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Marine & Environmental Consultancy

Ecological Impact Assessment (EcIA) for a development at Kilgobbin Road, Stepaside, Dublin 18.

22nd September 2025

Prepared by: Luke Dodebier (BSc) of Altemar Ltd.
On behalf of: Kilgobbin Apartments Limited.

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Document Control Sheet			
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Project	Ecological Impact Assessment (EcIA) for a development at Kilgobbin Road, Stepaside, Dublin 18.		
Report	Ecological Impact Assessment		
Date	22nd September 2025		
Version	Author	Reviewed	Date
Draft 01	Luke Dodebier	Bryan Deegan	22nd September 2025

Contents

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 Kilgobbin Apartments Limited. The project relates to a development at Kilgobbin Road, Stepaside, Dublin 18.

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.

The following guidelines have been used in preparation of this EcIA:

- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002);
- Guidelines on the information to be contained in EIARs (EPA,2022);
- Guidelines for Ecological Impact Assessment (EcIA) (IEEM, 2019);
- Advice Notes on current practice in the preparation of EIS's (EPA, 2003);
- Institute of Ecology and Environmental Management Guidelines for EIA (IEEM, 2005).

Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments.

This report has been prepared by Luke Dodebier (Altemar). Luke holds a BSc (Hons.) in Wildlife Biology and has 4 years' experience in ecological consultancy. Luke has worked on a large variety of projects from large scale renewable projects to small scale residential projects and seen them to completion. Luke is a skilled terrestrial ecologist experienced in Bird, mammal and flora surveying as well as associated reporting in AA, NIS and EcIA.

Bryan Deegan is the managing director of Altemar. Bryan is an environmental scientist and marine biologist with 31 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. 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).

Project Description

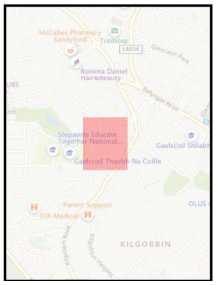
The proposed Large-Scale Residential Development (LRD) will provide 120 no. apartment units within 2 no. blocks ranging in height from 4- to 6-storeys. The development will consist of; Block A, consisting of 44 no. units (27 no. 1 bed (2-person), 13 no. 2 bed (3-persons), 1 no. 2 bed (4-persons) and 3 no. 3 bed (5-persons) of 4- to 5-storeys height and of Block B, consisting of 76 no. units (40 no. 1 bed (2-persons), 12 no. 2 bed (3-persons), 16 no. 2 bed (4-persons) and 8 no. 3 bed (4-persons) of 5- to 6-storeys height.

The proposed development will provide all associated public open space and play area, 54 no. car parking spaces including accessible parking and Electric Vehicle parking, 273 no. bicycle parking spaces, 3 no. motorcycle parking spaces, bin/waste store and a plant room at ground floor level, 1 no. detached ESB substation and 1 no. detached bicycle store for Block A residents. The proposed development will also provide for all associated site development and infrastructural works including foul and surface water drainage, roads, footpaths, landscaping, boundary treatment and a pedestrian and cycling pathway connecting Belarmine Vale and Kilgobbin Road. Vehicular access to the development will be via Belarmine Vale.

The proposed site outline, site location and proposed site plans are demonstrated in Figures 1-11

Landscape

The landscape strategy for the proposed development has been prepared by Studio Glasu. The proposed landscape masterplan is demonstrated in Figure 8.



Project: Kilgobbin Road
Location: Stepaside, Co. Dublin
Date: 20th August 2025
Drawn By: Gayle O'Farrell (Altemar)

ALTEMAR
Marine & Environmental Consultancy

***Figure 1**. site outline.*

***Figure 2**. Site location*

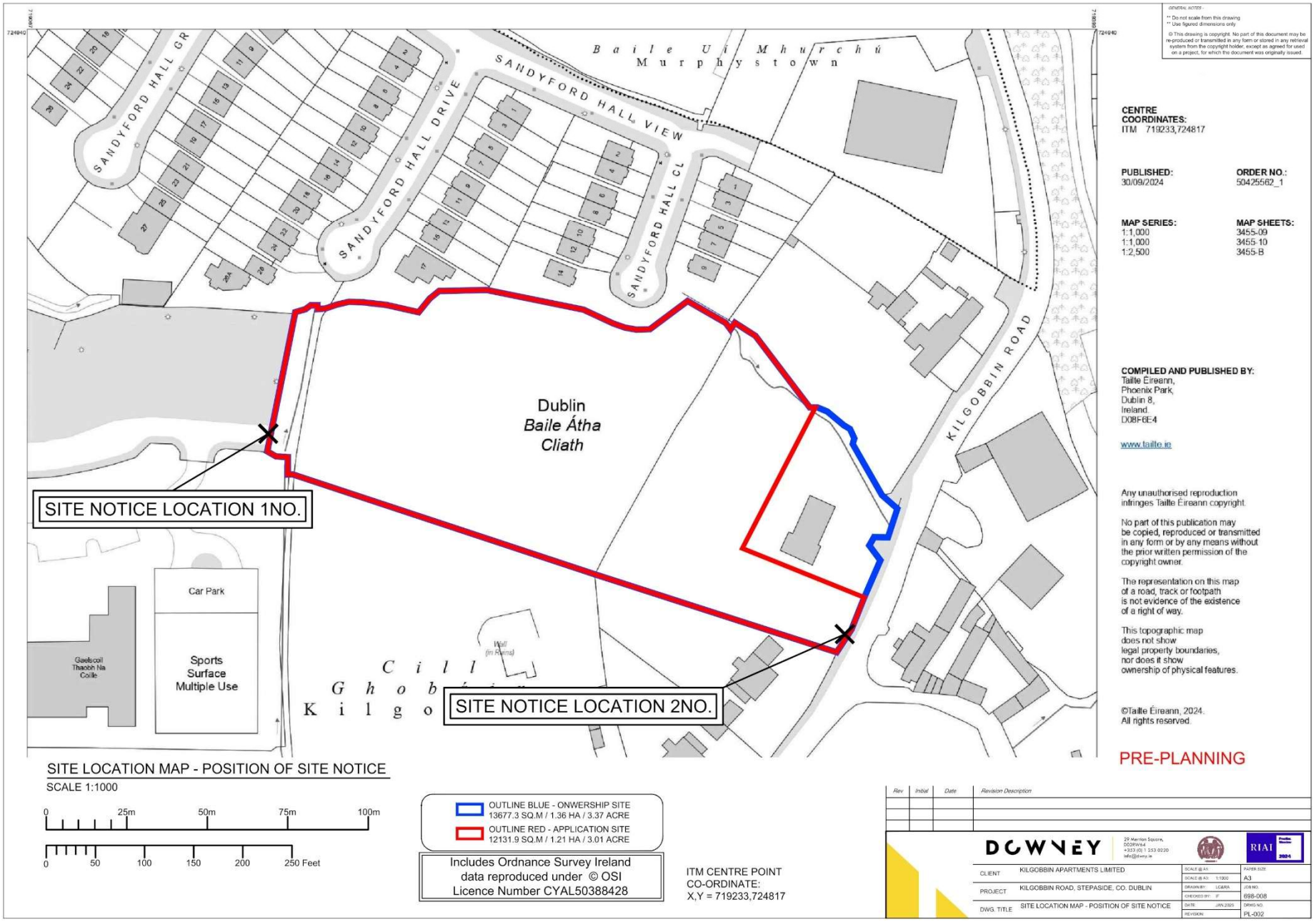


Figure 3. *Site notice location location map*

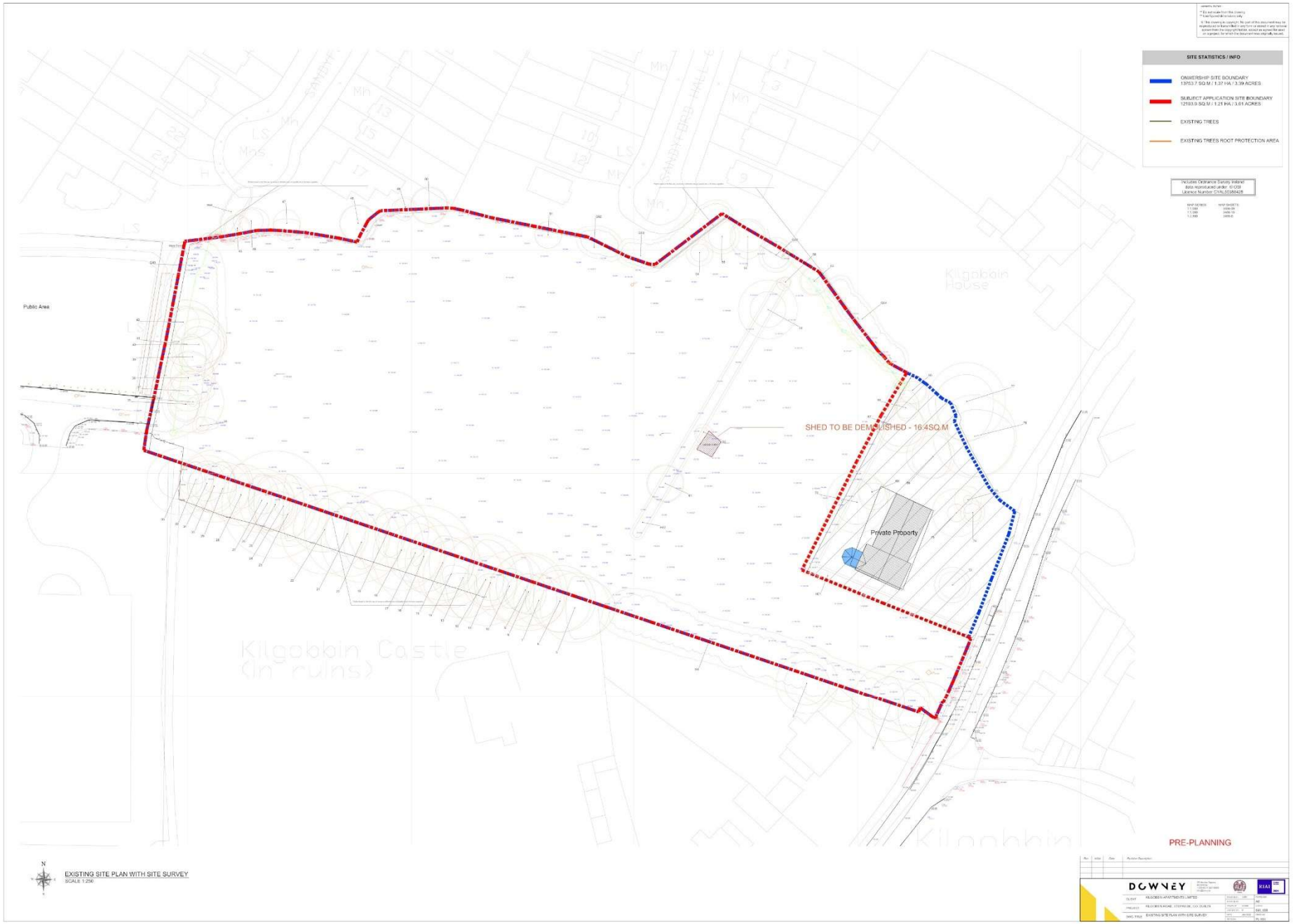


Figure 4. *Site Location Map - Position Of Site Notice*

Figure 5. *Proposed Site Plan With Roof Plan*

Figure 6. *Existing and Proposed Contiguous Elevations 1.1*

Figure 7. *Existing and Proposed Contiguous Elevations 2.2*

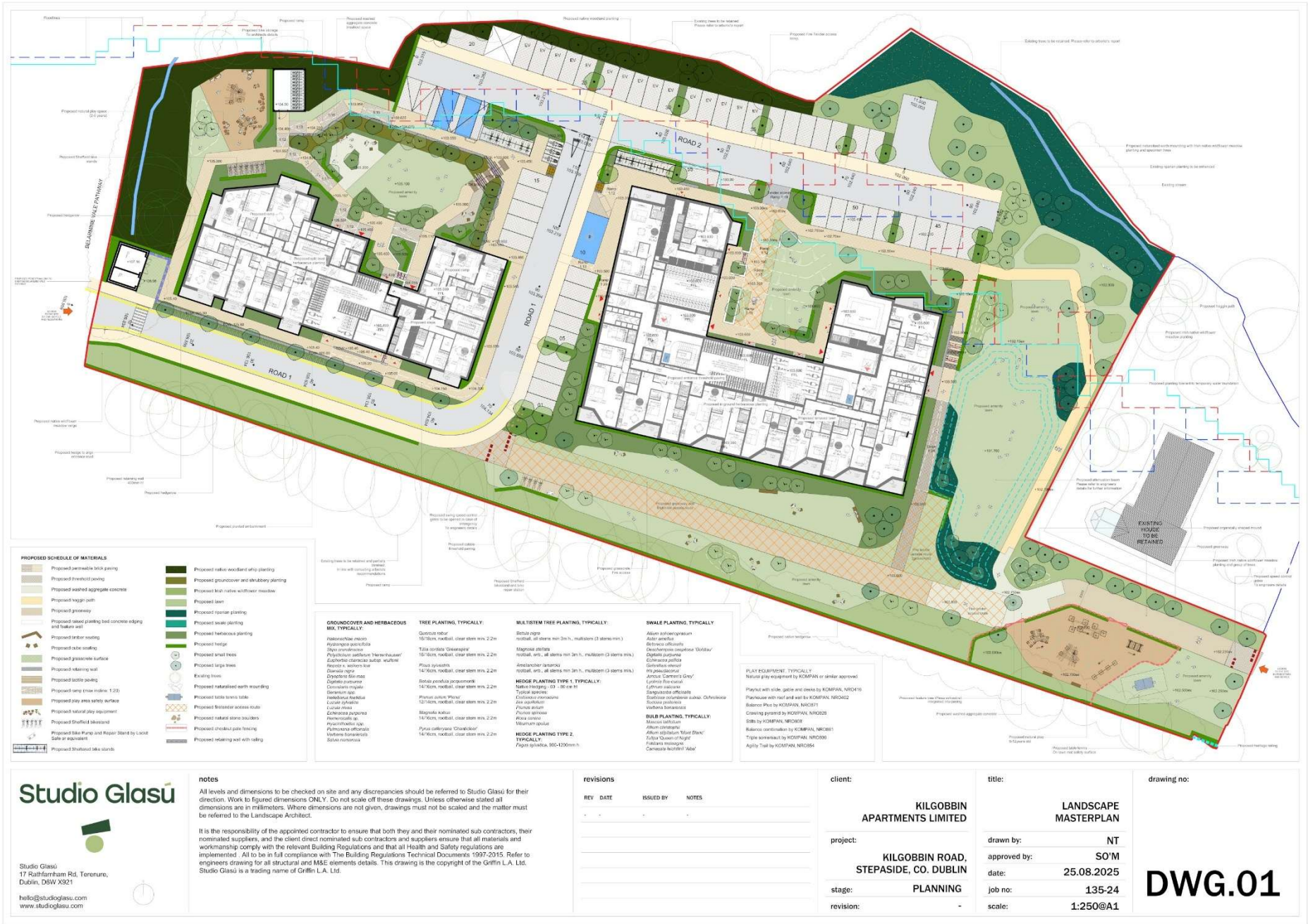


Figure 8. *Landscape Masterplan*

Arboricultural Assessment

An Arboricultural Impact Assessment map and tree schedule was prepared by John Morris Arboricultural Consultancy Ltd to accompany this planning application. It outlines the following in relation to the proposed development:

'Summary of Survey Findings

The lands adjacent to Kilgobbin Road are formed of a grazed field bordered to the south by a mature hedgerow/field boundary dominated by sycamore with occasional oak and horse chestnut. A number of the trees are fully mature with large girth stems, some sycamore presenting basal decay and declining crowns and the horse chestnut displaying early veteran characteristics. To the west, a group of early mature beech grow adjacent to the stream forming a dense canopy with surrounding self-sown younger sycamore. The northern boundary has few trees within the site, though numerous specimen trees form a boundary canopy growing from adjacent residential properties. A lapsed, intermittent field boundary hedgerow running north south across the site contains two early mature ash in fair condition. The residential property lands included with the red line boundary comprise a variety of ornamental trees within the garden, including several mature fruit trees.
Tree species are as follows;

These trees vary in age class, ranging from early mature to mature. Many trees are part of linear plantings, forming tree lines along the site boundaries, while others stand individually or in small groups.

Impact Assessment

Tree removals and pruning have been limited to that which is necessary and unavoidable to allow the development proposal to be implemented, with consideration given to species attributes, the tolerance of individual trees to disturbance, and to the presence of surrounding trees and features of the site which may have an influence on retained trees. The proposal will require removal of 17 individual trees, two groups of trees and one hedgerow The proposal will require the removal of 1 high value category A tree, 6 moderate value category B trees and 12 low value category c features. The applicant proposes to plant new trees upon the site.
This new planting will increase species diversity and canopy cover in the local landscape to provide an improvement on the pre-development baseline.

The section of Tree Line No.1 within the sites red line boundary to the west of the site. This tree line is of low and moderate quality and has been given a category grade of 'B1-C1'. The tree to be removed facilitate proposed development are numbered 34-43 in the Arborist survey conducted by John Morris Arboricultural consultancy.
The section of Tree Line No.2 within the sites red line boundary to the North East of the site. This tree line is of low and moderate quality and has been given a category grade of 'B1-C1'. The trees to be removed facilitate proposed development are numbered 54-58 including tree 63 in the Arborist survey conducted by John Morris Arboricultural consultancy.
The section of hedgerow Line No.3 within the sites red line boundary to the Middle east of the site. This hedgerow is of low and moderate quality and has been given a category grade of 'B1-C1'. The trees to be removed facilitate proposed development are numbered 59-62 in the Arborist survey conducted by John Morris Arboricultural consultancy.
The mature tree line along the southern boundary have been identified as an important feature that provides high visual amenity in the local landscape. These trees have been incorporated into the design layout by retaining a grass verge and constructing a pedestrian path using a 'No Dig' solution.

As laid out in the Tree Impact & Protection Plan by John Morris Arboricultural Consultancy Ltd remaining trees will be protected with root protection area as well as tree protection fencing in accordance with BS5837:2012 to protect retained tree roots, stems and canopies. Therefore, It is not expected that the current site layout will have any further impact on the root zone of these trees.
In order to mitigate the impact of the removal of trees from the site the landscape plan (Figure 8.) the applicant proposes to plant new trees upon the site.
This new planting will increase species diversity and canopy cover in the local landscape.'

The Tree Constraints Plan & Tree Protection Plan are demonstrated in figures 9.

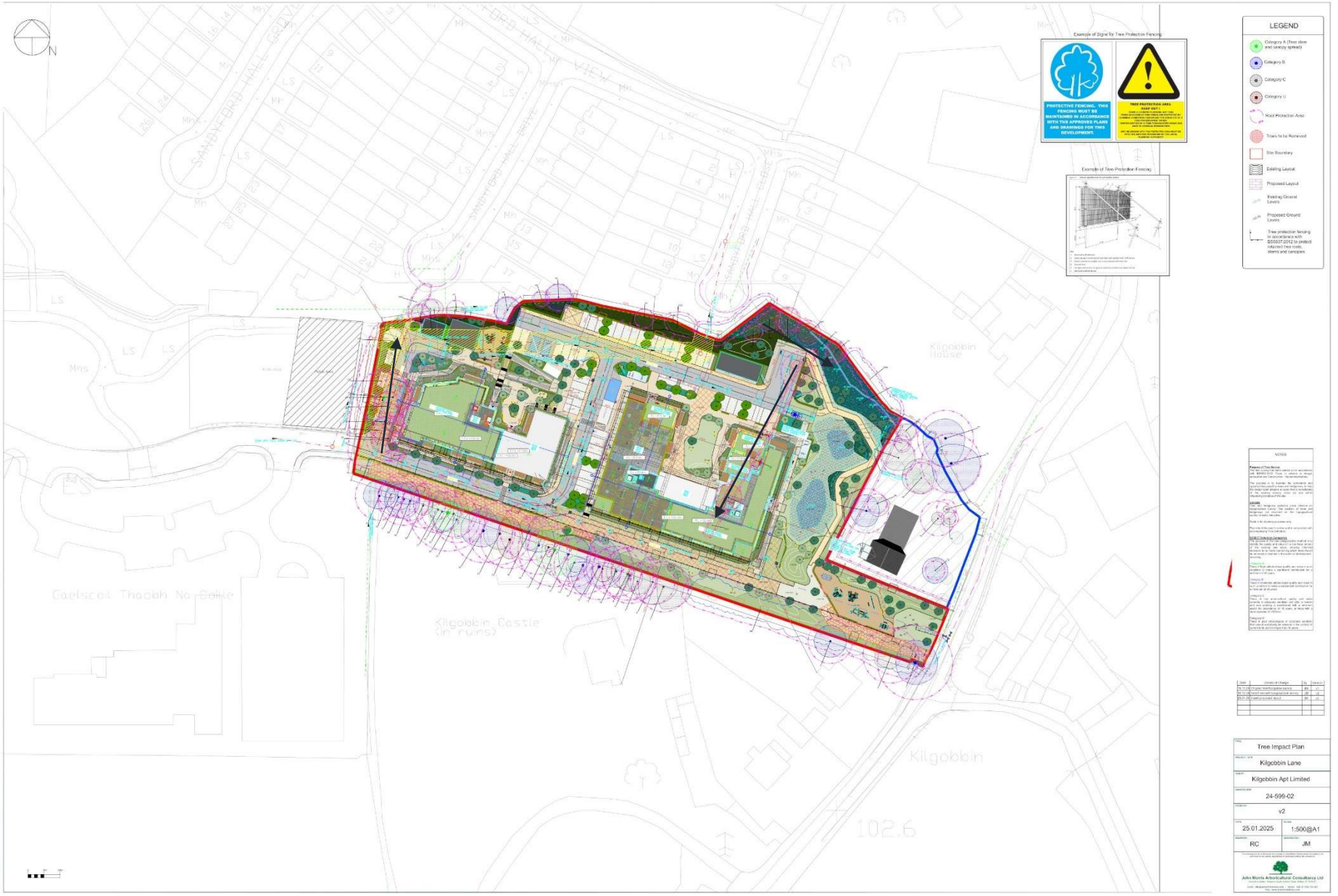


Figure 9. *Tree Impact & Protection Plan*

Lighting

The lighting strategy for the proposed development has been prepared by Kellihers Electrical. This report outlines the following lighting specification:

Layout Report

General Data

Dimensions in Metres Angles in Degrees
Grid Origin 320.4m x 226.5m
Area 207.2m x 128.8m
Sample Spacing 1.49m x 1.50m

Luminaires

Luminaire A Data

Supplier	
Type	BGP291 DW50 BL1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	2.80
File Name	LumiStreet Gen2 Micro_BGP291_DW50 BL1_2800_20LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	595.4, 30.8, 0.0
No. in Project	17

Luminaire B Data

Supplier	
Type	BGP291 DM11 BL1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	2.80
File Name	LumiStreet Gen2 Micro_BGP291_DM11 BL1_2800_20LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	537.0, 80.5, 0.0
No. in Project	8

Luminaire C Data

Supplier	
Type	BGP291 DRXN1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	1.80
File Name	LumiStreet Gen2 Micro_BGP291_DRXN1_1800_10LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	1155.3, 26.3, 0.0
No. in Project	5

Luminaire D Data

Supplier	
Type	BDP260 DS50 LED35/- NO
Lamp(s)	LED35-4S/730
Lamp Flux (klm)	3.50
File Name	BDP260 1 xLED35-4S_730 DS50.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	282.3, 67.8, 0.0
No. in Project	2

Plate 1.

The proposed site lighting Isolux layout is demonstrated below in Figure 10. Public lighting on site will not spill outside the western, northwestern and southern site boundaries. No lighting is proposed along the western site boundary where the treeline is to be retained and in addition no light spill will occur along this boundary. This will ensure a dark foraging corridor for bats is maintained. Lighting will comply with bat lighting guidelines and is set to 3000K. Mitigation measures will be carried out along the southern boundary to ensure light spill is reduced in the bat foraging area (Appendix I). The proposed lighting layout is demonstrated in Figure 10.

DATE: 27 January 2025 DESIGNER: Declan Doyle

PROJECT No: KE/RE/KRG/01 PROJECT NAME: Kilgobbin road Glencullen lighting

Horizontal Illuminance (lux)

Site

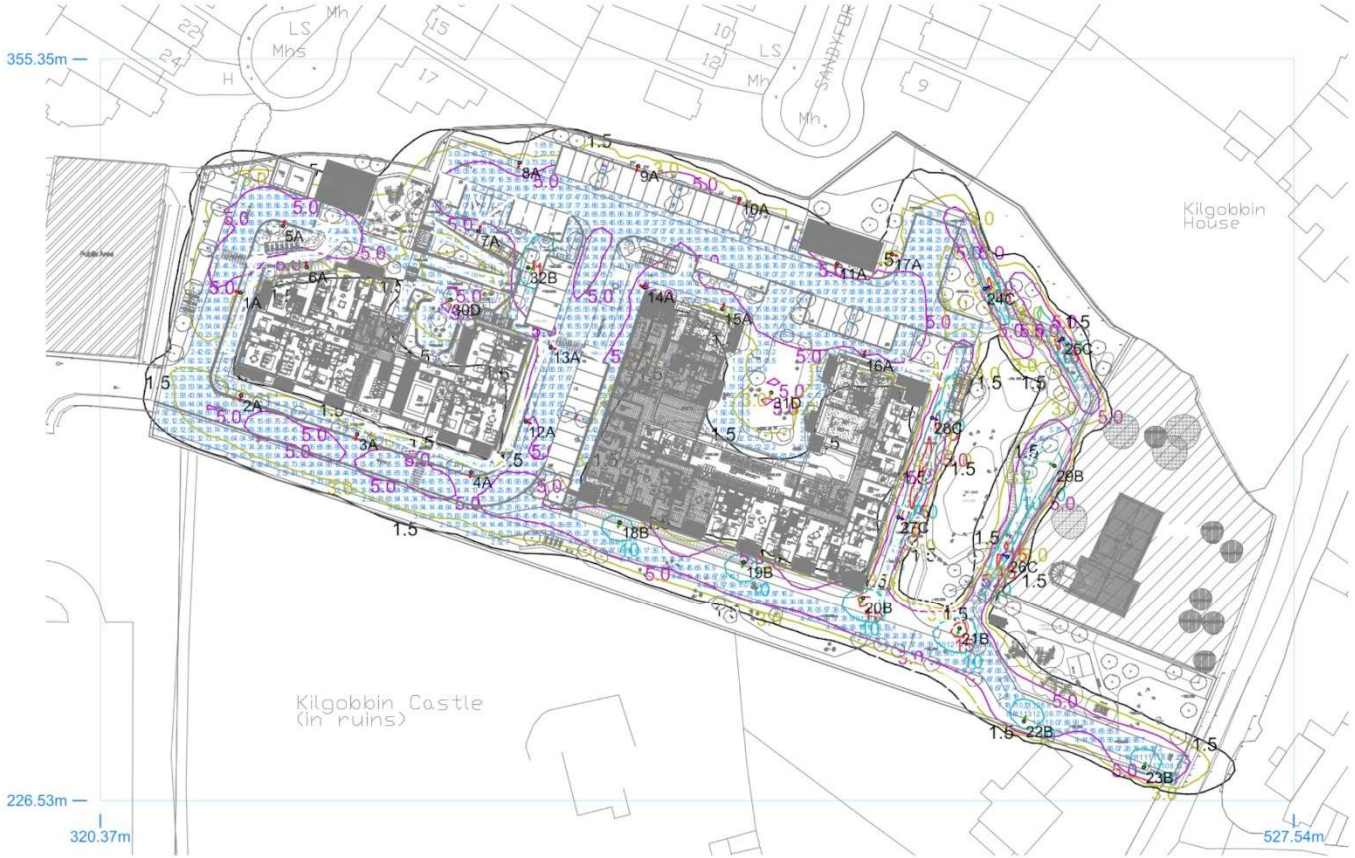


Figure 10. *Proposed Lighting Layout*

Drainage

A site-specific engineering services report has been prepared by Molony Millar Consulting and structural engineers as part of this planning application. The report states the following in relation to surface water and foul wastewater drainage:

'Existing Foul Sewer Infrastructure

A 375mm diameter foul sewer crosses the site, flowing eastwards along the northern boundary of the site.

Proposed Foul Drainage System: -

Foul Drainage System for the site will be separated from the surface water network Irish Water pre-connection enquiry has been submitted (reference CDS24009343) and result is awaited. It is proposed to provide a 225mm diameter uPVC foul collector sewer following the main access road, discharging to the existing 375mm diameter concrete foul sewer.

Existing Surface Water infrastructure:-

The Ballyogan Stream and tributary follow the western and northern boundaries of the site, it is partially culverted and partially open.

Proposed Surface Water infrastructure: -

It is proposed to culvert the Ballyogan tributary along the western boundary, completing the existing culvert from the south western corner to the north western corner of the site.

The existing Ballyogan Stream is to be retained as an open stream with a 128m3 compensatory flood storage terrace provided in the north eastern corner of the site. It is proposed to discharge surface water (SW) run-off from the site (after interception and attenuation) to the existing open Ballyogan Stream. The proposed development will comprise of a new surface water drainage system to collect surface water run-off and will treat the run-off at source by means of green blue roofs and/or infiltration before discharging to the existing Ballyogan Stream.

all parking bays are to be permeable paving, impermeable asphalt roads are provided with road gullies, discharging through a petrol interceptor to a detention basin.

Landscaped areas are to promote natural infiltration as much as possible with overflow to the detention basin. Final discharge from the site is limited to the equivalent greenfield runoff rate by a hydrobrake. The surface water network will include the following: Car-parking bays with permeable paving/infiltration systems; Surface water gullies draining to a grass lined detention basin; Roof drainage discharging to green blue / blue roof; Bypass Petrol Separator; and Hydrobrake flow control device Refer to Molony and Millar Drawings 1285-8-C02 & 1285-8-C05.'

The proposed drainage layouts are demonstrated in Figure 11.

Figure 11. *Proposed Foul & Surface Water Drainage*

Ecological Assessment Methodology

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 in August 2024 and updated in August 2025. Altemar assessed the project, the proposed construction methodology and the operation of the proposed development.

Field Survey

A bat assessment was carried out by Gayle O Farrell on 21st September 2024, a flora assessment by Emma Peters (BSc) on (31st of October 2024) and bat survey (24th of June 2025) were carried out by Gayle O'Farrell and Bryan Deegan. The surveys were carried out in mild dry conditions and covered all the lands within the site outline and the land immediately outside the site. The purpose of the field survey was to identify habitat types according to the Fossitt (2000) habitat classification and map their extent. In addition, more detailed information on the species composition and structure of habitats, conservation value and other data were gathered.

Survey Limitations

The field survey was carried out in October 2024 and bird / bat survey in June 2025 respectfully. This is within the period for full species assessments of the floral cover in addition to breeding bird and bat surveys. Weather conditions were mild and dry and allowed a bat detector surveys to take place. Given that the site is primarily grassland with hedgerows/treelines and scrub, all areas were accessible no limitations are foreseen in relation to the surveys.

Consultation

The National Biological Data Centre records were consulted for species of conservation significance.

Spatial Scope and Zone of Influence

As outlined in CIEEM (2018) '*The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries.*' In line with best practice guidance an initial zone of influence be set at a radius of 2km for non-linear projects (IEA, 1995).

The ZoI of the proposed project would be seen to be restricted to the site outline, with potential for minor localised noise and lighting impacts during construction which do not extend significantly beyond the site outline.

During construction standard watercourse protection measures will be in place in line with Water Pollution Acts. However, In the absence of these mitigation measures, any silt, dust, or pollutants that may enter the water drainage networks will settle, be dispersed, or diluted within the watercourse and marine environment, prior to reaching Natura 2000 sites. No significant effects on the qualifying interests of European sites are likely.

A 375mm diameter foul sewer crosses the site, flowing eastwards along the northern boundary It is proposed to provide a 225mm diameter uPVC foul collector sewer following the main access road, discharging to the existing 375mm diameter concrete foul sewer. Foul wastewater will be directed to the existing foul drainage network along Kilgobbin Road, which in turn ultimately discharges to Shanganagh Wastewater Treatment Plant (WwTP). Given that foul wastewater will be treated at Shanganagh WwTP via the public sewer network and any pollutants or contaminants will be dispersed, diluted, and ultimately treated within the public network prior to reaching the marine environment.

The Shanganagh WWTP has an Organic Capacity (PE) As Constructed 186000. The current Organic Capacity (PE) - Collected Load (peak week)[Note1] is 41063 the remaining Organic Capacity (PE) - is 44937. The Capacity of the Shanganagh WWTP will not be exceeded in the next three years according to the Shanganagh-Bray D0038-02 Annual Environmental Report 2024.

The proposed development will include a surface water drainage system that collects and treats runoff at source using green-blue roofs, permeable paving, and a detention basin, with final discharge to the Ballyogan Stream limited to greenfield runoff rates via a hydrobrake. The Ballyogan tributary along the western boundary will be culverted, while the main stream will remain open, with a 128 m^3 compensatory flood storage area provided in the north-eastern corner. Additional infrastructure will include road gullies, a petrol interceptor, and flow control devices to manage runoff effectively. any subsequent pollutants or contaminants will be dispersed, diluted in the drainage network

Final discharge from the site will be limited to the current greenfield discharge rate, or 2 l/s maximum. In order to both reduce and attenuate the flow; the proposed development will be designed in accordance with the principles of Sustainable Urban Drainage Systems (SUDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS).

Ecological Evaluation 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 (2022) (Tables 1A -F) 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 1A: Impact description terminology (EPA,2022)

Magnitude of effect (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.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial effect on attribute or a reduced risk of negative effect 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.

Table 1B: 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

Table 1C: Quality of effects

Quality of Effects	Effect Description
Negative /Adverse Effect	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 Effect	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Positive Effect	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).

Table 1D: Significance of Effects

Significance of Effect	Description of Potential Effect
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable2 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 effect which obliterates sensitive characteristics.

Table 1E: Duration and frequency of effects

Duration and Frequency of Effect	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

Table 1F: Describing probability of effects

Describing the Probability of Effects	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.

Results

Proximity to Designated Conservation Sites

The proposed development site is not within a European site. As outlined in Office of the Planning Regulator (2021) "*The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source- Pathway-Receptor framework and not by arbitrary distances (such as 15 km)*." (Figure 12-18.)

While there is no direct hydrological connection there is an indirect connection to European Sites. In the interest of carrying out a thorough assessment in line with both the Habitats Directive, and the precautionary principle, the area of assessment was expanded beyond the ZoI to include designated sites within 15km of the proposed development site, and sites beyond 15km with the potential for a hydrological connection. This was done in the interest of ensuring that any pathways, indirect or remote, were taken into account.

The proposed development site is located within a suburban environment. There is no intact biodiversity corridor to Natura 2000 sites/European Sites. The nearest European Site is Wicklow Mountains SAC (5 km) (Figures 16). There is an indirect hydrological pathway to Rockabill to Dalkey Island SAC, Bray Head SAC, and Dalkey Islands SPA via the proposed foul and surface water drainage strategy. During construction standard watercourse protection measures will be in place in line with Water Pollution Acts. However, In the absence of these mitigation measures, any silt, dust, or pollutants that may enter the water drainage networks will settle, be dispersed, or diluted within the watercourse and marine environment, prior to reaching Natura 2000 sites. No significant effects on the qualifying interests of European sites are likely.

A 375mm diameter foul sewer crosses the site, flowing eastwards along the northern boundary It is proposed to provide a 225mm diameter uPVC foul collector sewer following the main access road, discharging to the existing 375mm diameter concrete foul sewer. Foul wastewater will be directed to the existing foul drainage network along Kilgobbin Road, which in turn ultimately discharges to Shanganagh Wastewater Treatment Plant (WwTP). Given that foul wastewater will be treated at Shanganagh WwTP via the public sewer network and any pollutants or contaminants will be dispersed, diluted, and ultimately treated within the public network prior to reaching the marine environment.

The Shanganagh WWTP has an Organic Capacity Person Equivalent (PE) As Constructed 186,000. The current Organic Capacity (PE) - Collected Load (peak week)[Note1] is 41,063 the remaining Organic Capacity (PE) - is 44,937. The Capacity of the Shanganagh WWTP will not be exceeded in the next three years according to the Shanganagh-Bray D0038-02 Annual Environmental Report 2024. As a result, the WwTP is operating within capacity.

The proposed development will include a surface water drainage system that collects and treats runoff at source using green-blue roofs, permeable paving, and a detention basin, with final discharge to the Ballyogan Stream limited to greenfield runoff rates via a hydrobrake. The Ballyogan tributary along the western boundary will be culverted, while the main stream will remain open, with a 128 m^3 compensatory flood storage area provided in the north-eastern corner. Additional infrastructure will include road gullies, a petrol interceptor, and flow control devices to manage runoff effectively. any subsequent pollutants or contaminants will be dispersed, diluted in the drainage network

Final discharge from the site will be limited to the current greenfield discharge rate, or 2 l/s maximum. In order to both reduce and attenuate the flow; the proposed development will be designed in accordance with the principles of Sustainable Urban Drainage Systems (SUDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS).

The proposed development site is located along Kilgobbin Rd, Dublin and there is no intact biodiversity corridor to European sites. No European sites are deemed to be in the potential Zone of Influence (ZoI). However, following the precautionary principle, screening of all European sites within 15km and those with a direct/indirect pathway beyond 15km is carried out.

Table 2. Natura 2000 sites within 15km of the subject site

Natura 2000 Site	Code	Distance	Direct Hydrological / Biodiversity Connection
Special Areas of Conservation			
Wicklow Mountains SAC	IE002122	5km	No
Knocksink Wood SAC	IE000725	5.3km	No
South Dublin Bay SAC	IE000210	5.36km	No
Ballyman Glen SAC	IE000713	6.5km	No
Rockabill to Dalkey Island SAC	IE003000	8.1km	No
Glenasmole Valley SAC	IE001209	9.7km	No
Bray Head SAC	IE000714	10.8km	No
North Dublin Bay SAC	IE000206	10.9km	No
Glen of the Downs SAC	IE000719	14.2km	No
Howth Head SAC	IE000202	14.7km	No
Special Protection Areas			
Wicklow Mountains SPA	IE004040	5.3km	No
South Dublin Bay and River Tolka Estuary SPA	IE004024	5.2km	No
Dalkey Islands SPA	IE004172	8.1km	No
North Bull Island SPA	IE004006	9.6km	No
North-West Irish Sea SPA	IE004236	10.3km	No

Table 3. Ramsar, NHA & pNHA sites within 15km of the subject site

Status	Site Name	Distance
Ramsar	Sandymount Strand/Tolka Estuary	5.8km
Ramsar	North Bull Island	10.8km
Proposed NHA	Fitzsimon's Wood	1.5km
Proposed NHA	Dingle Glen	2.8km
Proposed NHA	Ballybetagh Bog	3.4km
Proposed NHA	Knocksink Wood	4.9km
Proposed NHA	Loughlinstown Woods	5.5km
Proposed NHA	South Dublin Bay	5.8km
Proposed NHA	Dalkey Coastal Zone and Killiney Hill	6.1km
Proposed NHA	Booterstown Marsh	6.1km
Proposed NHA	Ballyman Glen	6.2km
Proposed NHA	Powerscourt Woodland	7.5km
Proposed NHA	Dodder Valley	8.4km
Proposed NHA	Dargle River Valley	8.7km
Proposed NHA	Grand Canal	8.8km
Proposed NHA	Glencree Valley	9.3km
Proposed NHA	Great Sugar Loaf	9.5km
Proposed NHA	Dolphins, Dublin Dock	9.7km
Proposed NHA	Royal Canal	10.3km
Proposed NHA	Bray Head	10.7km
Proposed NHA	North Dublin Bay	10.9km
Proposed NHA	Powerscourt Waterfall	11.1km
Proposed NHA	Kilmacanogue Marsh	11.3km
Proposed NHA	Lugmore Glen	12.7km
Proposed NHA	Glen of the Downs	14.0km
Proposed NHA	Glenasmole Valley	14.1km
Proposed NHA	Liffey Valley	14.1km
Proposed NHA	Howth Head	14.7km

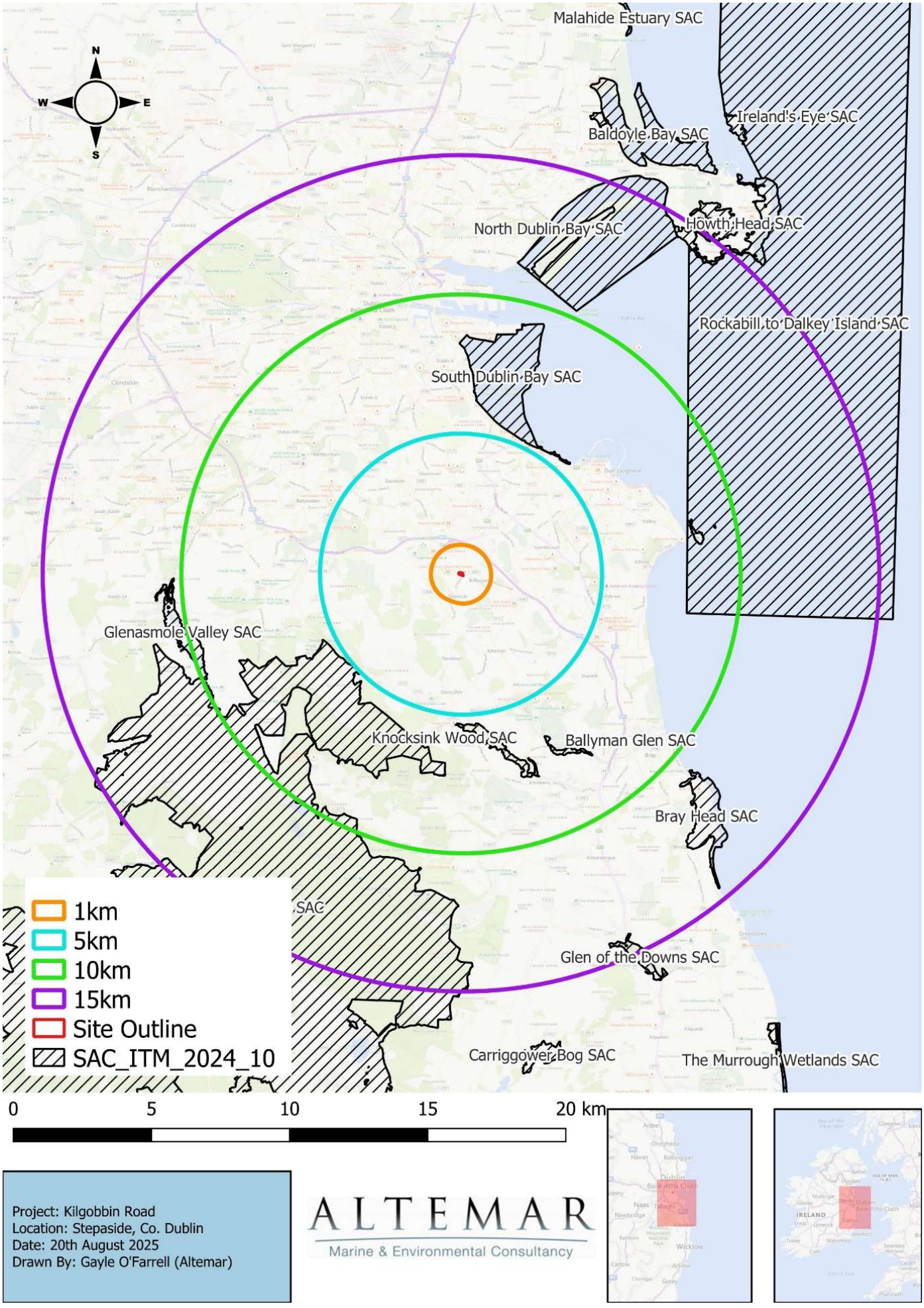


Figure 12. *Special Areas of Conservation (SAC) within 15km of the subject site*

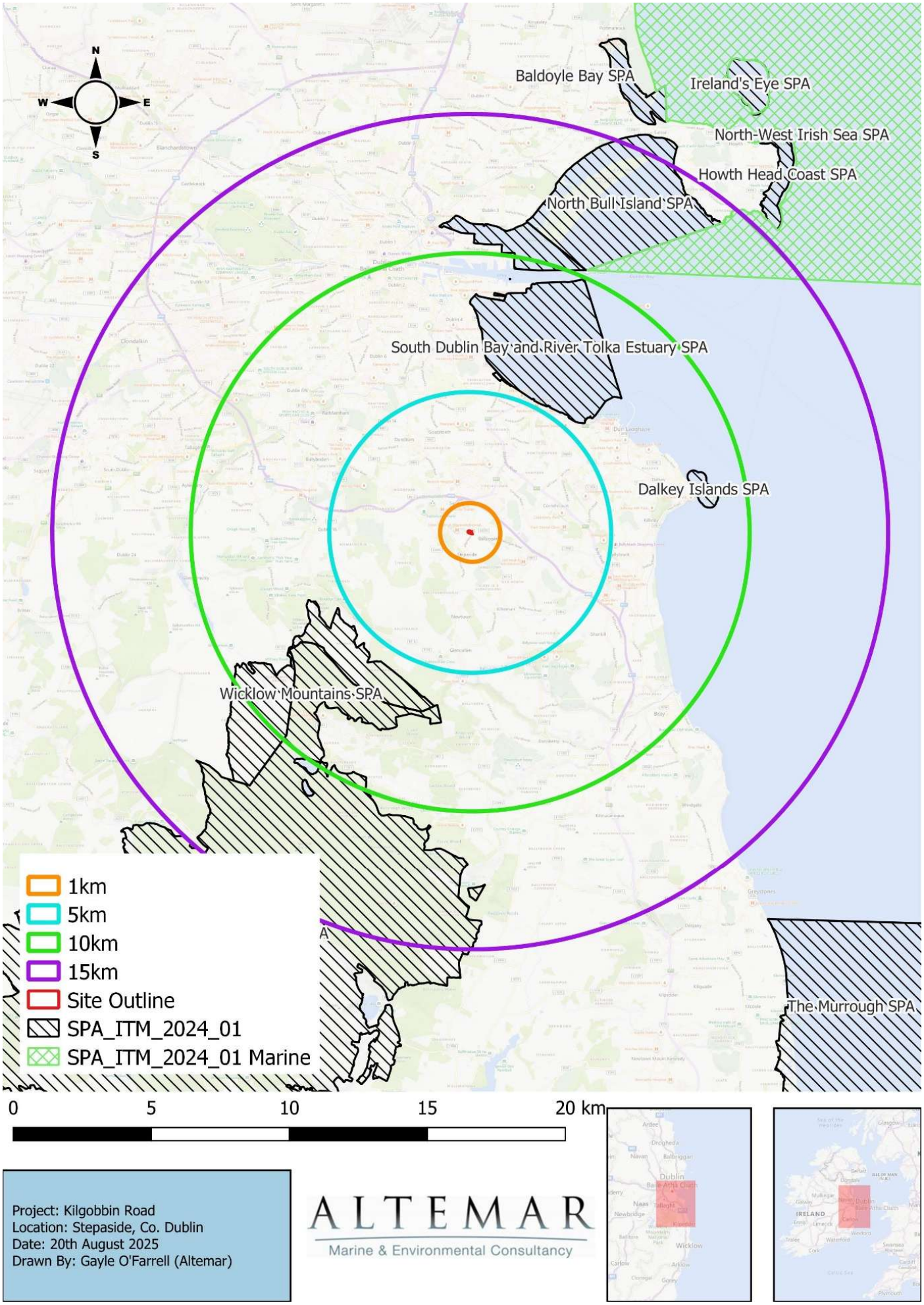


Figure 13. *Special Protection Areas (SPA) within 15km of the subject site*

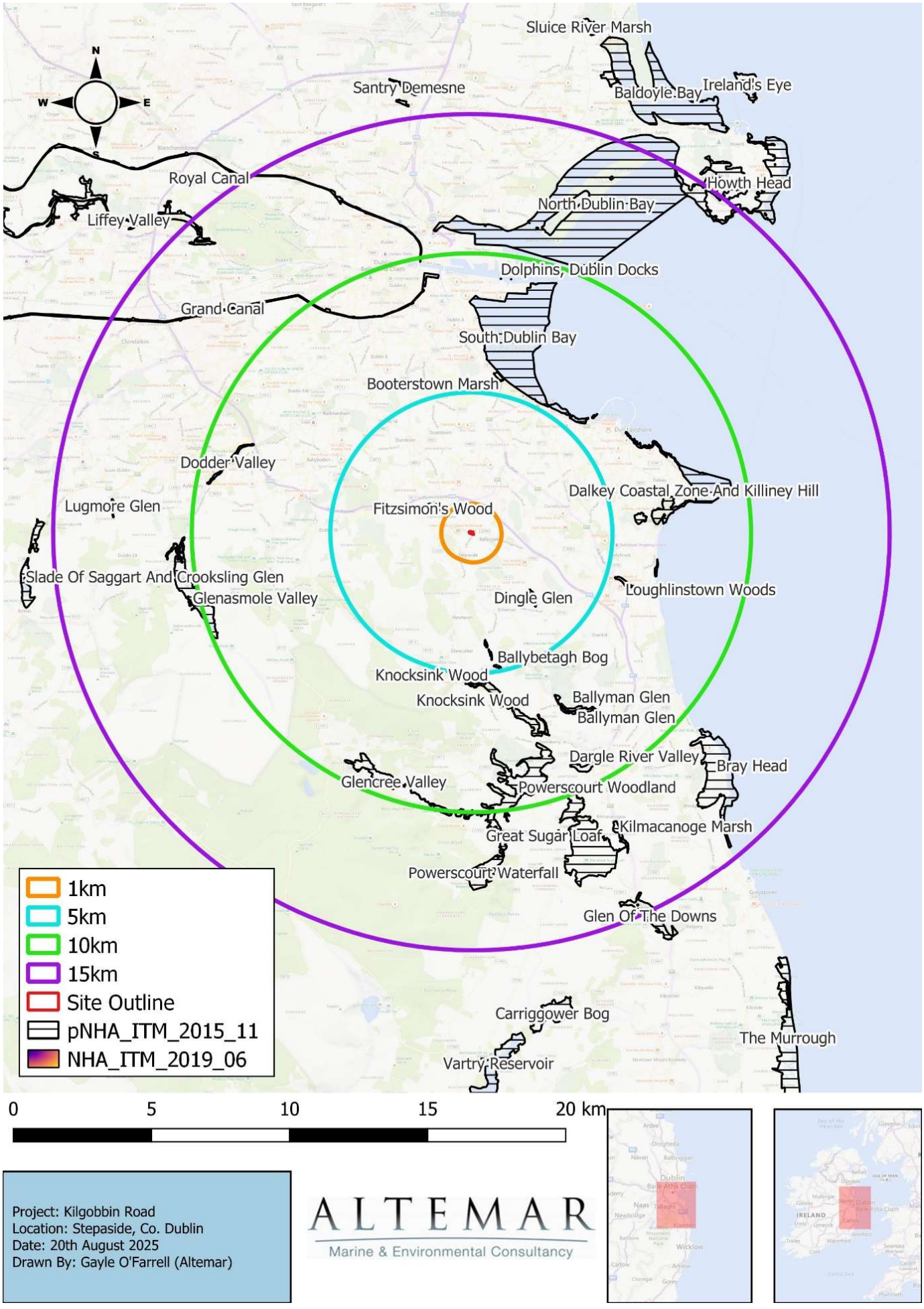


Figure 14. *National Heritage Areas (NHA) (none within 15km of the subject site)*

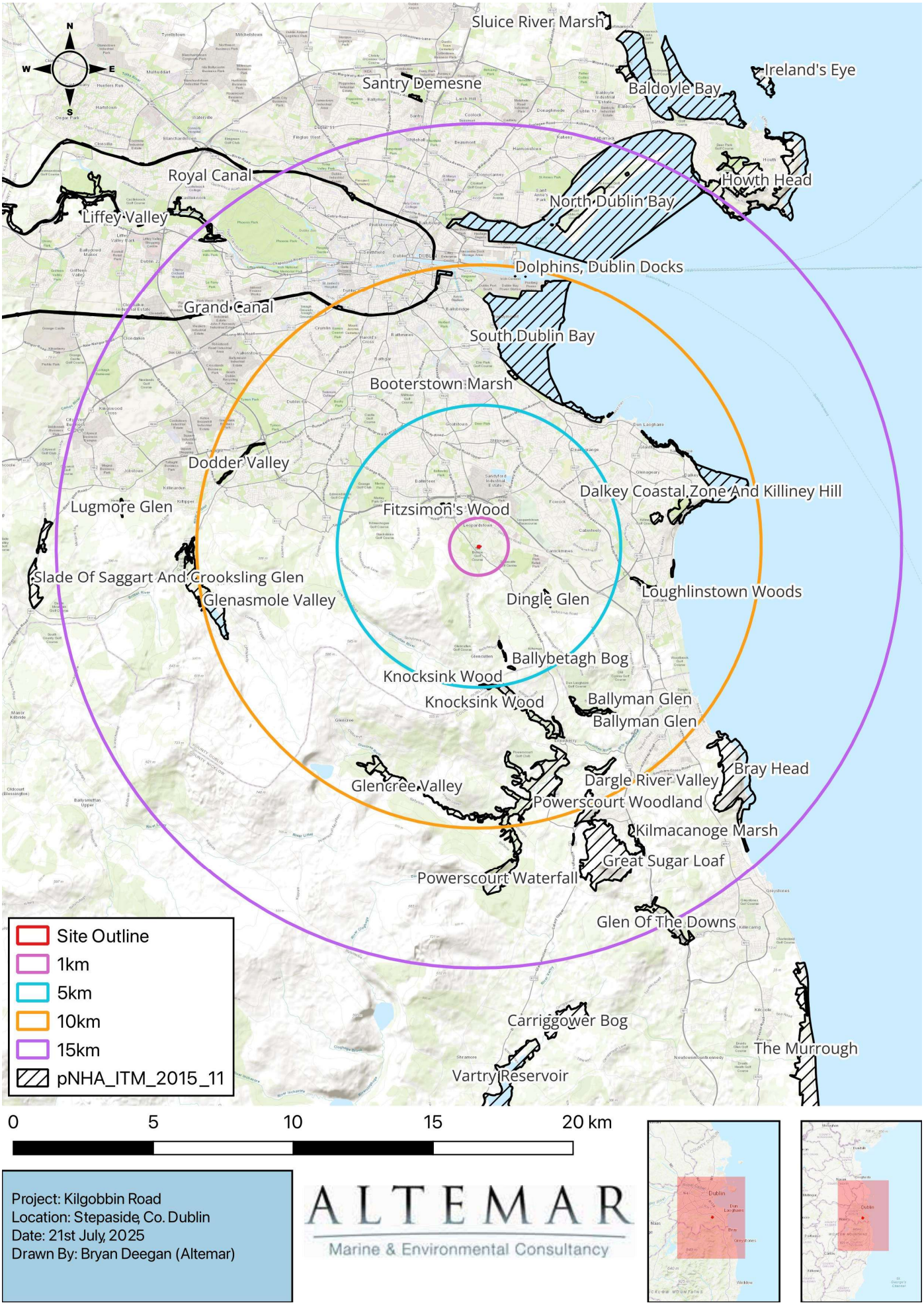


Figure 15. *Proposed NHAs (pNHA) within 15km of the subject site*

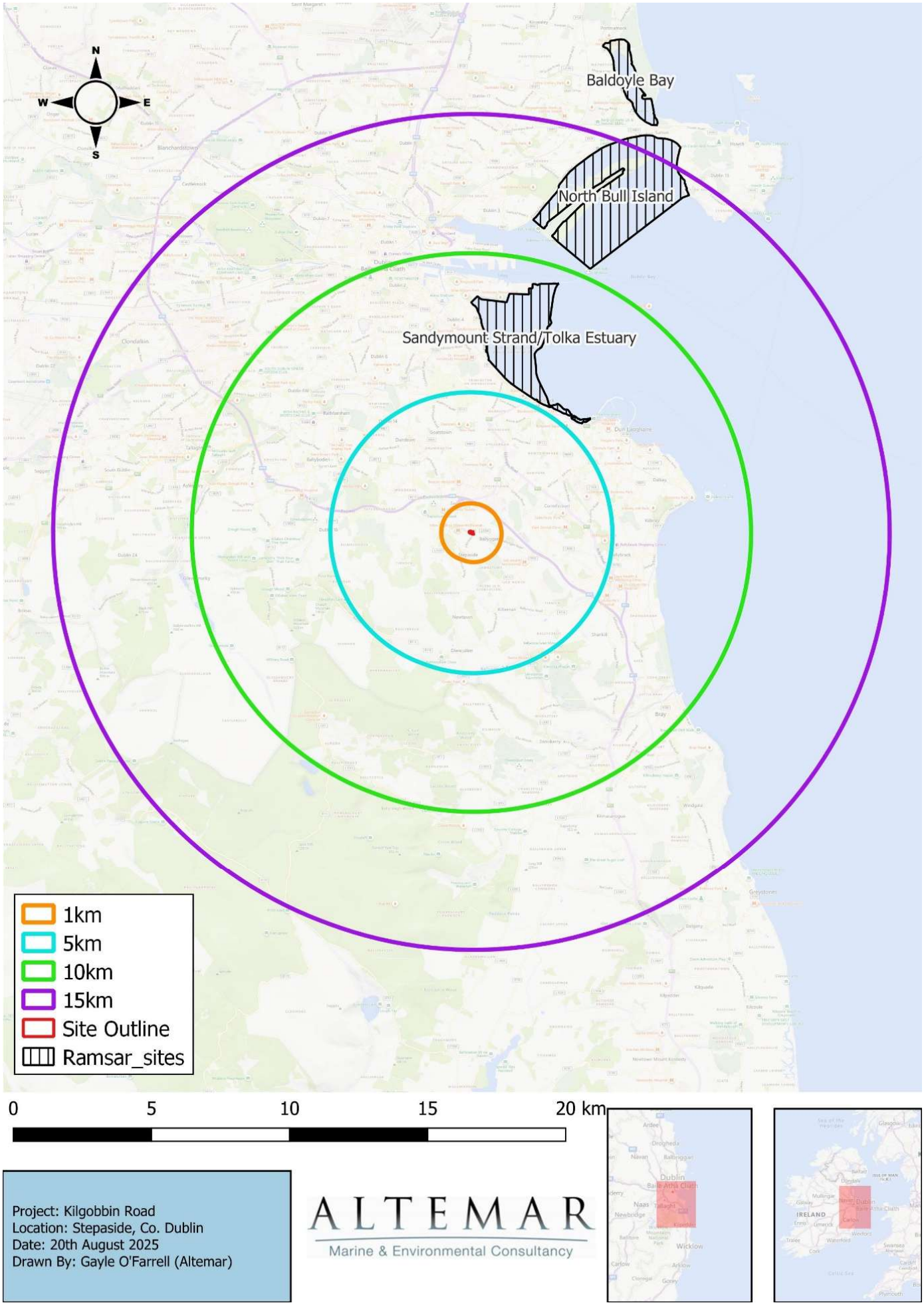


Figure 16. *Ramsar sites within 15km of the subject site)*

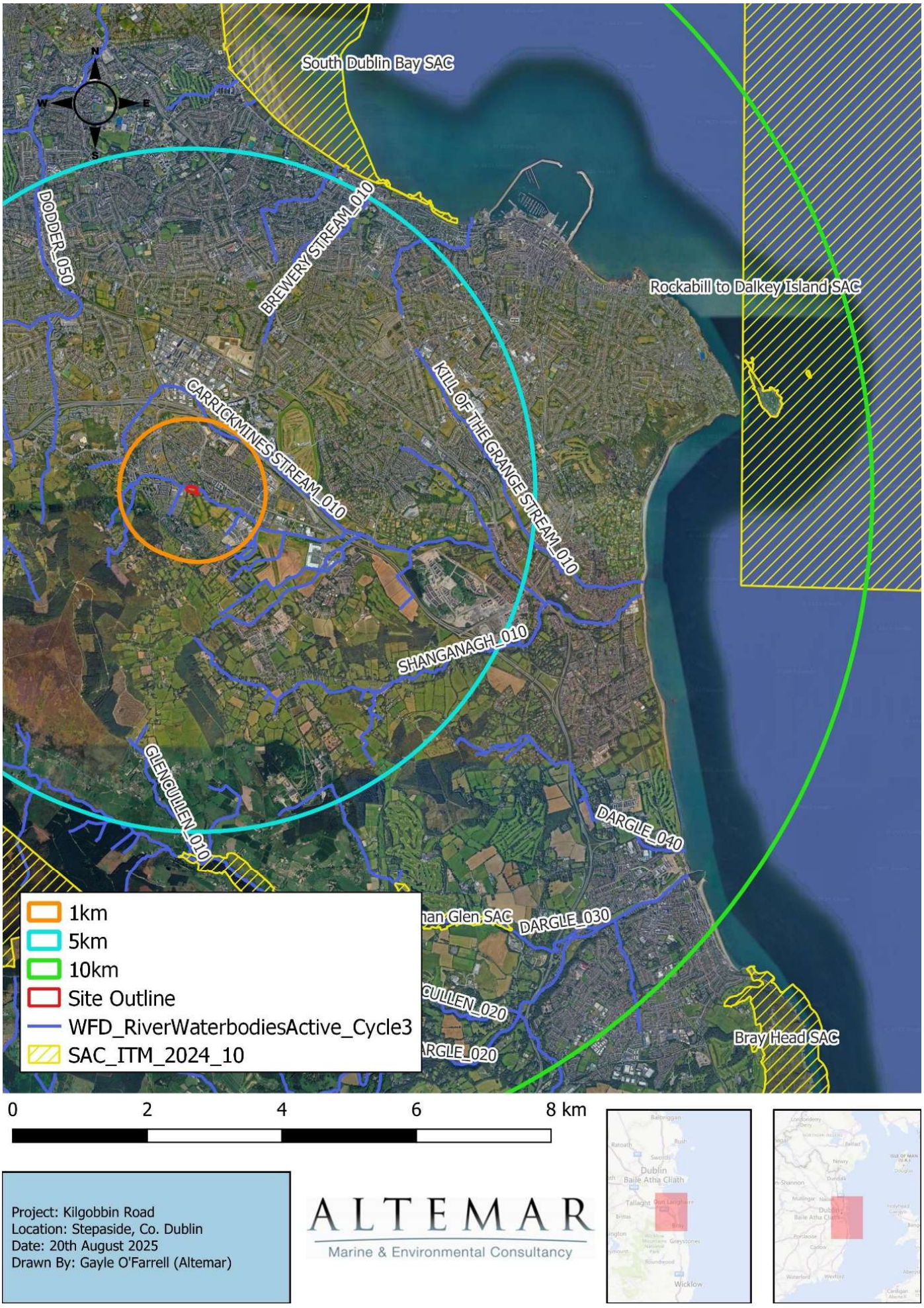


Figure 17. *Waterbodies and SACs in proximity to the subject site*

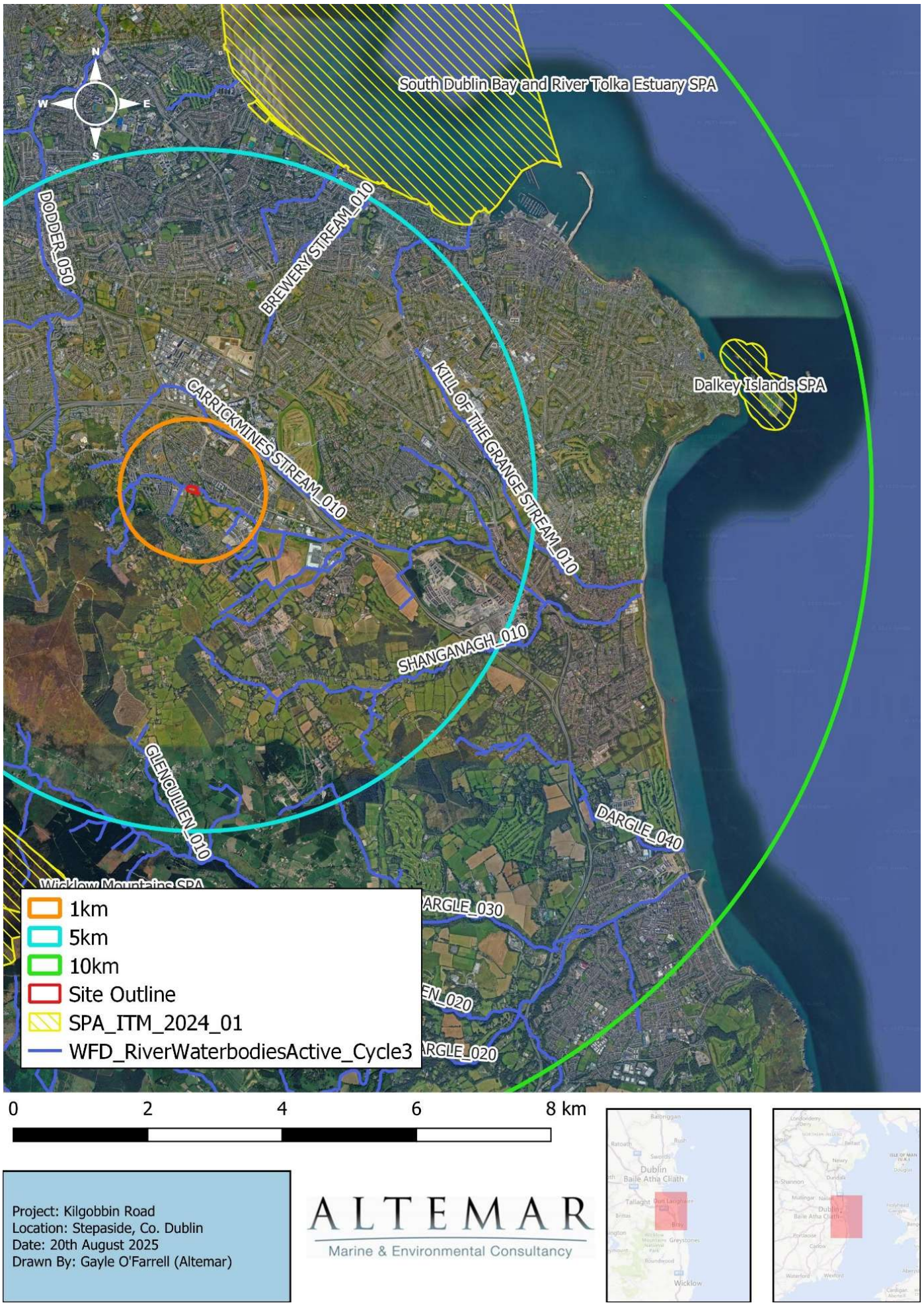


Figure 18. *Waterbodies and SPAs in proximity to the subject site*

Habitats and Species

A flora survey was carried out on the 31st of October 2024. Habitats are outlined according to Fossitt (2000).

***Figure 19**. Habitats noted during flora survey.*

GA1 – Agricultural grassland

Agricultural grassland was the most dominate habitat onsite. It was currently being used to graze horses. Species noted within this habitat included swine-cress (*Lepidium coronopus*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), ribwort plantain (*Plantago lanceolata*), greater plantain (*Plantago major*), common ragwort (*Jacobaea vulgaris*), herb Robert (*Geranium roberianum*), nettle (*Urtica dioica*), daisy (*Bellis perennis*), meadow buttercup (*Ranunculus acris*) and creeping buttercup (*Ranunculus repens*).

Plate 2. View of agricultural grassland.

WL2- Treeline

Mature treelines bordered the south and west of the site. The tree species included ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*), beech (*Fagus sylvatica*) and elder (*Sambucus nigra*) with an understory of blackthorn (*Prunus spinosa*), snowberry (*Symphoricarpos albus*), griselinia (*Griselinia littoralis*), *Viburnum sp.,* brambles (*Rubus fruticosus*), *agg*) and field bindweed *(Convolvulus arvensis).*

Plate 3. Mature tree within treeline.

WL1 – Hedgerow

A hedgerow ran north to south in the east portion of the site. The species within this habitat included brambles (*Rubus fruticosus agg*), hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*).

Plate 4. Hedgerow running north to south within the site.

WS1 – Scrub.

Large areas of scrub grew on the outskirts of the field. Species within this habitat consisted primarily of brambles (*Rubus fruticosus*) with some hedge bindweed (*Calystegia sepium)*, nettle (*Urtica dioica*), cleavers (*Galium aparine*), herb Robert (*Geranium roberianum*), meadow buttercup (*Ranunculus acris*), creeping buttercup (*Ranunculus repens*) and daisy (*Bellis perennis*).

FW4- Drainage ditch

Drainage ditches were noted on the west boundary and in the eastern portion of the north boundary. This area was species poor with ivy (*Hedera helix*) dominated ground flora cover and brambles (*Rubus fruticosus agg*) encroaching.

Plate 5. Drainage ditch.

Discussion of habitats

The subject site is primarily agricultural grassland used to graze horses with mature treelines, hedgerows and a drainage ditch/watercourse. No species of conservation concern were noted onsite. It should be worth noting that the northern boundary of the site was bordered by a brick wall. The entrance to the site, to the east also has a stone wall.

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 assessment. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened plant species were recorded within the proposed development site. No invasive species were noted on site.

Bats

Bat surveys were carried out and the results of the surveys are seen in Appendix I. Bats were noted foraging on site particularly along the southern treeline.

Amphibians/Reptiles

The common frog (*Rana temporaria*) was not observed on site. However, there are features within such as the drainage ditch would be useful to frogs.

Mammals

Mammal surveys have been carried out in 2024. An invasive grey squirrel (*Sciurus carolinensis*) was noted in the treeline during site survey. No burrows were noted on site. A fox was noted on site during the 2025 bat assessment.

Birds

In the table 1.below is the bird species noted onsite during the flora survey listed by common name, scientific name and with their BoCCI status.

Table 4.

Common Name	Scientific name	Conservation status
Blackbird	*Turdus merula*	Green
Wren	*Troglodytes troglodytes*	Green
Robin	*Erithacus rubecula*	Green
Hooded crow	*Corvus cornix*	Green
Goldcrest	*Regulus regulus*	Amber
Woodpigeon	*Columba palumbus*	Green
Magpie	*Pica pica*	Green
Jackdaw	*Corvus monedula*	Green
Great tit	*Parus major*	Green
Long-tailed tit	*Aegithalus caudatus*	Green
Chaffinch	*Fringilla coelebs*	Green
Dunnock	*Prunella modularis*	Green
Rook	*Corvus frugilegus*	Green

Historic Records of Biodiversity

The National Biodiversity Data Centre's online viewer was consulted to determine the extent of biodiversity and/or species of interest in the area. First, an assessment of the site-specific area was carried out and it recorded no species of interest within the site area. Following this a 2km^2 grid (O12X) that encompasses the subject site was assessed. Table 5 provides a list of all species recorded in this grid that possess a specific designation, such as Invasive Species or Protected Species.

Table 5. Table of species, NBDC (O12X)

Species name	Date of last record	Designation
Common Frog (Rana temporaria)	*30/07/2019*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts*
Smooth Newt (Lissotriton vulgaris)	*12/05/2018*	*Protected Species: Wildlife Acts*
Barn Owl (Tyto alba)	*30/11/2018*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List*
Herring Gull (Larus argentatus)	*02/03/2018*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List*
House Martin (Delichon urbicum)	*06/05/2020*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
House Sparrow (Passer domesticus)	*15/01/2019*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
Linnet (Linaria cannabina)	*03/04/2021*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
Little Egret (Egretta garzetta)	*30/07/2020*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species*
Mallard (Anas platyrhynchos)	*30/03/2021*	*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*
Pheasant (Phasianus colchicus)	*24/03/2020*	*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*
Red Kite (Milvus milvus)	*03/01/2015*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
Rock Dove (Columba livia)	*10/03/2019*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species*
Starling (Sturnus vulgaris)	*16/05/2019*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
Swallow (Hirundo rustica)	*19/06/2022*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
Swift (Apus apus)	*13/06/2020*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
Woodpigeon (Columba palumbus)	*21/04/2024*	*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*
New Zealand Flatworm (Arthurdendyus triangulatus)	*01/05/1994*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species*
American Skunk-cabbage (Lysichiton americanus)	*11/04/2025*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)*
Butterfly-bush (Buddleja davidii)	*28/07/2024*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species*
Cherry Laurel (Prunus laurocerasus)	*03/04/2020*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species*

Species name	Date of last record	Designation
Cornflower (Centaurea cyanus)	17/10/2021	Threatened Species: Waiting list
Good-King-Henry (Chenopodium bonus-henricus)	05/07/2012	Threatened Species: Vulnerable
Greater Knapweed (Centaurea scabiosa)	20/07/2021	Threatened Species: Near threatened
Himalayan Honeysuckle (Leycesteria formosa)	15/12/2023	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Japanese Knotweed (Fallopia japonica)	18/06/2018	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Nettle-leaved Bellflower (Campanula trachelium)	20/07/2021	Threatened Species: Endangered
Pale Flax (Linum bienne)	05/07/2012	Threatened Species: Near threatened
Rhododendron ponticum	07/06/2020	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Spanish Bluebell (Hyacinthoides hispanica)	02/05/2021	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Sycamore (Acer pseudoplatanus)	14/05/2020	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Three-cornered Garlic (Allium triquetrum)	04/04/2021	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Traveller's-joy (Clematis vitalba)	05/05/2016	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Yellow Archangel (Lamiastrum galeobdolon)	04/04/2021	Threatened Species: Least concern
Harlequin Ladybird (Harmonia axyridis)	31/08/2024	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Small Heath (Coenonympha pamphilus)	08/08/2019	Threatened Species: Near threatened
Wall (Lasiommata megera)	17/08/2008	Threatened Species: Endangered
Buffish Mining Bee (Andrena nigroaenea)	05/06/1923	Threatened Species: Vulnerable
Painted Mining Bee (Andrena fucata)	27/05/1923	Threatened Species: Near threatened
Red-tailed (Hill) Cuckoo Bee (Bombus rupestris)	18/08/1923	Threatened Species: Endangered
Red-tailed Bumblebee (Bombus lapidarius)	31/08/2023	Threatened Species: Near threatened
Tufted Furrow Bee (Lasioglossum nitidiusculum)	18/08/1923	Threatened Species: Vulnerable
Cape Thread-moss (Orthodontium lineare)	29/04/1984	Threatened Species: Least concern
Straw Bristle-moss (Orthotrichum stramineum)	09/08/2018	Protected Species: Flora Protection Order || Protected Species: Flora Protection Order >> Flora Protection Order || Threatened Species: Vulnerable
Badger (Meles meles)	30/11/2022	Protected Species: Wildlife Acts
Brown Long-eared Bat (Plecotus auritus)	08/06/2010	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Brown Rat (Rattus norvegicus)	10/10/2015	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Common Pipistrelle (Pipistrellus pipistrellus sensu stricto)	11/08/2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Fallow Deer (Dama dama)	26/06/2018	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts
Grey Squirrel (Sciurus carolinensis)	05/02/2023	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)

Species name	Date of last record	Designation
Hedgehog (Erinaceus europaeus)	*08/06/2023*	*Protected Species: Wildlife Acts*
Leisler's Bat (Nyctalus leisleri)	*08/06/2010*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts*
Otter (Lutra lutra)	*04/12/2016*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts*
Pine Marten (Martes martes)	*17/08/2021*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts*
Pygmy Shrew (Sorex minutus)	*02/05/2018*	*Protected Species: Wildlife Acts*
Red Squirrel (Sciurus vulgaris)	*30/04/2018*	*Protected Species: Wildlife Acts*
Sika Deer (Cervus nippon)	*13/10/2018*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts*
Soprano Pipistrelle (Pipistrellus pygmaeus)	*11/08/2021*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts*

Potential Impacts

This report has also been prepared to outline the construction and operational phase impacts on biodiversity in addition to outlining mitigation measures to limit the potential impacts on sensitive receptors within the Zone of Influence (ZOI).

Potential Construction Impacts

In the absence of mitigation, the overall development of the site is likely to have direct negative effect upon the existing habitats, fauna and flora. Direct negative effects will be manifested in terms of the removal of the site's internal habitats. The removal of these habitats will result in a loss of species of low biodiversity importance. In the absence of mitigation there is the potential for contaminants and pollutants to enter the surface water drainage network and impact on downstream biodiversity.

Designated Conservation sites within 15km

The proposed Project is not within a designated conservation site. There is no direct hydrological pathway to any designated conservation site. However, there is a indirect hydrological connection between the proposed development site and designated sites downstream, namely marine Natura 2000 sites in proximity to Shanganagh WwTP and Shanganagh River Estuary, Loughlinstown Woods pNHA (5.5km) and Dalkey Coastal Zone and Killiney Hill pNHA (6.1 km). In the absence of mitigation, it is considered that there is the potential for downstream effects via the surface water drainage network, Carrickmines Stream and Shanganagh River. However, given the intervening distance to designated sites, combined with flocculation, dilution and mixing within the marine and estuarine environments no significant effects on designated sites or their qualifying interests are foreseen.

Impacts in the absence of mitigation: Neutral / International / Neutral Impact / Not significant / short term.

Biodiversity

In the absence of mitigation, the impact of the development during construction phase will be a loss of existing habitats and species within the construction area. It would be expected that the flora and fauna associated with these habitats would also be displaced. Further, given that excavation and reprofiling works are proposed during the construction phase of development, and out of an abundance of caution, impacts on local and downstream biodiversity are predicted in the absence of mitigation measures. There is the potential for contaminated surface water runoff and pollution to enter the surface water network and potentially effect local downstream biodiversity in the vicinity of the outfall prior to dilution and mixing in the estuarine and marine environment.

Terrestrial mammalian species

An invasive grey squirrel (*Sciurus carolinensis*) was noted in the treeline during site survey. Loss of habitat and habitat fragmentation may affect some common mammalian species. No badger setts or evidence of badger activity was noted on site.

Potential Impacts in the absence of mitigation: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of a pre-construction survey for terrestrial mammals of conservation importance.

Flora

No flora of conservation importance or invasive species (Habitats Directive, 2011) were noted on site. Site clearance will remove the flora species on site.

Potential Impacts in the absence of mitigation: Low adverse / site / Negative Impact / Not Significant / Short term.

Bat Fauna

The proposed development will change the local environment as new lights and structures are to be erected and some of the existing vegetation will be removed. Trees of bat roosting potential are noted within the site. A single common pipistrelle bat roost was located in a tree roost outside the south-western corner of the site boundary. Lighting and the removal of trees will impact on foraging on site. However, foraging along the treeline along the southern boundary would be expected to continue on site following the implementation of mitigation.

Impacts: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is required during construction to limit light spill on site in consultation with the project ecologist to prevent light spill reaching the subsequent tree lines.

Bird Fauna

Site clearance will remove the site's internal habitats which are of low value to nesting birds. The removal of trees on-site will result in a negative impact on foraging and potential nesting habitat. However, the proposed native species plantings will provide partial mitigation by enhancing habitat quality and supporting ecological functions over time

Impacts: Low adverse / Local / Negative Impact / Not significant / short term. Mitigation is needed in the form of site clearance outside bird nesting season and supplementing the loss of nesting and foraging resources.

Aquatic Biodiversity

Due to the presence of a watercourse along the north east boundary there is potential for downstream impacts on biodiversity from silt, dust or, petrochemicals. Silt, dust, or pollutants from construction works which may enter the proximate Carrickmines Stream via the surface water drainage network with the potential for downstream impacts on aquatic biodiversity.

Impacts: Low adverse / local / Negative Impact / Slight Effects / short term. Mitigation is needed in the form of control of silt, dust, or pollutants. Watercourse protection measures will be in place in line with Water Pollution Acts

Potential Operational Impacts

Once developed, the site would be seen as a stable ecological environment. Planting of native species will be important to re-establish nesting and foraging habitats lost.

In compliance with the Water Pollution Acts appropriate and standard measures will be taken to prevent contaminated surface water run-off and dust entering into the surface water drainage network with the potential for downstream impacts on the Carrickmines Stream. The new drainage networks will have to comply with SUDS and DLRCC requirements.

Designated Conservation sites within 15km

The proposed Project is required to comply with SuDS drainage requirements and the Water Pollution Acts. Standard compliance mitigation measures will be in place to prevent downstream impacts. No significant impacts on designated sites are likely during operation in the absence of these measures. No mitigation measures are required to protect designated sites during operation.
Potential Impacts in the absence of mitigation: Negligible / International & National / Neutral Impact / Not significant / Long-term.

Terrestrial mammalian species

Loss of habitat and habitat fragmentation may affect some common mammalian species. No badger setts or evidence of badger activity was noted on site.

Impacts: Low adverse / site / Negative Impact / Not significant / short term.

Flora

No protected flora or invasive species were noted on site. The removal of trees on-site will result in a permanent negative impact on local vegetation and habitat. However, the proposed native species plantings will provide partial mitigation by enhancing habitat quality and supporting ecological functions over time

Impacts: Low adverse/ site / Negative Impact / Not significant / long-term

Bat Fauna

The proposed development will change the local environment as new structures are to be erected and some of the existing vegetation will be removed. No bat roosts will be lost or impacted due to this development and the species expected to occur onsite should persist. Foraging activity on site may be reduced in the short-medium term until the landscaping matures. No collision risk is foreseen in relation to bats and bat foraging. The buildings are composed of low proportion of glazing and would be easily avoided by bats. The removal of trees on-site will result in a negative impact on foraging and potential roosting and habitat. However, the proposed native species plantings will provide partial mitigation by enhancing habitat quality and supporting ecological functions over time

Impacts: Low adverse / International / Negative Impact / Not significant / long term.

Mitigation is needed in the form of the additional control of light spill. Light baffles will be put in place during construction and development in consultation with the project ecologist to prevent light spill reaching the subsequent tree lines.

Bird Fauna

The proposed development will change the local environment as new structures are to be erected. The buildings are comprised of solid materials consisting of a solid material on the exterior which includes sections of concrete and glass. These buildings would be clearly visible to bird species and would not pose a significant collision risk. However, the presence of buildings on site and landscaping may provide additional nesting and foraging potential for garden bird species. The removal of trees on-site will result in a negative impact on foraging and potential roosting and habitat. However, the proposed native species plantings will provide partial mitigation by enhancing habitat quality and supporting ecological functions over time

Impacts: Low adverse / site / Negative Impact / Not significant / long term.

Aquatic Biodiversity

During operation there is potential for downstream impacts on biodiversity from silt or petrochemicals via the indirect pathway of surface water to the Carrickmines Stream. Standard controls will be required to be in place.

Impacts: Low adverse / local / Negative Impact / Not significant / long term

Mitigation Measures & Monitoring

Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the ecology within the Zone of Influence (ZoI), biodiversity, and local biodiversity within / proximate to the subject site are outlined in Table 5.

Table 6. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation Measures
Biodiversity on site and proximate to the proposed development.	• Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff Negative impacts on aquatic fauna	The following mitigation measures will be implemented during the construction phase of the propsoed development: **Construction Phase Mitigation** • A project ecologist will be appointed to oversee commencement and site clearance works. • Drains will be protected from dust, silt and surface water throughout the works. • Local silt traps established throughout site. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiling of loose materials will be kept to a minimum of 40m from drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains and ditches and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the surface water network. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. A risk-based approach will be taken. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • Petrochemical interception and bunds in refuelling area. • On-site inspections to be carried out by project ecologist. • Maintenance of any drainage structures (e.g. de-silting operations) will not result in the release of contaminated water to the surface water network. • Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks. • The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area.

Table 6. Mitigation Measures		
Sensitive Receptors	Potential Impacts	Mitigation Measures
		• Dewatering of excavations may be necessary. Appropriate monitoring of groundwater levels during site works will be undertaken. Standard construction phase filtering of surface water for suspended solids will be carried out. Unfiltered surface water discharges or runoff are not permitted from the site into the drainage network during the works. • Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains and drainage ditches. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. • All site personnel will be trained in the importance of good environmental practices including reporting to the site manager when pollution, or the potential for pollution, is suspected. All persons working on-site will receive work specific induction in relation to surface water management and run off controls. Daily environmental toolbox talks / briefing sessions will be conducted to outline the relevant environmental control measures and to identify any environment risk areas/works. • All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater; • Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages; • Smaller quantities of fuel may be carried/stored in clearly labelled metal Jeri cans. Green for diesel and red for petrol and mixes. The Jeri cans shall be in good condition and have secure lockable lids. The Jeri cans shall be stored in a drip tray when not in use. • Drip trays will be turned upside down if not in use to prevent the collection of rainwater; • Waters collected in drip trays will be assessed prior to discharge. If classified as contaminated, they shall be disposed by a permitted waste contractor in accordance with current waste management legal and regulatory requirements; • Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips; • No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction; • Re-fuelling of machinery, plant or equipment will be carried out in the site compound as per the appointed Construction Contractor re-fuelling controls; • The appointed Construction Contractor EERP will be implemented in the event of a material spillage; • All persons working will receive work specific induction in relation to material storage arrangements and actions to be taken in the event of an accidental spillage. Daily environmental toolbox talks / briefing sessions will be conducted

Table 6. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation Measures
		for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works. • No entry of solids to the associated drainage network during the connection of pipework to the public water system. **Erosion and Sediment Control** • Measures shall be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection, fencing and signage around specific exclusion zones and earth bunding adjacent to open drainage ditches). • Surface water runoff from areas stripped of topsoil and rainwater collected in excavations shall be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate. • Groundwater pumped from excavations is to be directed to on-site settlement ponds. • Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds. • On-site settlement ponds are to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion. • Surface water discharge points during the construction phase are to be agreed with Meath County Council's Environment Section prior to commencing works on site. • Weather conditions and seasonal weather variations shall also be taken account of when planning stripping of topsoil and excavations, with an objective of minimizing soil erosion. **Accidental Spills and Leaks** • All oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area. • Refuelling and servicing of construction machinery shall take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site). • Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds. • A response procedure shall be put in place to deal with any accidental pollutionevents and spillage kits shall be a vailable and construction staff will be familiar with the emergency procedures and use of the equipment. **Operation** The project ecologist will inspect the interceptors on site post construction. This will ensure that the proposed project drainage has been constructed as per drainage and pollution control. • As part of the management of the proposed development a schedule of inspection of interceptors on site will be agreed with the County Council but this will be at minimum every three years.

Table 6. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation Measures
Birds (National Protection)	• Destruction and/or disturbance to nests.	• "Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. If birds are presend and it is proposed to remove the vegetion NPWS will be contacted and any conditions applied if removal is within bird nesting season.
Bats (international Protection)	• Lighting Impacts	• Light baffles will be put in place during construction and development in consultation with the project ecologist to prevent light spill reaching the subsequent tree lines. • Lighting will comply with bat lighting guidelines. • Lighting during construction will be approved by the project ecologist and will not be directed towards the perimeter of the site especially the souther treeline. • Lighting during operation will not spill onto the retained western boundary treeline.

Adverse Effects likely to occur from the project (post mitigation)

Standard construction and operational mitigation measures are proposed. These would ensure that water entering the surface water drainage network during operation and by extension the Carrickmines Stream is clean and uncontaminated.

With the successful implementation of standard mitigation measures to limit surface water impacts on the watercourses, biodiversity mitigation/supervision, no significant impacts are foreseen from the construction or operation of the proposed project on terrestrial or aquatic ecology. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works.

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on terrestrial and aquatic biodiversity and designated conservation sites through the application of the standard construction and operational phase controls as outlined above. In particular, mitigation measures to ensure compliance with Water Pollution Acts and prevent dust, silt, and pollution entering the Carrickmines Stream will satisfactorily address the potential impacts on downstream biodiversity. No significant adverse impacts on the conservation objectives of Natura 2000 sites / European Sites are likely in the absence of mitigation measures outlined above.

It is essential that these measures outlined are complied with, to ensure that the proposed development does not have local “downstream” environmental impacts. These measures are to protect the groundwater/surface water and prevent dust entering the watercourse via the surface water drainage network, which are potentially the primary vectors of impacts from the site, and ensure that there are no significant impacts to biodiversity during construction and /or operational phases of the proposed development

Cumulative Impacts

There are multiple developments that received planning permission located in the area immediately surrounding the subject site. The following is a list of planning applications (last 5 years) as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Map' portal:

Table 7. Approved planning applications in the vicinity of the subject site

Ref. No.	Address	Proposal
LRD24A/0111	Murphystown Way, Dublin 18	Apply for planning permission for a Large-scale Residential Development consisting of alterations to the Strategic Housing Development permitted under ABP Ref.: 308227-20 on a site at Murphystown Way, Dublin 18. The site is bound by the M50 motorway to the north, the Luas Green Line to the east and Murphystown Way to the south west. Glencairn House and its curtilage, which is a protected structure under RPS Ref. No. 1643, and the Glencairn SHD residential development (permitted under ABP Ref.: ABP-302580-18) is located to the east of the application site. The proposed alterations to the permitted development consists of the replacement of the residential amenity space (with a gross floor area of 450 sq.m) at the ground floor of Block 1 with 5 no. apartments (2 no. 1 bedroom apartments, 2 no. 2 bedroom apartments, and 1 no. 3 bedroom apartment), the provision of external storage space and a bicycle store for the proposed apartments. This results in an increase in apartments in Block 1 from 116 no. to 121 no. apartments. The proposals include associated alterations to facades, and external alterations to provide private amenity space for the proposed apartments, and all associated development. The permitted SHD development (under ABP Ref.: 308227-20) is for 249 no. apartments, and the proposed alterations would result in the overall increase to 254 no. apartments. Details are available online at https://mwshdamdt1.com/
303978	Glenamuck Road South, Kilternan, Dublin 18	30 no. houses and 173 no. apartments with all associated site works.
306160	Glenamuck Road, Enniskerry Road, Kiltiernan, Dublin 18	Demolition of 'Greenmount' and 'Dun Oir', construction of 197 no. residential units (62 no. houses, 135 no. apartments) and associated site works.

Following an analysis of development proposals proximate to the subject site, it is considered that cumulative impacts with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on biodiversity or designated conservation sites are likely as a result of the proposed development in combination with other projects. No cumulative impacts are foreseen.

No projects in the vicinity of the proposed development would be seen to have significant cumulative impacts on biodiversity or designated conservation sites.

Residual Impacts and Conclusion

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on the sensitive receptors through the application the standard construction and operational phase controls. The overall impact on the ecology of the proposed development will result in a long term slight adverse not significant residual impact on the ecology of the area and locality overall. This is primarily as a result of the loss of terrestrial habitats on site, supported by the creation of additional biodiversity features including the landscaping strategy.

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ALTEMAR
Marine & Environmental Consultancy

Bat Fauna Impact Assessment for a development at Kilgobbin Road, Stepaside, Dublin 18.

2nd September 2025

Prepared by: Luke Dodebier (BSc) of Altemar Ltd.
On behalf of: Kilgobbin Apartments Limited

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Directors: Bryan Deegan and Sara Corcoran
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SUMMARY

Structure:	The survey area consists primarily of Improved Agricultural grassland, a number of treelines and hedgerows around the boundary with a drainage ditch to the eastern side of the boundary.
Location:	Kilgobbin Road, Stepaside, Dublin 18.
Bat species present:	Common Pipistrelle (*Pipistrellus pipistrellus)* and Lesser noctule/Leisler's bat (*Nyctalus leisleri*).
Proposed work:	Large Scale Residential Development
Impact on bats:	A proposed Large-Scale Residential Development (LRD) will provide 120 no. apartment units within 2 no. blocks ranging in height from 4- to 6-storeys. The development will consist of; Block A, consisting of 44 no. units (27 no. 1 bed (2-person), 13 no. 2 bed (3-persons), 1 no. 2 bed (4-persons) and 3 no. 3 bed (5-persons) of 4- to 5-storeys height and of Block B, consisting of 76 no. units (40 no. 1 bed (2-persons), 12 no. 2 bed (3-persons), 16 no. 2 bed (4-persons) and 8 no. 3 bed (4-persons) of 5- to 6-storeys height. The proposed development will provide all associated public open space and play area, 54 no. car parking spaces including accessible parking and Electric Vehicle parking, 273 no. bicycle parking spaces, 3 no. motorcycle parking spaces, bin/waste store and a plant room at ground floor level, 1 no. detached ESB substation and 1 no. detached bicycle store for Block A residents. The proposed development will also provide for all associated site development and infrastructural works including foul and surface water drainage, roads, footpaths, landscaping, boundary treatment and a pedestrian and cycling pathway connecting Belarmine Vale and Kilgobbin Road. Vehicular access to the development will be via Belarmine Vale.
Survey by:	Gayle O'Farrell (Altemar) & Bryan Deegan (Altemar)
Survey dates:	21st September 2024 and 24th June 2025.

Competency of Assessor

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments.

This report has been prepared by Luke Dodebier (Altemar). Luke holds a BSc (Hons.) in Wildlife Biology and has 4 years' experience in ecological consultancy. Luke has worked on a large variety of projects from large scale renewable projects to small scale residential projects and seen them to completion. Luke is a skilled terrestrial ecologist experienced in Bird, mammal and flora surveying as well as associated reporting in AA, NIS and EcIA. Luke is a qualified bat handler.

Bryan Deegan is the managing director of Altemar. Bryan is an environmental scientist and marine biologist with 31 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. 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). Bryan is a qualified bat handler.

Gayle O'Farrell (BSc (Hons.) Agri-Environmental Sciences) is skilled in bat detection through static detector surveys, dusk emergence, and down re-entry surveys. She is also skilled in habitat assessment and has undertaken flora/invasive species surveys, breeding/wintering bird surveys and terrestrial mammal surveys to produce numerous ecological assessments on a range of residential, industrial and commercial projects.

Legislative Context

Wildlife Act 1976 (as amended by, inter alia, the Wildlife (Amendment) Act 2000).

Bats in Ireland are protected by the Wildlife (Amendment) Act 2000. Based on this legislation it is an offence to wilfully interfere with or destroy the breeding or resting place of any species of bat. Under this legislation it is an offence to "*Intentionally kill, injure or take a bat, possess or control any live or dead specimen or anything derived from a bat, wilfully interfere with any structure or place used for breeding or resting by a bat, wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose. "*

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora has been transposed into Irish Law, including, via, *inter alia*, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). See Art.73 of the 2011 Regulations which revokes the 1997 Regulations.

Annex II of the Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) lists animal and plant species of Community interest, the conservation of which requires the designation of Special Areas of Conservation (SACs); Annex IV lists animal and plant species of Community interest in need of strict protection. All bat species in Ireland are listed on Annex IV of the Directive, while the Lesser Horseshoe Bat (*Rhinolophus hipposideros*) is protected under Annex II which related to the designation of Special Areas of Conservation for a species.

Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), all bat species are listed under the First Schedule and, pursuant to, *inter alia*, Part 6 and Regulation 51, it is an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat particularly during the period of breeding, hibernating or migrating;
- Damage or destroy a breeding site or resting place of a bat;
- Keep, sell, transport, exchange, offer for sale or offer for exchange any bat taken in the wild.

Project Description

The proposed development at Kilgobbin Road, Stepaside, Dublin 18, comprises of the following:

A proposed Large-Scale Residential Development (LRD) will provide 120 no. apartment units within 2 no. blocks ranging in height from 4- to 6-storeys. The development will consist of; Block A, consisting of 44 no. units (27 no. 1 bed (2-person), 13 no. 2 bed (3-persons), 1 no. 2 bed (4-persons) and 3 no. 3 bed (5-persons) of 4- to 5-storeys height and of Block B, consisting of 76 no. units (40 no. 1 bed (2-persons), 12 no. 2 bed (3-persons), 16 no. 2 bed (4-persons) and 8 no. 3 bed (4-persons) of 5- to 6-storeys height.

The proposed development will provide all associated public open space and play area, 54 no. car parking spaces including accessible parking and Electric Vehicle parking, 273 no. bicycle parking spaces, 3 no. motorcycle parking spaces, bin/waste store and a plant room at ground floor level, 1 no. detached ESB substation and 1 no. detached bicycle store for Block A residents. The proposed development will also provide for all associated site development and infrastructural works including foul and surface water drainage, roads, footpaths, landscaping, boundary treatment and a pedestrian and cycling pathway connecting Belarmine Vale and Kilgobbin Road. Vehicular access to the development will be via Belarmine Vale.

The proposed site outline, site location and proposed site plans are demonstrated in Figures 1-3.

Landscape

The landscape strategy for the proposed development has been prepared by Landmark Design & Consultancy Landscape Architecture. The proposed landscape masterplan is demonstrated in Figure 4.

Figure 1. *Site location*

Figure 2. *Site location*

Figure 3. *Proposed Site Plan With Roof Plan*

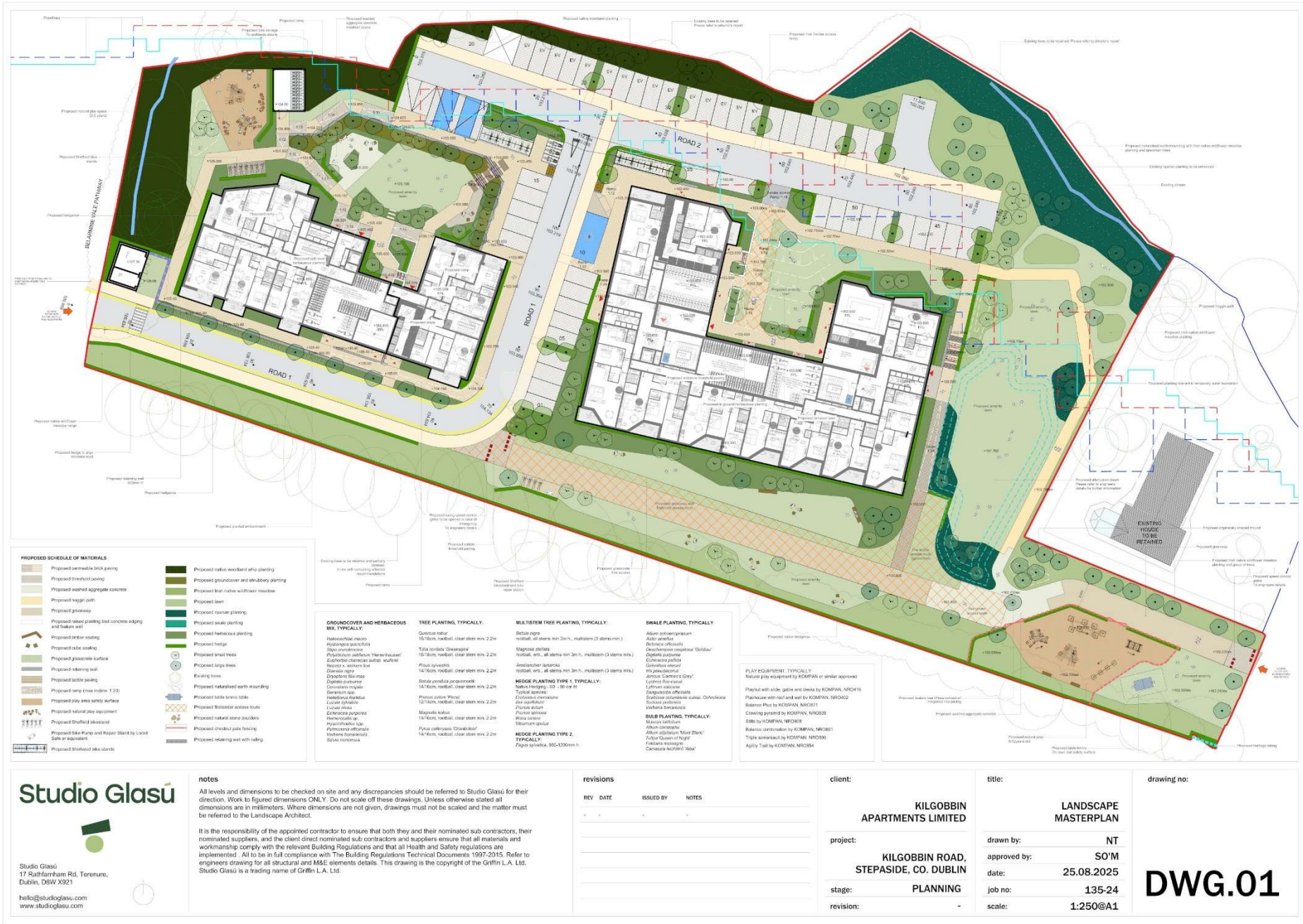

Figure 4. *Landscape plan*

Arboricultural Assessment

An Arboricultural Impact Assessment map and tree schedule was prepared by John Morris Arboricultural Consultancy Ltd to accompany this planning application. It outlines the following in relation to the proposed development:

'Summary of Survey Findings

The lands adjacent to Kilgobbin Road are formed of a grazed field bordered to the south by a mature hedgerow/field boundary dominated by sycamore with occasional oak and horse chestnut. A number of the trees are fully mature with large girth stems, some sycamore presenting basal decay and declining crowns and the horse chestnut displaying early veteran characteristics. To the west, a group of early mature beech grow adjacent to the stream forming a dense canopy with surrounding self-sown younger sycamore. The northern boundary has few trees within the site, though numerous specimen trees form a boundary canopy growing from adjacent residential properties. A lapsed, intermittent field boundary hedgerow running north south across the site contains two early mature ash in fair condition. The residential property lands included with the red line boundary comprise a variety of ornamental trees within the garden, including several mature fruit trees. Tree species are as follows;

These trees vary in age class, ranging from early mature to mature. Many trees are part of linear plantings, forming tree lines along the site boundaries, while others stand individually or in small groups.

Impact Assessment

Tree removals and pruning have been limited to that which is necessary and unavoidable to allow the development proposal to be implemented, with consideration given to species attributes, the tolerance of individual trees to disturbance, and to the presence of surrounding trees and features of the site which may have an influence on retained trees. The proposal will require removal of 17 individual trees, two groups of trees and one hedgerow The proposal will require the removal of 1 high value category A tree, 6 moderate value category
B trees and 12 low value category c features. The applicant proposes to plant new trees upon the site.
This new planting will increase species diversity and canopy cover in the local landscape to
provide an improvement on the pre-development baseline.

The section of Tree Line No.1 within the sites red line boundary to the west of the site. This tree line is of low and moderate quality and has been given a category grade of 'B1-C1'. The tree to be removed facilitate proposed development are numbered 34-43 in the Arborist survey conducted by John Morris Arboricultural consultancy.
The section of Tree Line No.2 within the sites red line boundary to the North East of the site. This tree line is of low and moderate quality and has been given a category grade of 'B1-C1'. The trees to be removed facilitate proposed development are numbered 54-58 including tree 63 in the Arborist survey conducted by John Morris Arboricultural consultancy.
The section of hedgerow Line No.3 within the sites red line boundary to the Middle east of the site. This hedgerow is of low and moderate quality and has been given a category grade of 'B1-C1'. The trees to be removed facilitate proposed development are numbered 59-62 in the Arborist survey conducted by John Morris Arboricultural consultancy.
The mature tree line along the southern boundary have been identified as an important feature that provides high visual amenity in the local landscape. These trees have been incorporated into the design layout by retaining a grass verge and constructing a pedestrian path using a 'No Dig' solution.

As laid out in the Tree Impact & Protection Plan by John Morris Arboricultural Consultancy Ltd remaining trees will be protected with root protection area as well as tree protection fencing in accordance with BS5837:2012 to protect retained tree roots, stems and canopies. Therefore, It is not expected that the current site layout will have any further impact on the root zone of these trees.
In order to mitigate the impact of the removal of trees from the site the landscape plan (Figure 4.) the applicant proposes to plant new trees upon the site.
This new planting will increase species diversity and canopy cover in the local landscape.

The Tree Constraints Plan & Tree Protection Plan are demonstrated in figure 5.

Figure 5. *Tree Protection Plan*

Lighting

The lighting strategy for the proposed development has been prepared by Kellihers Electrical. This report outlines the following lighting specification:

Layout Report

General Data

Dimensions in Metres Angles in Degrees
Grid Origin 320.4m x 226.5m
Area 207.2m x 128.8m
Sample Spacing 1.49m x 1.50m

Luminaires

Luminaire A Data

Supplier	
Type	BGP291 DW50 BL1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	2.80
File Name	LumiStreet Gen2 Micro_BGP291_DW50 BL1_2800_20LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	595.4, 30.8, 0.0
No. in Project	17

Luminaire B Data

Supplier	
Type	BGP291 DM11 BL1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	2.80
File Name	LumiStreet Gen2 Micro_BGP291_DM11 BL1_2800_20LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	537.0, 80.5, 0.0
No. in Project	8

Luminaire C Data

Supplier	
Type	BGP291 DRXN1
Lamp(s)	LED-HB 5.2S 730
Lamp Flux (klm)	1.80
File Name	LumiStreet Gen2 Micro_BGP291_DRXN1_1800_10LED_5.2S_CLO_L90_730.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	1155.3, 26.3, 0.0
No. in Project	5

Luminaire D Data

Supplier	
Type	BDP260 DS50 LED35/- NO
Lamp(s)	LED35-4S/730
Lamp Flux (klm)	3.50
File Name	BDP260 1 xLED35-4S_730 DS50.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	282.3, 67.8, 0.0
No. in Project	2

The proposed site lighting layout is demonstrated below in Figure 7 Light baffles will be put in place during construction and development in consultation with the project ecologist to prevent light spill reaching the subsequent tree lines.

DATE: 27 January 2025 DESIGNER: Declan Doyle

PROJECT No: KE/RE/KRG/01 PROJECT NAME: Kilgobbin road Glencullen lighting

Horizontal Illuminance (lux)

Site

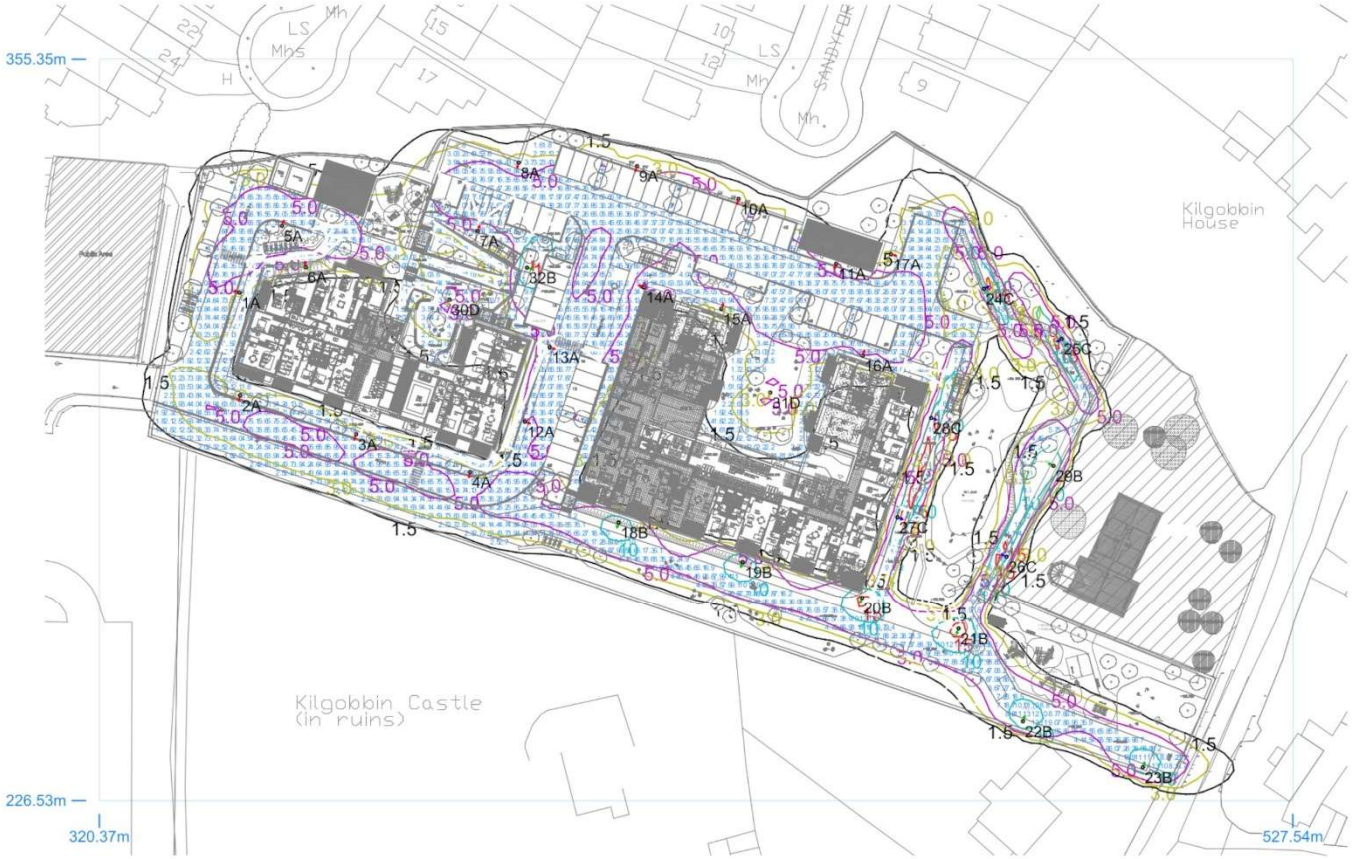

Figure 7. *Public lighting layout*

Bat Survey

This report presents the results of a site visits by Gayle O'Farrell and Bryan Deegan on the 21st September 2024 and 24th June 2025. A bat emergent and detector survey was carried out. Trees on site were examined for bat roosting potential.

Survey Methodology

As outlined in Marnell et al. 2022 '*The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited by active bats provide the best clues. Roosts of species which habitually enter roof voids are probably the easiest to detect as the droppings will normally be readily visible. Roosts of crevice-dwelling species may require careful searching and, in some situations, the opening up of otherwise inaccessible areas. If this is not possible, best judgement might have to be used and a precautionary approach adopted. Roosts used by a small number of bats, as opposed to large maternity sites, can be particularly difficult to detect and may require extensive searching backed up by bat detector surveys (including static detectors) or emergence counts.'* In relation to the factors influencing survey results the guidelines outlines the following *'During the winter, bats will move around to find sites that present the optimum environmental conditions for their age, sex and bodyweight and some species will only be found in underground sites when the weather is particularly cold. During the summer, bats may be reluctant to leave their roost during heavy rain or when the temperature is unseasonably low, so exit counts should record the conditions under which they were made. Similarly, there may be times when females with young do not emerge at all or emerge only briefly and return while other bats are still emerging thus confusing the count. Within roosts, bats will move around according to the temperature and may or may not be visible on any particular visit. Bats also react to disturbance, so a survey the day after a disturbance event, may give a misleading picture of roost usage.'*

The survey involved the methodologies outlined in Collins (2016) which included the roost inspection methodologies i.e. external methodology outlined in section 5.2.4.1 and the internal survey outlines in section 5.2.4.2 of the guidelines. In addition, the methodologies for Presence absence surveys (Section 7) was carried out for dust emergent surveys.'

As outlined in Collins (2016) 'The bat active period is generally considered to be between April and October inclusive (although the season is likely to be shorter in northern latitudes). However, because bats wake up during mild conditions, bat activity can also be recorded during winter months.'

Survey Results

Trees as potential bat roosts.

A ground level roost assessment was carried and used to examine the trees on site for features that could form bat roosts. Potential roosting features include heavy ivy growth, broken limbs, areas of decay, vertical or horizontal cracks, cracks in bark etc. All trees on site were assessed for bat roosting potential. All trees on site were assessed. No trees of bat roosting potential are noted within the site. Several trees of bat roosting potential were noted on the southern boundary. It is proposed to remove a number of the trees along the Western and north eastern boundary of the site.

A singular common pipistrelle bat roost was found outside of the site in a tree which will be unaffected by the proposed development. A derogation license is therefore not required for the removal of trees on site.

Emergent/detector surveys.

An emergent/detector survey was carried out by Gayle O'Farrell and Bryan Deegan on the 21st September 2024 and 24th June 2025.

The detector surveys were undertaken within the active bat season and the transects covered the entire site multiple times during the night. Weather conditions on both nights were good with mild temperatures greater than 10°C after sunset. Winds were light and there was no rainfall during the site. Insects were observed in flight during the survey and bats were observed on site.

As outlined in Collins (2016) in relation to weather conditions '*The aim should be to carry out surveys in conditions that are close to optimal (sunset temperature 10°C or above, no rain or strong wind.), particularly when only one survey is planned…. Where surveys are carried out when the temperature at sunset is below 10°C should be justified by the ecologist and the effect on bat behaviour considered.*' There were no constraints in relation to the survey carried out. All areas of the site were accessible and weather conditions were optimal for bat assessments.

At dusk, a bat detector survey was carried out onsite using a*n Echo meter touch 2 Pro* detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations.

As seen in Figure 12, bat activity was noted on site during the survey. Bat foraging activity is typically concentrated in specific places where insects are likely to be plentiful and have the ability to swarm. Activity was primarily noted in sheltered places, treelines and hedgerows on site but also in areas that form sheltered dark foraging areas. Two species were noted on site:

- Common pipistrelle (*Pipistrellus pipistrellus*)
- Leisler's bat (*Nyctalus leisleri*)

No bats were noted emerging from any onsite trees However a single pipistrelle bat was recorded roosting in a tree outside of the site boundary to the south west of the site.

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 2km^2 grid (Reference grid O12X) encompassing the study area reveals that four of the nine known Irish species have been observed locally: Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*), Lesser Noctule (*Nyctalus leisleri*), Brown Long-eared Bat (*Plecotus auritus*)and Soprano Pipistrelle (*Pipistrellus pygmaeus*).The National Biodiversity Data Centre's online viewer was consulted to determine whether there have been recorded bat sightings in the wider area. This is visually represented in Figures 8-11. The following species were noted in the wider area: Daubenton's Bat (*Myotis daubentonii*), Natterer's Bat (*Myotis nattereri*), Lesser Noctule (*Nyctalus leisleri*), Nathusius's Pipistrelle (*Pipistrellus nathusii*), Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Brown Long-eared Bat (*Plecotus auritus*).

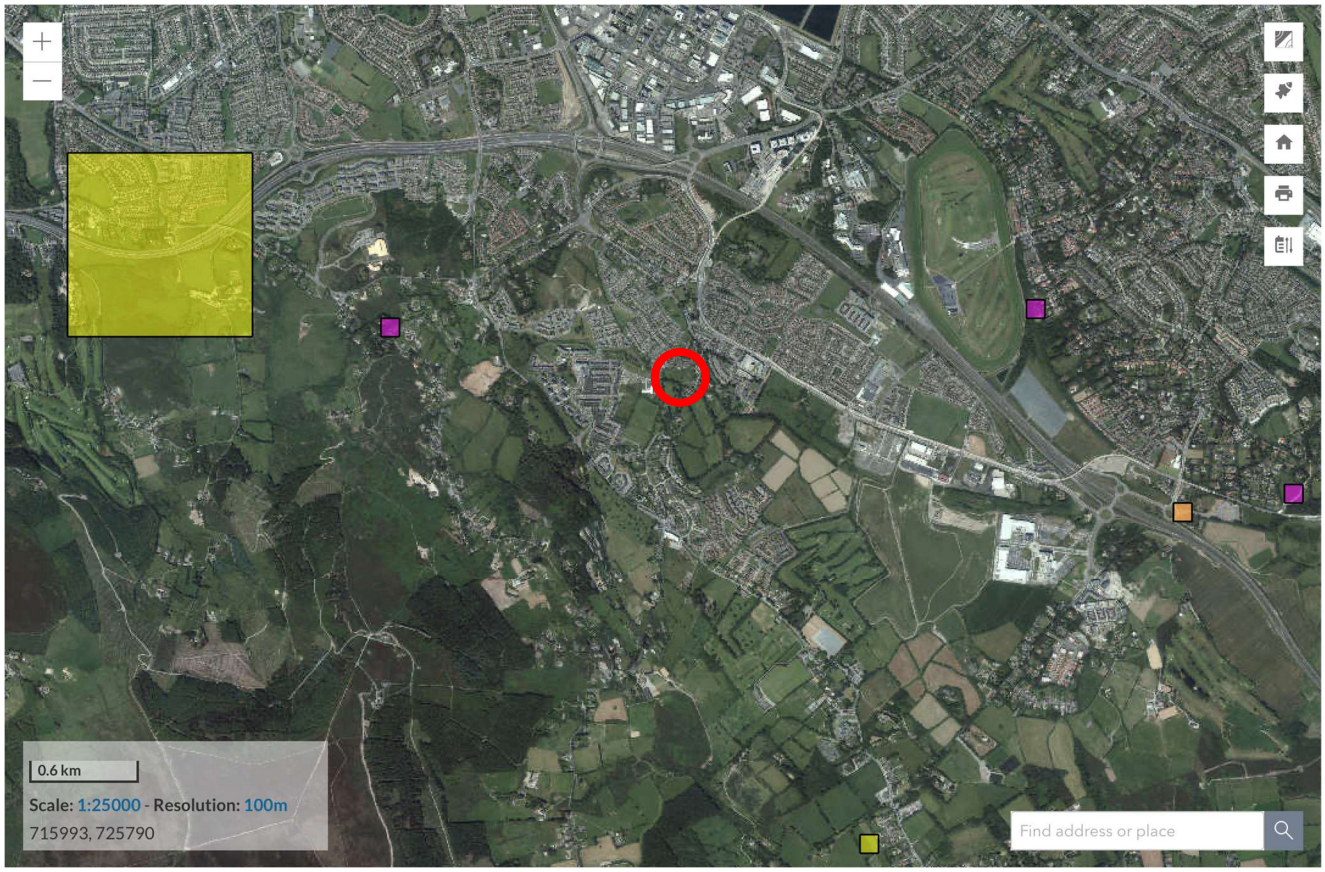

Figure 8. Daubenton's Bat (*Myotis daubentonii*) (purple), Natterer's Bat (*Myotis nattereri*) (yellow), and both Daubenton's Bat and Natterer's Bat (Orange) (Source: NBDC) (Approx site area: red circle).

Figure 9.. Lesser Noctule (*Nyctalus leisleri*) (purple) and both Lesser Noctule and Nathusius's Pipistrelle (*Pipistrellus nathusii*) (orange) (Source: NBDC) (Approx site area: red circle).

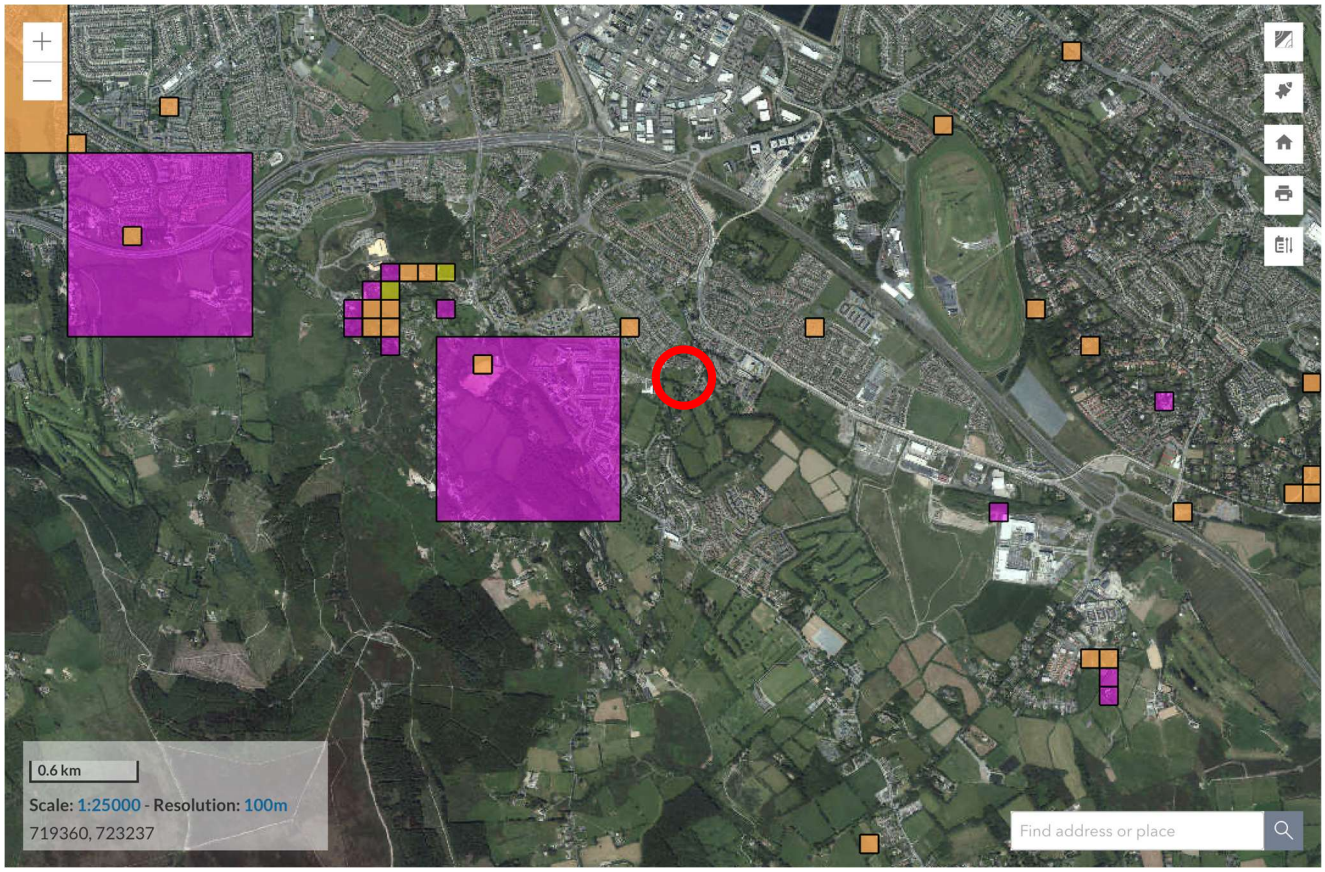

Figure 10. Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*) (purple), Soprano Pipistrelle (*Pipistrellus pygmaeus*) (yellow) and both Common Pipistrelle and Soprano Pipistrelle (orange) (Source: NBDC) (Approx site area: red circle).

Figure 11. Brown Long-eared Bat (*Plecotus auritus*) (purple) (Source: NBDC) (Approx site area: red circle).

Figure 12. *Bat foraging. common Pipistrelle (Pipistrellus pipistrellus) (orange) and Lesser noctule/Leisler's bat (blue).*

Potential Impact of the development on Bats

The proposed development will change the local environment as the new structures are to be erected. Onsite trees in the middle of the site including along the western, northwestern boundary will also be removed to facilitate the proposed development. It should be noted that the southern and eastern boundary treelines are proposed for retention. No confirmed bat roosts were recorded in any onsite trees proposed for felling, structure, or vegetation. Therefore, an NPWS derogation licence is not required. Foraging activity of two relatively common bat species (Common Pipistrelle and Lesser Noctule) were noted on site. Foraging activity was concentrated to treelines to the west and south of the site. The removal of trees on site will result in reducing the sites foraging potential across the site. However, the applicant proposes to plant new trees upon the site. This new planting will increase species diversity and canopy cover in the local landscape. Lighting during construction and operation could potentially lead to impacts on foraging, Light baffles will be put in place during construction and development in consultation with the project ecologist to prevent light spill reaching the subsequent tree lines. It would be expected that bats would continue to forage on site with the implementation of the sensitive lighting strategy. single common pipistrelle bat roost was located in a tree roost outside the south-western corner of the site boundary Lighting and the removal of trees will impact on foraging on site. However, foraging along the treeline along the southern boundary would be expected to continue on site following the implementation of mitigation.

Mitigation Measures

As outlined in Marnell et al. (2022) "*Mitigation should be proportionate. The level of mitigation required depends on the size and type of impact, and the importance of the population affected*." In addition as outlined in Marnell et. al (2022) '*Mitigation for bats normally comprises the following elements:*

- *Avoidance of deliberate, killing, injury or disturbance – taking all reasonable steps to ensure works do not harm individuals by altering working methods or timing to avoid bats. The seasonal occupation of most roosts provides good opportunities for this*
- *Roost creation, restoration or enhancement – to provide appropriate replacements for roosts to be lost or damaged*
- *Long-term habitat management and maintenance – to ensure the population will persist*
- *Post-development population monitoring – to assess the success of the scheme and to inform management or remedial operations.*'

The following mitigation will be in place:

- Light baffles will be put in place during construction and development in consultation with the project ecologist to prevent light spill reaching the subsequent tree lines. Lighting during construction and development will be approved by the project ecologist and will not be directed towards the perimeter of the site.
- Lighting during operation will not spill onto the retained southern boundary treeline.

Predicted Residual Impact of Proposed Development on Bats

The proposed development will change the local environment as new lights and structures are to be erected and the existing vegetation will be removed. Foraging activity on site may be reduced due to the presence new buildings and lighting. It would be expected that, with a sensitive public lighting strategy, foraging activity will continue on site. The proposed development will result in a long term/low adverse/not significant/negative impacts on bats.

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