

**Ecological Impact Assessment (EcIA) for the proposed development
at 'Barrington Tower', Brennanstown Road, Dublin 18**



27th March 2022

Prepared by: Bryan Deegan MSc., BSc.(MCIEEM) of Altemar Ltd.

On behalf of: Cairn Homes Properties Limited.

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INTRODUCTION

Background

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

Background to Altemar Ltd.

Altemar Ltd. is an established environmental consultancy that is based in Greystones, Co. Wicklow that has been in operation in Ireland since 2001. Bryan Deegan MCIEEM is the Managing Director of Altemar Ltd. and holds a M.Sc. Environmental Science, BSc (Hons.) in Applied Marine Biology and a National Diploma in Applied Aquatic Science. He has over 27 years’ experience as an environmental consultant in Ireland and was the ecologist for all aspects of this project. Previous projects where Altemar were the lead project ecologists include the Lidl Ireland GmbH regional distribution centres in Newbridge and Mullingar, 18 airside projects for daa at Dublin Airport and 7 fibre optic cable landfalls in Ireland including the New York to Killala cable project in 2015. Bryan Deegan is the sole “External Expert” that provides support to Inland Fisheries Ireland in relation to environmental assessment.

Dr Tina Aughney (Bat Eco Services) has worked as a Bat Specialist since 2000 and has undertaken extensive survey work for all Irish bat species including large scale development projects, road schemes, residential developments, wind farm developments and smaller projects in relation to building renovation or habitat enhancement. She is a monitoring co-ordinator and trainer for Bat Conservation Ireland. She is a co- author of the 2014 publication Irish Bats in the 21st Century. This book received the 2015 CIEEM award for Dr Aughney is a contributing author for the Atlas of Mammals in Ireland 2010-2015. All analysis and reporting is completed by Dr Tina Aughney. Data collected and surveying is completed with the assistance of a trained field assistant. Mr. Shaun Boyle (Field Assistant) NPWS licence DER/BAT 2021-19 (Survey licence, expires 15th March 2022).

Hugh Delaney provided specialist support to Bryan Deegan in relation to birds. Hugh Delaney is an ecologist (ornithologist primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

1) PROJECT DESCRIPTION

A. Description of the Proposed Project

The proposed 'Build-to-Rent' (BTR) development will consist of the construction of 8 no. blocks in heights up to 10 storeys comprising 534 residential units, a creche, a retail unit, residential support facilities and residential services and amenities. The proposal also includes car and cycle parking, public and communal open spaces, landscaping, waste management areas, plant areas, substations, switch rooms, and all associated site development works and services provision.

The proposed development provides 534 no. residential units as follows:

- 30 no. studios (5.6%)
- 135 no. 1 beds (25.3%)
- 318 no. 2 beds (59.6%)
- 51 no. 3 beds (9.5%)

The 534 no. units provide a residential density of 140 uph.

The units will be provided in 8 blocks ranging up to 10 storeys in height. All of these units have associate private space in the form of terraces or balconies which will look east/west/ north/ south. 50.7% of the proposed units are dual aspect.

Block AB provides 40 no. units and is 5 storeys. Block CD provides 32 no. units and is 5 storeys in height. Block E provides 68 no. units and ranges in height from 5 – 8 storeys (including the lower ground floor). Block F provides 96 no. units and ranges in height from 9 – 10 storeys (including the lower ground floor). Block G provides 89 no. units and ranges in height from 7 -8 storeys (including the lower ground floor). Block H provides 99 no. units and is 9 storeys in height. Block I provides 48 no. units and ranges in height from 5 to 6 storeys (including lower ground floor). Block J provides 62 no. units and ranges in height from 5 to 6 storeys (including lower ground floor).

In addition to residential units, the proposed development also provides a retail unit and a creche. The convenience retail unit, measuring 356.5 sqm, and the creche, measuring 336.8 sqm, is located on the ground floor of Block CD.

The proposed site outline and plan can be seen in Figures 1-3. The proposed elevations for the development are seen in Figure 5-12.

Zone of Influence

The proposed development site is not located within a European site. 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 was originally set at a radius of 2km for non-linear projects (IEA, 1995).

However, drainage from site, both surface water and foul, would be seen as the external output from the site during construction and operation that could have potential for effects on European sites. For clarity, information in relation to drainage during construction and operation is provided. In summary, surface water drainage during construction and operation would discharge be to the Carrickmines Stream (Ticknick Stream) which leads to the marine environment within Killiney Bay, proximate to Rockabill to Dalkey SAC. Foul water will require new connections into the public infrastructure network and will enter the public network with treatment at Shanganagh WwTP. Significant reprofiling works are proposed on site and there is potential for contaminated runoff to enter the Carrickmines Stream (Ticknick Stream) with potential impacts on the watercourse and the marine environment in Killiney Bay.

Landscape of the Proposed Project

A Landscape Design Statement was composed by Murray & Associates, in relation to the landscape design masterplan of the proposed project, the report states that: *'The landscape design proposals aim to maximise the natural characteristics of this south-facing site and combine the views, heritage and design principles to create a place with a unique sense of place. Barrington Tower is at the centre of the primary public open space and acts as a focal element, around which the scheme orbits. The site also provides walking and cycling links for the general public to the Luas stop at Brennanstown. Despite the steep terrain, accessible routes have been provided, with more direct stepped routes where necessary to address desire lines.'*

In relation to proposed measures in relation to biodiversity for the development site, the report states the following:

- ‘1. *Bat House: In order to protect bats that might be disturbed during construction, including conservation works to the tower, a bat house is proposed to be constructed well in advance of any construction. It has been sited on the southern side of the site, close to the woodland and Tickenick Stream, the primary feeding grounds for bats in the area. For the longer term conservation of these animals, several strategies are integrated into the landscape design:*
2. *Dark corridor: Planting to protect and maintain as dark as possible for commuting bats along existing boundary treelines/hedgelines, with new plants;*
3. *Tree Planting to control light spill from apartments, maintaining a dark corridor along the boundary for bats;*
 - *Populus nigra ‘Italica’*
 - *Carpinus betulus ‘Frans Fontaine’*
4. *Planting with bat-friendly plant mix which will encourage insects, upon which bats feed including Willow (Salix spp.), Guelder Rose (Viburnum opulus), Holly (Ilex aquifolium), Silver Birch (Betula pendula), Alder (Alnus glutinosa), Hawthorn (Crataegus monogyna) and Wild Rose (Rosa canina). At ground level flowering native species, such as, Primrose, Bluebell, Wild strawberry, etc., will also support insect life.*
5. *Lighting in Open Space. Bollard lighting (1m height) in main open space and all light fittings will have warm, bat-friendly colour temperature – max. 2700K (warm white) and 2200K along the western boundary, where height is also limited to 4m.’*

Moreover, the Design Statement states, in relation to further biodiversity measures to be taken:

‘Other measures included for Biodiversity are as follows, following the recommendations of the project Ecologists, Altamar: Bird nesting boxes Insect ‘hotels’ i.e. log piles, brushwood piles from site in Biodiverse Green Roof (see indicative details below) Wildflower meadow in all areas except kickabout spaces and within 1m of paths; seed mix will be selected in collaboration with Amenity Grass areas to follow a 6-Week Mowing Regime; i.e. the grass will be cut at minimum 6-week intervals, to ensure that the grass areas have maximum possible ecological and biodiversity benefit, allowing the grass and ground flora to develop, whilst also being compatible with the kickabout and play functions.’

Furthermore, the report states that:

‘Biodiverse Green Roof’

The green roof system proposed allows for enhanced biodiversity with native Sedum plants in combination with select wildflowers. This results in a more place-specific green roof and enhances the biodiversity value significantly over a typical green roof, with non-native Sedum only. In addition, elements such as micro-mounds for mining pollinator insects and log piles, etc. can be introduced.’ The proposed Landscape Masterplan is seen in Figure 13.

Drainage

An Engineering Assessment Report was composed by Waterman Moylan Engineering Consultants. The report outlines the proposed drainage network systems for the proposed development.

Foul Water Drainage

In relation to the receiving environment for the proposed development, the report states the following: ‘There is an existing 225 mm Ø foul sewer to the south of the site running along the north of the Luas line. This foul water pipe discharges to the 900 mm Ø combined trunk sewer approximately 120m to the east of site. See Appendix A for Irish Water Record Maps. A Pre-Connection Enquiry form was submitted to Irish Water on January 2022 which outlined the proposals for the drainage of wastewater from the development. Irish Water responded with the Confirmation of Feasibility (COF) on 4th February 2022, with reference no. CDS2000317, stating that an upgrade of the existing 225mmØ and 300mmØ gravity sewer (from the development connection point up to the 900mm trunk sewer) may be required. Any upgrade works will be confirmed following future surveys to be undertaken to establish the integrity and capacity of the existing foul sewer line. Please refer to Appendix B for the Irish Water Confirmation of Feasibility.’

In relation to the proposed foul drainage for the proposed development, the report states that: ‘It is proposed to drain the site to this existing 900mm trunk sewer network at the southern corner of the subject lands.’

The effluent ultimately discharges into the Shanganagh Wastewater Treatment Plant (WwTP). Based on the 2020 Annual Environmental Report this WWTP is operating within compliance and has capacity (56,665 PE remaining) for the proposed development¹. The proposed drainage layout is seen in Figure 14.

¹ https://www.water.ie/uuid/cfbdb5b6-84b3-42bf-8f82-09df97f80944/d0038-02_2020_aer.pdf

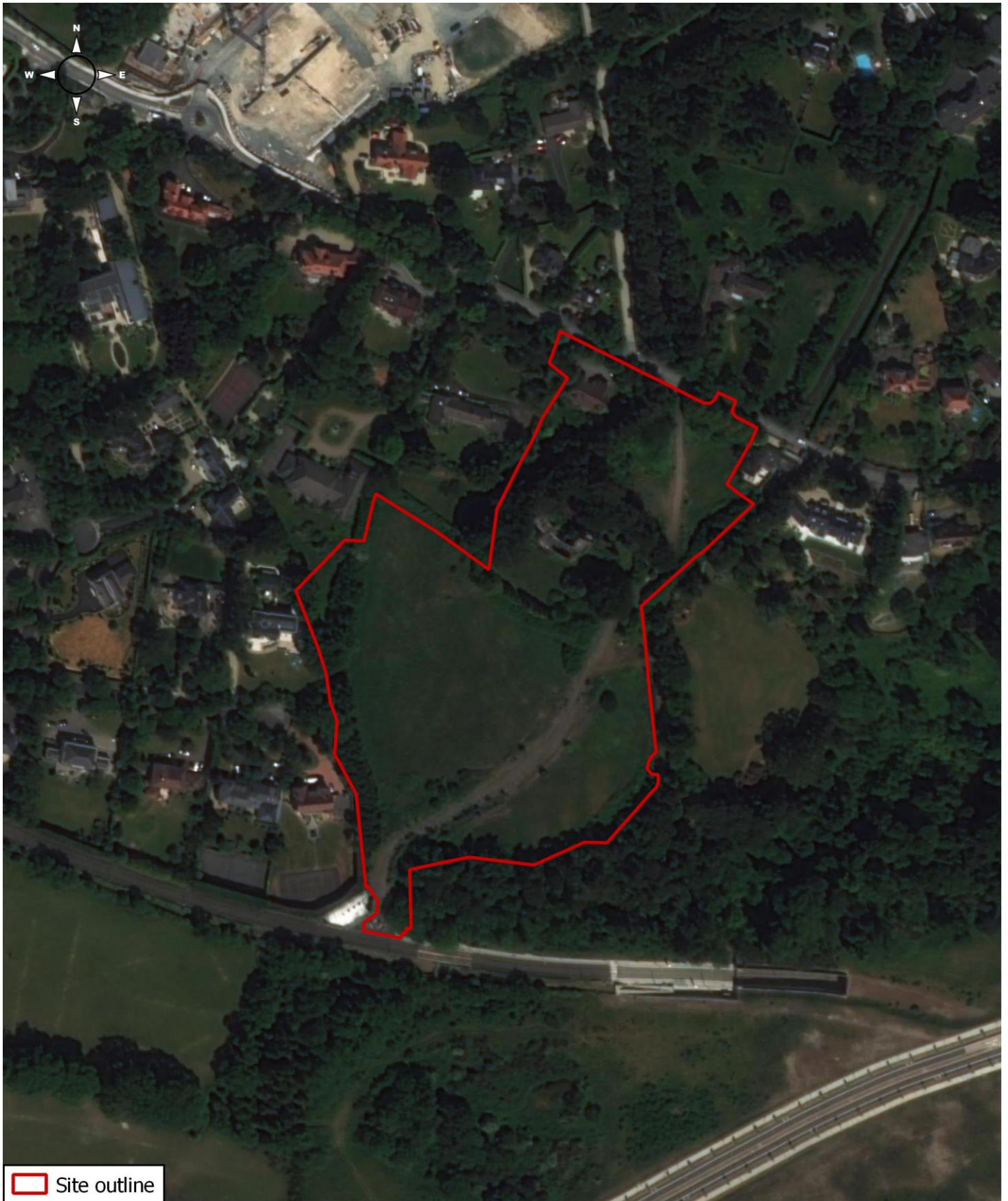


Project: Barrington/ Brennanstown Road
 Location: Cabinteely, Co. Dublin
 Date: 09th February 2022
 Drawn By: Bryan Deegan (Altamar)

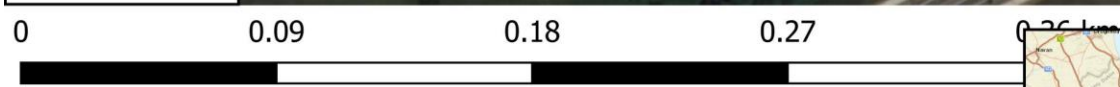
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Figure 1. Site location map



 Site outline



Project: Barrington/ Brennanstown Road
 Location: Cabinteely, Co. Dublin
 Date: 09th February 2022
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Figure 2. Proposed site outline



1 Proposed Site Plan
1:500

Notes:
 1. All proposed works shall be in accordance with the relevant standards and specifications.
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LEGEND:

- Proposed Vehicular Entrance
- Proposed Drop Off Zone
- Existing Listed Tower
- Existing ESB Substation
- Proposed Bicycle Storage for Luas Commuters
- Proposed Canteen at Ground Level of Block CD
- Proposed Retail Unit at Ground Level of Block CD
- Proposed Vehicular Entrance to Basement Car Parking
- Proposed Bicycle Entrance to Basement Car Parking
- Commercial Space Plant Allocation Air Source Heat Pumps 900x900x1200 (LxWxH)
- Bat House

- Site Boundary
- Existing Trees
- Proposed Entrance to Residential Blocks
- Proposed Private Balconies/Terraces
- Proposed Ground Level Private Quads
- DLR Consent Zone
- PV Panel Area
- Maintenance Access to Green Road through ACV over stairs
- Bird House
- Bicycle Shelter

Note:
 For landscape finishes and boundary treatment details, please refer to Landscape Design Drawing Pack.

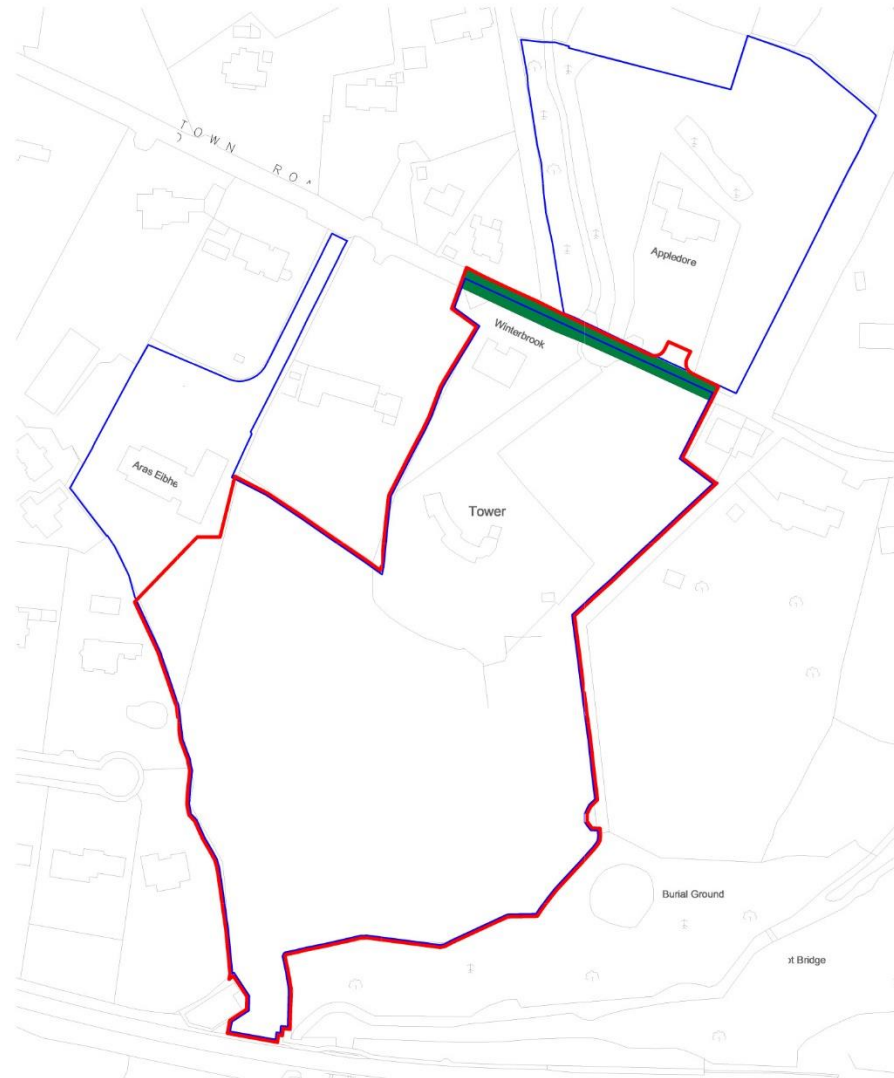
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Project:	Proposed Residential Development Sarrington Tower, Berrinstown Road, Dublin 18
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Scale:	1:500
Date:	10/03/22
Author:	DM
Checker:	DM
Designer:	DM
Project Manager:	DM
Client Reference:	BRT-140-SW-ZZ-DR-SAU-AR-1001

Figure 3. Site plan



1 Site Location Plan
1 : 500

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 Projection / Spatial Reference:
 Projection: IRENET93_Hip_Transverse_Mercator
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Client Name: Cairn Home Properties LTD			
Project Name: Proposed Residential Development 'Barmington Tower', Barminstown Road, Dublin 18			
Drawing Title: Site Location Plan			
Job No: P20-016D	Date: 08/02/22	Scale: As Indicated	Scale: As Indicated
Drawn By: DM	Checked By: DM		
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Figure 4. Site location plan



1 Proposed East Elevation -Block AB
1 : 200



2 Proposed South Elevation - Block AB
1 : 200



3 Proposed West Elevation - Block AB
1 : 200



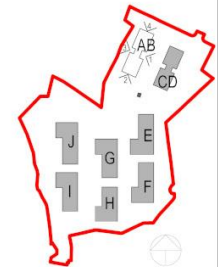
4 Proposed North Elevation - Block AB
1 : 200

Figure 5. Proposed elevations (Block AB)

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Drawing Notes:

KEY PLAN:



EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. AOV

--- Part V Units

Rev. Date DRN Description

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Client Details:
Cain Home Properties LTD

Project Details:
Proposed Residential Development
"Barrington Tower", Brennanstown Road, Dublin 15

Drawing Title:
Proposed Elevations - Block AB

Job No: P20-016D	Date: 22/03/22	Scale(s): As indicated
Status: PS	Drawn By: PB	Checked By: GVM
Discipline: Planning		

Drawing Number:
BRT-14-02-AB-ZZZ-OR-RAU-AR-2001



1 Proposed West Elevation - Block CD
1 : 200



3 Proposed South Elevation - Block CD
1 : 200



5 Proposed East Elevation - Block CD
1 : 200

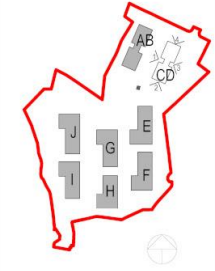


4 Proposed North Elevation - Block CD
1 : 200

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Drawing Notes:

KEY PLAN:



EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. AGV

--- Part V Units

Rev	Date	DRN	Description
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Client Details:
Cain Home Properties LTD

Project Details:
Proposed Residential Development,
'Barrington Tower', Brennanstown Road, Dublin 18

Drawing Title:
Proposed Elevations - Block CD

Job No.	Date	Scale
P20-018D	22/03/22	As indicated
Scale:		
P3		PB
Topic:		Drawn by:
Planning		Checked by:
		GVM

Drawing Number	Revision
BRT-1-02-CD-ZZZ-DR-RAU-AR-2002	

Figure 6. Proposed elevations (Block CD)



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KEY PLAN:

EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. ADV

--- Part V Units

Rev	Date	DRW	Description

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Calm Home Properties LTD

Project Details:
Proposed Residential Development
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Drawing Title:
Proposed Elevations - Block E

Job No.	Date	Drawn By
P20-016D	22/03/22	As indicated

Scale	Drawn By
P3	PB

Project	Checked By
Planning	GVM

Drawing Number	Revision
BRT-1-02-E-222-DR-RAU-AR-2003	

Figure 7. Proposed elevations (Block E)



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Drawing Notes:

KEY PLAN:

EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. AOV

Part V Units

Rev	Date	DRN	Description
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<small> Client Details: Cairn Home Properties LTD </small>			
<small> Project Details: Proposed Residential Development Barrington Tower, Binnemore Road, Dublin 16 </small>			
<small> Working Title: Proposed Elevations - Block F </small>			
<small> Job No: P20-016D </small>	<small> Date: 22/03/22 </small>	<small> Drawn/Plotted: All indicated </small>	
<small> Scale: F3 </small>		<small> Drawn By: PB </small>	
<small> Plotted: Planning </small>		<small> Checked By: GVM </small>	
<small> Drawing Number: BRT-102-F-ZZZ-DR-RAI-AR-2004 </small>		<small> Revision </small>	

Figure 8. Proposed elevations (Block F)



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Drawing Title:
KEY PLAN:

EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. AOV

Part V Units

Rev	Date	DRN	Description
Client Details: Cairn Home Properties LTD			
Project Details: Proposed Residential Development 'Barrington Tower', Brennerstown Road, Dublin 18			
Drawing Title: Proposed Elevations - Block G			
Ref No: P20-016D	Date: 22/03/22	Scale: As indicated	Drawn By: PB
Status: P3	Prepared By: Planning	Checked By: GVM	Drawing Number: BRT-1-02-G-ZZZ-OR-RAJ-AR-2005

Figure 9. Proposed elevations (Block G)



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KEY PLAN:

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1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. AOV

--- Part V Units

Rev	Date	DRN	Description

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Client Details:
Calm Home Properties LTD

Project Details:
Proposed Residential Development
Barrington Tower, Brennanstown Road, Dublin 18

Drawing Title:
Proposed Elevations - Block H

Job No.	Date	Scale(s)
P20-016D	22/03/22	As indicated

Author	Drawn By
PS	PB

Purpose	Checked By
Planning	GVM

Drawing Number: BRT-1-02-H-ZZZ-DR-RAU-AR-005

Figure 10. Proposed elevations (Block H)



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Drawing Notes:

KEY PLAN:

EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. LIGHT GREY WINDOW FRAMES
7. AOV

--- Part V Units

Rev	Date	DRN	Description
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Client Details: Calm Home Properties LTD			
Project Details: Proposed Residential Development 'Barrington Tower', Birrinstown Road, Dublin 18			
Drawing Title: Proposed Elevations - Block I			
Job No:	Date:	Scale(s):	
P20-018D	22/03/22	As indicated	
Sheet:		Drawn By:	
P3		PB	
Purpose:		Checked By:	
Planning		GVM	
Drawing Number:		Revision:	
BRT-1-024-ZZZ-DR-AU-AR-2007			

Figure 11. Proposed elevations (Block I)



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Drawing Notes:

KEY PLAN:

EXTERNAL FINISHES

1. SELECTED BRICK TYPE 1 BUFF BRICK
2. SELECTED BRICK TYPE 2 DARK GREY BRICK
3. BRICK SOLDIER COURSE DETAIL
4. GREY RENDER FINISH
5. CANTILEVERED BALCONY
6. GREY WINDOW FRAMES
7. AOV

Part V Units

Rev	Date	DRN	Description
<p>reddy architecture +urbanism Reddy Architecture + Urbanism 100, 101, 102, 103 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.</p>			

Client Name:
Cain Home Properties LTD

Project Name:
Proposed Residential Development
'Barrington Tower', Brennanstown Road, Dublin 18

Drawing Title:
Proposed Elevations - Block J

Job No	Date	Scale
P20-016D	22/03/22	As Indicated

Drawn By	Checked By
PB	GVM

Project:
Planning

Drawing Number:
BRT-1-02-J-ZZZ-DR-RAJ-AR-2008

Figure 12. Proposed elevations (Block J)



Figure 13. Landscape Masterplan

Surface Water Drainage

In relation to the surface water drainage the report states the following: *‘The existing site drains surface water, unrestricted to Carrickmines Stream to the south of the site. It is proposed that the development will attenuate the surface water on-site before discharging at the existing greenfield rate into the Carrickmines Stream.*

The existing run-off rate for the existing hardstanding areas on site was estimated for the 1 in 1, 1 in 30 and 1 in 100 year return periods using the modified rational method:

$Q = 2.78 \times A \times I$ (where A is the total pre-development area being drained in Hectares and I is the rainfall intensity in mm/h as estimated for the 60min storm from Flow using Met Eireann Data)

$A = 0.057$ ha (current hardstanding as measured from topographical survey)

I – 1 year return period = 11.362mm/h 30 year return period = 24.804mm/h 100 year return period = 38.681mm/h. The greenfield run-off rates for the greenfield area of the site have been calculated in accordance with the Institute of Hydrology report No 124 ‘Flood Estimation for Small Catchments’, using the UK SUDS Website for the remaining area of the site which is currently a greenfield and equates to 3.753ha.’

Flood Risk Assessment

A Flood Risk Assessment Report was composed by Waterman Moylan Engineering Consultants, which investigates the potential for flooding at the proposed development site. In conclusion the report states that: *‘The subject site has been analysed for risks from tidal flooding from the Irish Sea, fluvial flooding from the Carrickmines Stream, pluvial flooding, groundwater and drainage system failures due to human error or mechanical system failure. Considering the assessment of the likelihood, consequence, risk and residual risk of the development for various modes of flooding, the proposed development is considered acceptable in terms of flood risk.’* The following tables were also taken from the Flood Risk Assessment Report which summarises the flood risk for the proposed site.

Table 5-1: 3x3 Matrix Flooding Risk Matrix

		CONSEQUENCES		
		LOW	MODERATE	HIGH
Likelihood	LOW	Extremely Low Risk	Low Risk	Moderate Risk
	MODERATE	Low Risk	Moderate Risk	High Risk
	HIGH	Moderate Risk	High Risk	Extremely High Risk

Table 5-2: Summary of the Flood Risks from Flooding Types

Source	Pathway	Receptor	Likelihood	Consequence	Risk	Mitigation Measure	Residual Risk
Tidal	Irish Sea Coastal zone	Proposed Development	Extremely low	High. Flooding of building and the basements	n/a	None required	Extremely Low
Fluvial	Carrickmines River	Proposed Development	Moderate	Moderate. Water ingress into the building and basements	Low	None required	Extremely Low
Pluvial	Private and Public Drainage Network	Proposed Development	High	High. Flooding of the building and basements	Extremely High	Appropriate drainage design, over land flood routing and setting of appropriate floor levels	Low
Ground Water	Groundwater present seeping through basement walls and floor	Proposed Development	High	Moderate. Ground water ingress into basement	Moderate	Adequately waterproofing of basement structure if found necessary	Low
Human / Mechanical Error	Drainage network	Proposed Development	High	Moderate. Water ingress into the building and basements	Moderate	Maintenance strategy	Low

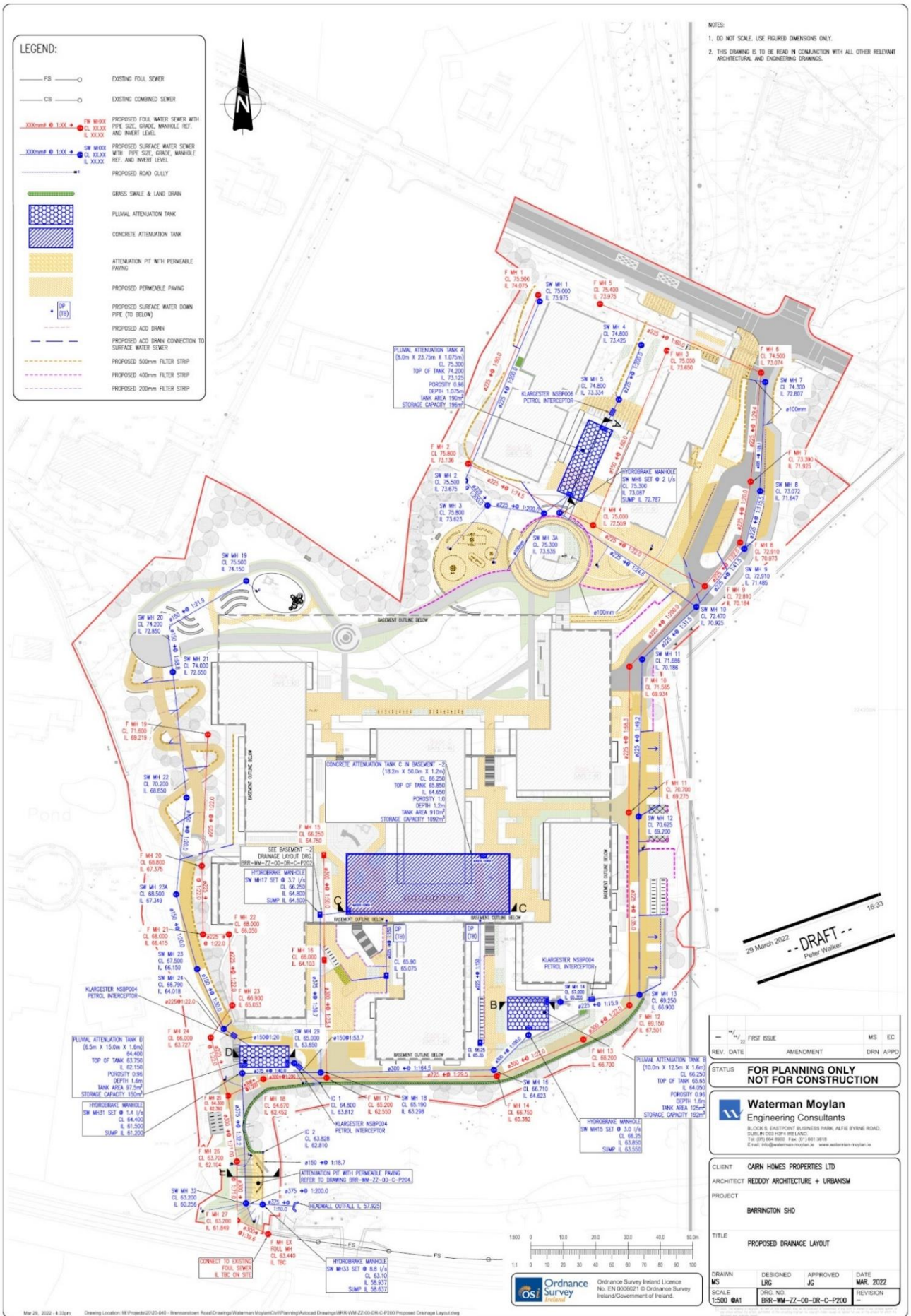


Figure 14. Proposed Drainage Layout

Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) has been prepared by AWN Consulting (AWN) on behalf of Cairn Homes Property Limited.

“The construction works associated with the development will be undertaken in a single phase. Blocks A-D will be completed first (weeks 10-60), followed by Blocks E,F and G (weeks 15-145). Blocks H, I and J will be completed last (weeks 45-170). The construction programme is intended to commence in the fourth quarter of 2022 / first quarter of 2023, with a 39-month programme.

Subject to detailed planning at the construction stage, it is currently envisaged that the construction compound, offices, staff parking, waste storage and collection area and storage areas will be located at the locations in Figure 3.1, and in Appendix 1 of this report.”

Demolition Phase

“The development will include the demolition of Winterbrook, an existing dwelling and partial demolition of the modern extension dwelling to Barrington Tower. The protected structure ‘Barrington Tower’ will be retained, restored and reused. The demolition shall be in full compliance with BS 6187 “Demolition in Buildings” and all measure necessary will be taken to protect the adjoining buildings from damage and persons from injury. Prior to the demolition works a Construction and Demolition Waste Resource Management Plan in accordance with The Environmental Protection Agency (EPA) of Ireland issued guidelines the ‘Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects’ (2021) will be updated and prepared by the appointed demolition contractor to include any subsequent planning conditions.

The demolition will commence with the removal of any hazardous materials by an appropriately qualified contractor for disposal at an appropriate licensed waste collection facility. All non-structural items will then be removed segregated for re-use or re-cycling where possible. The remainder of the building structure will be removed in an approved sequence outlined in a Method Statement prepared by the yet to be selected demolition contractor’s structural engineer.”

Excavation & Construction Phase

“The project excavations will involve excavations for new foundations, site levelling and excavations for roads and services. The Resource and Waste Management Plan (RWMP) prepared by AWN (NK/217501.0623WMR02) for the development will be updated by the main contractor and will be in compliance with the requirements of the ‘Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects’ 1 published by the Environmental Protection Agency (November 2021), which will identify and categorise any waste arising from the development.

The plan contains the proposals for the minimisation, re-use and re-cycling of site generated waste. As part of this plan separate storage areas will be designated on the site for various types of material in order to maximise the re-use and re-cycling potential. Procedure will also be put in place to ensure that all sub-contractors fulfil the requirements of the Waste Management Plan. The project involves the construction 534 no. residential units and residential amenities along with all associated site works. The works will include:

- *Site set up, welfare facilities and compound establishment, decommissioning and movement of site compound and facilities as needed.*
- *Set up of boarding around compound and the site boundary.*
- *Erection of safety signage to all areas and implementation of traffic/pedestrian management plan.”*

2. ASSESSMENT METHODOLOGY

A pre-survey biodiversity data search was carried out in August 2020 and updated in March 2022. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC) and the Environmental Protection Agency (EPA), in addition to aerial, 6 inch maps and satellite imagery. A habitat survey of the site was undertaken within the appropriate seasonal timeframe for terrestrial fieldwork. Field surveys were carried out as outlined in Table 1. All surveys were carried out in the appropriate seasons.

Area	Surveyors	Survey Dates
<i>Terrestrial Ecology/ Aquatic Ecology/ Avian Ecology</i>	Bryan Deegan (MCIEEM) of Altemar	15 th September 2020 27 th August 2021
<i>Bat Survey</i>	Dr Tina Aughney of Bat Eco Services	Extensive bat assessments were carried out by Bat Eco Services in 2018, 2019, 2020 and 2021. Appendix 5.1.
<i>Mammal / Amphibian Survey</i>	Bryan Deegan (MCIEEM) of Altemar	17 th March 2020/ 3 rd March 2021, 2 nd March 2022
<i>Wintering Bird Assessment</i>	Hugh Delaney Ornithologist	18 th December 2021, 21 st January 2022, 11 th February 2022 & 10 th March 2022

Survey Limitations

Surveys were carried out in site within optimal survey seasons. There are no limitations foreseen in relation to mammal assessments.

2.3 Consultation

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

2.4 Ecological evaluation criteria

Impact Assessment Significance Criteria

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

Table 3. EPA Impact Assessment Significance Criteria

Magnitude of impact and typical descriptions

Magnitude (change)	of impact	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.

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

Criteria for Establishing Receptor Sensitivity/Importance

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

Quality of Potential Impacts on Biodiversity

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

Significance of Impacts

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

Duration of Impact

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

Likelihood of Impact

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

3) RESULTS

3.1 Proximity to designated conservation sites

As can be seen from Figures 15 (SAC's within 15km), 16 (SPA's within 15km), 17 (NHA and pNHA within 15km), 18 (Watercourses proximate to the site.), there are four European sites (Rockabill to Dalkey Island SAC- 4.7 km, South Dublin Bay SAC – 4.7 km, South Dublin Bay and River Tolka Estuary SPA- 4.6 km and Ballyman Glen SAC – 5.0 km) within 5km. The distance and details of all the conservation sites within 15km of and those with the potential for direct or indirect pathways to the proposed development are seen in Table 4a and Table 4b. It is important to note that the nearest site with a direct hydrological pathway downstream is a minimum of 1.9 km (Loughlinstown Woods pNHA). Significant settlement, dilution and mixing would occur within the marine environment prior to reaching the designated sites within the marine environment. However, given the proximity of Rockabill to Dalkey Islands SAC and the mobile nature of Harbour Porpoise (*Phocoena phocoena*) one of its features of interest, it is considered that there is a direct pathway to Rockabill to Dalkey Islands SAC via the Carrickmines Stream which enters the marine environment approximately 1.5 km from this SAC. As outlined in the accompanying NIS, mitigation measures will need to be in place to protect local biodiversity, to ensure compliance with Water Pollution Acts and to ensure that the proposed works do not impact on the integrity of Rockabill to Dalkey Island SAC.

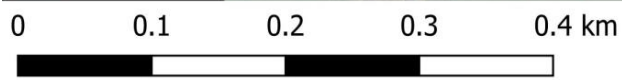
European Site	Distance	Direct Biodiversity	Hydrological Connection	/
<i>Special Areas of Conservation</i>				
South Dublin Bay SAC	4.5 km		No	
Rockabill to Dalkey Island SAC	4.7 km		Yes	
Ballyman Glen SAC	5.0 km		No	
Knocksink Wood SAC	5.3 km		No	
Wicklow Mountains SAC	7.2 km		No	
Bray Head SAC	7.9 km		No	
North Dublin Bay SAC	10.0 km		No	
Glen of the Downs SAC	12.8 km		No	
Glenasmole Valley SAC	13.1 km		No	
Howth Head SAC	13.1 km		No	
<i>Special Protection Areas</i>				
South Dublin Bay and River Tolka Estuary SPA	4.6 km		No	
Dalkey Islands SPA	5.2 km		No	
Wicklow Mountains SPA	7.2 km		No	
North Bull Island SPA	10.0 km		No	
Howth Head Coast SPA	14.9 km		No	

Table 4a European sites within 15km of the proposed development

Designation	Site Name	Distance	Direct Biodiversity	Hydrological Connection	/
pNHA	Loughlinstown Woods	1.9 km		No	
pNHA	Dingle Glen	1.6 km		No	
pNHA	Dalkey Coastal Zone and Killiney Hill	2.6 km		No	
pNHA	Ballbetagh Bog	4.1 km		No	
pNHA	Fitzsimons Wood	4.6 km		No	
pNHA	Ballyman Glen	5.1 km		No	
pNHA	Knocksink Wood	5.2 km		No	
pNHA	South Dublin Bay	4.5 km		No	
pNHA	Boosterstown Marsh	6.3 km		No	
pNHA	Bray Head	8.0 km		No	
pNHA	Dargle River Valley	7.3 km		No	
pNHA	Powerscourt Woodland	6.7 km		No	

Designation	Site Name	Distance	Direct Biodiversity / Hydrological Connection
pNHA	Powerscourt Waterfall	11.0 km	No
pNHA	Kilmacanoge Marsh	9.7 km	No
pNHA	Great Sugar Loaf	8.3 km	No
pNHA	Glencree Valley	10.1 km	No
pNHA	Glen of the Downs	12.5 km	No
pNHA	Glenasmole Valley	12.7 km	No
pNHA	Dodder Valley	11.7 km	No
pNHA	Grand Canal	10.6 km	No
pNHA	Dolphins, Dublin Docks	9.8 km	No
pNHA	North Dublin Bay	9.9 km	No
pNHA	Howth Head	13.0 km	No

Table 4b Nationally designated sites within 15km of the proposed development

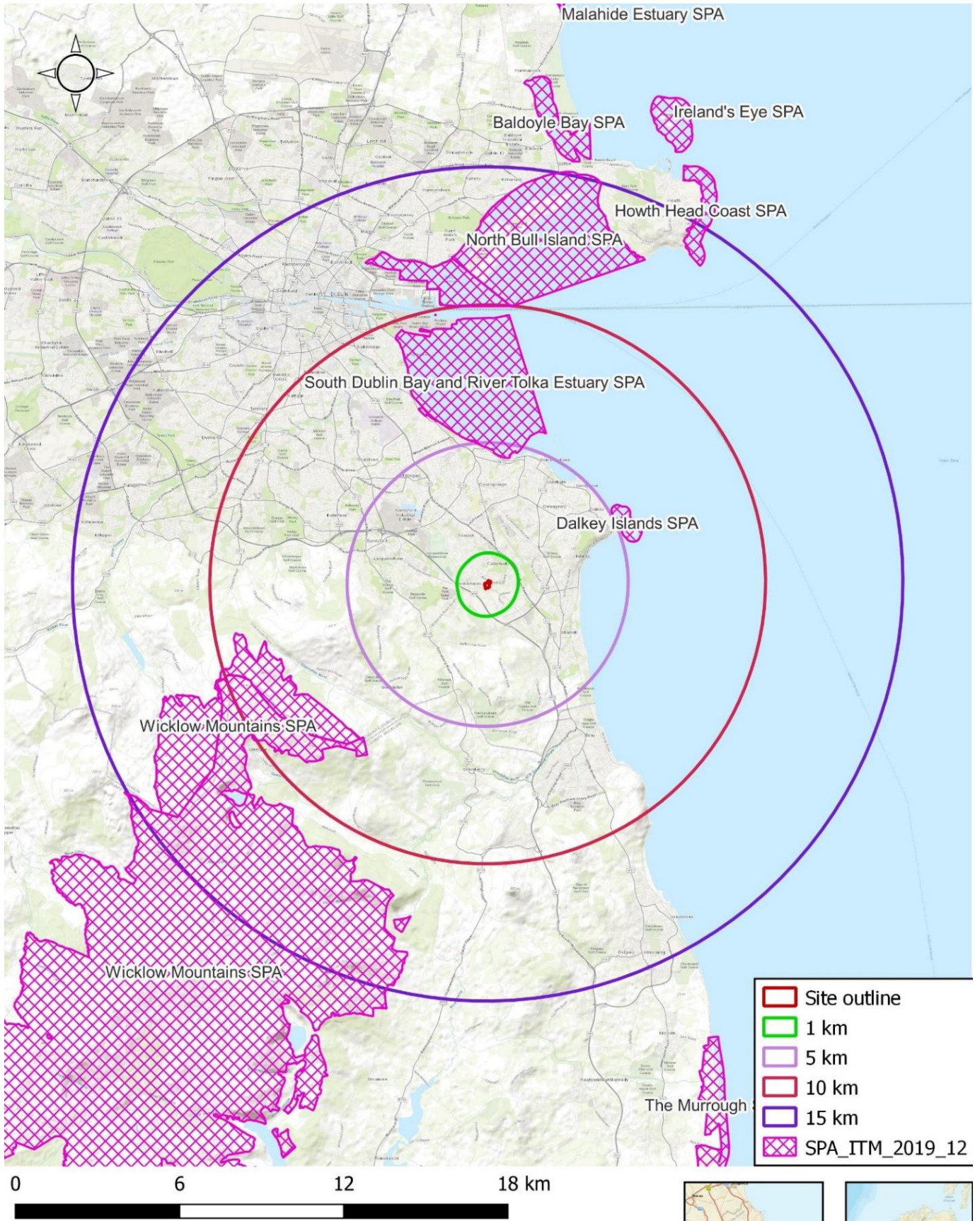


Project: Barrington/ Brennanstown Road
 Location: Cabinteely, Co. Dublin
 Date: 09th February 2022
 Drawn By: Bryan Deegan (Altamar)

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Figure 15 Site outline and location



Project: Barrington/ Brennanstown Road
 Location: Cabinteely, Co. Dublin
 Date: 09th February 2022
 Drawn By: Bryan Deegan (Altemar)

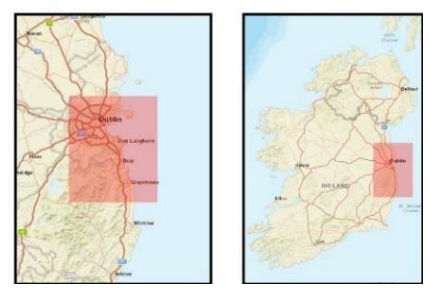


Figure 16. SPAs within 15 km of the proposed site

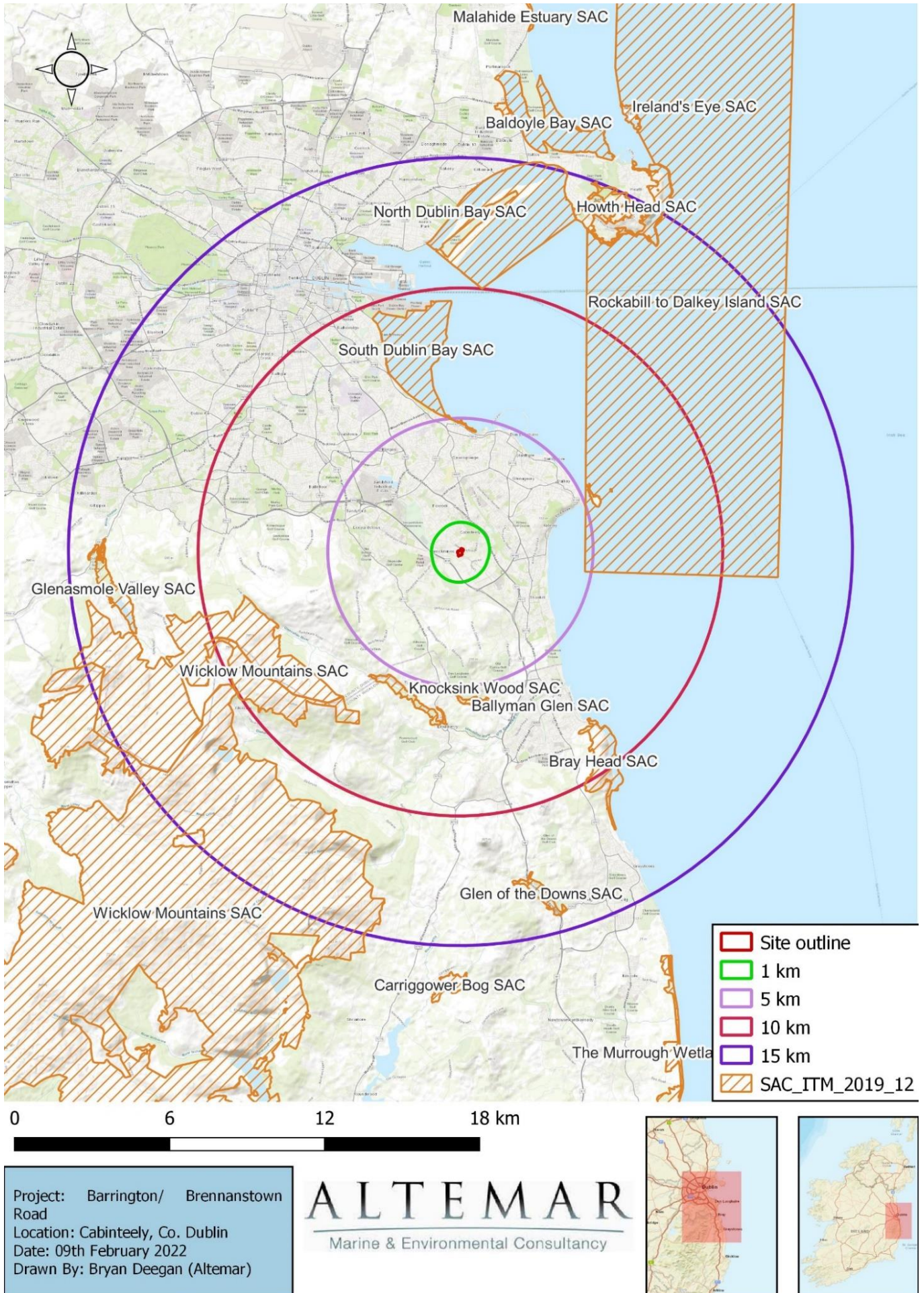


Figure 17 SACs within 15 km of the proposed site

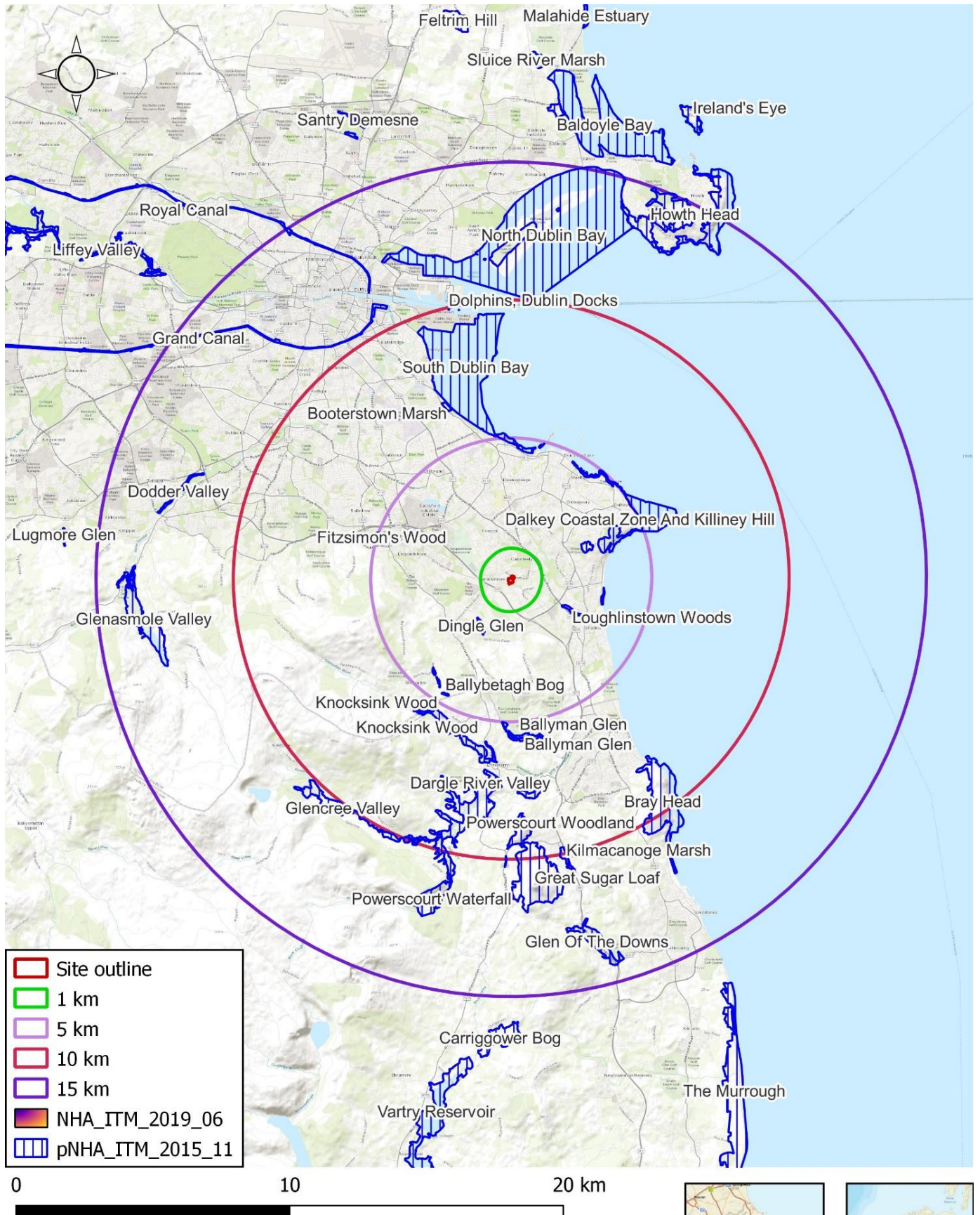
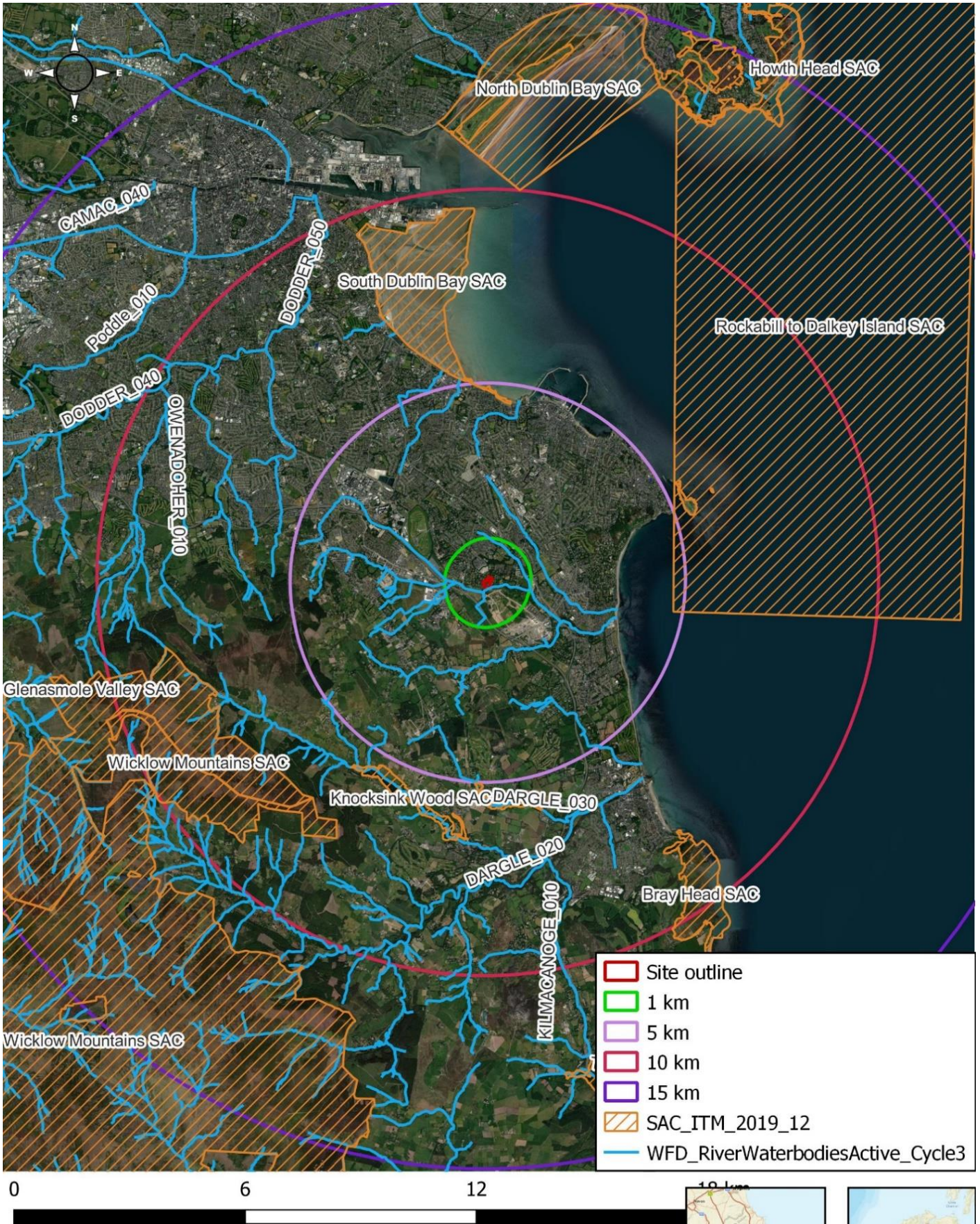


Figure 18. NHA's within 15km of the proposed development



Project: Barrington/ Brennanstown Road
 Location: Cabinteely, Co. Dublin
 Date: 09th February 2022
 Drawn By: Bryan Deegan (Altamar)

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Figure 19 Waterbodies and SAC's within 10km

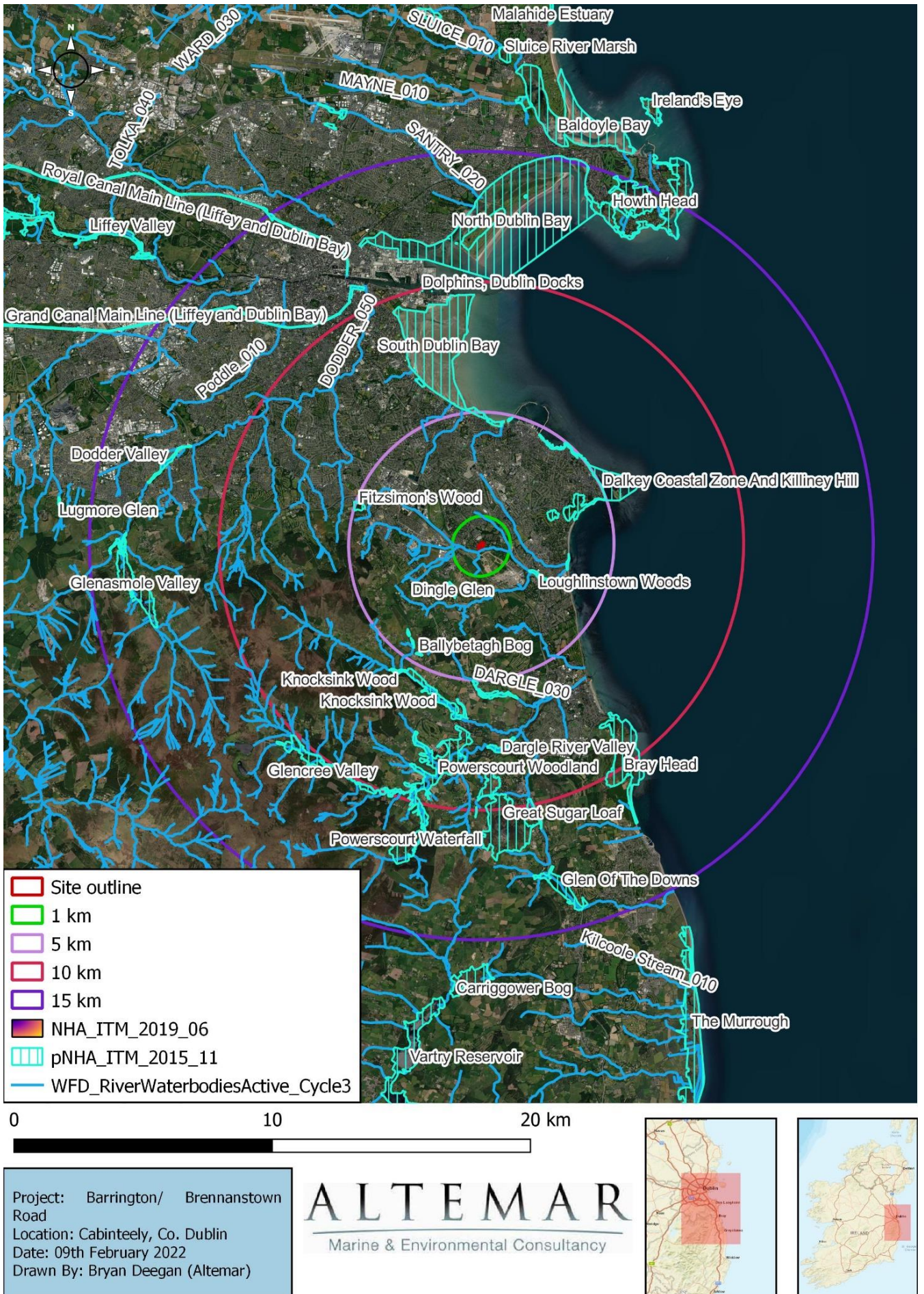


Figure 20. Waterbodies and SPA proximate to the proposed development

SPECIES DATA

It should be noted that no species of conservation importance were noted on site, based on NPWS and NBDC records as fine resolution. Species recorded within the 2km grid include are seen in Table 5.

Species name	Designation
European Otter (<i>Lutra lutra</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Brown Long-eared Bat (<i>Plecotus auritus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Daubenton's Bat (<i>Myotis daubentonii</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Lesser Noctule (<i>Nyctalus leisleri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Natterer's Bat (<i>Myotis nattereri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Common Frog (<i>Rana temporaria</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Eurasian Badger (<i>Meles meles</i>)	Protected Species: Wildlife Acts
West European Hedgehog (<i>Erinaceus europaeus</i>)	Protected Species: Wildlife Acts
Little Egret (<i>Egretta garzetta</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
Peregrine Falcon (<i>Falco peregrinus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
European Golden Plover (<i>Pluvialis apricaria</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Mediterranean Gull (<i>Larus melanocephalus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Rock Pigeon (<i>Columba livia</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Common Wood Pigeon (<i>Columba palumbus</i>)	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
Mallard (<i>Anas platyrhynchos</i>)	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
Common Coot (<i>Fulica atra</i>)	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 II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species name	Designation
Eurasian Teal (<i>Anas crecca</i>)	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 II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Wigeon (<i>Anas penelope</i>)	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 II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Tufted Duck (<i>Aythya fuligula</i>)	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 II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Greater Scaup (<i>Aythya marila</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Lapwing (<i>Vanellus vanellus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Barn Swallow (<i>Hirundo rustica</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kestrel (<i>Falco tinnunculus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Linnet (<i>Carduelis cannabina</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Starling (<i>Sturnus vulgaris</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Swift (<i>Apus apus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Oystercatcher (<i>Haematopus ostralegus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
House Martin (<i>Delichon urbicum</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
House Sparrow (<i>Passer domesticus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species name	Designation
Little Grebe (<i>Tachybaptus ruficollis</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mew Gull (<i>Larus canus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Black-headed Gull (<i>Larus ridibundus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Redshank (<i>Tringa totanus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Herring Gull (<i>Larus argentatus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
<i>Conocephalum salebrosum</i>	Threatened Species: Least concern
Endive Pellia (<i>Pellia endiviifolia</i>)	Threatened Species: Least concern
Forked Veilwort (<i>Metzgeria furcata</i>)	Threatened Species: Least concern
Overleaf Pellia (<i>Pellia epiphylla</i>)	Threatened Species: Least concern
White Earwort (<i>Diplophyllum albicans</i>)	Threatened Species: Least concern
Common Feather-moss (<i>Eurhynchium praelongum</i>)	Threatened Species: Least concern
Common Tamarisk-moss (<i>Thuidium tamariscinum</i>)	Threatened Species: Least concern
Fern-leaved Hook-moss (<i>Cratoneuron filicinum</i>)	Threatened Species: Least concern
Fox-tail Feather-moss (<i>Thamnobryum alopecurum</i>)	Threatened Species: Least concern
Rusty Feather-moss (<i>Sciurohypnum plumosum</i>)	Threatened Species: Least concern
Swan's-neck Thyme-moss (<i>Mnium hornum</i>)	Threatened Species: Least concern
Swartz's Feather-moss (<i>Oxyrrhynchium hians</i>)	Threatened Species: Least concern
Small Heath (<i>Coenonympha pamphilus</i>)	Threatened Species: Near threatened
Moss Carder-bee (Bombus (<i>Thoracombus muscorum</i>)	Threatened Species: Near threatened
Cornflower (<i>Centaurea cyanus</i>)	Threatened Species: Regionally Extinct

Table 0a National Biodiversity Data Centre Records within the 2km² grid.

No species of conservation importance have been noted within the site outline from the National Biodiversity Data Centre.

Common Frog (*Rana temporaria*), West European Hedgehog (*Erinaceus europaeus*), European Otter (*Lutra lutra*), Moschatel (*Adoxa moschatellina*), Yellow Archangel (*Lamium galeobdolon* subsp. *Montanum*), Henbane (*Hyoscyamus niger*), Sharp-leaved Fluellen (*Kickxia elatine*)

Table 0 b Species found by NPWS within 5 km.

3.2 Habitats and Species

Site visits were carried out on the 15th September 2020 and 27th August 2021. The Fossitt (2000) habitat map seen in Figure 21 is based on the site visit on the 27th August 2021. This included flora and habitat assessments.

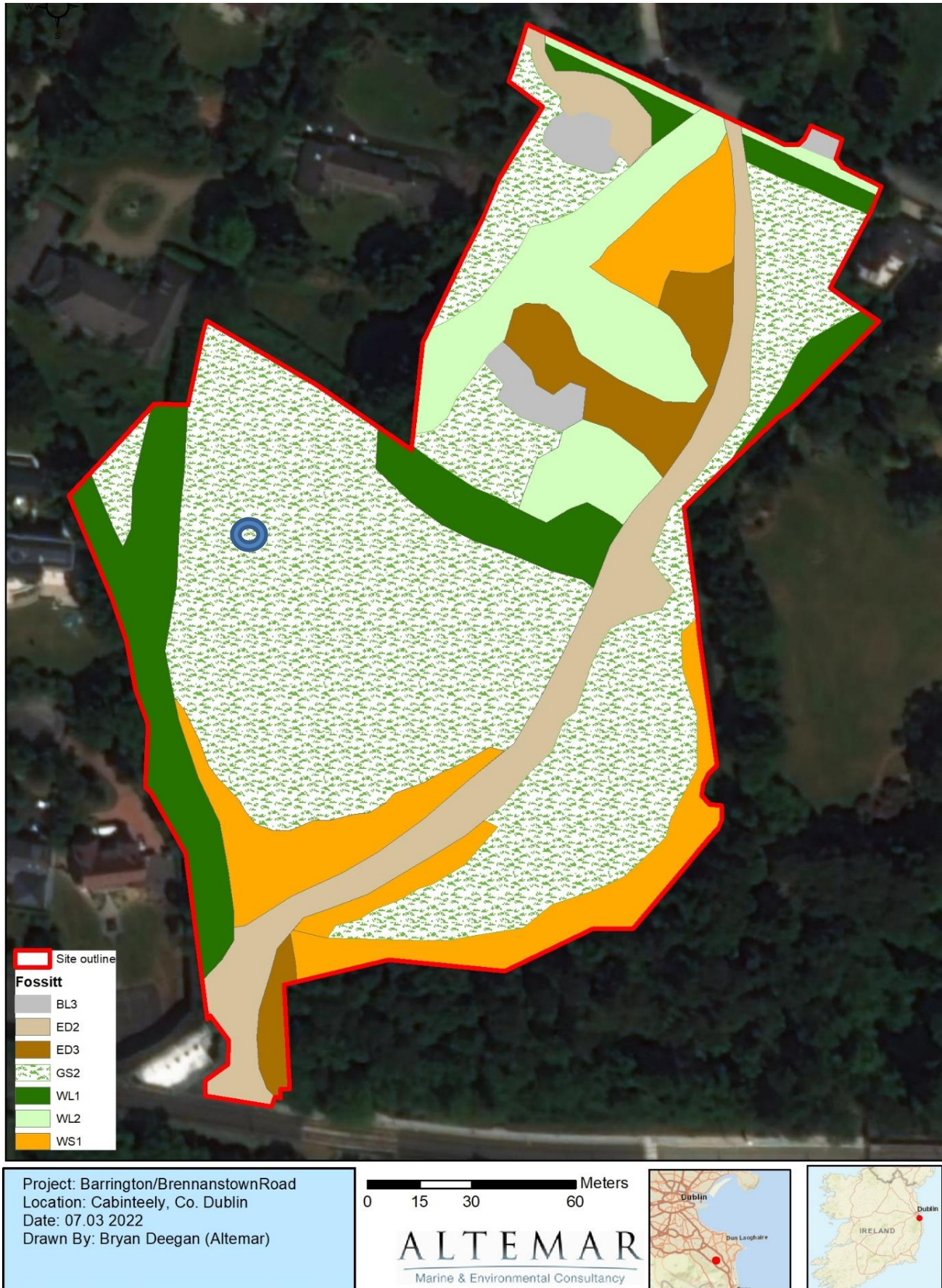


Figure 21 Fossitt (2000) Habitats within the proposed development (Fox den blue circle)



Plate 1 GS2-Dry meadows and grassy verges

GS2-Dry meadows and grassy verges

The site consists primarily of two large overgrown gardens surrounded overgrown treeline and hedgerows. The majority of the proposed development site consists of the habitat Dry meadows and grassy verges. As seen if Figure 21 these areas are being encroached by scrub. In many cases the overgrown treelines and hedgerows overhang this habitat. Flora species in GS2 consisted of thistles (*Cirsium vulgare*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), dandelion (*Taraxacum spp.*), creeping buttercup (*Ranunculus repens*), lesser stitchwort (*Stellaria graminea*), daisy (*Bellis perennis*), docks (*Rumex spp.*), plantains (*Plantago spp.*), nettle (*Urtica dioica*), bramble (*Rubus fruticosus*), common ragwort (*Jacobaea vulgaris*), rosebay willowherb (*Epilobium angustifolium*), gorse (*Ulex europaeus*), raspberry (*Rubus idaeus*), sycamore (*Acer pseudoplatanus*), rape (*Brassica napus*), self-heal (*Prunella vulgaris*), wild carrot (*Daucus carota*), Scots pine (*Pinus sylvestris*), winter heliotrope (*Petasites pyrenaicus*), common vetch (*Vicia sativa ssp. Segetalis*), lesser centaury (*Centaureum pulchellum*), Lady's Bedstraw (*Galium verum*) and willow (*Salix sp.*).



Plate 2 Hedgerows

WL1- Hedgerows

The majority of hedgerows on site consisted of non native species that have remained unmanaged for numerous years. As a result, the understory of this habitat was extremely poor with few species present. Where ground flora were present it was primarily dominated by ivy (*Hedera helix*). The dominant hedgerow species on site was *Griselinia littoralis*. Other species included gorse ((*Ulex*. Sp.), sycamore (*Acer pseudoplatanus*), elder (*Sambucus nigra*), holly (*Ilex aquifolium*), dog-rose (*Rosa canina*), Gorse (*Ulex europaeus*), bramble (*Rubus fruticosus* agg.), honeysuckle (*Lonicera perichlymenum*) buddleia (*Buddleia davidii*) and cleavers (*Galium aparine*). At the edge of this habitat a bramble scrub had commenced to encroach into surrounding areas.



Plate 3 Treelines

WL2 Treelines

The central spine of the northern section of the site is dominated by a tall treeline. Tree species in this area included Scots Pine (*Pinus sylvestris*), Larch (*Larix decidua*), Ash (*Fraxinus excelsior*), Silver Fir (*Abies alba*), Lawson Cypress (*Chamaecyparis lawsoniana*), Cider gum (*Eucalyptus gunnii*), Monterey Cypress (*Cupressus macrocarpa*), Blue Atlas Cedar (*Cedrus atlantica*), Colorado Blue Spruce (*Picea pungens glauca*), sycamore (*Acer pseudoplatanus*), Elder (*Sambucus nigra*) beech (*Fagus sylvatica*). In addition to the taller trees were holly (*Ilex aquifolium*), ivy (*hedera helix*) nettle (*Urtica dioica*), docks (*Rumex* spp.), bramble (*Rubus fruticosus*) were noted.



Plate 4 Scrub (near the site entrance)

WS1 (Scrub)

This northern portion of the site near the site entrance and grassland boundaries in the southern part of the sites are being recolonised by a dense bramble (*Rubus fruticosus* agg.) scrub. Other species within the scrub include by nettle (*Urtica dioica*), docks (*Rumex* spp.), butterfly-bush (*Buddleja* spp.), sycamore (*Acer pseudoplatanus*), gorse (*Ulex europaeus*), dog-rose (*Rosa canina*), oak (*Quercus* sp.), cleavers (*Galium aparine*), willows (*Salix* sp.), hoary willowherb (*Epilobium parviflorum*), clover (*Trifolium* spp.), plantains (*Plantago* spp.), thistles (*Cirsium arvense* & *C. vulgare*), self-heal (*Prunella vulgaris*), docks (*Rumex* spp.), colt's foot (*Tussilago farfara*), snowberry (*Symphoricarpos albus*), wild carrot (*Daucus carota*), lesser trefoil (*Trifolium dubium*), hedge bindweed (*Calystegia sepium*), herb-robert (*Geranium robertianum*), birch (*Betula* sp.), bracken (*Pteridium aquilinum*) and rosebay willowherb (*Chamaenerion angustifolium*).



Plate 5 Recolonising bare ground

ED3 Recolonising Bare ground.

Based upon an examination of satellite imagery significant works took place on the southern portion of the site in 2009 which coincide with the Luas line construction. Other areas of the site in the vicinity of the built land, consist of recolonising bare ground, primarily due to neglect and lack of maintenance. Species included thistles (*Cirsium vulgare*), Species noted included rape (*Brassica napus*), winter heliotrope (*Petasites pyrenaicus*), wild Teasel (*Dipsacus fullonum*), oxeye daisy (*Leucanthemum vulgare*), great willowherb (*Epilobium hirsutum*), thistles (*Cirsium arvense*, *C. vulgare*), common ragwort (*Senecio jacobaea*), moss (*Spagnum sp.*), docks (*Rumex spp.*), plantains (*Plantago spp.*), nettle (*Urtica dioica*), cat's-ear (*Hypochaeris radicata*), hedge bindweed (*Calystegia sepium*), common fumitory (*Fumaria officinalis*), ivy (*Hedera helix*), hoary willowherb (*Epilobium parviflorum*), gorse (*Ulex europaeus*), bramble (*Rubus fruticosus agg.*), purple-loosestrife (*Lythrum salicaria*), honeysuckle (*Lonicera periclymenum*) buddleia (*Buddleia davidii*), cleavers (*Galium aparine*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), dandelion (*Taraxacum spp.*), creeping buttercup (*Ranunculus repens*), daisy (*Bellis perennis*), docks (*Rumex spp.*), plantains (*Plantago spp.*), nettle (*Urtica dioica*), bramble (*Rubus fruticosus*), common ragwort (*Jacobaea vulgaris*), rosebay willowherb (*Epilobium angustifolium*), common vetch (*Vicia sativa ssp. Segetalis*), lady's Bedstraw (*Galium verum*) and willow (*Salix sp.*), oak (*Quercus sp.*), Field Forget-me-not (*Myosotis arvensis*), Cherry Laurel (*Prunus laurocerasus*) and rushes (*Juncus sp.*).



Plate 6 Carrickmines Stream (during high rainfall event)

Carrickmines Stream

The Carrickmines Stream is not located within the site boundary. However, it is downhill of the proposed works just outside the site outline and would be susceptible to surface water runoff in the absence of mitigation. This section of the river would be classed as an eroding upland river due to the steep nature of the ground, relatively fast flow and lack of deposition. The WFD status for the watercourse is moderate. Both the otter (*Lutra lutra*) and brown trout (*Salmo trutta*) have been recorded downstream of the proposed development site. The watercourse (IE_EA_10C040350) has been a moderate water quality status under the Waterframework Directive and provides an important biodiversity corridor within the Dun Laoghaire Rathdown County Council area.

Invasive Species

No invasive plant or animal species listed under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) Section 49, the Third Schedule: Part 1 Plants, Third Schedule: Part 2A Animals were noted on site. No terrestrial or aquatic invasive species such as Japanese knotweed, giant rhubarb, Himalayan balsam, giant hogweed etc. that could hinder removal of soil from the site during groundworks were noted.

Terrestrial Mammals

Three mammal assessments were carried out (17th March 2020/ 3rd March 2021, 2nd March 2022). No signs of badger activity or an active sett were noted on site. Evidence of fox (*Vulpes vulpes*) was noted on site. A single fox den was noted within the grassland area (Figure 21). However, no evidence of otter (*Lutra lutra*) or badger activity were noted on site.

Amphibians and Reptiles

No amphibians or reptiles were noted on site. No ponds are located on site. A small drainage ditch which contained flood water was noted parallel and proximate to the Brennanstown Road during one site visit. In addition, given the fact that there is a watercourse proximate to the site, it is possible that frogs may be present on site.

Bats

The bat assessment is seen in Appendix I. There were no seasonal or climatic constraints as survey was undertaken within the active bat season in good weather conditions with daytime temperatures of greater Extensive bat assessments were carried out by Bat Eco Services in 2018, 2019, 2020 and 2021. This included, daytime inspections, dusk (emergence) surveys, dawn surveys, static surveillance, night-time inspection and IR & thermal imagery filming. As outlined in the Bat Assessment report “*Five bat species were recorded in total by the array of bat surveys completed for this survey site. Three of the bat species recorded were common pipistrelle, Leisler’s bat and soprano pipistrelle and these are the three most common bat species in Ireland. Common pipistrelle was the most frequently encountered bat species and consistently recorded roosting in Barrington Tower in low numbers. This is likely to be a satellite roost. According to Figure 21 of Kelleher & Marnell (2006), the conservation significance of this roost is deemed to be Low - “Small numbers of common species. Not a maternity roost”. A low to medium level of bat activity was recorded for this species of bat within the proposed development site.*

Leisler’s bats were recorded commuting into the survey area from a northerly direction towards the southern boundary of the proposed development. A low level of bat activity was recorded for this species of bat within the proposed development site.

While soprano pipistrelles were recorded foraging and commuting within the survey area, the timing of their encounters indicated that they travelled some distance before arriving to forage and therefore the roosting sites are not within the proposed development site or immediately adjacent to it. A low level of bat activity was recorded for this species of bat within the proposed development site.

The remaining two bat species are considered to be less common in Ireland. Myotis spp. calls were recorded during static surveillance and walking transects. Daubenton’s bat were confirmed roosting in the Barrington Tower during one dusk survey and due to the fact that this species was recorded roosting on one occasion during the four years of the surveys, it is likely to have been a day roost. According to Figure 21 of Kelleher & Marnell (2006), the conservation significance of this roost is deemed to be Medium - “Small numbers of rarer species. Not a maternity roost”. This species was also recorded on the Loughlinstown River and overall a low level of bat activity was recorded for this species of bat within the proposed development site.

Brown long-eared bat was also occasionally recorded during the walking transect and on the static surveillance. A small roost was consistently recorded in the tower (ground floor) of Barrington Tower and this roost is likely to be a satellite roost. According to Figure 21 of Kelleher & Marnell (2006), the conservation significance of this roost is deemed to be Medium - “Small numbers of rarer species. Not a maternity roost”. A low level of bat activity was recorded for this species of bat 2020 was recorded within the proposed development site.” Please see Appendix I for further information.

Birds

The following bird species were noted on site (Table 6) during Altemar site visits. As outlined in Appendix 2 “*33 bird species were recorded in the survey area covered by these four winter bird surveys. The species diversity was typical of what might be expected in this semi-urban south Dublin site. In the context of wintering bird species that are red listed as species of conservation concern in the revised Birdwatch Ireland List of birds of conservation concern in Ireland (2020-2026) only Redwing were recorded, these passing over the site and noted foraging on-site. Results from the surveys suggest that the site is not an ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA’s).*”.

Common Name	Scientific Name	Conservation Status ²
Woodpigeon	<i>Columba palumbus</i>	Green
Robin	<i>Erithacus rubecula</i>	Green
Great Tit	<i>Parus major</i>	Green
Wren	<i>Troglodytes troglodytes</i>	Green
Rook	<i>Corvus frugilegus</i>	Green
Wren	<i>Troglodytes troglodytes</i>	Green
Jackdaw	<i>Corvus monedula</i>	Green
Robin	<i>Erithacus rubecula</i>	Green
Chaffinch	<i>Fringilla coelebs</i>	Green
Hooded Crow	<i>Corvus cornix</i>	Green
Magpie	<i>Pica pica</i>	Green
Blackbird	<i>Turdus merula</i>	Green
Song Thrush	<i>Turdus philomelos</i>	Green
Blue Tit	<i>Cyanistes caeruleus</i>	Green
Coal Tit	<i>Parus ater</i>	Green
Goldfinch	<i>Carduelis carduelis</i>	Green

Table 6 Species of Birds noted during on-site surveys.

Flora

No flora of conservation importance were noted on site. No invasive plant species listed under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) Section 49, the Third Schedule: Part 1 Plants, Third Schedule: Part 2A Animals were noted on site.

Discussion Species and habitats

As can be seen from Figure 21 the proposed development site consists primarily of Dry meadows and grassy verges (GS2), non native hedgerows (WL1), treelines (WL2), scrub (WS1) and recolonising bare ground (ED3). No flora species of conservation importance or invasive species were noted on site by the NPWS or NBDC or during site surveys. No amphibians or reptiles were noted on site. No terrestrial mammals of conservation importance were noted on site. However, the site is locally important for bats with 5 species being noted on site and bat roosts were confirmed on site. No native hedgerows were noted on site. In relation to bird species no bird species on Annex I of the EU Birds Directive were noted on site by NPWS or NBDC. No mammals of conservation importance were noted. On site.

² Birds of Conservation Concern in Ireland 2020-2026 <https://birdwatchireland.ie/app/uploads/2021/04/BOCCI4-leaflet-2-1.pdf>

4 ANALYSIS OF THE POTENTIAL IMPACTS

Introduction

This section provides a description of the potential impacts that the proposed development may have on biodiversity in the absence of mitigation. The proposed development will involve the removal of terrestrial habitats on site, re-profiling, excavations and the construction of roads, dwellings and associated services. It should be noted that prior to the design of the proposed project, discussions took place between Cairn Homes Properties Ltd., Bat Eco Services and Altemar in relation to the bats on site and the proposed landscaping and lighting plans.

Construction Impacts

The construction of the proposed development, would potentially impact on the existing ecology of the site and the surrounding area. These potential construction impacts would include impacts that may arise during the site clearance, re-profiling of the site and the building phases of the proposed development. Construction phase mitigation measures are required on site particularly as significant reprofiling of the site is proposed which will remove existing terrestrial habitats and can lead to silt laden and contaminated runoff. In addition, the Carrickmines Stream is located downstream of the works, outside of the site boundary. There is potential for silt laden runoff and contamination to enter the watercourse with potential for downstream impacts which could potentially enter the marine environment.

Designated Natura 2000 sites within 15km

The proposed development is not within a designated conservation site. It should be noted that the proposed development site is uphill and could potentially impact on the Carrickmines Stream, leading silt and pollution to enter the marine environment. Construction phase mitigation measures are required on site particularly in relation to the protection of the water quality entering the watercourses. There is potential for silt laden runoff and contamination to enter the watercourse with potential for downstream impacts on the Rockabill to Dalkey Island SAC, as the watercourse outfalls to the marine environment approximately 1.4 km from this SAC.

Impacts in the absence of mitigation: negative; imperceptible-slight; international, short term, not significant. Mitigation is required.

Terrestrial Ecology

No mammals of conservation importance would be impacted by the proposed development. Loss of habitat and habitat fragmentation may affect some common mammalian species including sika deer. There is potential for species of conservation importance to enter the proposed development site between the time of survey and the commencement of the development.

Impacts in the absence of mitigation: negative; slight, site, short term, not significant. Mitigation is required.

Amphibians and reptiles. Frogs and reptiles were not observed on site. However, frogs are likely to occur on site. The common lizard may occur on site but, was not observed. There is potential for the works to impact on the habitats on site that could potentially support frogs either by direct destruction of the habitats or by onsite pollution or silt ingress.

Impacts in the absence of mitigation: negative; slight; short term, not significant. Mitigation is required.

Bat Fauna.

As outlined in Appendix I the overall impact is outlined as follows: “Without bat mitigation measures, the proposed development will have an overall Moderate impact on local bat populations (Table 11). Moderate impact is “An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends”. Current national population trends for both brown long-eared bats and Daubenton’s bat are “Stable” while the national population trend for the three remaining bats species recorded (common pipistrelle, soprano pipistrelle and Leisler’s bats) are “Increasing” (Aughney et al., 2021). Without bat mitigation measures, the proposed works will reduce roosting resource for three species. The Moderate impact is unlikely in relation to common pipistrelles as the national population of this species is doing well and it is more adaptable to urban areas. Brown long-eared bats and Daubenton’s bats are more sensitive to urban

development and, while the current national population is stable, the proposed development is likely to reduce the roosting, foraging and commuting resource in the immediate area of the proposed development site.

- Roost loss of Barrington Tower during conservation works for common pipistrelles, brown long-eared bat and Daubenton's bat are assessed as Temporary Moderate Negative Effect.
- Habitat loss (potential roosting/foraging/ commuting habitat) effects on all bat species are assessed as Permanent Slight to Moderate Negative Effect.
- Roost loss of PBRs on all bat species are assessed a Permanent Slight to Moderate Negative Effect.
- Disturbance and/ or displacement effects on all bat species during the construction phase are assessed as Short-term Slight Negative Effect.”

Avian Ecology

Site clearance will result in a reduction in the vegetation cover and removal of the mature trees and hedgerows would result in a nesting and foraging resource loss for the bird species noted on site. Clearance works on site during bird nesting season could impact on bird population within the proposed development site. Dust from reprofiling works could potentially impact on vegetation and nesting birds on site within the remaining hedgerows.

Impacts in the absence of mitigation: negative; minor adverse, site, short term, not significant..

Aquatic Ecology

The proposed development site uphill of the Carrickmines Stream. In the absence of mitigation runoff during site clearance, re-profiling, the construction of project elements could impact on the watercourse, with potential downstream impacts on instream biodiversity including otter and trout, in addition to aquatic biodiversity in the marine environment. The contamination of the watercourse could potentially impact negatively on the biodiversity within the watercourses and within the shallow marine environment.

Impacts in the absence of mitigation: negative; slight, short term, not significant. Mitigation is required.

Operational Impacts

Once constructed all onsite drainage will be connected to separate foul and surface water systems. Surface water runoff will comply with SUDS. The biodiversity value of the site would be expected to improve as the landscaping matures. It would be expected that the ecological impacts in the long term would be neutral, once landscaping has established due to the implementation of a reduction in tunnelling which would encourage instream biodiversity.

Designated Conservation sites within 15km

Once the proposed development is complete and in the operational phase, the surface water run off will discharge to the Carrickmines Stream, after on site attenuation and foul water from the site will be discharged to Shanganagh WwTP where it will be treated at discharged to the Irish Sea. There will be no impacts from the proposed development during the operational phase. *Impacts in the absence of mitigation: neutral*

Terrestrial Ecology

No mammals of conservation importance would be impacted by the proposed development. Lighting and increased human presence/ disturbance may impact on the potential for the site to accommodate terrestrial mammals of conservation importance. It should be noted that significant dialogue has gone into retaining biodiversity corridors on site and minimising light spill into open space areas, hedgerows and treelines on site. Landscaping on site will improve the biodiversity value of the site.

Impacts in the absence of mitigation: negative; slight, site, long term, not significant. Mitigation is required.

Amphibians and reptiles. Frogs and reptiles were not observed on site. The common lizard may occur on site but, was not observed. There is potential for the operation to impact on the habitats on site that could potentially support frogs either by direct destruction of the habitats through landscaping works or by onsite pollution or silt ingress.

Impacts in the absence of mitigation: negative; slight; longterm term, not significant. Mitigation is required.

Bat Fauna.

As outlined in Appendix I “Disturbance and/or displacement effects on all bat species during the operation phase are assessed as Permanent Slight to Moderate Negative Effect.”

Avian Ecology

There is potential for avian biodiversity to be impacted by the artificial lighting on site. The proposed lighting strategy has been discussed and modified to reduce the potential impact on hedgerows and birds. This has included only lighting areas where required and not lighting public open spaces unless necessary. In addition the lighting strategy has included significant planting of native trees in openspace areas to encourage birds on site. Maintenance of the native hedgerows on site during bird nesting season could potentially impact on nesting birds.

Impacts in the absence of mitigation: negative; minor adverse, site, long term, not significant. Mitigation is required.

Aquatic Ecology

In the absence of standard operational mitigation there is potential silt and petrochemicals to enter the onsite watercourse or surface water networks that lead to the marine environment. The contamination of watercourses and surfaces water networks could potentially impact negatively on the biodiversity within the watercourses and within the shallow marine environment.

Impacts in the absence of mitigation: negative; slight, short term, not significant. Mitigation is required.

Terrestrial Ecology

As the landscaping elements improve with maturity it would be expected that the biodiversity value of the site to birds and flora would also increase.

Impacts in the absence of mitigation: negative; slight, short term, not significant. Mitigation is required.

Characteristics of the PROPOSED development

The proposed ‘Build-to-Rent’ (BTR) development will consist of the construction of 8 no. blocks in heights up to 10 storeys comprising 534 residential units, a creche, a retail unit, residential support facilities and residential services and amenities. The proposal also includes car and cycle parking, public and communal open spaces, landscaping, waste management areas, plant areas, substations, switch rooms, and all associated site development works and services provision.

Potential IMPACTS

The construction of proposed development will result in the removal of the majority of existing internal habitats on site including treelines, hedgerows, grassland areas and buildings (with the exception of Barrington Tower). This will result in a moderate local negative adverse impact on nesting and foraging resource for birds. There will be reprofiling on site with the potential for contaminated (silt and petrochemicals) runoff to flow downhill and enter the Carrickmines Stream and there is a pathway from the development site via surface to the marine environment. Works are proposed on Barrinton tower which serves as a bat roost. Given the sloping nature of the site and the level of groundworks required, in the absence of mitigation, locally significant negative medium term adverse impacts would be foreseen on the watercourse that includes a population of otter (*Lutra lutra*) downstream. Impacts could also be potentially foreseen within the marine environment.

POTENTIAL CUMULATIVE IMPACTS

There are multiple developments that received planning permission located in the area immediately surrounding the subject site. The following planning applications in close proximity to the proposed

development are detailed below, as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Map' portal. The planning applications and their potential for impact on the surrounding environment and sensitive areas were investigated, to determine whether the proposed development either alone or in combination with other developments will have a negative impact on the environment.

Previous planning permission was granted for the proposed development site in 2013. Under the Planning ref. **D07A/0161/E**. The extension of duration of permission was for the development of a total of 158 no. dwellings; 25 no. detached houses (9 no. three storey five bed units; 15 no. three storey four bed units, 1 no. single storey two bed units, the above includes 2 no. houses with attached single storey garages); 12 no. semi-detached houses (4 no. three storey four bed units and 8 no. three storey three bed units with integrated garages); 6 no. terraced houses (3 no. three storey four bed units and 3 no. three storey three bed units with integrated garages). 109 no. apartments and 2 no. community rooms (c. total 70 sq.m in area) within a five storey building, incorporating fifth floor set back in four interconnecting blocks, and consisting of 100 no. two bed apartments, 6 no. three bed apartments, 3 no. one bed apartments (Block A to D), 6 no. apartments to be provided within a single three storey block (3 no. three bed duplexes) and 3 bed no. two bed apartments), (a total of 115 apartments to be provided). Vehicular access will be provided via two new entrances onto Brennanstown Road, one of which will serve 1 no. of the aforementioned dwellings and the existing Barrington Tower dwelling, the other serving 157 spaces shall be provided within basement carparking area over two levels directly beneath Blocks A to D. Permission is also sought for a c. 955 metre long foul sewer from subject site to Lambourne Wood along Brennanstown Road. This application also provides for demolition of a habitable dwelling. Permission is also sought for 1 ESB substation, refuse and cycle storage; hard and soft landscaping including a tennis court (c. 261 sq. in total area); boundary treatments and all other site and development works. All proposed works to take place at Barrington Tower (A Protected Structure), Brennanstown Road, on a site of approx. 3.5 ha on lands abounded generally to the North by Brennanstown Road, to the west by Brennanstown Vale housing development, to the east by a laneway accessing a Quaker burial ground to the south by the woodlands on either side of Loughlinstown River and the embankment of the former Harcourt Street Railway Line (no. development works are proposed to Barrington Tower itself) [a dwelling] as part of this planning application).

Planning ref. **D14A/0474** relates to the application located at Druid Glen, Brennanstown Road, Cabinteely, Dublin 18. The project involves the development consisting of: (a) The demolition of an existing derelict 2 storey dwelling house. (b) The construction of a replacement 1 storey with part basement 4 bed dwelling house, 80m from a National Monument 026-007 Glen Druid Portal Tomb. (c) New single house waste water treatment system and associated percolation area. (d) Repair works to Brennanstown Road boundary wall. (e) Associated site works, including landscaping, site drainage and upgrade of internal access road.

Planning ref. **ABP30161418** relates to the application located at Brennanstown Road, Dublin 18. Application to An Bord Pleanála for planning permission for a strategic housing development consisting of 136 no. residential units, comprising of 98 no. apartments and 38 no. houses, to be provided as follows: Apartment Block 1 containing 44 no. apartments, including 3 no. 1 beds, 27 no. 2 beds and 14 no. 3 beds, in a four storey building over basement / lower ground floor; Apartment Block 2 containing 44 no. apartments, including 3 no. 1 beds, 33 no. 2 beds and 8 no. 3 beds, in a four storey building over basement; Apartment Block 3 containing 10 no. apartments, including 2 no. 1 beds and 8 no. 2 beds, in a two storey building; 7 no. 5 bed houses (Type A1 and A2), 23 no. 4 bed houses (Type B1, B2 and E2) and 8 no. 3 bed houses (Type D1, D2, D3 and E1), of two and three storeys in height. A 195 sq. m crèche facility and play area is proposed on the lower ground floor of Block 1. The development includes 227 no. car parking spaces at basement / lower ground floor and surface level. The proposal includes cycle and motorcycle parking spaces, bin storage, public open space, landscaping, boundary walls and fences, internal roads, cyclepaths and footpaths, and 1 no. electricity sub-station. The associated site and infrastructural works include the removal of two existing structures in ruin, the provision of foul and surface water drainage, including attenuation tanks, and all associated services infrastructure. The proposal incorporates works to Brennanstown Road including a roundabout at the proposed new site entrance, road and footpath widening, raised tables/ramps for the purpose of traffic calming, and alterations and enhancements to the Brennanstown Road / Glenamuck Road North (R842) / Brighton Road / Claremont

Road junction. The proposal also includes for the provision of a new pedestrian connection to and through Cabinteely Park including works to Cabinteely Park. The proposed connection will utilise a pre-existing opening in the boundary wall in the northeast corner of the proposed site, connecting to Cabinteely Park via a section of open space to be delineated by proposed railings within the adjacent Carrickmines Wood development. The proposed works include the provision of a new entrance gate to Cabinteely Park and new pathways within Cabinteely Park connecting to the existing footpath network within Cabinteely Park. The application contains a statement setting out how the proposal will be consistent with the objectives of the Dun Laoghaire Rathdown County Development Plan 2016-2022.

Planning ref. **DZ19A/0863** relates to the development at a site bounded by Lehaunstown Lane to the west, Carrickmines Stream (partly) to the south and, Cabinteely Stream (partly) to the east and is located within the townland of, Brennanstown, Dublin 18. The application refers to the Permission for a residential development at a site measuring approximately 8.24 ha in area. The development will consist of the construction of 342 new residential dwellings, comprising 189 no. apartments arranged in 4 blocks (all 4-storeys in height and comprising 15 x 1 bed units and 174 x 2 bed units); 28 No. duplex units (comprising 14 x 2 bed units and 14 x 3 bed units); 60 No. triplex units (comprising 40 x 2 bed units and 20 x 3 bed units) and 65 No. 4 bedroom houses (comprising a mix of detached, semi-detached and terraced house types) together with a Childcare Facility at ground floor level within Block C with a floor space of 249sq.m. (GFA), and ancillary open space.

In relation to Planning ref. **DZ19A/0863**, an Appropriate Assessment Screening Report was composed by Brady Shipman Martin (BSM). The report states that: *'It is concluded that the proposed project under appraisal in this report will not have any significant effects on any European sites. As such it can be concluded that the development, either on its own or in-combination with other developments, including those developments listed here, will have no impact on the European sites.'*

Planning ref. **DZ20A/0073** refers to the application for permission at Beech Park, Bray Road, Cabinteely, Dublin 18, Loughlinstown, Co. Dublin. This project involves the development to amend part of a permitted residential scheme (the parent submission Dún Laoghaire Rathdown County Council Reg. Ref. D15A/0385(An Bord Pleanála Ref. ABP.-300194-17)). The site includes some 0.77 hectares forming part of the Cherrywood Strategic Development Zone Planning Scheme.

The above projects, including ecological assessments were reviewed. No project would be seen to have a cumulative impact with the proposed project.

No significant effects are likely from any cumulative impacts.

PREDICTED IMPACTS

Construction Phase

The construction of the proposed development would impact on the existing ecology of the site, the surrounding area and may impact downstream of the proposed works. The proposed development involves the ground clearance, re-profiling, groundworks and construction, with potential for runoff, dust, light and noise impacts that could impact on trees to be retained, and other biodiversity due to potential for downstream impacts. It should be noted that there is potential for significant effects on the qualifying interests of the designated site in the absence of mitigation measures. Construction phase mitigation measures are required on site particularly in relation to the protection of the water quality entering the watercourses. There is potential for silt laden runoff and contamination to enter the watercourse with potential for downstream impacts on the Rockabill to Dalkey Island SAC, as the watercourse outfalls to the marine environment approximately 1.4 km from this SAC.

Operational Phase

Once the proposed development is complete and in the operational phase, the surface water run off will discharge to the Carrickmines Stream, after on site attenuation and foul water from the site will be discharged to Shanganagh WwTP where it will be treated and discharged to the Irish Sea. There will be no impacts from the proposed development during the operational phase.

‘do nothing’ scenario

In the absence of development on site it would be expected that the site would become increasingly overgrown and the biodiversity value of the site could improve.

Worst case Scenario

In relation to the worst-case scenario event, there is a direct pathway to designated sites from the proposed development via surface water drainage. Impacts could include silt and pollution including petrochemical release. If the development took place and the detailed mitigation were not to function, it is possible that there could be significant short term water quality impacts on the marine environment including designated sites. Compliance with Water Pollution Acts would be seen as the principle way to prevent worst case scenario events on biodiversity. Unlikely, Negative, Slight, localised, Temporary.

Mitigation & Monitoring

Sensitive Receptors	Designed-in Mitigation
<p>Rockabill to Dalkey Island SAC (IE003000)</p> <p>Loughlinstown Woods pNHA,</p> <p>Carrickmines Stream,</p> <p>Aquatic biodiversity.</p>	<p>A CEMP was been prepared by Awn Consulting (AWN) on behalf of Cairn Homes Property Limited. The CEMP outlines the following mitigation that would prevent adverse effects on the integrity the conservation objectives of Rockabill to Dalkey SAC:</p> <p>“Surface Water Management</p> <p>Run-off into excavations/earthworks cannot be prevented entirely and is largely a function of prevailing weather conditions.</p> <p>Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation site which limits the potential for any offsite impacts. All run-off will be prevented from directly entering into any water courses as no construction will be undertaken directly adjacent to open water.</p> <p>No significant dewatering will be required during the construction phase which would result in the localised lowering of the water table. There may be localised pumping of surface run-off from the excavations during and after heavy rainfall events to ensure that the excavation is kept relatively dry.</p> <p>The following measures will be put in place during the construction phase to ensure protection of surface waterbodies. Construction works are informed by best practice guidance from Inland Fisheries Ireland on the prevention of pollution during development projects:</p> <ul style="list-style-type: none"> • Control of Water Pollution from construction Sites, Guidance for consultants and contractors (C532); and • Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016). • Environmental Good Practice on Site (3rd edition) (C692). <p>Surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. A temporary drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction.</p>

Sensitive Receptors	Designed-in Mitigation
	<p>It is envisaged that a number of geotextile lined settling basins and temporary mounding's and/or silt fences will be installed to ensure silts do not flow off site during the construction stage. This temporary surface water management facility will throttle runoff and allow suspended solids to be settled out and removed. All inlets to the settling basins will be 'riprapped' to prevent scour and erosion in the vicinity of the inlet.</p> <p>Pollution Control</p> <p><i>Management of Suspended solids in run-off</i></p> <p>Any temporary storage of spoil, hardcore, crushed concrete or similar material will be stored as far as possible from any surface water drains and also stored in receptacles where possible. In order to minimise the risk of contamination, the stockpiled material will be removed off-site as soon as possible. Surface water drain gratings in areas near or close to where stockpiles are located will be covered by appropriate durable polyurethane covers or similar.</p> <p style="padding-left: 40px;">There will be no direct pumping of silty water from the works to any watercourse. Sediment entrapment facilities will be installed to reduce sediment discharges to downstream properties and receiving waters. All run-off leaving a disturbed area should pass through a sediment entrapment facility before it exits the site and flows downstream such as straw bales, silt fencing, silt barriers and diversion dams.</p> <p>Concrete Run-off</p> <p>No wash-down or wash-out of ready-mix concrete vehicles during the construction works will be carried out at the site within 10 meters of an existing surface water drainage point. Wash-outs will only be allowed to take place in designated areas with an impervious surface.</p> <p>Accidental Spills and Leaks</p> <p>No bulk chemicals will be stored within the active construction areas. Temporary oil and fuel storage tanks will be kept in the material storage area in suitable containers and will be appropriately banded as required. Refuelling of vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in designated areas of the site, where possible, which will be kept away from surface water drains.</p> <p>Spill protection equipment such as absorbent mats, socks and sand will be available to be used in the event of an accidental release during refuelling. Training will be given to appropriate site workers in how to manage a spill event.</p> <p>The following mitigation measures will be taken at the construction site in order to prevent any spillages to ground of fuels during machinery activities and prevent any resulting soil and/or groundwater quality impacts:</p> <ul style="list-style-type: none"> • Refuelling will be undertaken off site where possible; • Where mobile fuel bowsers are used the following measures will be taken: <ul style="list-style-type: none"> ○ Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use; ○ The pump or valve will be fitted with a lock and will be secured when not in use;

Sensitive Receptors	Designed-in Mitigation
	<ul style="list-style-type: none"> ○ All bowzers must carry a spill kit; ○ Operatives must have spill response training; and ○ Portable generators or similar fuel containing equipment will be placed on suitable drip trays. <p><i>Monitoring</i></p> <p>Weekly checks will be carried out to ensure surface water drains are not blocked by silt, or other items, and that all storage is located at least 10m from surface water receptors. A regular log of inspections will be maintained, and any significant blockage or spill incidents will be recorded for root cause investigation purposes and updating procedures to ensure incidents do not reoccur.</p> <p>Dust Control Measures</p> <p>The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design, planning and effective control strategies. The siting of construction activities and the limiting of stockpiling will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs.</p> <ul style="list-style-type: none"> ● During working hours, technical staff will be available to monitor dust levels as appropriate; and ● At all times, the dust management procedures put in place will be strictly monitored and assessed. <p>The dust minimisation measures should be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust generation. In the event of dust nuisance occurring outside the site boundary, site activities should be reviewed, and procedures implemented to rectify the problem. Specific dust control measures to be employed are presented below.</p> <p><i>Site Routes</i></p> <p>Site access routes (particularly unpaved areas) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25% to 80%¹⁴.</p> <ul style="list-style-type: none"> ● A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles or delivery vehicles within the vicinity of the site; ● Bowzers will be available during periods of dry weather throughout the construction period. Research shown found that the effect of surface watering is to reduce dust emissions by 50%. The bowser will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use; and

Sensitive Receptors	Designed-in Mitigation
	<ul style="list-style-type: none"> • Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced areas shall be restricted to essential site traffic only. <p><i>Excavation</i></p> <p>Excavation works during periods of high winds and dry weather conditions can be a significant source of dust.</p> <ul style="list-style-type: none"> • During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust; • During periods of very high winds (gales), activities likely to generate significant dust emissions will be postponed until the gale has subsided. <p>The movement of truck containing materials with a potential for dust generation to an off-site location will be enclosed or covered.</p> <p><i>Stockpiling</i></p> <p>The location and moisture content of stockpiles are important factors which determine their potential for dust emissions. The following measures will be put in place:</p> <ul style="list-style-type: none"> • Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible; • Regular watering will take place during dry/windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust <p><i>Site Traffic on Public Roads</i></p> <p>Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:</p> <ul style="list-style-type: none"> • Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered at all times to restrict the escape of dust; • Any hard surface site roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only. • A power washing facility or wheel cleaning facility will be installed near to the site compound for use by vehicles exiting the site when appropriate, and an example of the washing equipment can be seen in Insert 7.1; and • Road sweepers will be employed to clean the site access route as required. <p><i>General</i></p> <p>The pro-active control of fugitive dust will ensure that the prevention of significant emissions, rather than an inefficient attempt to control them once they have been</p>

Sensitive Receptors	Designed-in Mitigation
	<p>released, will contribute towards the satisfactory management of dust by the construction contractor.</p> <p><i>Ecology</i></p> <p>The key strategies to be undertaken to minimise impact on the local flora and fauna during site clearing and construction are as follows.</p> <ul style="list-style-type: none"> • All site clearance works will comply with current legislative requirements and best practice; • Taking measures to limit the working area during the construction phase will reduce the impacts of the development on adjacent areas. The construction area will be clearly delimited by the site boundary and machinery should operate only within this allocated site area; • All re-fuelling of plant, equipment and vehicles will be carried out at the construction site boundary. All fuels, chemicals, liquid and solid waste will be stored in areas bunded in accordance with established best practice guidelines at the construction compound also; and Provision of spill kits; • Provision of a water and sediment management plan, providing for means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local water courses or drains; a • The measures outlined in Section 7.6 for the EIAR will ensure that silt run-off and potential flooding risks are minimised which will protect any ecological receptors associated with the site. • Construction lighting will be designed so as to be sensitive to the potential presence of bats and should adhere to the following guidance: <ul style="list-style-type: none"> ○ Bats & Lighting: Guidance Notes for Planners, engineers, architects and developers (Bat Conservation Trust, 2010) ¹⁵; ○ Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2011) ¹⁶; ○ Bats and Lighting in the UK – Bats and the Built Environment Series (Bat Conservation Trust UK, January 2018) ¹⁷. • As outlined in the Bat Assessment prepared by Bat Eco Services ¹⁸, an NPWS Derogation License will be required to allow the disturbance to bat roosting as a result of the conservation works on Barrington Tower. • To ensure that there is a roosting resource available during conservation works of Barrington Tower, a “Bat House” constructed to accommodate the three bat species recorded roosting in Barrington Tower. This will be constructed prior to proposed works on Barrington Tower and it will be located close to woodland and the Loughlinstown River (Ticknick Stream) in order to provide connectivity to suitable foraging and commuting routes. Landscaping and lighting plans adjacent to the proposed location of the “Bat House” has also been sensitively designed to prevent disturbance to roosting bats during the operation of the proposed development site (Bat Assessment, Bat Eco Services 2022). • A bat scheme will be erected to mitigate the removal of trees. These will be erected prior 6 months to tree felling to allow local bat populations to become aware of it prior to removal of the structure (Bat Assessment, Bat Eco Services 2022). • An ecologist will be appointed to oversee site clearance, reprofiling, construction and landscaping of the proposed project. • Tree retention will be carried out as outlined in the arborist report.

Sensitive Receptors	Designed-in Mitigation
	<ul style="list-style-type: none"> • A specific site clearance, reprofiling and phasing plan will be provided to the arborist and project ecologist for approval prior to any site clearance or works commencing on site. No site clearance works will commence on site until approval has been provided by the arborist and project ecologist for the works to commence. • All site clearance, reprofiling and enabling works will be approved and monitored by the arborist and project ecologist to ensure that the integrity of the remaining habitats on site are maintained. • All works in the riparian corridor will be carried out in consultation with and to the satisfaction of Inland Fisheries Ireland and the project ecologist, following the best practice guidelines for construction in the vicinity of watercourses. All works on site and in the riparian corridor will include mitigation measures to prevent silt from runoff during works as set out below. • Abstraction of water from the watercourse will not be permitted. • Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) in relation the removal of woody vegetation to outside bird nesting season will be carried out. Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. If bird nests are present the woody vegetation will not be removed unless a derogation licence has been provided by NPWS and the conditions applied. • 60 nest boxes placed on site during landscaping to compensate for resource loss. • Light falling upon any areas of benefit to birds such as hedgerow will not exceed 3 lux to ensure that resting and nesting species are not unnecessarily disrupted. • A pre construction survey for invasive species, bats and terrestrial mammals will be carried out. This will include an inspection for resting and breeding places for both terrestrial mammals and bats. Should resting or breeding places be found a derogation licence will be acquired from NPWS and conditions followed prior to works commencing in the vicinity of the resting or breeding place. • Lighting at all stages should be done sensitively on site as directed by the project ecologist, with no direct lighting of hedgerows and treelines.

Table 7 Mitigation Measures

Residual Impacts (including worst case scenario)

Chapter, the additional chapters of the EIAR and the CEMP, there will be no significant impact on biodiversity as a result of the proposed development. The successful implementation of the measures outlined in the EIAR will be essential to the successful mitigation/offsetting of the loss of biodiversity on site.

The proposed development has satisfactorily addressed the current ecology on site into its design so that application of the mitigation measures outlined in this EIAR will help reduce its impact on the local ecology to an adequate level. Where possible biodiversity retention and enhancement measures have been implemented into design to enhance the overall biodiversity value of the site. As a result of the loss of certain biodiversity features on site and the introduction of new buildings and increased human disturbance in addition to the implementation of a sensitive landscaping strategy, with biodiversity enhancement measures it is considered that the overall impact on the ecology of the proposed development will result in a long term neutral residual impact on the existing ecology of the site and locality overall. This is primarily as a result of the loss of some terrestrial habitats on site, supported by the retention of key biodiversity areas and the creation of additional terrestrial biodiversity features, mitigation measures and a sensitive lighting strategy. With bat mitigation measures the proposed development will potentially reduce its impact

on local bat populations. If bat mitigation measures are strictly applied, the potential impact of the proposed development will be Permanent Slight Negative impact. Therefore the Residual Impact of the proposed development will be Permanent Slight Negative impact.

In relation to the worst-case scenario event, there is an direct pathway to designated sites from the proposed development via the adjacent watercourse. Impacts could include silt and pollution including petrochemical release. If the development took place and the detailed mitigation were not to function, it is possible that there could be significant short term water quality impacts on the marine environment including designated sites (Rockabill to Dalkey Islands SAC/Loughlinstown Woods pNHA). In relation to additional biodiversity on site no additional worst case scenario impacts are foreseen beyond the impacts outlined above. Compliance with Water Pollution Acts would be seen as the principle way to prevent worst case scenario events on biodiversity. Unlikely, Negative, Slight, localised, Temporary.

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APPENDIX 1 Barrington (Brennanstown Road) Winter Bird Surveys 2021-2022

Introduction

4 Winter bird surveys were completed at the Barrington site off Brennanstown road in South Dublin from December to March (one per month) by Hugh Delaney, a freelance Ecologist (Birds primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

Winter Bird Survey Methodology

Winter bird surveys are conducted from soon after sunrise until late in the afternoon before sunset, the site is monitored throughout the day and all bird species utilizing the site recorded, including species flying through overhead. Checks are also made on suitable habitat nearby or adjacent the site for comparative purposes and to monitor any interchange of birds between sites. Target species (species of more special interest) utilizing the site will be mapped and estimates of the time these species frequented the site recorded.

Survey results

December 18th, 2021

Sunrise- 08.36hrs/Sunset 16.06hrs. Weather – Wind F1 East, Cloud 6/8, Dry, 5c, Excellent visibility.
On-site 09.00hrs – 15.30hrs.

Species recorded - Rook, Robin, Chaffinch, Magpie, Jackdaw, Goldcrest, Blackbird, Woodpigeon, Coal Tit, Hooded Crow, Herring Gull, Black-headed Gull, Wren, Siskin, Blue Tit, Song Thrush, Raven, Dunnock, Goldfinch, Jay, Mistle Thrush, Great Tit, Long-tailed Tit, Redpoll, Buzzard.

09.00hrs - 15.30hrs. – Area traversed from entrance on Brennanstown road to the north moving south along eastern boundary to the mainly rough grassland area in southern end and back along western boundary, in rotation throughout survey. Some vantage point observations made from southern most area near Luas line and from the northeastern corner looking south giving an optimal view over the site.

Observations from 09.00hrs – 12.00hrs -

Area surveyed as above, passerines present in good numbers at northern half of site with foraging tit flocks of Long-tailed tit (<15 minimum count), Blue tits (<8) and smaller numbers of Coal Tit and Great Tit, in thick cover around Tower and area north of Tower. Small numbers of Blackbird (<5) and Song Thrush (<5) also present, also numbers (<10) of Woodpigeon, Wren, Dunnock and Chaffinch. Two Redpoll passed over northern half of site at 09.40hrs. Jay recorded twice at 09.54hrs and 11.05hrs at southern end of site near Luas Line. Occasional Herring and Black-headed Gull recorded passing over head (most going west) over site. Two Raven passed over site at 10.25hrs going east. Green grassy area at southern half quiet, occasional foraging Magpies and small numbers of Goldfinch (<5) recorded foraging on Dock plants bordering the track next to the green.

Observations from 12.00hrs – 15.00hrs –

Site quieter in terms of avian activity than in morning, but most species recorded in morning still present around the site. Increase movement of Herring and Black-headed Gulls passing over site with birds moving east now (returning to coast). One Jay recorded at 14.10hrs at entrance to site. Mistle Thrush recorded for first time on site, two birds foraging on green at southern half at 14.15hrs. Two Buzzard passed west over site at 13.45hrs. Flock of 10 Siskin recorded foraging in trees at tree line at east side of southern half at 14.40hrs. No other significant species recorded.

January 21st, 2022

Sunrise- 08.25hrs/Sunset 16.47hrs. Weather – Wind F3 Northwest, Cloud 8/8, Dry with sunny spells, 7c, Excellent visibility. On-site 08.45hrs – 15.30hrs.

Species recorded - Rook, Robin, Chaffinch, Magpie, Jackdaw, Goldcrest, Blackbird, Woodpigeon, Coal Tit, Hooded Crow, Herring Gull, Black-headed Gull, Wren, Siskin, Blue Tit, Song Thrush, Redwing, Dunnock, Goldfinch, Bullfinch, Greenfinch, Jay, Great Tit, Long-tailed Tit, Redpoll, Sparrowhawk, Dipper.

08.45hrs - 15.30hrs. – Area traversed from entrance on Brennanstown road to the north moving south along eastern boundary to the mainly rough grassland area in southern end and back along western

boundary, in rotation throughout survey. Some vantage point observations made from southern most area near Luas line and from the northeastern corner looking south giving an optimal view over the site.

Observations from 08.45hrs – 12.00hrs –

Several species new to site recorded in morning, one Dipper observed from southern half of site looking towards the stream that borders the site at 09.20hrs and 11.05hrs, this area is a traditional site for Dipper. Flock of 15 Chaffinch, 2 Bullfinch and 5 Siskin foraging in trees at the site boundary on eastern side near stream throughout the morning. One Sparrowhawk passed south over site at 10.30hrs. Small numbers of foraging Tits (Blue, Great, Coal and Long-tailed) observed in cover in northern half of site. Also, Blackbird, Song Thrush, Wren, Dunnock and Robin (<10-15) average counts for each). Goldcrest noted foraging in thick cover in northern half of site (<5). Green area in southern half quiet with occasional foraging Magpies and Hooded Crows.

Observations from 12.00hrs – 15.30hrs –

Two flocks of Redwing totaling 25 birds passed over site at 13.50hrs, new to site, birds passed west and did not forage on-site. One Sparrowhawk passed east over site at 12.42hrs and south over site at 14.20hrs. Ten Chaffinch and 15 Goldfinch observed foraging in trees near Luas Line from 1300-14.15hrs. Small numbers of Herring and Black-headed Gulls observed passing east over site from 14.00hrs returning to coast to roost. Greenfinch noted foraging on the track at 13.40hrs was new to the site. No other significant target species were recorded.

February 11th, 2022

Sunrise- 07.51hrs/Sunset 17.27hrs. Weather – Wind F2 South, Cloud 4/8, Dry, 6c, Excellent visibility.

On-site 08.15hrs – 16.00hrs.

Species recorded - Rook, Robin, Chaffinch, Magpie, Raven, Jackdaw, Goldcrest, Blackbird, Woodpigeon, Coal Tit, Hooded Crow, Herring Gull, Black-headed Gull, Wren, Buzzard, Blue Tit, Song Thrush, Raven, Dunnock, Goldfinch, Bullfinch, Jay, Dipper, Mistle Thrush, Great Tit, Long-tailed Tit, Stock Dove, Grey Heron.

08.15hrs - 16.00hrs. – Area traversed from entrance on Brennanstown road to the north moving south along eastern boundary to the mainly rough grassland area in southern end and back along western boundary, in rotation throughout survey. Some vantage point observations made from southern most area near Luas line and from the northeastern corner looking south giving an optimal view over the site.

Observations from 08.15hrs – 12.00hrs –

Similar range of passerine species on-site as before, however, a Stock Dove passed west over the site at 10.15hrs was a new species for the site. Dipper again observed at 09.50hrs and 11.10hrs at the stream bordering the southeast corner of the site. Flock of 20 Chaffinch, two Bullfinch and 3 Siskin observed foraging at tree line bordering the east side of the southern half of site. Three Raven passed north over site at 10.30hrs. Flock of 15 Goldfinch foraging around the southern green area and track during morning. Pair of Jays present in northern half twice during the morning at 08.40hrs and 10.10hrs. All Tit species again present in small numbers and Blackbird (<10) and Song Thrush (<5). Mistle heard in song in trees near the tower.

Observations from 12.00hrs – 16.00hrs –

Three Buzzard passed west over site, one at 13.10hrs and another two at 14.25hrs. Up to 20 Goldfinch observed foraging around southern half of site with 4 Bullfinch and 12 Chaffinch foraging in trees at southeast boundary of site. Similar profile of passerine species noted in northern half of the site, 8 foraging Goldcrest at 14.00hrs was notable, pair of Jay noted at 13.10 and 14.35hrs again also in the area. Herring and Black-headed Gull again noted passing east in some numbers overhead. One Grey Heron passed west over southern half of site at 14.10hrs.

March 10th, 2022

Sunrise- 06.52hrs/Sunset 18.20hrs. Weather – Wind F3 Southeast, Cloud 3/8, Dry with sunny spells, 10c, Excellent visibility. On-site 07.15hrs – 16.30hrs.

Species recorded - Rook, Robin, Chaffinch, Magpie, Jackdaw, Goldcrest, Blackbird, Woodpigeon, Coal Tit, Hooded Crow, Herring Gull, Wren, Siskin, Blue Tit, Song Thrush, Raven, Dunnock, Goldfinch, Bullfinch, Jay, Mistle Thrush, Great Tit, Long-tailed Tit, Sparrowhawk.

07.15hrs - 16.15hrs. – Area traversed from entrance on Brennanstown road to the north moving south along eastern boundary to the mainly rough grassland area in southern end and back along western

boundary, in rotation throughout survey. Some vantage point observations made from southern most area near Luas line and from the northeastern corner looking south giving an optimal view over the site.

Observations from 07.15hrs – 12.00hrs –

Noticeable increase in bird song activity around site, notable were a minimum of 4 Goldcrest in song around the northern half of the site. Robin, Blackbird, Goldfinch and Song Thrush also in song. Two Siskin, 5 Chaffinch and 2 Bullfinch noted foraging in trees to east of track at southern half during day. One Sparrowhawk noted displaying over trees southeast of site at 10.15hrs. Pair of Jay recorded at 10.15hrs and 11.40hrs at southern end of site.

Observations from 12.00hrs – 16.30hrs –

One Raven passed east over south half of site at 10.20hrs. Two Song Thrush noted in song one in southern half of site and one in northern half of the site. Two Dunnock, one Robin and two Coal Tit also recorded in song around the site. Two pairs of Magpie nest building at the southern half of the site. Typical profile of other passerines present, now very few Gulls passing over the site with just a few Herring Gull noted. No other significant species recorded.

Comments and observations on survey results

33 bird species were recorded in the survey area covered by these four winter bird surveys. The species diversity was typical of what might be expected in this semi-urban south Dublin site. In the context of wintering bird species that are red listed as species of conservation concern in the revised Birdwatch Ireland List of birds of conservation concern in Ireland (2020-2026) only Redwing were recorded, these passing over the site and noted foraging on-site. Results from the surveys suggest that the site is not an ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's).