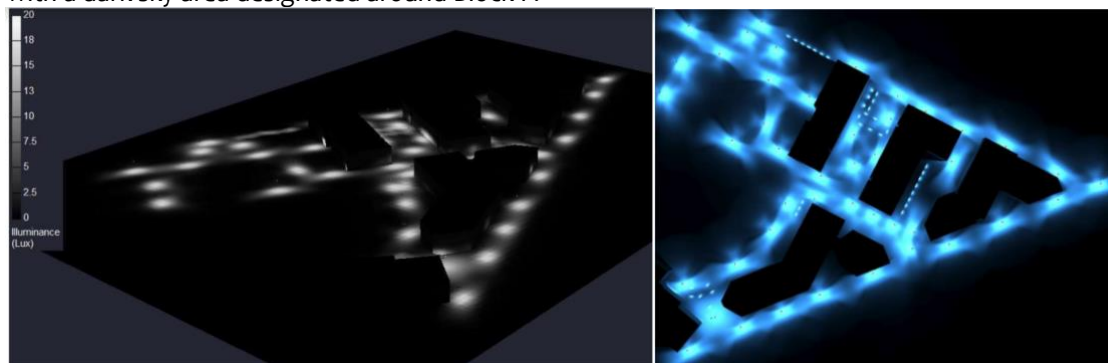


Figure 6.9 Dark Sky plot of the site following construction;
Dark Sky 3-D Render (left) and

Dark Sky Plan Render (right)

Planting of native species

Native species shall be incorporated into the planting regime. This should include species such as hawthorn, guelder rose, honeysuckle, oak, elder etc. Planting of ash is not suggested at present due to the spread of Ash Dieback.

Bats will suffer a loss of feeding through a decline in insect abundance and availability. Native shrubs and trees must be used within the new development to provide a diversity of insects. Where other climbers and shrubs are required, they should be taken from the approved list from the All-Ireland Pollinator Plan - <http://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-friendly-planting-code-temporary-draft.pdf>

Hedgerows containing both medium and large trees will be planted within the new development.

Other planting and treeline issues

The timing of tree and shrub removal within the site shall be staged to ensure that vegetation remains present to provide cover such as wind shelter and light blocking to allow bats to commute and insects to cluster and provide food for bats and birds as well as a substrate on which insects may breed.

While species such as leylandii and cherry laurel are limited in their value overall, they do provide good cover throughout the year from wind and driven rain and serve as a shelter for insects and bats on inclement nights. Their retention can be of some benefit in providing valuable cover to overwintering birds and may be used by starlings or thrush species.

Given that they are present and mature within the site, it would be beneficial if they are removed in phases rather than immediately early into clearance procedures.

Bird boxes

10 bird boxes of varying designs are proposed for incorporation into the site to provide alternative nest sites for birds. These may be provided in green areas and gardens throughout the site. Boxes should not face south to ensure that eggs and the brooding females do not become overexposed to heat. Boxes must be in areas with cover or where cover will grow around the boxes to shield them from predators.

Visual signs on glass surfaces

The design of the proposed development has not included features that would increase the risk of attracting and disorienting birds flying overhead. The lighting is low-level and directional and the materials used in the tall structures do not present the glass-wall high-reflective finish that has been shown to increase collision risk for certain bird species in other countries (e.g. USA). Given the location and scale of the development and the nature of the receiving environment there is no obvious concern in relation to bird collision risk at the proposed development site.

All bird collisions with glass surfaces shall be reported and problematic windows shall be dealt with by the following:

There are a variety of glass and window design options that can be integrated into building designs to reduce mortality from bird collisions. The goal of these glass options is to create a visual signal or cue to help birds detect and avoid glass. To make an effective virtual cue, all window treatment shall be applied to at least the first two to three stories or the height of the adjacent vegetation. However, applying treatments to just the first story windows or known problem windows can be helpful as well.

6.11 Predicted Impacts of the Proposed Development

6.11.1 Construction Stage

There will be a short-term loss of roosting sites and feeding for bats. There will be a loss of roosting, nesting and feeding sites for birds. Construction traffic and security lighting may interfere with normal behaviour of birds and mammals using this site.

6.11.2 Operational Stage

There will be a medium-term slight loss of roosting and feeding sites for both bats and birds. Increased lighting will interfere with nocturnal mammals, especially bats, but the proper installation of lighting will minimise the negative effects.

6.12 Monitoring

6.12.1 Construction Stage

Demolition of the houses Alhambra and Dalwhinnie, as well as roof works on the St. Joseph's house must be supervised by an ecologist.

All buildings shall be surveyed for bats prior to demolition. In the eventuality of bats being noted or where the survey is inconclusive, a derogation shall be secured from NPWS by a suitably qualified ecologist and the conditions stipulated within the licence must be implemented. If bats are discovered at any stage of the development, building work must cease and the bat specialist and the NPWS Conservation Ranger must be contacted.

All trees shall be evaluated by a bat specialist prior to felling. Where trees with roost potential are identified, these must be examined in a manner sufficient to rule out bat usage. In the winter, this is only possible where a tree can be fully accessed by a bat specialist to examine all suitable crevices and cavities with a fibrescope. In the active periods of the year, a bat detector survey may be sufficient to identify roost trees and rule out unused trees. Where there is any doubt regarding the presence of bats within any tree or trees, an inspection of the trees from height access shall be undertaken by a bat specialist.

In the eventuality of bats being noted or where the survey is inconclusive, a derogation shall be secured from NPWS by a suitably qualified ecologist and the conditions stipulated within the licence must be implemented. If bats are discovered at any stage of tree felling, all felling or tree surgery must cease and the bat specialist and the NPWS Conservation Ranger must be contacted. The tree in question shall require a derogation from NPWS to allow felling and all mitigation agreed with NPWS shall be implemented.

All equipment shall be checked and washed before introduction to the site to avoid introduction of alien invasive plant species.

6.12.2 Operational Stage

Bat and bird boxes shall be monitored on a regular basis if they are used by birds and bats, and the location of the bird and bat boxes shall be changed if they are unused and their site is unsuitable.

It shall be ensured that any lighting used during the operational stage complies with the recommendations listed above.

6.13 Reinstatement

Planting hedgerows containing trees within the proposed development site will reinstate roosting and feeding sites for bats and birds.

6.14 Interactions

The key environmental interaction with Biodiversity is Water (Chapter 8). Chapter 8 – Water of this EIA document proposes measures to ensure the quality (pollution and sedimentation) and quantity (surface run-off and flooding) is of an appropriate standard.

6.15 Difficulties Encountered

No constraints were identified.

6.16 References

- Bat Surveys for Professional Ecologists: Good Practice Guidelines. Collins 2016, 3rd edition
- Curtis T.G.F. & McGough H.N. (1988) The Irish Red Data Book 1 Vascular Plants. Stationery Office, Dublin.
- Environmental Protection Agency. Appropriate Assessment Tool. <https://gis.epa.ie/EPAMaps/AAGeoTool>
- Fossitt, J.A. (2000) A Guide to Habitats in Ireland. The Heritage Council
- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. (CIEEM, September 2018. Updated September 2019. Version 1.1)
- Kelleher, C. & Marnell, F. (2006) Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission, 2018.
- National Biodiversity Data Centre. Biodiversity Maps. <https://maps.biodiversityireland.ie/>
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill.
- NPWS Conservation Status Report (2013) The status of EU Protected Habitats and Species in Ireland
- S.I. No. 356/2015 - Flora (Protection) Order (2015)
- S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011
- www.batconservationireland.org database
- www.biodiversityireland.ie
- www.npws.ie/maps-and-data
- www.invasivespeciesireland.ie

APPENDICES

Appendix 6.1 – Derogation for Dalwhinnie & Alhambra to permit supervised & monitored destruction of a bat roost



An Roinn Cultúir,
Oidhreacht agus Gaeltachta
Department of Culture,
Heritage and the Gaeltacht

Licence No.: DER/BAT 2020 – 25 (extension)

**EUROPEAN COMMUNITIES (BIRDS AND NATURAL HABITATS) REGULATIONS,
2011 (S.I. No 477 of 2011)**

DEROGATION LICENCE

Granted under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, hereinafter referred to as “the Habitats Regulations”.

The Minister for Arts, Heritage and the Gaeltacht, in exercise of the powers conferred on her by Regulation 54 of the Habitats Regulations hereby grants to **David Leyden, Homeland Projects, 8 Sandford Rd, Ranelagh, Dublin 6 D06 R2H4**, supervised by **Brian Keeley** and **Donna Mullen of Wildlife Surveys** or another qualified agent, a licence. It is stated that:

(A) this licence is to be granted for the purpose of protecting wild fauna and conserving natural habitats, and

(B) there is no satisfactory alternative, and the action authorised by this licence will not be detrimental to the maintenance of the population of **bat species genus** referred to below at a favourable conservation status in their natural range.

The licence is issued in respect of the following **bat species**:

- **common pipistrelle** *Pipistrellus pipistrellus*

. This licence authorises the following:

- (a) roost disturbance;
- (b) damage or destruction of breeding sites or resting places;

(“the authorised action(s)”).

This licence is subject to the terms and conditions set out overleaf.

Terms and Conditions

1. This licence is granted solely to allow the activities specified in connection with the **Berwick Pines proposal** located at **Dalwhinnie (Eircode D18 P2P4), Alhambra (Eircode D18 E3C4)** for **David Leyden**.
2. All activities authorised by this licence, and all equipment used in connection herewith, shall be carried out, constructed and maintained (as the case may be) so as to avoid unnecessary injury or distress to any species of **BAT**.
3. This licence may be modified or revoked, for stated reasons, at any time.
4. The mitigation measures outlined in the application report (**Derogation application at Berwick Pines, Leopardstown, Co Dublin, Recommendations**), together with any changes or clarification agreed in correspondence between NPWS and the agent or applicant, are to be carried out. Strict adherence must be paid to all the proposed measures in the application.
5. No work can begin before **16th September 2020** and must be completed by **31st March 2021**.
6. The works will be supervised by a licensed bat specialist **agent**.
7. This licence shall be produced for inspection on a request being made on that behalf by a member of An Garda Síochána or an authorised NPWS officer appointed under Regulation 4 of the Habitats Regulations.
8. The local National Parks and Wildlife Service field officer **Roy Thompson** roy.thompson@chg.gov.ie, **0761-002593** should be contacted prior to the commencement of any activity, and if bats are detected on site during the course of the work, under the terms of this licence.
9. A report shall be submitted to Wildlife Licensing Unit, National Parks and Wildlife Service Department of Culture, Heritage and the Gaeltacht, R. 2.03, 90 North King Street, Smithfield, Dublin 7, D07 N7CV on completion of the actions which this licence authorises, describing the activities carried out in pursuance of this licence.



Gerry Leckey

(a person authorised by the Minister to sign on her behalf)

16/09/2020

Wildlife Licensing Unit
National Parks and Wildlife Service
Department of Culture, Heritage and the Gaeltacht
R. 2.03
90 North King Street
Smithfield
Dublin 7
D07 N7CV



NOTES (1 to 2).

- This licence is granted for the period specified and subject to compliance with the conditions specified. Anything done other than in accordance with the terms of this licence may constitute an offence.
- This licence applies to **bats** and to no other species.

Appendix 6.2 – Derogation from protection to allow renovation & any partial demolitions at St. Joseph’s House –noted as bat roost during surveys for this evaluation



An Roinn Tithíochta,
Rialtas Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage

Licence No.: DER/BAT 2021 – 42

**EUROPEAN COMMUNITIES (BIRDS AND NATURAL HABITATS) REGULATIONS,
2011 (S.I. No 477 of 2011)**

DEROGATION LICENCE

Granted under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, hereinafter referred to as “the Habitats Regulations”.

The Minister for Housing, Local Government and Heritage, in exercise of the powers conferred on him by Regulation 54 of the Habitats Regulations hereby grants to **David Leyden of Homeland Silverpines Ltd. 8 Sandford Road, Ranelagh, Dublin 6. DO6 R2H4** supervised by **Brian Keeley BSc (Hons)**, a licence. It is stated that:

(A) This licence is to be granted for the purpose of protecting wild fauna and conserving natural habitats, and

(B) There is no satisfactory alternative, and the action authorised by this licence will not be detrimental to the maintenance of the population of **bats** referred to below at a favourable conservation status in their natural range.

The licence is issued in respect of the following **bat species**:

- | | |
|-------------------------------|---|
| • soprano pipistrelle | <i>Pipistrellus pygmaeus</i> |
| • brown long-eared bat | <i>Plecotus auritus</i> |
| • common pipistrelle | <i>Pipistrellus pipistrellus</i> |
| • Leisler's bat | <i>Nycatalus leisler</i> |

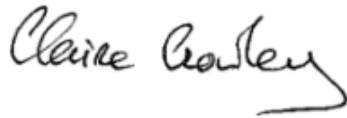
. This licence authorises the following:

- (a) Roost disturbance;
- (b) Damage or destruction of breeding sites or resting places;
- (c) Actions authorised within the licence

This licence is subject to the terms and conditions set out overleaf.

Terms and Conditions

1. This licence is granted solely to allow the activities specified in connection with the **Renovation and Demolition works** located at **St. Joseph's House, Brewery Road, Stillorgan, Co. Dublin A94 Y7F4** for **David Leyden**.
2. All activities authorised by this licence, and all equipment used in connection herewith, shall be carried out, constructed and maintained (as the case may be) so as to avoid unnecessary injury or distress to any species of **BAT**.
3. This licence may be modified or revoked, for stated reasons, at any time.
4. The mitigation measures outlined in the application report (**Derogation Application for Leisler's bat Roost to facilitate renovation of building, pgs. 3-7**), together with any changes or clarification agreed in correspondence between NPWS and the agent or applicant, are to be carried out. Strict adherence must be paid to all the proposed measures in the application.
5. No work can begin before **1st September 2021** and must be completed by **31st March 2022**.
6. The works will be supervised by a licensed bat specialist **agent**.
7. This licence shall be produced for inspection on a request being made on that behalf by a member of An Garda Síochána or an authorised NPWS officer appointed under Regulation 4 of the Habitats Regulations.
8. The local National Parks and Wildlife Service field officer **Kieran Buckley, Kieran.Buckley@housing.gov.ie** should be contacted prior to the commencement of any activity, and if bats are detected on site during the course of the work, under the terms of this licence.
9. A report shall be submitted to Wildlife Licensing Unit, National Parks and Wildlife Service Department of Housing, Local Government and Heritage, R. 2.03, 90 North King Street, Smithfield, Dublin 7, D07 N7CV on completion of the actions which this licence authorises, describing the activities carried out in pursuance of this licence.



Claire Crowley

(a person authorised by the Minister to sign on his behalf)

07/05/2021

Wildlife Licensing Unit
National Parks and Wildlife Service
Housing, Local Government and Heritage
R. 2.03
90 North King Street
Smithfield
Dublin 7
D07 N7CV



NOTES (1 to 2).

- This licence is granted for the period specified and subject to compliance with the conditions specified. Anything done other than in accordance with the terms of this licence may constitute an offence.
- This licence applies to **bats** and to no other species.