ALTEMAR
Marine & Environmental Consultancy

Ecological Impact Assessment (EcIA) for the proposed development of the Blakes and Esmonde Motors Site at Stillorgan, Co. Dublin.

27th March 2022

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On behalf of: Cairn Homes Properties Limited.

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CONTENTS

Introduction 4
BACKGROUND 4
STUDY OBJECTIVES 4
1) Project description 5
A. DESCRIPTION OF THE PROPOSED PROJECT 5
Zone of Influence 5
Drainage 6
Hydrological and Hydrogeological Qualitative Risk Assessment 7
2. Assessment Methodology 12
2.1 DESK STUDY 12
2.2 FIELD SURVEY 12
Survey Limitations 12
2.3 CONSULTATION 12
2.4 ECOLOGICAL EVALUATION CRITERIA 12
IMPACT ASSESSMENT SIGNIFICANCE CRITERIA 12
3) Results 15
3.1 PROXIMITY TO DESIGNATED CONSERVATION SITES 15
3.2 HABITATS AND SPECIES 19
4 Analysis of the Potential Impacts 24
INTRODUCTION 24
DIRECT IMPACTS 24
INDIRECT IMPACTS 24
AVOIDANCE AND REMEDIAL MEASURES 25
CUMULATIVE IMPACTS 25
Residual Impacts and Conclusion 31
References 31
Appendix I. Bat Fauna study 32

INTRODUCTION

Background

Ecological Impact Assessment (EcIA) has been defined as '*the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components'* (Treweek, 1999). "*The purpose of EcIA is to provide decision-makers with clear and concise information about the likely ecological effects associated with a project and their significance both directly and in a wider context. Protecting and enhancing biodiversity and landscapes and maintaining natural processes depends upon input from ecologists and other specialists at all stages in the decision-making and planning process; from the early design of a project through implementation to its decommissioning*" (IEEM, 2010). The following EcIA has been prepared by Altemar Ltd. at the request of Cairn Homes Properties Limited for the proposed redevelopment of the former Blakes site at Stillorgan, Co. Dublin.

Study objectives

The objectives of this EcIA are to:

1. Outline the project and any alternatives assessed;
2. Undertake a baseline ecological feature, resource and function assessment of the site and zone of influence;
3. Assess and define significance of the direct, indirect and cumulative ecological impacts of the project during its construction, lifetime and decommissioning stages;
4. Refine, where necessary, the project and propose mitigation measures to remove or reduce impacts through sustainable design and ecological planning; and
5. Suggest monitoring measures to follow up the implementation and success of mitigation measures and ecological outcomes.

It should be noted that there is no direct hydrological connection to the conservation sites. However, there is an indirect connection to the Dublin Bay Natura 2000 sites via the foul and surface water networks via the Ringsend WwTP (& pumping station at the West Pier which has an intermittent overflow) and via the public surface water network to the Priory Stream. In order to assess the potential risk of the indirect connections to Natura 2000 sites AWN consulting was commissioned to carry out a Hydrological and Hydrogeological Qualitative Risk Assessment for the proposed development. This Risk Assessment accompanies this application. A Natura Impact Statement (NIS) is also being submitted with this EcIA. The NIS concludes that '*Mitigation measures will be in place to ensure there are no significant impacts on the Priory Stream that leads to conservation sites. A project ecologist will be appointed to oversee works in relation to the enabling works and the implementation of mitigation measures as outlined on site. The implementation of mitigation measures outlined, which will be followed and will be sufficient to prevent adverse effects on the integrity of European sites. Following the implementation of the mitigation measures outlined, the construction and presence of this development would not be deemed to have a significant impact on the integrity of European sites.'*

Background to Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Bryan Deegan, the managing director of Altemar, is an environmental scientist and marine biologist with 27 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

1) PROJECT DESCRIPTION

A. Description of the Proposed Project

The site of 1.41 hectares is bounded by the Lower Kilmacud Road to the north, The Hill to the south and west and the N11 and Dun Laoghaire owned lands to the east.

- The proposal is a mixed-use scheme of "Built to Rent" BTR apartments, retail, childcare and residents'
- facilities laid out in 6 no. blocks ranging in height from 3-9 storeys (over basement) comprising 377 no.
- apartment units (21 no. studios, 189 no. 1 beds, 159 no. 2 beds, & 8 no. 3 beds) comprising
- Building 01 (Part 3 – 4, 6 & 7 storeys over basement) consists of 77 no. apartments comprising 13 no. studio apartments, 30 no. 1 bedroom apartments, 33 no. 2 bedroom apartments, 1 no. 3 bedroom apartment (with a creche of c. 215 sq. m with associated play area at ground floor);
- Building 02 (Part 3 – 5, 7 & 8 storeys over basement) consists of 95 no. apartments comprising 7 no. studio apartments, 57 no. 1 bedroom apartments, 24 no. 2 bedroom apartments, 7 no. 3 bedroom apartments;
- Building 03 (Part 7 and 9 storeys over part basement) consists of 54 no. apartments comprising 18 no. 1 bedroom apartments and 36 no. 2 bedroom apartments (and office of c. 195 sq. m);
- Building 04 (7 storeys over basement) consists of 60 no. apartments consists of 42 no. 1 bedroom apartments & 18 no. 2 bedroom apartments;
- Building 05 (6 storeys, over basement to Lower Kilmacud Road & 7 storeys to the south and west) consists of 62 no. units comprising 1 no. studio apartment, 26 no. 1 bedroom apartments, & 35 no. 2 bedroom apartments (restaurant/café unit c. 219 sq. m at lower ground floor/plaza level & 2 no. restaurant/café units c. 234.1 sq. m and c. 133.9 sq. m respectively at ground floor level onto Lower Kilmacud Road) along with a double height Community Sports Hall including ancillary areas (c. 933 sq. m);
- Building 06 (5 & 6 storeys) consists of 29 no. units comprising 16 no. 1 bedroom apartments and 13 no. 2 bedroom apartments (restaurant/café unit c. 185.9 sq. m at lower ground floor/plaza level & 68.1 sq. m restaurant/café unit at ground floor level onto Lower Kilmacud Road);

The BTR development will also include ancillary Residents' Support Facilities/Services (c. 1,016 sq. m at ground floor of Building 03 and 04) as well as open space areas and improvements to the public realm along the Lower Kilmacud Road (to footpath and cyclepath) and The Hill, new road layout (omission of left turning lane, widening of footpath) to The Hill, hard and soft landscaping, set down area on the Lower Kilmacud Road.

Provision of 2 no. vehicular access points from 'The Hill' into 2 no. separate basements to include basement car parking spaces (119 no.); 1 no. set down surface car parking space as well as 866 no. cycle spaces (basement and surface levels) and ancillary areas; pumping stations at basement level, along with solar panels, and green roofs at roof level;

All associated site development works, open spaces, landscaping, boundary treatment, plant areas, waste management areas, and services provision (including ESB substation).

Zone of Influence

The proposed development site is not located within a European site. The potential ZOI of the construction and operational phases of the project is deemed to be within the vicinity of the application site outline with the potential for downstream impacts via surface water and foul water networks. There is no direct hydrological connection to the European sites. However, there is an indirect connection to the Dublin Bay European sites via the surface water networks via the surface water sewer to the Priory Stream. During operation the foul water will be sent to Ringsend WWTP. In order to assess the potential risk of the indirect connections to Natura 2000 sites AWN consulting was commissioned to carry out a Hydrological and Hydrogeological Qualitative Risk Assessment for the proposed development. This Risk Assessment accompanies this application. However, abstracts from the Risk Assessment report have been included within the AA Screening and NIS. In addition, details of the drainage strategy have also been included.

Drainage

Receiving Environment

As outlined in the Waterman Moylan Engineering Assessment Report "

Currently the site is served by 2 No. existing foul sewer networks in the vicinity of the subject site:

• an existing 600mm diameter foul sewer immediately to the north of the site in Lower Kilmacud Road with a connecting 300mm diameter foul branch sewer to the east of the proposed development in the N11 Stillorgan Road

• an existing 300mm diameter combined sewer which traverses the site from west to east. There are 2 no. 225mm diameter foul sewers connecting into this 300mm diameter on The Hill one from the north, and one from the south. There is also a 225 mm connection across Lower Kilmacud Road from the Dun Laoghaire Rathdown Library site and St. Laurence's Park. This 600mm diameter sewer discharges north-eastwards with a connection from the 300 mm sewer traversing the site further east. These networks ultimately discharge to the Municipal Waste Water Treatment Plant at Ringsend.."

"A Pre-Connection Enquiry form was submitted to Irish Water for the provision of foul sewer connection for the proposed development. A response was received in January 2022 (Refer to Appendix F), which stated that the new connection to the existing network is feasible without upgrade."

Proposed Foul Water Drainage

As outlined in the Waterman Moylan Engineering Assessment Report '*It is proposed to divert the existing 300mm diameter combined sewer which traverses the site in order to facilitate the subject development. All existing branch connections to these sewers carrying foul water flows will be retained. The private connections from the Former Blakes and Esmonde Motor site will be removed as part of the proposed works. The foul drainage from the subject site will generally connect to the diverted sewer, with some local connections provided to the 600 mm sewer at the northwest corner of the site serving the ground floor units of Blocks 3 - 5.*

As set out above it is proposed to discharge the subject site to the 300 mm sewer traversing the site by gravity in accordance with Irish Water requirements, with some local connections to the 600 mm sewer at the northwest corner of the site. The proposal to divert the existing sewer has been agreed in principle with Irish Water and will be subject to a diversion agreement at the appropriate stage, approved under the Planning Register Reference: (ABP-300520-17).

It is proposed to construct a new sewer manhole on the existing 600mm sewer network to facilitate diversion of the existing 225 mm diameter which traverses the site from the north. Please refer to Waterman Moylan drawing No's. 20-071-P119 for the details of the diversion. The drainage will generally drain by gravity via slung drainage to be strapped to the underside of the ground floor slab within a dedicated service zone within the basement areas and by gravity below ground to its outfall location in all other areas. The foul drainage in the basement of building No's 1 & 2 will be pumped to a standoff manhole before draining by gravity to the proposed diverted existing 300mm diameter foul sewer located between the 2 No. basement / building areas. The foul drainage in the basement of building No's 3-5 will be pumped to a standoff manhole before draining by gravity to the existing 600mm diameter foul sewer located northeast of the site in the Lower Kilmacud Road.

The basement foul pumping stations will take foul drainage from the basement level only. This will include water runoff / snow melt from cars and drains in stores and plant rooms. These pump stations will be private pump stations, within the building basements, that will be operated and maintained by the applicant. As part of the proposals, run-off from the basement car park areas will discharge through petrol interceptors before discharge via a pump chamber and rising main to the external foul gravity drainage systems.'

Surface water Drainage

As outlined in the Waterman Moylan Engineering Assessment Report '*There is an existing surface water sewer / culvert traversing the site in a north-east direction. This culverted watercourse, which forms part of the Priory Stream catchment, ultimately discharges under the N11 to the Priory Stream east of the N11. The culvert varies in size through the site. It is initially a 1500mm wide x 800mm high stone arch culvert under the Old Stillorgan Road (The Hill) as it enters the subject site. It then changes in profile to a 1200mm wide x 1200mm high square concrete culvert c. 14 m east of The Hill before changing again in profile to a 1200mm diameter circular concrete pipe c.50 m east of the Hill. It remains a 1200 mm diameter circular concrete pipe as it exits the site and crosses the N11 and onwards to the Priory Stream.*

There is an existing 300mm surface water sewer traversing the Former Blakes and Esmonde Motors site from north to south, which also crosses the Lower Kilmacud Road draining the Dun Laoghaire Rathdown Library site and St. Laurence's Park and connecting same into the storm water culvert traversing the subject site. There are 2 no. 225mm surface water sewers on the Lower Kilmacud Road to the north and a 225mm and 300mm on the N11 to the east which also outfall via the existing 300 mm sewer to the culvert traversing the site.'

'There are a further 2 No. surface water sewers either side of N11 which connect to the culvert east of the subject site.
Surface water run-off from the Former Blakes and Esmonde Motors site currently discharges through a series of on-site private surface water drains and outfalls to the 1200mm storm culvert traversing the site. The runoff from the site is currently unattenuated.
The proposed surface water drainage strategy is to divert both the existing public surface water culvert and the 300 mm surface water traversing the subject to a new location within the site in order to facilitate the proposed development. Please refer to Waterman Moylan drawing No's. 20-071-P120 to P122 for details of surface water diversion and associated wayleaves. Surface water runoff from the development will be attenuated to the equivalent greenfield runoff rate prior to outfalling to the diverted surface water culvert traversing the subject site. There will be 2 No. drainage catchments for the subject site, one north of the diverted culvert and one south of same.
The drainage strategy for the development is to drain all of the building, podium level and internal courtyards through various SUDS measures, into the onsite private surface water drainage system before out falling to the existing storm sewer at a restricted rate. Excess storm water will be stored in attenuation tanks which will be locate within each catchment and which will store storm water for the 1 in 100 year storm event including a 30% allowance for climate change. This is consistent with the drainage strategy approved under the Planning Register Reference: (ABP-300520-17) relating to the application site.'
The drainage drawings are seen in Figure 3 and Figure 4.

Hydrological and Hydrogeological Qualitative Risk Assessment

A Hydrological and Hydrogeological Qualitative Risk Assessment was carried out by AWN Consulting. The report states that '
A conceptual site model (CSM) has been prepared following a desktop review of the site and surrounding environs. Based on this CSM, plausible Source-Pathway-Receptor linkages have been assessed assuming an absence of any measures intended to avoid or reduce harmful effects of the proposed project (i.e., mitigation measures) in place at the proposed development site.

During construction and operation phases there is no direct source pathway linkage between the proposed development site and open waters. There is no direct source pathway linkage between the Proposed Development site and any Natura 2000 sites (i.e. South Dublin Bay SAC/SPA/pNHA). There are indirect source pathway linkages from the proposed development through the stormwater drainage (via Priory Stream) which discharges into the Dublin Bay Natura Site and through the foul sewer which will eventually discharge to the Ringsend WWTP and ultimately discharges to South Dublin Bay SAC/SPA/pNHA. The future development has a peak foul discharge that would equate to 0.058% of the licensed discharge at Ringsend WWTP (peak hydraulic capacity).

Even disregarding the operation of design measures including an attenuation system and petrol interceptors on site, it is concluded that there will be imperceptible impacts from the proposed development to the water bodies due to emissions from the site stormwater drainage infrastructure to the wider drainage network. It should be noted the proposal also includes an attenuation system and petrol interceptors as part of best practice project design, and these features will provide additional filtration from the site to the drainage network.

It is concluded that there are potential pollutant linkages as a result of the construction of the proposed development which could result in a water quality impact which would be capable of having a significant effect on the Natura 2000 sites within Dublin Bay. However, there are no pollutant linkages as a result of the operation of the proposed development which could result in a water quality impact which would be capable of having a significant effect on the Natura 2000 sites within Dublin Bay.

Finally, and in line with good practice, appropriate and effective mitigation measures will be included in the construction design, management of construction programme and during the operational phase of the proposed development. With regard the construction phase, adequate mitigation measures will be incorporated in the Construction Environmental Management Plan (CEMP). These specific measures will provide further protection to the receiving soil and water environments.

Mitigation measures during construction are required at this development to ensure the protection of the Priory Stream and downgradient Natura 2000 sites as such a Natura Impact Statement (NIS) is required. Mitigation measures set out in the NIS & CEMP will be implemented to ensure the protection of receiving watercourses and therefore, the downgradient Natura 2000 sites.

Figure 1. Site outline and location.

Figure 2. Satellite Image of proposed site.

Figure 3. Proposed drainage strategy.

PLAN VIEW
PROPOSED FOUL WATER DRAINAGE LAYOUT – GA PLAN
SCALE 1:500 @A1

Figure 4. Proposed drainage strategy

2. ASSESSMENT METHODOLOGY

2.1 Desk study

A desk study was undertaken to gather and assess ecological data prior to undertaking fieldwork elements. Sources of datasets and information included:

- The National Parks and Wildlife Service
- National Biological Data Centre
- Satellite, aerial and 6" map imagery
- Bing Maps (ArcGIS)

A provisional desk based assessment of the potential species and habitats of conservation importance was carried out which took place in early May 2020 prior to the onsite survey. This was updated in December 2021.

2.2 Field survey

A site visit was carried out on the 26th May 2020 and on the 21st September 2021, during the optimal flora and bat survey seasons. Species and habitat assessments were carried out and habitat types were mapped according to the Fossitt (2000) habitat classification. In addition, more detailed information on the species composition and structure of habitats, conservation value and other data were gathered.

Survey Limitations

Surveys were carried out in site and covered appropriate seasons for flora and bat assessments. In relation to terrestrial mammal assessments the site has undergone significant clearance in the past and all areas were clearly visible. There are no limitations foreseen in relation to mammal assessments.

2.3 Consultation

The National Parks and Wildlife Service (NPWS) were consulted in relation to species and habitats of conservation interest. Data of rare and threatened species were acquired from NPWS. The National Biological Data Centre records were consulted for species of conservation significance.

2.4 Ecological evaluation criteria

Impact Assessment Significance Criteria

This section of the EcIA examines the potential causes of impact that could result in likely significant effects to the species and habitats that occur within the ZOI of the proposed development. These impacts could arise during either the construction or operational phases of the proposed development. The following terms are derived from EPA EIAR Guidance (2017) and are used in the assessment to describe the predicted and potential residual impacts on the ecology by the construction and operation of the proposed development (Table 3).

Table 3. EPA Impact Assessment Significance Criteria

Magnitude of impact and typical descriptions

Magnitude of impact (change)		Typical description
High	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Medium	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.

Magnitude of impact (change)		Typical description
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

Criteria for Establishing Receptor Sensitivity/Importance

Importance	Ecological Valuation
International	Sites, habitats or species protected under international legislation e.g. Habitats and Species Directive. These include, amongst others: SACs, SPAs, Ramsar sites, Biosphere Reserves, including sites proposed for designation, plus undesignated sites that support populations of internationally important species.
National	Sites, habitats or species protected under national legislation e.g. Wildlife Act 1976 and amendments. Sites include designated and proposed NHAs, Statutory Nature Reserves, National Parks, plus areas supporting resident or regularly occurring populations of species of national importance (e.g. 1% national population) protected under the Wildlife Acts, and rare (Red Data List) species.
Regional	Sites, habitats or species which may have regional importance, but which are not protected under legislation (although Local Plans may specifically identify them) e.g. viable areas or populations of Regional Biodiversity Action Plan habitats or species.
Local/County	Areas supporting resident or regularly occurring populations of protected and red data listed-species of county importance (e.g. 1% of county population), Areas containing Annex I habitats not of international/national importance, County important populations of species or habitats identified in county plans, Areas of special amenity or subject to tree protection constraints.
Local	Areas supporting resident or regularly occurring populations of protected and red data listed-species of local importance (e.g. 1% of local population), Undesignated sites or features which enhance or enrich the local area, sites containing viable area or populations of local Biodiversity Plan habitats or species, local Red Data List species etc.
Site	Very low importance and rarity. Ecological feature of no significant value beyond the site boundary

Quality of Potential Impacts on Biodiversity

	Impact Description
Negative /Adverse Impact	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).
Neutral Impact	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Positive Impact	A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).

Significance of Impacts

Significance of Impact	Description of Potential Impact
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound	An impact which obliterates sensitive characteristics.

Duration of Impact

Duration of Impact	Description
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years.
Medium-term	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

Possibility of Impact	Description
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

3) RESULTS

3.1 Proximity to designated conservation sites

Designated conservation sites (National and international) within 15km and 10km respectively of the proposed development are seen in Figures (5-7). It should be noted that the proposed development site is not within a designated conservation area. The closest conservation site is South Dublin Bay and River Tolka Estuary SPA at 1.7km from the proposed development (Figure 6). Internationally designated sites (SAC and SPA) are located at minimum, 1.7 km from the site (Figures 5 & 6). The nearest pNHA (South Dublin Bay pNHA) is 1.7km from the site. The closest RAMSAR Site is Sandymount Strand/Tolka Estuary, 1.7 km from the site. Details of international conservation sites within 15km and pNHA within 10km of the proposed site are seen in Table 3.

Table 3. Conservation sites within 15km (pNHA 10km) of the proposed site.

Name	Distance (km)	Type
South Dublin Bay and River Tolka Estuary	1.7	SPA
South Dublin Bay	1.7	SAC/pNHA
Dalkey Islands	6.8	SPA
North Bull Island	6.9	SPA/RAMSAR
North Dublin Bay	6.9	SAC/pNHA
Rockabill to Dalkey Islands	7.1	SAC
Wicklow Mountains	8.2/8.5	SAC/SPA
Knocksink Wood	8.6	SAC/pNHA
Ballyman Glen	9.3	SAC/pNHA
Howth Head	11.2	SAC
Glenasmole Valley	11.9	SAC/pNHA
Bray Head	12.5	SAC
Howth Head Coast	12.5	SPA
Baldoyle Bay	12.6	SAC/SPA
Irelands Eye	14.9	SPA
Booterstown Marsh & South Dublin Bay	1.7	pNHAs
Fitzsimon's Wood	3.1	pNHA
Dalkey Coastal Zone and Killiney Hill	4.4	pNHA
Dingle Glen	5.4	pNHA
Grand Canal	6.0	pNHA
Loughlinstown Woods	6.9	pNHA
Ballybetagh Bog	7.0	pNHA
Royal Canal	7.3	pNHA
Knocksink Wood	8.7	pNHA
Dodder Valley	8.8	pNHA
Sandymount Strand/Tolka Estuary	1.7	RAMSAR

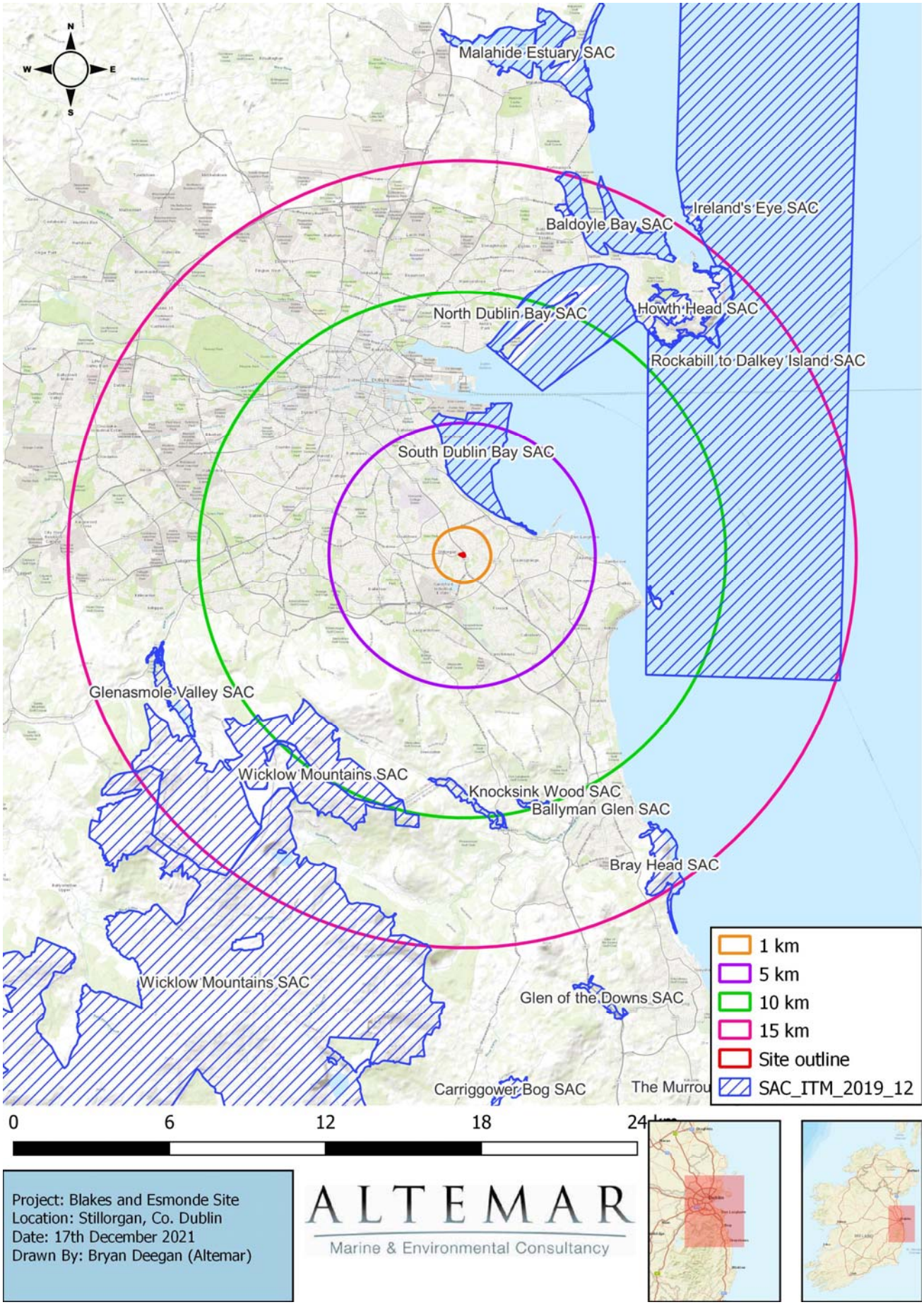

Figure 5. Special Areas of Conservation within 15km of the proposed development.

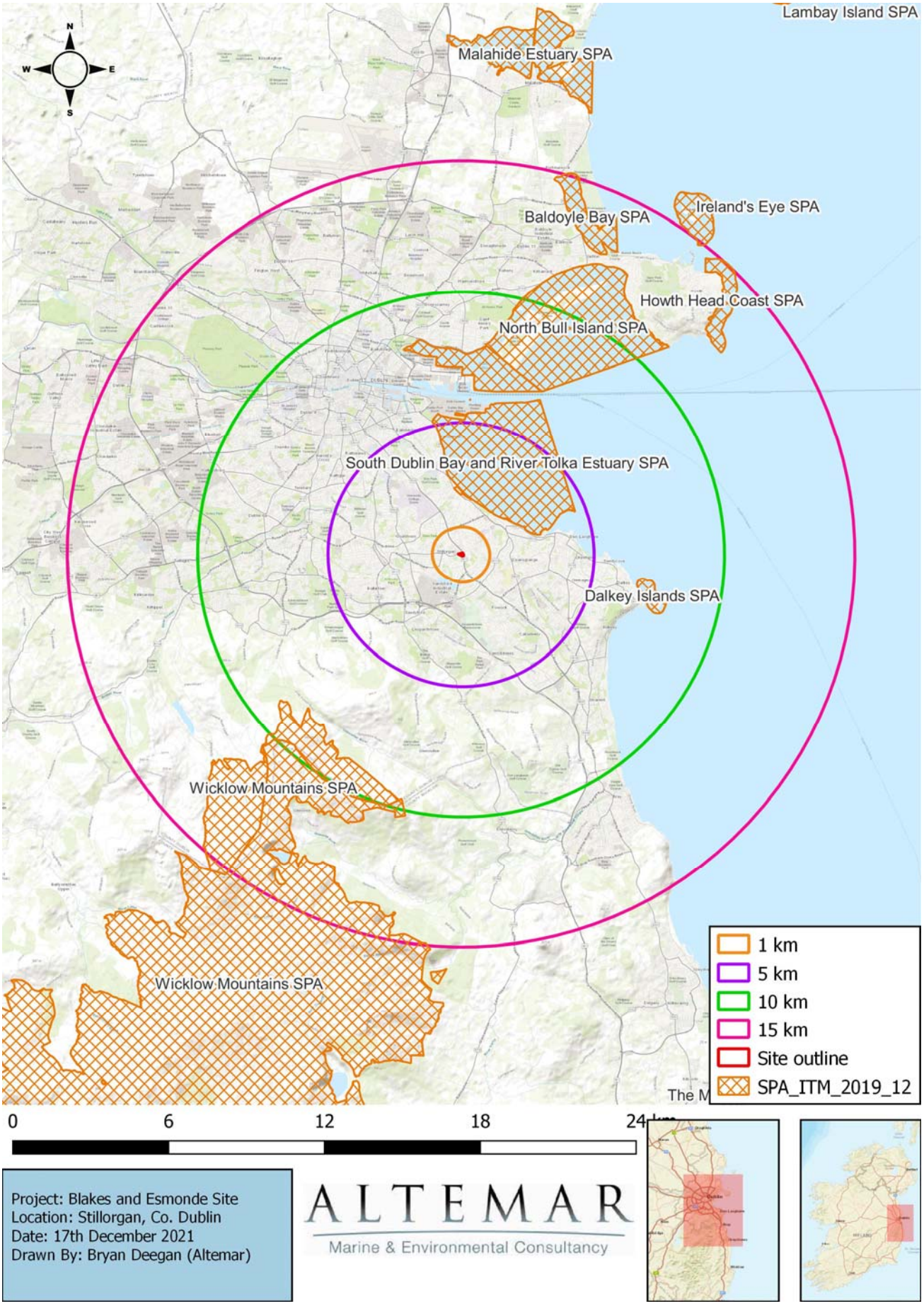

Figure 6. Special Protection Areas within 15km of the proposed development.

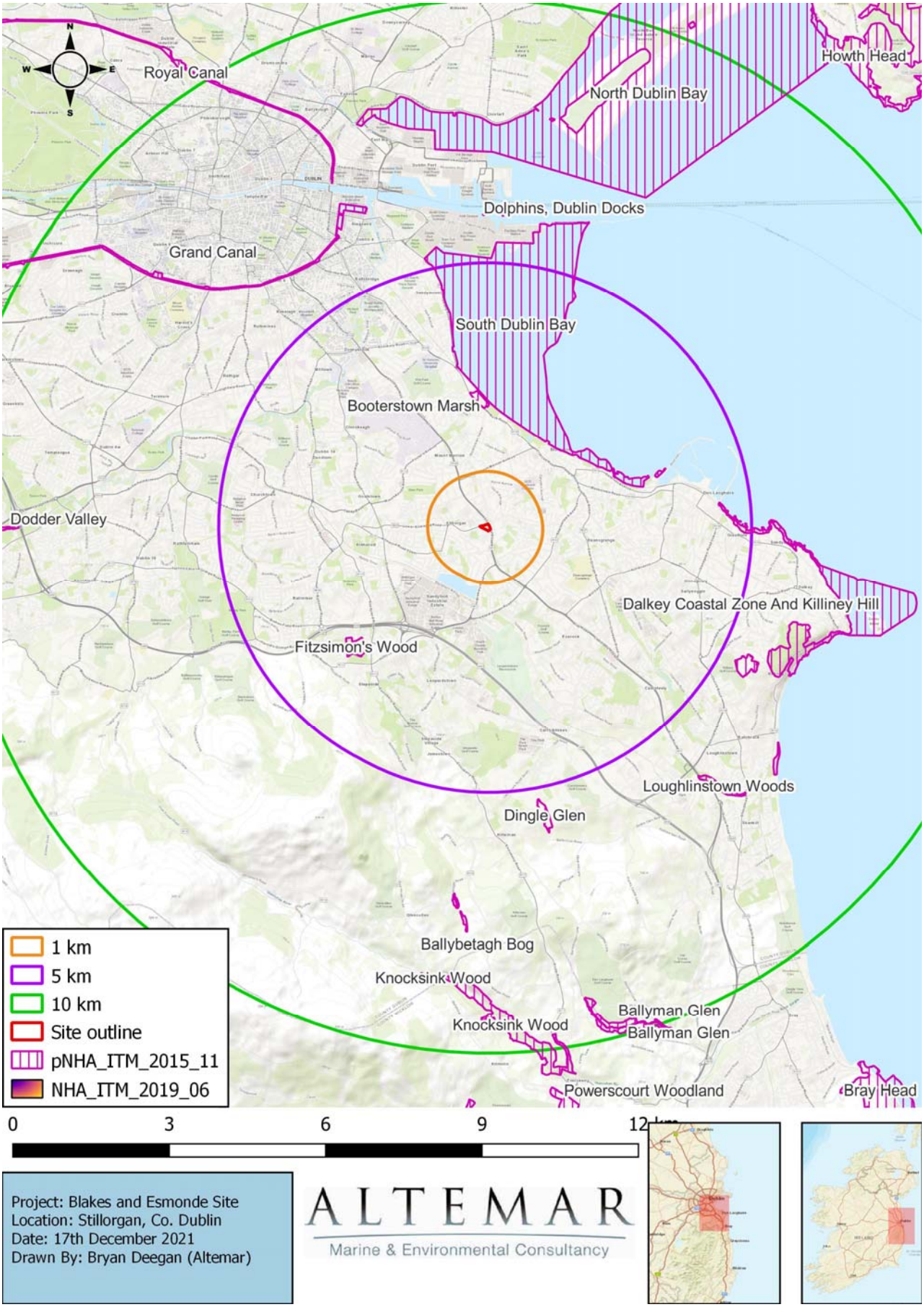

Figure 7. Natural Heritage Areas within 10km of the proposed development.

3.2 Habitats and Species

Habitats within the proposed site were classified according to Fossitt (2000) (Figure 10) based on the September 2021 survey.

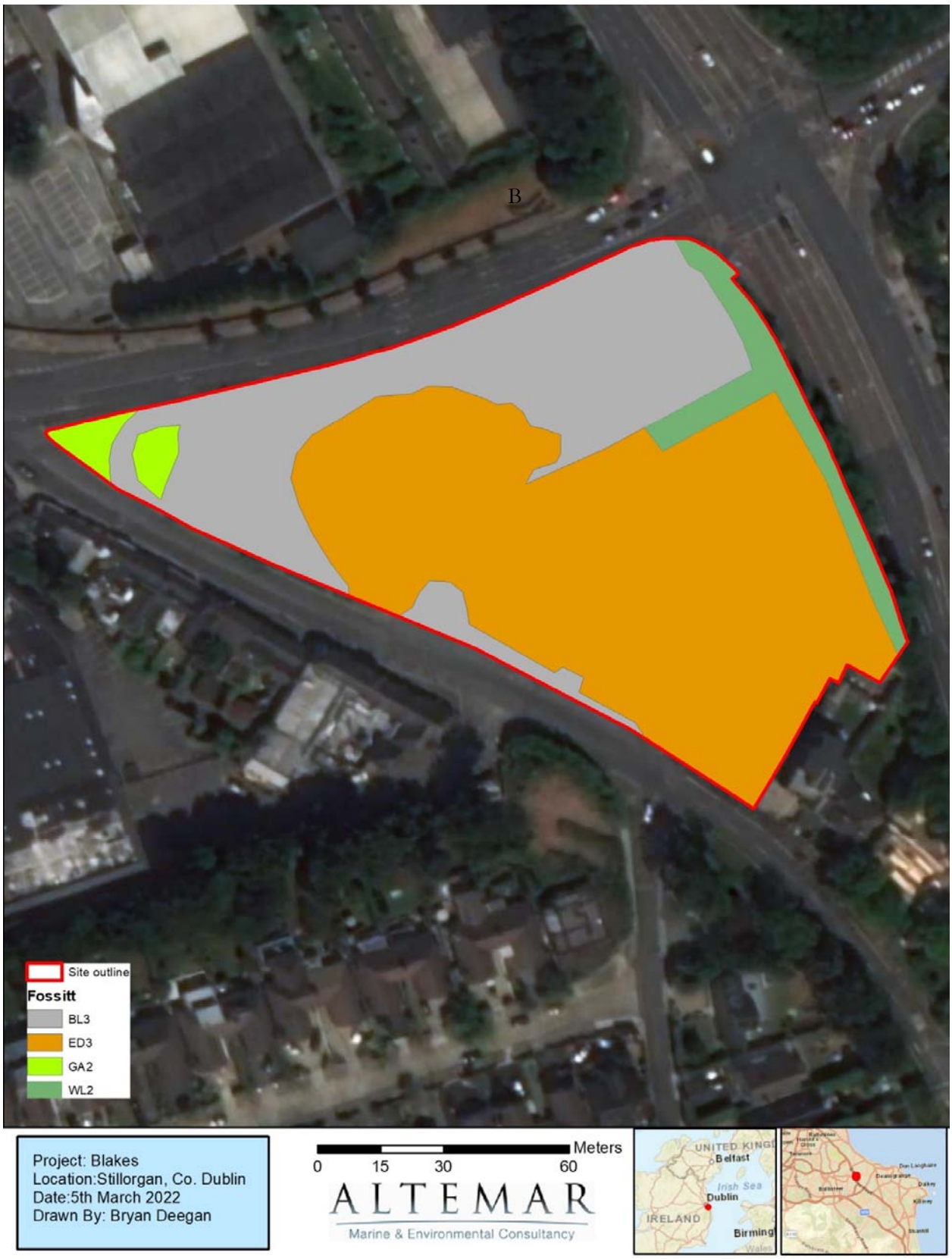

Figure 8. Habitats within the proposed development site classified according to Fossitt (2000).
(Fossitt letters correspond to habitat areas and are detailed in the habitat descriptions and images below.)

BL3-Buildings and Artificial Surfaces

As seen in Figure 10 Buildings and Artificial Surfaces occupy approximately 40% of the site (Plate 2). This area primarily consisted of the old areas of tarmacadam, concrete and brick paving that surrounded Blakes and Esmond motors sites. Species within the BL3 Buildings and artificial Surfaces habitat included red valerian (*Centranthus ruber*), scarlet pimpernel (*Anagallis arvensis*), dandelion (*Taraxacum spp.*), daisy (*Bellis perennis*), docks (*Rumex spp.*), clovers (*Trifolium spp.*), lesser trefoil (*Trifolium dubium*), thistles (*Cirsium arvense, C. vulgare*), nettle (*Urtica dioica*), plantains (*Plantago spp.*), common vetch (*Vicia sativa ssp. Segetalis*) and cat's-ear (*Hypochaeris radicata*). Several trees are noted in this are including Deodar Cedar (*Cedrus deodara*), Sycamore (*Acer pseudoplatanus*) and Elder (*Sambucus nigra*).

Plate 1. Buildings and Artificial Surfaces

ED3-Recolonising Bare Ground

Recolonising bare ground is located where the buildings were previously located the demolition works have taken place. In addition, a bank of earth in the centre of the site where trees have been previously removed. This area has become colonised by plants following the removal of trees. Species within the ED3 habitat included rape (*Brassica napus*), wild carrot (*Daucus carota*), common poppy (*Papaver rhoeas*), red valerian (*Centranthus ruber*), creeping buttercup (*Ranunculus repens*), scarlet pimpernel (*Anagallis arvensis*), dandelion (*Taraxacum spp.*), butterfly-bush (*Buddleja davidii*), daisy (*Bellis perennis*), docks (*Rumex spp.*), clovers (*Trifolium spp.*), hawthorn (*Crataegus monogyna*), lesser trefoil (*Trifolium dubium*) , herb-robert (*Geranium robertianum*), thistles (*Cirsium arvense, C. vulgare*), nettle (*Urtica dioica*), plantains (*Plantago spp.*), common vetch (*Vicia sativa ssp. Segetalis*), sun spurge (*Euphorbia helioscopia*), common fumitory (*Fumaria officinalis*), creeping cinquefoil (*Potentilla reptans*), cat's-ear (*Hypochaeris radicata*), forget-me nots (Myosotis *spp.*),. bramble (*Rubus fruticosus*), hedge bindweed (*Calystegia sepium*), rosebay willowherb (*Chamaenerion angustifolium*), common mallow (*Malva sylvestris*), scrambling roses (*Rosa spp.*), in addition to willows (Salix spp.) and small birches (*Betula* spp.).

Plate 2. Recolonising Bare Ground

WL2- Treelines

A dominant feature of the centre of the site is a low treeline which overhangs slightly into the development area. This treeline includes Norway maple (*Acer platanoides*), Fuchsia (*Fuchsia magellanica*), red valerian (*Centranthus ruber*), cherry laurel (*Prunus laurocerasus*), and maple (Acer) sp.). No trees in this treeline were of bat roosting potential.

Plate 3. Treeline in the centre of the site.

GA2- Amenity Grassland (Improved)
Small areas of amenity grassland was present at just inside the north western edge of the site. This is an area outside the immediate site and is not well maintained. Species within these areas included dandelion (*Taraxacum* spp.), daisy (*Bellis perennis*), docks (Rumex spp.), clovers (*Trifolium* spp.), thistles (*Cirsium arvense, C. vulgare*), nettle (*Urtica dioica*), plantains (*Plantago* spp.) and cat's-ear (*Hypochaeris radicata*).

Plate 1. *GA2 Amenity Grassland.*

WL2- Treeline
There is a treeline along the N11 frontage within the application site. This treeline is dominated by Norway Maple (*Acer platanoides*) with other species including lime *(Tilia europea*), ash (*Fraxinus excelsior*), purple leaved sycamore (*Acer pseudoplatanus purpureum*), bramble (Rubus fruticosus), hedge bindweed (Calystegia sepium), ivy (*Hedera helix*), cleavers (*Galium aparine*) and lords-and-ladies (*Arum maculatum*). In the arborist impact assessment, a significant portion of this area is noted for removal.

Evaluation of Habitats and species
The proposed development site primarily consists of built land and recolonising bare ground with areas of amenity grassland and treelines immediately proximate to the site. There were no watercourses or water features on site. There is a culvert under the site that leads to the Priory Stream. No habitats of conservation importance are noted within or proximate to the proposed development site.

Plant Species
The plant species encountered at the various locations on site are detailed above. No rare or plant species of conservation value were noted during the field assessments. Records of rare and threatened species from NPWS and the National Biodiversity Data Centre were examined. No rare or threatened plant species were recorded in the vicinity of the proposed site. No invasive species were noted on site.

Amphibians
The common frog (*Rana temporaria*) was not observed on site and there are no open watercourses, drainage ditches or streams on site. There is a sealed culvert under the site. Given the lack of open water on site, it would not be expected to be an important frog habitat. However, frogs have been noted within 950m to the south east in 2011 on the far side of the N11.

Terrestrial Mammals
No mammals or signs of terrestrial mammals of conservation importance were noted on site. Records of Hedgehogs have been recorded by NBDC within the 10km square. Based on NPWS data the nearest record of a protected mammal species is a hedgehog which was noted 1km to the south east of the proposed development site in 1972. No hedgehogs were seen during the site visit but may be present.

Bats
Bat surveys were undertaken within the proposed development area, on 26th May 2020 and on the 21st September 2021. The assessment is seen in Appendix I. As outlined in Appendix I "*There is no evidence of a current or past bat roost on site. There are no features that would be expected to form a potential bat roost. The site is already brightly lit and no foraging activity was noted during the site assessments. No negative impacts on these animals are expected to result from the proposed redevelopment.*"

Birds
No rare or bird species of conservation value were noted during the field assessment. Species seen were as follows (Table 4):

Table 4. Bird species noted on site.

Common Name	***Scientific Name***
Wren	*Troglodytes troglodytes*
Robin	*Erithacus rubecula*
Blackbird	*Turdus merula*
Woodpigeon	*Columba palumbus*

The proposed development site is located within 1.7 km of South Dublin Bay and River Tolka SPA, a feeding ground for Brent geese. During high tide Brent geese move inland to feed on open grassy areas such as football pitched and parks. Based on the information provided on the review of ex-situ inland feeding sites in Dublin by Light-bellied Brent (EnviroGuide, 2019) there are no significant wintering bird sites in the vicinity of the proposed development. No Brent geese or other wintering birds were observed on site. The site is a brownfield site, proximate to a dual carriageway and primarily consists of built land and recolonising bare ground and would not be a foraging area suitable for wintering birds.

4 ANALYSIS OF THE POTENTIAL IMPACTS

Introduction

The proposed development will involve the removal of the majority of existing habitats on site and boundaries. It is important to note that there is potential for impact on eastern boundary with the N11, (Figure 2). Some of the trees in this area has been noted for removal in the Arboricultural Impact Assessment within the redline application site.

Direct Impacts

The overall development of the site is likely to have direct negative impacts upon the existing habitats, fauna and flora within the site (Table 5). Direct negative effects will be manifested in terms of the removal of the recolonising bare ground and build land habitat in addition to some of the treeline along the N11 frontage. The removal of treelines will result in a loss of potential nesting sites for garden bird species. As outlined in the arborist report 'The tree loss breakdown for the proposed development will be-

- 4 Category "B" items
- 9 category "C" items
- 6 category "U" items

In addition to tree losses, the development will require the removal of substantial areas of shrubbery' During construction of the site, including the excavation of the basement element which will involve a substantial excavation, the project has the potential for noise, dust, light and surface water impacts if left unmitigated. It should be noted that the surface water sewer within the site drains ultimately to the Priory Stream.

In addition, as outlined in the AWN consulting Hydrological and Hydrogeological Qualitative Risk Assessment Report "*A review of source pathway linkages concludes that the impact of storm water run-off and foul effluent from the proposed development will not result in any change to the current regime (water quality or quantity) in any of the Dublin Bay Natura 2000 Sites.*

Finally, mitigation measures have been included in the construction design, management of construction programme and during operation of the proposed development. These specific measures will provide further protection to the receiving soil and water environments. However, the protection of downstream European sites is in no way reliant on these measures."

The NIS that accompanies this EcIA concludes that *'Mitigation measures will be in place to ensure there are no significant impacts on the Priory Stream that leads to conservation sites. A project ecologist will be appointed to oversee works in relation to the enabling works and the implementation of mitigation measures as outlined on site. The implementation of mitigation measures outlined, which will be followed and will be sufficient to prevent adverse effects on the integrity of European sites. Following the implementation of the mitigation measures outlined, the construction and presence of this development would not be deemed to have a significant impact on the integrity of European sites.'*"

Once developed, the site would be seen as a stable ecological environment. It would be expected that there will be no significant ecological impact arising from the day to day operation of the proposed. Development including arising from bird/bat collision.

Indirect Impacts

Soil removed from the site during ground works would also have to comply with DLR policies and would need to be disposed of in an appropriate manner. As outlined in the Hydrological and Hydrogeological Qualitative Risk Assessment 'Site investigation has indicated contaminated soils in the vicinity of the former car dealership and petrol filling station. The contractor has planned removal of any contaminated soil to a licenced disposal site by a licenced waste contractor. As such the proposed development will reduce the potential for impact of any residual contamination to receiving waters.' The construction of new drainage networks will have to comply with SUDS requirements and as a result would have negligible impact on habitats and species surrounding proposed development site. The upgrading of drainage on site in compliance with current legislation and policies would be seen as a positive for the Priory Stream.

Avoidance and Remedial Measures

Mitigation by Avoidance

Direct negative impacts upon the existing vegetation and built land within the site are not regarded as being significant due to the absence of species of conservation importance and as a result do not require mitigation. However, relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) in relation to the removal of trees and timing of nesting birds needs to be followed e.g. do not remove trees or shrubs during the nesting season (1st March to 31st August).

Mitigation measures are outlined in Table 6. Sufficient consultation should take place with an arborist during site clearance to ensure that the trees to be retained will not be impacted negatively.

Mitigation by Remedy

As outlined in table 6, materials excavated for basement levels will have to be exported off-site. Dewatering of excavations will be necessary. Appropriate monitoring of groundwater levels during site works should be undertaken. In order to prevent "downstream impacts" appropriate mitigation measures should be developed including filtering of excess water for suspended solids prior to discharge. As the surface water network is an indirect pathway to downstream conservation sites the surface water discharged during construction will be discharged to the public foul sewer network during enabling and construction works.

Cumulative Impacts

The Stillorgan Local Area Plan (LAP) 2018-2024 was reviewed and it is considered that the proposed project is in line with the objectives of the LAP. A search of the www.Myplan.ie online planning was carried out. The site is located near the centre of Stillorgan and Stillorgan Shopping Centre. Numerous applications have been granted for small scale alterations to premises and houses in the vicinity. Construction is currently underway for the SHD development (ABP30517619) at the Stillorgan Leisureplex proximate to the site. The development will consist of "a 'Build-To-Rent' strategic housing development. consisting of: Demolition of existing buildings on site consisting of the Stillorgan Leisureplex and associated structures; Construction of a mixed-use development generally ranging in height from 4 no. storeys to 8 no. storeys from street level, stepping down to 2 no. storeys in part to the Lower Kilmacud Road. Two basement levels are proposed; The development will have a total of 232 no. Build-To-Rent apartment units, (109 no. 2 bedroom units, 113 no. 1 bedroom units and 10 no. studio units) with associated balconies and terraces; The development will provide for 2 no. retail (shop) units (c. 1049 sq.m.) and 4 no. restaurant/ café units (c. 806 sq.m.); Provision of a public plaza (827 sq.m.) onto the corner of the Lower Kilmacud Road and the Old Dublin Road; Public Realm improvements including footpaths, parking, loading bays and landscaping works to the Lower Kilmacud Road, Old Dublin Road and St. Laurence's Park; The proposed development will also include the provision of communal and private open space including courtyard areas, terraces and balconies and roof terraces and the provision of tenant amenity space (c. 1021 sq.m) including resident lounge area, communal kitchen and dining, co-working space, cinema, gym and concierge service; Parking at basement levels for 162 cars, 458 bicycles and 10 motorcycles; 60 no. bicycle parking spaces will be provided at ground level; Vehicular access to the basements is from the Lower Kilmacud Road and St. Laurence's Park; All hard and soft landscaping, boundary treatments and all associated site development works and services and plant."

It is noted at St. Laurence's Park, Stillorgan, Co. Dublin a Dun Laoghaire Rathdown Part VIII Development (PC/H/01/20) (4-9 storeys) relates to the construction a new Public Library and Housing, consisting of: *2 storey library building with gross area of 1,010 square metres; 88 apartments (76 no. 1 bed, 11 no. 2 bed, including 4 no. duplex and 1 no.3 bed units), comprising of 7,619 square meters of internal accommodation ranging from 4 to 9 storeys. Landscaping works to provide a communal garden space and allow for 40 car parking spaces, 2 motorcycle parking spaces and 157 bicycle parking spaces. The proposed works include the demolition of 16 no. Maisonettes, 2 no. semi-detached houses and removal of prefabricated Library building.*

Other planning applications in the vicinity of the proposed project are small scale projects involving individual houses and small scale developments.

In addition, based on the findings of the AWN consulting Hydrological and Hydrogeological Qualitative Risk Assessment Report where it was stated that *'The assessment of the current proposal has also*

considered the effect of cumulative events, such as release of sediment laden water combined with a hydrocarbon leak on site. As there is adequate assimilation and dilution between the site and the Natura sites (South Dublin Bay), it is concluded that no perceptible impact on water quality would occur at the Natura sites as a result of the construction or operation of this proposed development. It can also be concluded that the cumulative or in-combination effects of effluent arising from the proposed development with that of other permitted proposed developments, or with development planned pursuant to statutory plans in the greater Dublin, Meath and Kildare areas, which will be discharged into Ringsend WWTP will not be significant having regard to the size of the calculated discharge from the proposed development and having regard to the following:

• Recent water quality assessment for Irish Sea Dublin and Dublin Bay shows that they currently continue to meet the criteria for 'Unpolluted' water quality status (EPA, 2022).

• The Ringsend WWTP upgrade which is currently being constructed will result in improved water quality by Q4 2023 to ensure compliance with Water Framework Directive requirements.

• All new developments are required to comply with SuDS which ensures management of run-off rate within the catchment of Ringsend WWTP.

• The natural characteristics of Dublin Bay result in enriched water rapidly mixing and degrading such that the plume has no appreciable effect on water quality at Natura sites.

It should be noted that the bathing status has no direct relevance to the water quality status of the Natura sites due to rapid mixing and dilution resulting in no measurable change in water quality within the overall water body.

Finally, in a worst-case scenario not considering the operation of the SuDS and interceptor already included in the design, no perceptible risk to any Natura Sites 2000 is anticipated given the distance from source to Dublin Bay protected areas (c. 1.70 km). Potential contaminant loading will be attenuated diluted and dispersed near source area.

The 'Poor' bathing water status (issued by the EPA) for Merrion Strand will be unchanged by the proposed development at Stillorgan. The existing and proposed foul and storm sewers are 'separate' in compliance with the Building Regulations and Dublin City Councils 'Regional Code of Practice for Drainage works and Irish Waters Code of Practice for Wastewater Infrastructure'. As such, there is no potential for sewage-laden water from the proposed development to enter the local stormwater network ultimately discharging to the bathing area.

In addition, there is no long-term discharge planned which could have an impact on the status of the water body. In the scenario of an accidental release (unmitigated leaks mentioned above) there is potential for a temporary impact only which would not be of a sufficient magnitude to effect a change in the current water body status.'

No cumulative impacts are foreseen.

Table 5a. Construction Impacts on habitats

Habitat	Fossitt	Habitats Directive	Rating	Construction Impact	Impact Significance
Recolonising Bare Ground	ED3		E	Construction will result in the direct removal of this habitat.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.
Buildings and artificial surfaces	BL3		E	Construction will result in the partial removal of this habitat. No buildings are noted on site.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.
Amenity grassland (improved)	GA2		E	Construction will result in the complete removal of this habitat.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.
Treelines	WL2		D	An arborist has been consulted in relation to the condition and safe distances from which construction works can take place including the basement excavation. Some treelines will be removed. Short term disturbance may occur of bird species particularly during removal of the treelines, ground clearance and soil removal operations.	Medium Adverse/Site /Negative/Not Significant/Medium term/likely.

Table 5b. Construction Impacts on species

Species	Rating	Construction Impact	Impact Significance
Mammal-Bats	A	No potential roosts are on site. Foraging activity was not observed. Lighting levels are already elevated on site. The site is not of importance to bat species.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.
Mammals-Terrestrial	A-D	No terrestrial mammals of conservation importance were noted on site.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.
Birds	D	Clearance of the site will result in the short term loss of a nesting habitat in an area of significant disturbance beside the N11.	Medium Adverse/Site /Negative/Not Significant/Medium term/likely.
Amphibians-Frogs	B	No watercourses or pond features were noted on site.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.
Terrestrial Flora	-	No flora of conservation significance were found on the site.	Negligible Adverse/Site /Neutral/Not Significant/Permanent/likely.

Table 6. Sensitive Receptors/Impacts and mitigation measures.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Priory Stream/Dublin Bay/South Dublin Bay SAC/South Dublin Bay and River Tolka SPA.	• Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Damage to intertidal • Negative impacts on aquatic flora and fauna	*Mitigation Measures to Prevent Impacts on the Priory Stream and the South Dublin Bay SAC and South Dublin Bay and River Tolka Estuary SPA* *Construction* *A project ecologist will be appointed to oversee works and in particular oversee drainage from the site.* *As outlined in the CMP these mitigation measures include:* *"10.3 Site Control Measures* *The designated and operational on-site control measures, which will be established and maintained at this site, will include:* *• Designated hard routes through site;* *• Each departing vehicle to be checked by banksman;* *• Wheel wash facility at egress point;* *• Provision and facilities to cover lorry contents as necessary;* *• Controlled loading of excavated material to minimise risk of spillage of contents;* *• Spraying/damping down of excavated material on site by dedicated crews;* *• Use of known routes for lorries to monitor impact on local area; and* *• Facility to clean local roads if mud or spillage occurs.* *10.4 Control of Dirt and Dust* *The main consideration will be to combat dirt and dust at source so as not to let it adversely affect the surrounding areas. The objective will be to contain any dirt or dust within the site, which is large enough for comprehensive control measures.* *The main problems, which may arise during the early part of construction, will be controlled by the measures described above and by the following measures:* • *The use of hardcore access route to work front;* • *A regime of 'wet' road sweeping can be set up to ensure the roads around the immediate site are as clean and free from dirt / dust arising from the site, as is reasonably practicable. This cleaningwill be carried out by approved mechanical sweepers.* • *Footpaths immediately around the site can be cleaned by hand regularly, with damping as* • *necessary.* • *High level walkways and surfaces such as scaffolding can be cleaned regularly using safe 'wet'* • *methods, as opposed to dry methods.*

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• *Vehicle waiting areas or hard standings can be regularly inspected and kept clean by brushing or vacuum sweeping and will be regularly sprayed to keep moist, if necessary.* • *Vehicle and wheel washing facilities can be provided at site exit(s) where practicable. If necessary vehicles can be washed down before exiting the site.* • *Netting can be provided to enclose scaffolding in order to mitigate escape of air borne dust from the demolition.* *Vehicles and equipment shall not emit black smoke from exhaust system, except during ignition at start up.* • *Engines and exhaust systems should be maintained so that exhaust emissions do not breach stationary emission limits set for the vehicle / equipment type and mode of operation.* • *Servicing of vehicles and plant should be carried out regularly, rather than just following breakdowns.* • *Internal combustion plant should not be left running unnecessarily.* • *Exhaust direction and heights should be such as not to disturb dust on the ground and to ensure adequate local dispersal of emissions.* • *Where possible fixed plant such as generators should be located away from residential areas.* • *The number of handling operations for materials will be kept to a minimum in order to ensure that* • *dusty material is not moved or handled unnecessarily.* • *The transport of dusty materials and aggregates should be carried out using covered / sheeted lorries.* • *Material handling areas should be clean, tidy and free from dust.* • *Vehicle loading should be dampened down and drop heights for material to be kept to a minimum.* • *Drop heights for chutes / skips should be kept to a minimum.* • *Dust dispersal over the site boundary should be minimised using static sprinklers or other watering methods as necessary.* • *Stockpiles of materials should be kept to a minimum and if necessary, they should be kept away from sensitive receptors such as residential areas etc.* • *Stockpiles were necessary, should be sheeted or watered down.* • *Methods and equipment should be in place for immediate clean-up of spillages of dusty material.* • *No burning of materials will be permitted on site.* • *Earthworks excavations should be kept damp where necessary and where reasonably practicable.* • *Cutting on site should be avoided where possible by using pre-fabrication methods to facilitate any temporary works that may be required to enable the demolition.* • *Equipment and techniques for cutting / grinding / drilling / sawing etc, which minimise dust emissions and which have the best available dust suppression measures, should be employed.* • *Prior to commencement, the main contractor should identify the demolition operations which are likely to generate dust and to draw up action plans to minimise emissions, utilising the methods highlighted above. Furthermore, the main contractor should prepare environmental risk assessments for all dust generating processes, which are envisaged.* • *The main contractor should allocate suitably qualified personnel to be responsible for ensuring* • *the generation of dust is minimised and effectively controlled.*

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		Demolition works to incorporate water spray to reduce dust. *10.5 Water* *The excavations for the basement, drainage pipes, water supply, utilities and foundations are anticipated to impact the ground water in the site. The contractor shall develop an appropriate dewatering scheme to keep the basement/excavations free from water and ensure the quality of water leaving site is high. During any discharge of surface water from the basement/excavations, the quality of the water will be improved through the provision of settlement tanks and will be regularly monitored visually for hydrocarbon sheen and suspended solids. Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of Dun Laoghaire-Rathdown County Council before discharge to the surrounding drainage network.Appropriate discharge licenses will be acquired from Dun Laoghaire-Rathdown County Council in respect of discharges from dewatering operations.* ***Operational Mitigation*** *Mitigation measures will be in place to ensure discharges from the site during standard operation and within potential flooding events to ensure that discharges from the site will comply with Water Pollution Acts.*
Birds	• injury/death	Any felling/removal of woody vegetation will be outside bird nesting season (March-August inclusive).

RESIDUAL IMPACTS AND CONCLUSION

Construction on this site will create localised light and noise disturbance with potential downstream impacts on the Priory Stream in the absence of standard construction mitigation. Surface water discharge from site will be developed in accordance with the requirements of the Drainage Division as set out in the Greater Dublin Strategic Drainage Study's 'Technical Document on New Development' with regard to SUDS, DLR conditions and Water Pollution Acts. Following the implementation of the measures outlined, the construction and presence of this development would not be deemed to have a significant impact on biodiversity and designated sites.

The implementation of standard construction phase mitigation measures, outlined above will be followed and will be sufficient to prevent adverse effects on the Priory Stream and biodiversity. Post mitigation, no significant ecological impacts would be foreseen outside the immediate vicinity of the proposed development. Impacts within the site would be considerable due to the removal of the majority existing habitats. But, due to the fact that the site is poor in species diversity and no species of conservation importance were found these impacts would be limited and localised.

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ALTEMAR
Marine & Environmental Consultancy

Bat fauna impact assessment for the proposed development of the Blakes and Esmonde Motors Site at Stillorgan, Co. Dublin.

7th October 2021

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Cairn Homes Properties Limited.

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Document Control Sheet			
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Project No:		Document Reference: BACH-2101	
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Draft 01	Bryan Deegan	Sara Corcoran	7th October 2021
Draft 02			

SUMMARY

Structure:	No structures on site. The site is a previously cleared brownfield site with immature treelines on the eastern boundary with the N11.
Location:	Blakes and Esmonde Motors Site at Stillorgan, Co. Dublin.
Bat species present:	None Roosting. A single Soprano Pipistrelle was noted transiting through the site. No foraging activity was noted.
Proposed work:	Redevelopment of a brownfield site.
Impact on bats:	None. The site is already a brightly lit with few features or opportunities for bat species.
Survey by:	Bryan Deegan MCIEEM
Survey date:	26th May 2020 & 21st September 2021

INTRODUCTION

Altemar Limited was requested by Cairn Homes to carry out a bat survey of the proposed development site at the Blakes Site Stillorgan, Co. Dublin. The project relates to a proposed redevelopment of the former Blakes Restaurant site and the former Esmonde Motors Site in Stillorgan Co. Dublin.

Bat survey

This report presents the results of site visit by Bryan Deegan (MCIEEM) on the 26th May 2020 and 21st September 2021 during which all of the trees were inspected for signs of bat use or presence. Bat emergent surveys were also carried out after sunset. No buildings are present on site.

LEGAL STATUS AND CONSERVATION ISSUES – BATS

All Irish bat species are protected under the Wildlife Act (1976) and Wildlife Amendment Acts (2000 and 2010). Also, the EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive 1992), seeks to protect rare species, including bats, and their habitats and requires that appropriate monitoring of populations be undertaken. All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat *Rhinolophus hipposideros* is further listed under Annex II. Across Europe, they are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries. The Irish government has ratified both these conventions.

All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat is further listed under Annex II.

The current status and legal protection of the known bat species occurring in Ireland is given in the following table.

Common and scientific name	Wildlife Act 1976 & Wildlife (Amendment) Acts 2000/2010	Irish Red List status	Habitats Directive	Bern & Bonn Conventions
Common pipistrelle *Pipistrellus pipistrellus*	Yes	Least Concern	Annex IV	Appendix II
Soprano pipistrelle *P. pygmaeus*	Yes	Least Concern	Annex IV	Appendix II
Nathusius pipistrelle *P. nathusii*	Yes	Not referenced	Annex IV	Appendix II
Leisler's bat *Nyctalus leisleri*	Yes	Near Threatened	Annex IV	Appendix II
Brown long-eared bat *Plecotus auritus*	Yes	Least Concern	Annex IV	Appendix II
Lesser horseshoe bat *Rhinolophus hipposideros*	Yes	Least Concern	Annex II Annex IV	Appendix II
Daubenton's bat *Myotis daubentonii*	Yes	Least Concern	Annex IV	Appendix II
Natterer's bat *M. nattereri*	Yes	Least Concern	Annex IV	Appendix II
Whiskered bat *M. mystacinus*	Yes	Least Concern	Annex IV	Appendix II
Brandt's bat *M. brandtii*	Yes	Data Deficient	Annex IV	Appendix II

Also, under existing legislation, the destruction, alteration or evacuation of a known bat roost is a notifiable action and a derogation licence has to be obtained from the *National Parks and Wildlife Service* before works can commence. It should also be noted that any works interfering with bats and especially their roosts, including for instance, the installation of lighting in the vicinity of the latter, may only be carried out under a licence to derogate from Regulation 23 of the Habitats Regulations 1997, (which transposed the EU Habitats Directive into Irish law) issued by NPWS. The details with regards to appropriate assessments, the strict parameters within which derogation licences may be issued and the procedures by which and the order in relation to the planning and development regulations such licences should be obtained, are set out in Circular Letter NPWS 2/07 "*Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 - strict protection of certain species/applications for derogation licences*" issued on behalf of the Minister of the Environment, Heritage and Local Government on the 16th of May 2007. Furthermore, on 21st September 2011, the Irish Government published the European Communities (Birds and Natural Habitats) Regulations 2011 which include the protection of the Irish bat fauna and further outline derogation licensing requirements re: European Protected Species.

Figure 1: Site outline. Buildings have been removed and site cleared since imagery was taken (Yellow: single soprano pipistrelle transiting route in 2020)

Survey methodology

Survey of bat fauna was carried out by means of using a powerful torch (320 Lumens) – Led Lenser *H14.2 Head Torch* to inspect trees within and proximate to the site. The presence of bats is assessed with reference to their signs; principally staining, droppings, feeding signs such as invertebrate prey remains and the presence of bat fly *Nycteribiidae* pupae, although direct observations are also occasionally made. The nature and type of habitats present onsite are also indicative of the species likely to be present.

At dusk, a bat detector survey was carried out onsite using a *Batbox Duet* heterodyne/frequency division detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations.

Survey constraints

The detector surveys were undertaken during the active bat season on the 26th May 2020 and 21st September 2021. Weather conditions were good with mild temperatures >10oC after sunset. Winds were light and there was no rainfall.

Description of the site from the perspective of bat habitat

No buildings are present on site. The site is brightly lit from streetlighting on all sides. The majority of on site vegetation has been cleared. Treelines are proximate to the site to the north and east. The treeline to the north is a small immature treeline that has no bat roosting opportunities. Similarly, another brightly lit immature treeline is located between the site and the N11. This is also relatively immature with no roosting opportunities. There are no areas on site what would form roosting opportunities or dimly lit treelines that would encourage bat foraging activity.

BAT ASSESSMENT FINDINGS

Review of local bat records

The review of existing bat records (sourced from *Bat Conservation Ireland's* National Bat Records Database) within a 1km radius of the study area reveals that none of the nine known Irish species have been observed locally. A data search of the National Biodiversity Data Centre online data revealed five (or possibly six) bat species within the 10km grid (O22). These were Brown Long-eared Bat (*Plecotus auritus*), Daubenton's Bat (*Myotis daubentoni*i), Lesser Noctule (*Nyctalus leisleri*), Natterer's Bat (*Myotis nattereri*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*)(combined species), Soprano Pipistrelle (*Pipistrellus pygmaeus*).

Detector survey

All parts of the site are brightly lit from streetlighting while the rear of the treeline beside the N11 is slightly darker. A single (Soprano pipistrelle) was detected transiting the site. This was a single pass. No bats were detected emerging from any of the nearby structures or trees.

Plate 1. Treeline between the site and the N11.

POTENTIAL IMPACTS OF PROPOSED REDEVELOPMENT ON BATS

There are no buildings or trees on site that would form potential roosting sites for bats. No roosts or bats emerging from the nearby buildings or trees were observed. The trees on site have no features that would act as potential roosting areas.

MITIGATION MEASURES

As no evidence of a bat roost was noted in any of the onsite or nearby structures, no mitigation measures in regard to these animals are needed during the proposed works. There is also no requirement for a *National Parks and Wildlife Service* derogation licence to allow the planned works. Mitigation measures are not required.

IMPACT OF THE PROPOSAL

There is no evidence of a current or past bat roost on site. There are no features that would be expected to form a potential bat roost. The site is already brightly lit and no foraging activity was noted during the site assessments. No negative impacts on these animals are expected to result from the proposed redevelopment.

The proposed development is within a built-up area with existing lighting. The likelihood of bat collision is not significant as the materials proposed for the apartment blocks are generally solid and would have good acoustic properties to reflect echolocation signals. As a result the buildings would be clearly visible to bat species. The impact of the proposed development on bats will be negligible in the short and long term.

REFERENCES

Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982
Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979
EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992
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