

Ecological Impact Assessment (EclA) for the proposed development of
Shanganagh Park – Phase 1, Shankill, Co. Dublin.



31st March 2023

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

On behalf of: Dún Laoghaire Rathdown County Council.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie

Directors: Bryan Deegan and Sara Corcoran

Company No.427560 VAT No. 9649832U

www.altemar.ie

Document Control Sheet			
Project	Ecological Impact Assessment (EclA) for the proposed development of Shanganagh Park – Phase 1, Shankill, Co. Dublin.		
Report	Ecological Impact Assessment		
Date	31 st March 2023		
Version	Author	Reviewed	Date
Draft A	Bryan Deegan		09 th January 2023
Planning	Bryan Deegan		31 st March 2023

Table of Contents

Introduction.....	1
Background.....	1
Study Objectives	1
Altemar Ltd.	1
Project Description	2
Nature & Extent of the Proposed Development	2
Arborist.....	3
Drainage	18
Ecological Assessment Methodology	20
Desk Study	20
Spatial Scope and Zone of Influence	20
Field Survey	20
Habitats and Flora	20
Consultation	21
Impact Assessment Significance Criteria	23
Results	25
Proximity to Designated Conservation Sites	25
Habitats and Species	35
Potential Effects	45
Construction Effects	45
Operational Effects.....	47
Mitigation Measures & Monitoring.....	49
Construction and Operational Monitoring.....	54
Residual Effects- Effects likely to occur from the project (post mitigation).....	54
Cumulative Effects.....	54
Residual Effects and Conclusion	57
References	57
Appendix I. Bat fauna impact assessment for the proposed development of Shanganagh Park – Phase 1, Shankill, Co. Dublin.....	59
Appendix II: Hydrogeological assessment	80
Appendix III - Shanganagh Park Winter Bird Surveys 2021-2022.....	84
Appendix IV. NPWS Consultation	91

Introduction

Background

Ecological Impact Assessment (EclA) 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 EclA 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 draft EclA has been prepared by Altemar Ltd. at the request of Dún Laoghaire Rathdown County Council. The project relates to the development of Shangnanagh Park Shankill, Co. Dublin, Masterplan – Phase 1.

Study Objectives

The objectives of this EclA are to:

1. Outline the project;
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

The following best practice guidelines have been used in preparation of this EclA:

- Guidelines for Ecological Impact Assessment in the UK and Ireland (2018);
- Guidelines on the information to be contained in EIARs (2022);
- Guidelines for Ecological Impact Assessment (EclA) (IEEM, 2019);
- Advice Notes on current practice in the preparation of EIS’s (EPA, 2003);
- Institute of Ecology and Environmental Management Guidelines for EIA (IEEM, 2005).

Altemar Ltd.

Altemar is an environmental consultancy based in Greystones, Co. Wicklow, 9km from the proposed development. Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include: residential; infrastructural; renewable; oil & gas; private industry; Local Authorities; EC projects; and, State/semi-State Departments. Bryan Deegan (MCIEEM), the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 28 years’ experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole “External Expert” to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan Deegan carried out all terrestrial elements of this draft Ecological Impact Assessment (EclA). However, Hugh Delaney (ornithologist) has carried out a Wintering Bird Assessment. Hugh Delaney is a freelance ecologist (Birds primarily) with an experienced background in bird surveying on numerous sites with ecological consultancies over 10+ years. Hugh, a lifelong birder, 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. He has carried out numerous ornithological surveys for Dun Laoghaire Rathdown County Council.

Project Description

Dún Laoghaire Rathdown County Council intend to apply for Part 8 permission for the proposed development of Shanganagh Park – Phase 1, Shankill, Co. Dublin as part of the Shanganagh Park Masterplan. As outlined in the Part 8 report prepared by the Parks Section, Community & Cultural Development Department of DLR “*The Shanganagh Park Masterplan identifies an intense active recreation zone towards the rear of the park. Currently DLR clubs are renting grass and all-weather pitches outside of the county for training and matches. Given the proposed significant increase in population as a result of the Woodbrook Shanganagh Local Area Plan, the development of this facility is a priority for Shanganagh Park Masterplan. The development of these facilities will increase active participation in the county through a multiple of different sports including GAA. Soccer, Baseball, Cricket, Athletics, etc. It strongly aligns with Space to Play, DLR Sports Facilities Strategy 2017-2022. The provision of these facilities ensures access to high quality active recreation facilities for the community.*”

The proposed site outline, location, general arrangement plan, and details of the proposed sports facilities are demonstrated in Figures 1-7. The Part 8 report outlines further details as follows:

Nature & Extent of the Proposed Development

‘The nature and extent of the proposed development is outlined below. This description of the proposed works should be read in conjunction with the supporting drawings and reports.

‘Sand Based Grass Pitch

The topsoil will be stripped and set aside on the site for re-use. The area is to be re-graded using a cut and fill method to create a level platform for the pitch only with falls and crossfalls. The area will be drained using land drains and slit drains before the topsoil is placed on the final levels and sand ameliorated into the surface. A warm-up area will also be located west of the proposed pitch.

Cricket & Baseball Facilities:

The cricket and baseball facilities will be amalgamated to an area to the south of the proposed pitch where the cricket pitch resides currently. This will include a standard baseball field with 60/90 dimensioned diamond and a competition standard cricket field with synthetic crease. In addition, it is proposed to install a fixed batting cage/cricket cage with 16z soft netting and artificial surface for practice including all associated fencing, netting and storage.

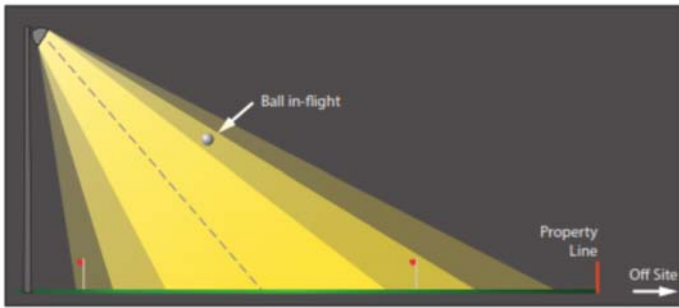
Sprint Track:

It is proposed to install a 6 lane 100m sprint/hurdles track on polymeric surfacing to World Athletics standards with long and triple jump facilities. This will also include a storage area (mesh fenced cage), a perimeter path and weldmesh fencing at a height of approximately 1.2m.

Floodlighting:

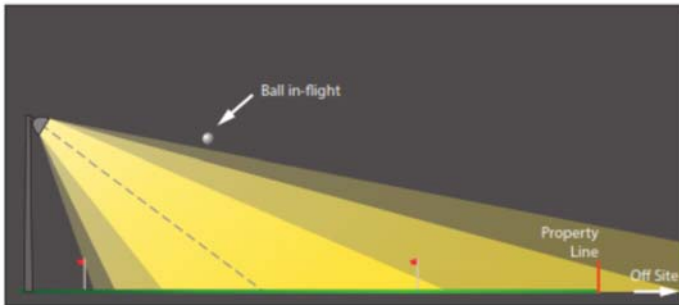
The floodlighting design undertaken uses the latest floodlighting design technology to reduce the impact of light spill on adjoining lands, trees and hedgerows. The floodlighting for the grass pitch has been designed to achieve an average light level of 500 lux which is suitable for competitive hurling. The other potential sporting uses (soccer, gaelic football, rugby) require 250 lux level so this system can be dimmed and this lighting level will be most commonly used. The lighting design uses 9no. 24.4m high galvanised steel columns similar to those used in the all-weather pitches throughout the county.

Choosing appropriate number of columns and column heights is key to the overall quality of the lighting design. Based on the size of the pitch, the sport being played, the competition level, and the application of the floodlighting system (televised or non-televised); column numbers and height requirements must be accurately assessed to ensure the aiming angle of the floodlight onto the pitch is at an appropriate degree to maintain good playability, control glare, and reduce spill light on adjoining properties and roadway. See the diagram below:



Higher Mounting Height

- Optimal control
- Limited spill
- Optimal quality of play



Lower Mounting Height

- Some control
- More spill
- Poor quality of play
- Player safety issue

The floodlighting for the sprint track has been designed to achieve an average light level of 200 lux in accordance with World Athletics Standards. The lighting design uses 2no. 15.4m high galvanised steel columns similar to those used in tennis courts throughout the county.

The luminaires will be LED which are much more energy efficient than the metal halide alternative. Associated civil works (ducting, foundations for columns, installation of mini pillars etc) will be undertaken whilst all electrical controls and switches will be brought to an area adjacent to the substation at the tree line.

A three-phase power connection and associated ESB substation will be required, and this will be located in close proximity to the St. Annes maintenance access gate in the tree line. The lighting design has been prepared in compliance with the Chartered Institute of Building Services Engineers Lighting Guide 4: Sports Lighting (CIBSE LG4) & the Institute of Lighting Professionals (ILP), Guidance Note for the Reduction of Obtrusive Light GN01:2021 and Guidance Note for Bats and Artificial Lighting in the UK GN08:2018. All lighting has been designed to be bat sensitive. The lights will provide only the amount of light necessary for the task in hand and shield the light given out in order to avoid creating glare or omitting light above the horizontal plane. The lighting design and report has been undertaken by MUSCO Lighting and is included as an appendix to the main Part 8 report (see appendix 8).

The floodlighting will be operational from 07:00 until 22:00, Monday to Friday and 09:00-20:00 Saturday and Sunday. However, given the fact that the pitches are grass, it is unlikely that floodlights will be used for more than 12 hours per week on average. In addition, significant seasonal restrictions will be deployed as outlined in the Ecological Impact Assessment (EclA) and AA Screening report to minimize any impacts on bats including no floodlighting allowed in April, May, August and September.'

Arborist

An Arboricultural assessment of Trees within the site area at 'Shanganagh Park', Shankill, Co. Dublin has been prepared by Arborist Associates Ltd. to accompany this planning application. This report outlines the following:

'Findings

The site area is irregularly square in shape and is bordered by private houses to the north, by the railway line to its east and by the grounds of 'Shanganagh Park' to its south and west. Metal fencing makes up the boundaries on the north and east sides and the tree belts make up the boundaries on the south and west sides. There is a large open grass area in the middle of the site with public footpaths around its perimeter with tree belts and hedges outside of these paths. This area has also been rejuvenated with tree planting over the last few years.

The following gives a brief summary of the vegetation within the site area. Tree Belt No.1 extends east to west along the northern boundary and it is a prominent group of trees with a good mix of young to early- mature trees with a diverse mix of species such as Ash, Poplar, Field Maple, Elm, Hazel and Larch, to name but a few.

Tree Group No.1 is located at the western end of 'Tree Belt No.1' and they are a prominent group of trees within this area. It is an early -mature group of trees consisting of Ash, Sycamore and Willow.

Tree Group No.2 and Tree Group No.3 are growing in the north-east corner of the site area on either side of the pedestrian footpath/ bridge that extends over the railway line. They are semi-mature trees with good potential for the long-term tree cover in this area and they contain mixed species such as Ash, Alder and Larch.

Tree Nos.0301-0309 are located to the south of the above tree belts and groups and consist of a mix of tree species generally of a semi-mature to early-mature age class establishing well with some having the potential to provide good quality tree cover for the future.

Hedge No.1 extends north to south along the eastern boundary with the railway line and it is a broad scrubby hedge consisting predominantly of Bramble and Dogrose with some clumps of Hawthorn, Holly and Elder in places. Within Hedge No.1 is Tree Group No.4 and Tree Nos.0311 & 0321 all Ash of a semi-mature to earlymature age class and some, in particular Tree Group No.4 are of prominence within this hedge. This hedge and the trees within have value as screening in this area and act as a buffer between 'Shanganagh Park' and the railway line to the east.

Tree Nos.0312-0320, 0322 & 0323 are located west of 'Hedge No.1' and consists of a mix of tree species planted either side of the perimeter path. These are of a young age class having been planted in recent years and most of them are establishing well with good potential to form part of the long-term tree cover.

Woodland Block No.1 is located in the south-west corner of the site area and it is a large prominent group of mixed species of varying age-classes. The most predominant species is Ash and Sycamore with a lot of Field Maple in the lower canopy along with seedling trees developing throughout the undergrowth. Pedestrian footpaths break up this woodland block into sub-compartments and the crowns of these trees overhang these paths. On either side of the pedestrian path on the north side of this woodland block is Tree Group No.5 which consists of a group of young mixed Pine trees with good potential for the long-term tree cover in this area and they add to the species diversification of 'Woodland Block No.1'.

Tree Belt No.2 extends east to west across the south to south-eastern boundary and the crowns of these trees overhang the public footpaths in this area. It consists of mixed species of predominantly early-mature trees and as a tree belt; they are of prominence within the treescape of the area. It is comprised of mainly Ash with some Beech and Horse Chestnut in places.

Tree Nos. 1324 – 1337 are located on the northern side of the public footpath out from 'Tree Belt No.2' and consists of a mix of tree species. These are of a young to semi- mature age class having been planted in recent years and most of them are establishing well with potential to form part of the long-term tree cover.

Tree Belt No.3 is located north of 'Tree Belt No.2' and it protrudes out into the open grass area. It is a prominent tree belt in this area consisting of mixed species such as Ash and Sycamore throughout the upper-canopy and Field-Maple and Rowan within the lower canopy. This tree group is made up of mainly early-mature trees.

Tree Belt No.4 extends north to south along the western boundary of this site area and it is a prominent tree belt. This tree belt consists of mostly early-mature trees with self-seeded trees, such as Sycamore developing throughout the lower canopy. It is comprised mainly of Ash and Sycamore trees with some Poplar towering above the rest of the upper-canopy at the southern end. Hazel and Alder can be found within the lower canopy, and their crowns overhang the public footpath at the southern end of this tree belt.

Tree Nos.1338-1341 are located on the eastern side of the public pathway out from the northern end of 'Tree Belt No.4' and consists of a mix of tree species. These are of a young age class having been planted in recent years and most are establishing well with good potential to form part of the long-term tree cover.'

Category Grade	No. of trees
Category U 0 Trees	Tree Nos. No Trees
Category A 1 Tree + 3 Tree Belts + 1 Tree Group + 1 Woodland Block	Tree Nos. 1304 Tree Belt Nos. 1,2 & 4 Tree Group No. 1 Woodland Block No. 1
Category B 8 Trees + 1 Tree Belt + 3 Tree Groups + 1 Hedge	Tree Nos. 1303, 1306, 1307, 1308, 1309, 1310, 1311 & 1321 Tree Belt No. 3 Tree Group Nos. 2, 3 & 4 Hedge No.1
Category C 32 Trees + 1 Tree Group	Tree Nos. 1301, 1302, 1305, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340 & 1341 Tree Group No. 5
Total	41 Trees + 4 Tree Belts + 5 Tree Groups + 1 Woodland Block + 1 Hedge

'In summary, 16 individually tagged trees plus five trees from one Tree Group, 764m² of tree belts/wooded areas and c.30m x 16m length of hedging are proposed for removal to facilitate the proposed development of this area for a new sporting facility. See 'Appendix 2' of this report for full details on this vegetation.

The tree vegetation for removal is made up of the following category grades:

- *Category 'A' – c.64m² of a linear tree belt.*
- *Category 'B' - 5No. trees plus 5No. trees from a tree group, 700m² of tree belts, plus c.30m x 16m section of hedging*
- *Category 'C' – 11No. trees*

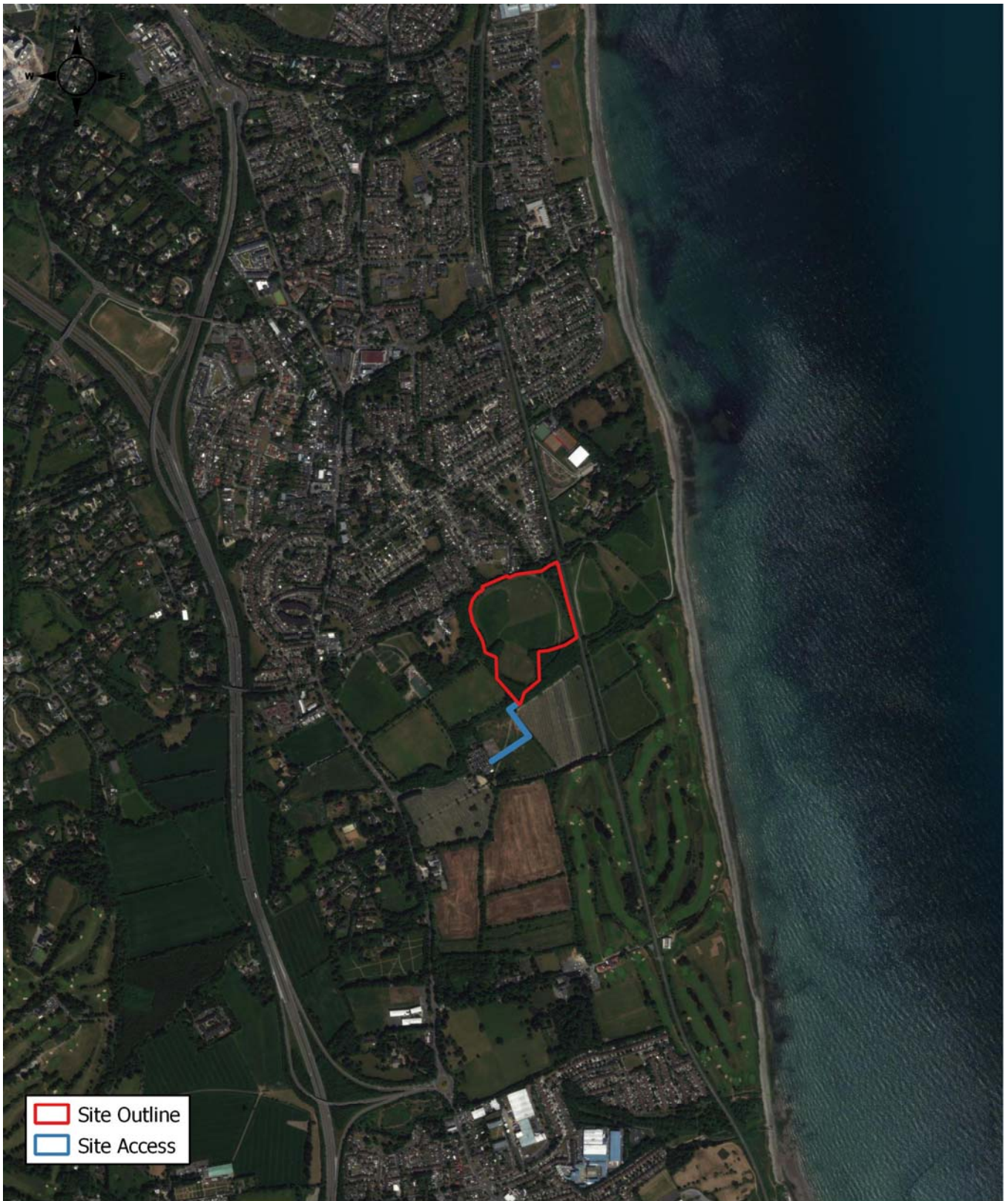
In the design layout, great efforts have been made to retain as much of the perimeter tree vegetation as possible to ensure that this area continues to be screened off from the surrounding residential areas and the remaining parts of the park and to give this area a sense of enclosure.

The loss of the above tree vegetation is scattered throughout a large site area and in the overall context of the tree cover in this area, the extent of tree cover being lost to facilitate the proposed development has minimal impact on the treescape of the greater area.

The loss of the above listed tree vegetation is being mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area. It will also help to provide good quality and sustainable long-term tree cover, and as this establishes and grows in size, it will be continuously mitigating any negative impacts created with the loss of the existing tree vegetation to facilitate the proposed development. See landscape architects drawings and schedules for detail.

The planting strategy key factors are to:

- *Create a sense of identity using trees, shrub and hedge planting.*
- *Create a robust landscape that performs all year round and is suitable for the current proposed use of this site area.*
- *Use vegetation to screen and enhance views.*
- *Use a more diverse mix of plant species that will include good pollinators.*
- *Plant robust species that tolerate drought and site-specific micro-climates*
- *Plant species that are maintenance friendly.'*



0 0.5 1 1.5 2 km

Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altemar)

ALTEMAR
 Marine & Environmental Consultancy

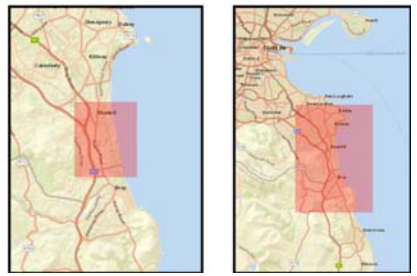


Figure 1. Proposed site outline and location



0 100 200 300 m

Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 2. Proposed site outline

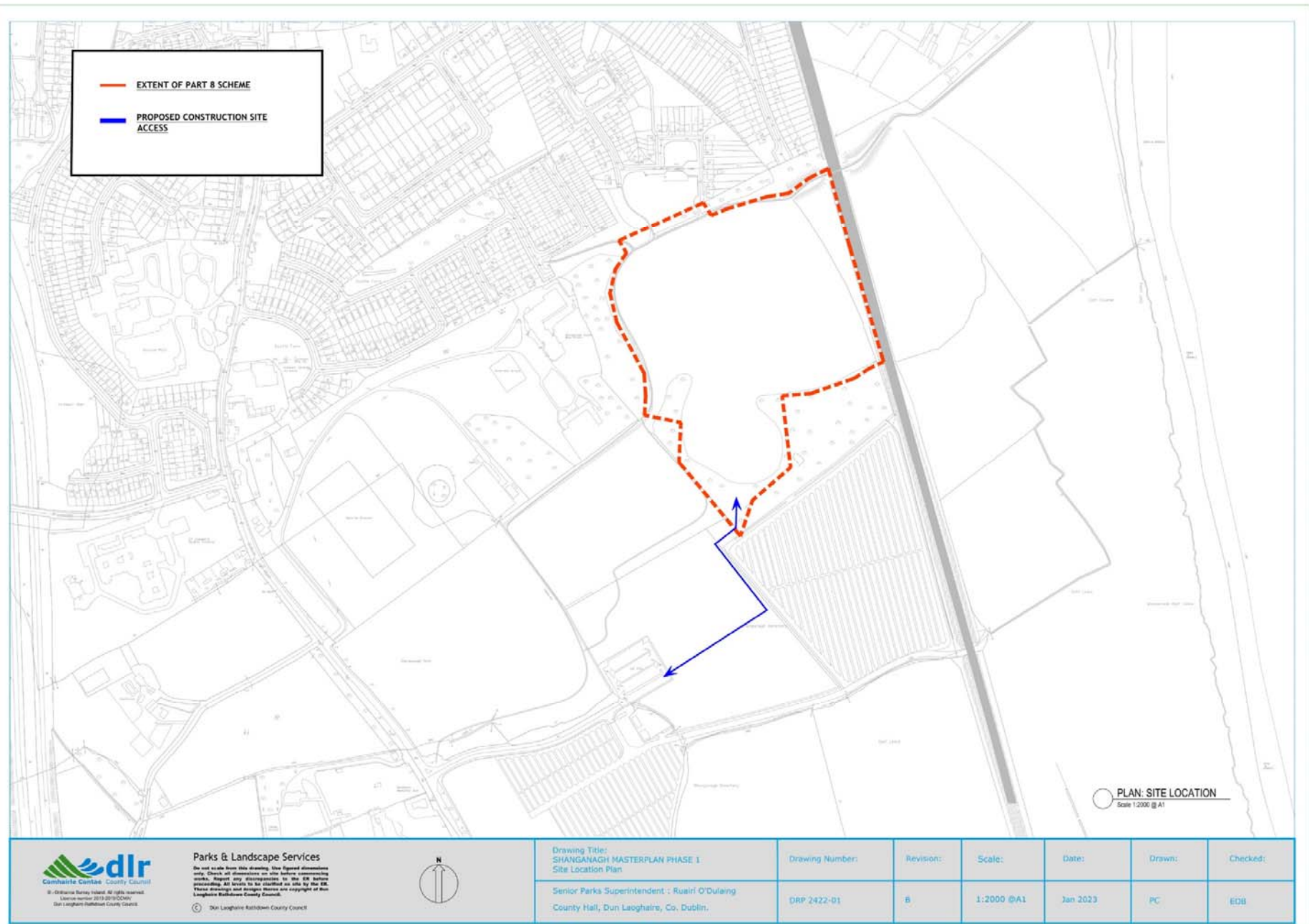
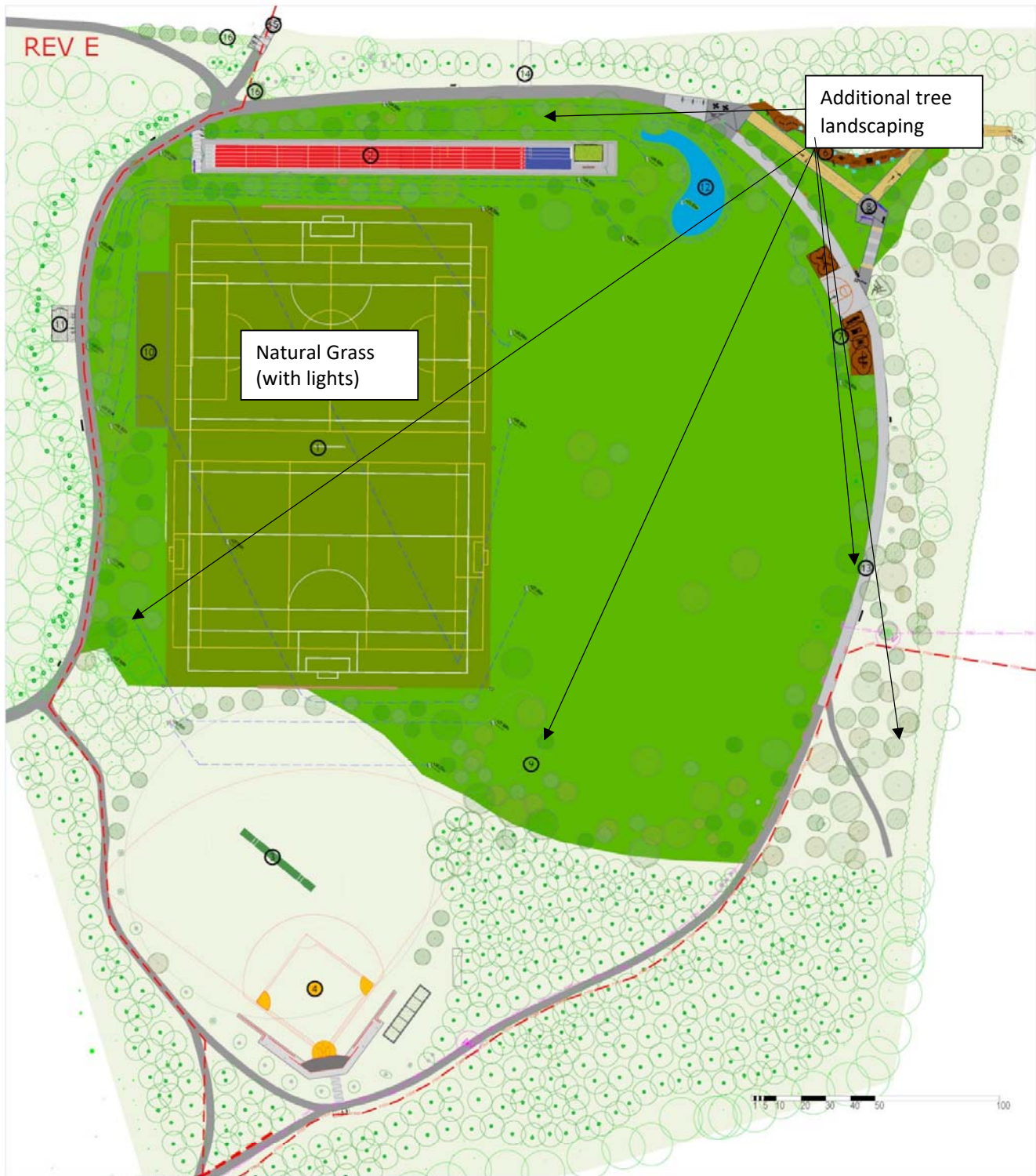


Figure 3. Site location plan



LEGEND & SCHEDULE OF MATERIALS

- EXISTING TREES RETAINED & PROTECTED REFER TO TREE SURVEY FOR EXACT DETAILS
- PROPOSED TREE PLANTING: NATIVE IRISH STOCK
- PROPOSED MEADOW AREAS: ALL AREAS OUTSIDE OF PITCH AND WARM UP AREA
- PROPOSED PITCH: PITCH AND WARM UP AREA TO BE TOPSOILED
- EXISTING GRASS: NO WORKS PROPOSED
- FOUJL SEWER: OUTSIDE OF THE SCOPE OF THIS PROCESS (By others)
- SELECTED PLAY EQUIPMENT: AREA TO INCLUDE TIGER MESH SAFETY SURFACE
- SELECTED CALISTHENICS EQUIPMENT: AREA TO INCLUDE TIGER MESH SAFETY SURFACE
- STREET LIGHT LOCATION: RELOCATION OF 3x EXISTING STREET LIGHTS
- BASKETBALL: 1x11M TO BASKETBALL COURT.

LEGEND:

1. 145x100m NATURAL GRASS PITCH WITH FLOODLIGHTS
2. 100m ATHLETIC FACILITIES WITH FLOODLIGHTS
3. CRICKET CREASE
4. BASEBALL FIELD
5. RAMPED ACCESS BRIDGE CROSSING
6. NATURAL PLAY AREA
7. CALISTHENICS AREA
8. VIEWING AREA
9. MOUND: FOR VIEWING MATCHES AND CREATING VISUAL INTEREST WITHIN THE PARK
10. WARM UP AREA TO REDUCE PLAYING IMPACTS ON PITCHES
11. TEMPORARY STORAGE: LOCATION FOR GONES AND TRAINING EQUIPMENT
12. WETLAND AREA: BIO-RETENTION AREA FOR WATER TO SUPPORT HABITAT CREATION AND MANAGE STORMWATER SURGES.
13. PATHS: WIDEN FROM 2.5m TO 3.5m.
14. SERVICES: WATER, SURFACE WATER, ESB (MEL. SUB-STATION)
15. PARK ENTRANCE: UPGRADE ENTRANCE AND PROVIDE NEW THRESHOLD INTO THE PARK
16. REMOVED PATHS: PATH TO BE REMOVED TO CREATE MORE OPPORTUNITIES FOR TREE PLANTING (HIGHLIGHTED IN GREEN)

<p>dLR Dun Laoghaire Rathfarnham County Council</p> <p>Parks & Landscape Services</p> <p><small>Do not scale from this drawing. Use figured dimensions only. Check all dimensions on site before commencing works. Report any discrepancies to the DLR before proceeding. All works to be classified on site by the DLR. These drawings and designs herein are copyright of Dun Laoghaire Rathfarnham County Council.</small></p> <p>© Dun Laoghaire Rathfarnham County Council</p>	<p>Drawing Title: SHANGAGH PARK MASTERPLAN - PHASE 1 General Arrangement</p>	Drawing Number:	Revision:	Scale:	Date:	Drawn:	Checked:
	<p>Senior Parks Superintendent : Ruairi O'Duailg County Hall, Dun Laoghaire, Co. Dublin.</p>	DRP 2422-02	E	1/600 @A1	March 2023	PC	EOB

Figure 4. General arrangement plan




 <p>Parks & Landscape Services <small>We are unable from this drawing. All Regional authorities only. Check all dimensions on site before commencing work. Report any discrepancies to the EA before proceeding. All levels to be marked on site by the EA. Please Whatsapp and design team are copyright of Donaghmore Ballinacree County Council.</small></p>		Drawing Title: SHANGARAGH PARK MASTERPLAN - PHASE 1 Pitches & Athletics Track Layout Plan		Drawing Number:	Revision:	Scale:	Date:	Drawn:	Checked:
		Senior Parks Superintendent: Ruairi O'Duhalain County Hall, Dun Laoghaire, Co. Dublin.		DRP-2422-03	E	1/400 @ A1	March 2023	PC	RDD

Figure 5. Pitches and athletics layout plan

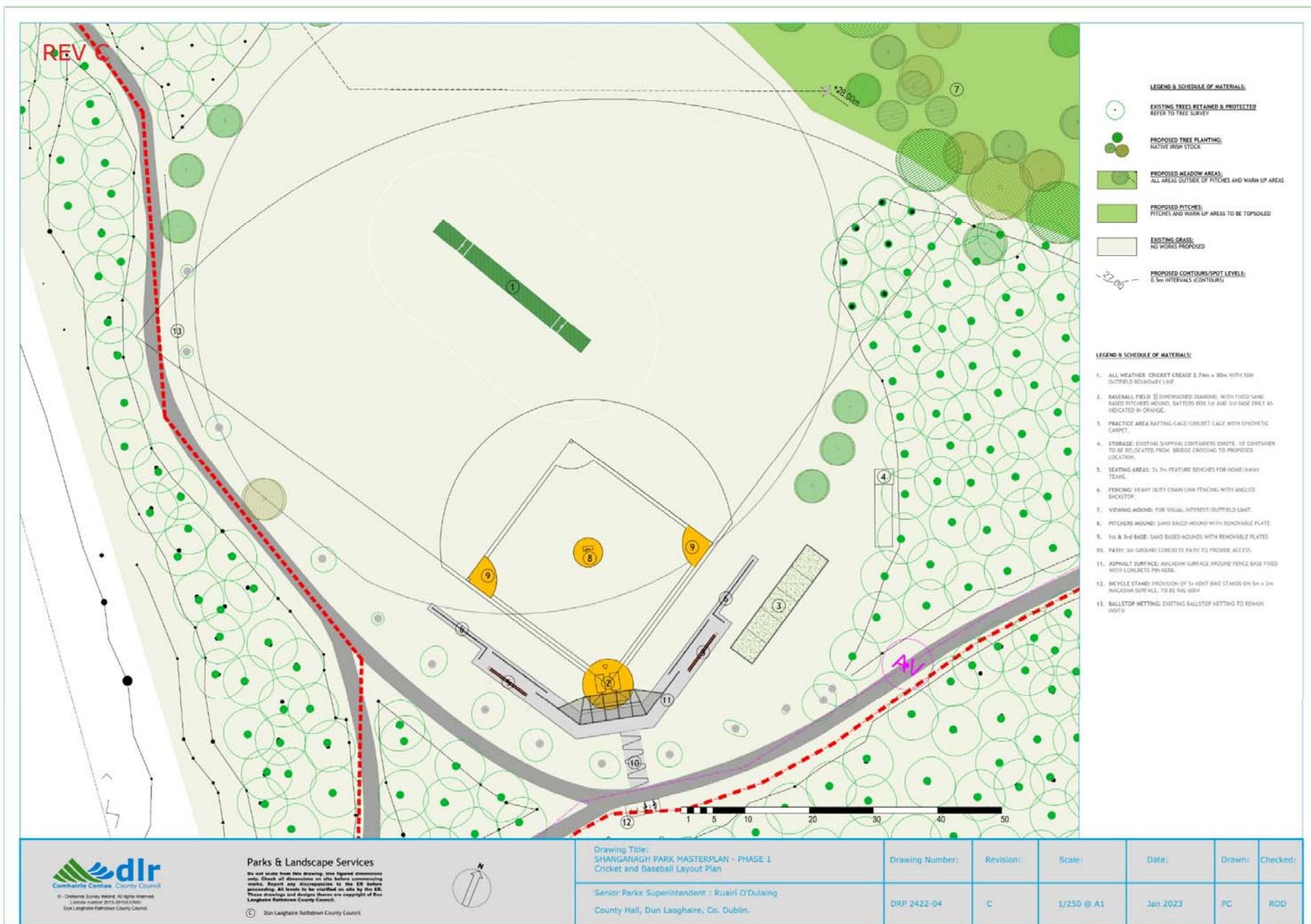


Figure 6. Baseball and cricket pitch

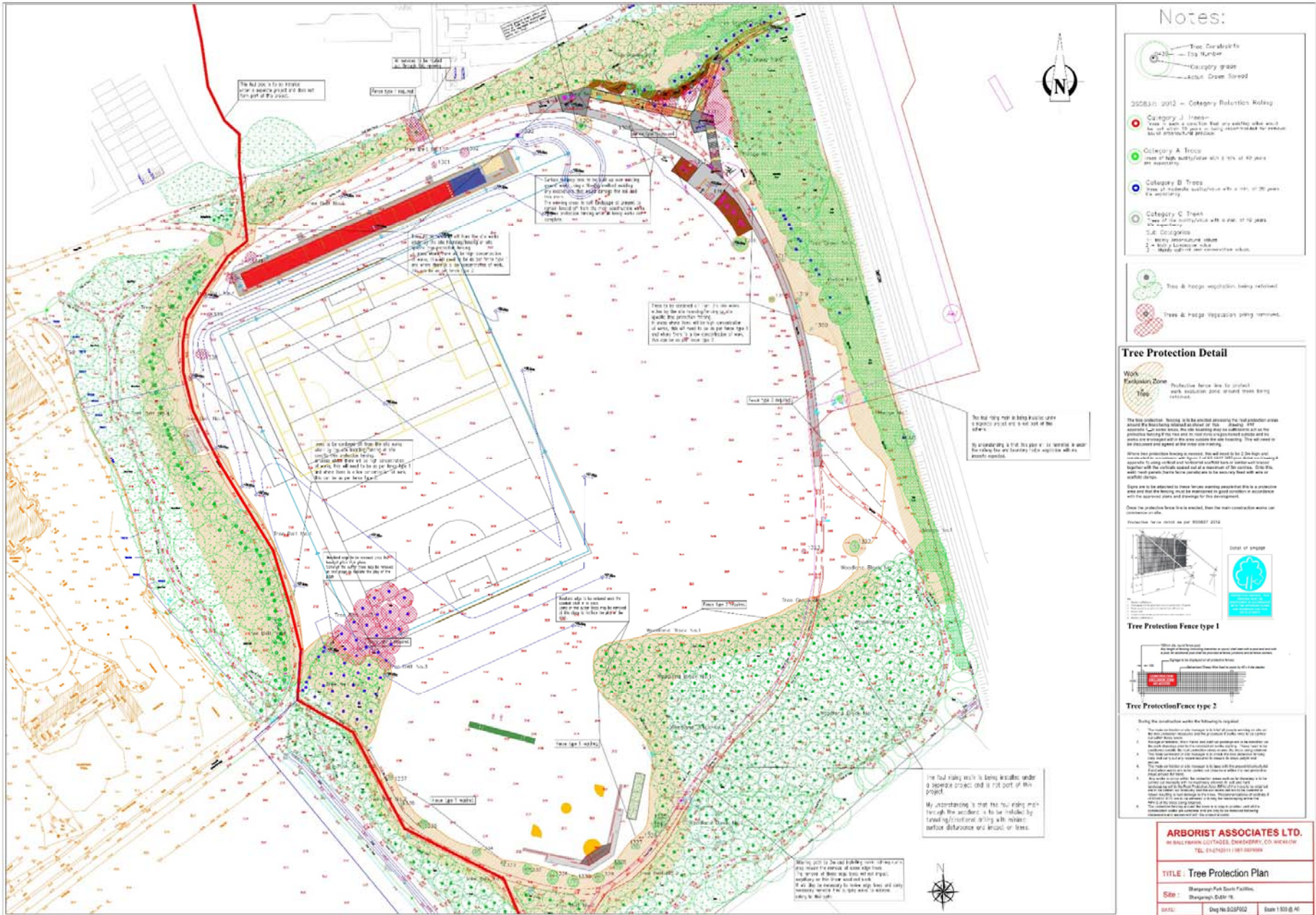


Figure 7. Tree protection plan

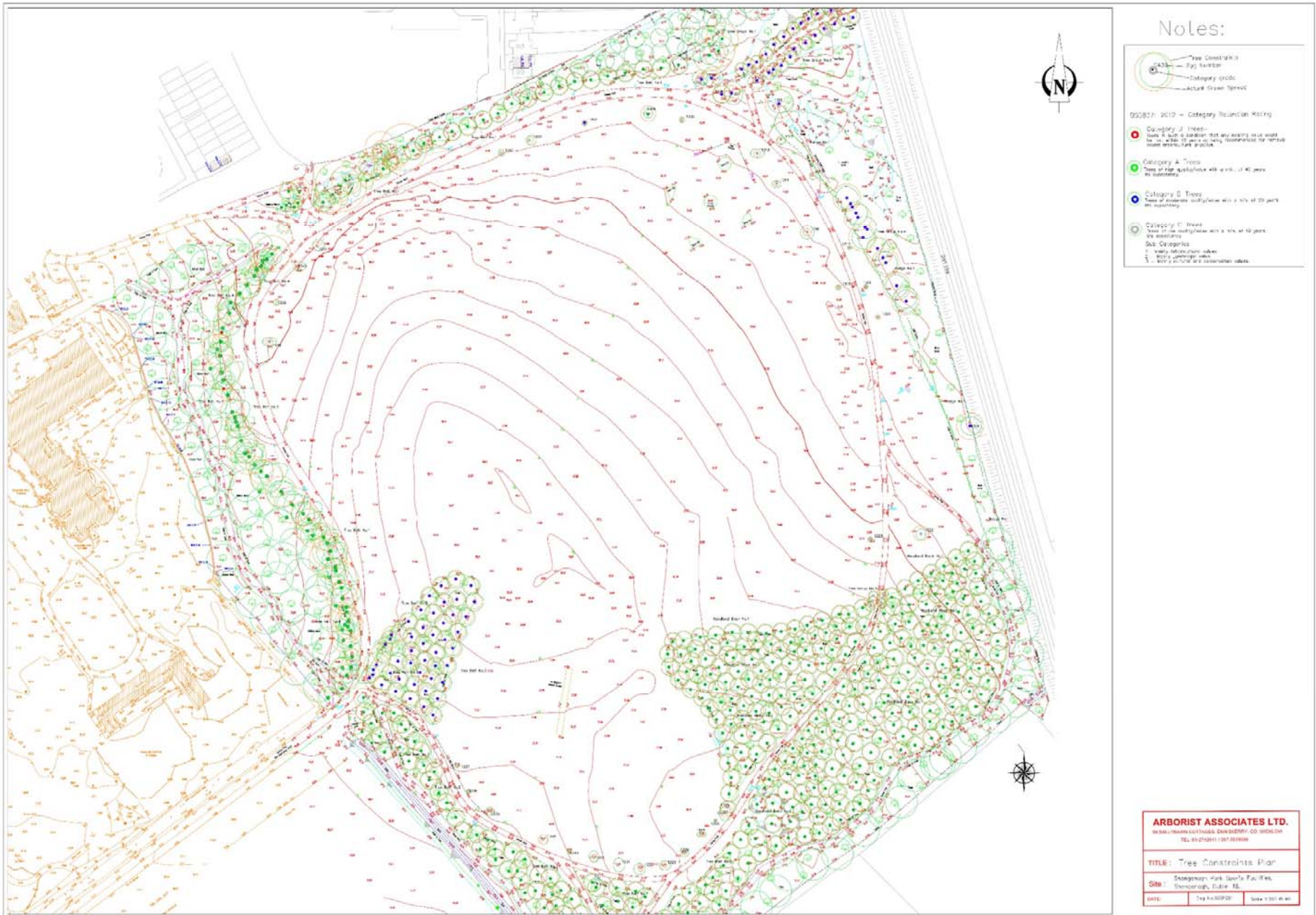


Figure 8. Tree Constraints Plan

Shanganagh Park Phase 1

Dublin, Leinster

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
P4	24.4	24.4	8	TLC-LED-1500	11.28 kW	B
P5	24.4	24.4	5	TLC-LED-1500	7.05 kW	A
		24.4	5	TLC-LED-1500	7.05 kW	B
		15.2	1	TLC-LED-600	0.58 kW	A
		15.2	1	TLC-LED-600	0.58 kW	B
P6	24.4	24.4	8	TLC-LED-1500	11.28 kW	A
P7	24.4	24.4	4	TLC-LED-1500	5.64 kW	A
P8	24.4	24.4	4	TLC-LED-900	3.52 kW	A
		24.4	3	TLC-LED-1500	4.23 kW	B
		24.4	3	TLC-LED-1500	4.23 kW	A
		24.4	1	TLC-LED-900	0.88 kW	A
		24.4	1	TLC-LED-900	0.88 kW	B
		24.4	1	TLC-LED-900	0.88 kW	B
		24.4	1	TLC-LED-900	0.88 kW	A
P9	24.4	15.2	1	TLC-LED-600	0.58 kW	B
		15.2	1	TLC-LED-600	0.58 kW	A
		24.4	4	TLC-LED-1500	5.64 kW	B
		24.4	4	TLC-LED-900	3.52 kW	B
P10	15.2	15.2	4	TLC-LED-900	3.53 kW	C
P11	15.2	15.2	3	TLC-LED-900	2.65 kW	C
B			63		75.46 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football 1 / Pitch 1	34.64 kW	26
B	Football 2 / Pitch 1	34.64 kW	26
C	Track	6.18 kW	7

Fixture Type Summary							
Type	Source	Wattage	Lumens	L50	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	26
TLC-LED-1500	LED 4000K - 70 CRI	1410W	181,000	>120,000	>120,000	>120,000	14
TLC-LED-900	LED 4000K - 70 CRI	890W	89,600	>120,000	>120,000	>120,000	2
TLC-LED-900	LED 4000K - 70 CRI	880W	104,000	>120,000	>120,000	>120,000	15
TLC-LED-600	LED 5700K - 75 CRI	580W	65,600	>120,000	>120,000	>120,000	4
TLC-LED-900	LED 5700K - 75 CRI	880W	104,000	>120,000	>120,000	>120,000	2

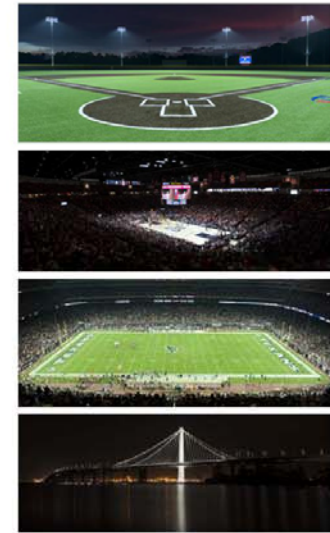
Single Luminaire Amperage Draw Chart							
Driver (90 min power factor)	Line Amperage Per Luminaire						
	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)	415 (50)	
Single Phase Voltage	7.9	7.6	7.3	4.6	4.4	4.2	
TLC-LED-1500	5.0	4.8	4.6	2.9	2.8	2.7	
TLC-LED-900	3.2	3.1	3.0	1.9	1.8	1.7	

Light Level Summary

Calculation Grid Summary									
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty	
		Ave	Min	Max	Min/Max	Min/Ave			
GAA Pitch 1	Horizontal Illuminance	507	368	708	0.52	0.73	A, B	56	
Soccer 1	Horizontal Illuminance	291	219	414	0.53	0.75	A	26	
Soccer 2	Horizontal Illuminance	289	216	409	0.53	0.75	B	26	
Spill Blanket 1m 50%	Horizontal	69.3	0	394	0.00	0.00	A, B, C, D	63	
Spill Blanket 1m	Horizontal	127	0	719	0.00	0.00	A, B, C, D	63	
Spill Blanket 2m 50%	Horizontal	69.2	0	400	0.00	0.00	A, B, C, D	63	
Spill Blanket 2m	Horizontal	126	0	735	0.00	0.00	A, B, C, D	63	
Spill line 1m 50%	Horizontal	0.33	0	1.70	0.00	0.00	A, B, C, D	63	
Spill line 1m	Horizontal	0.57	0	2.96	0.00	0.00	A, B, C, D	63	
Spill line 2m 50%	Horizontal	0.25	0	1.38	0.00	0.00	A, B, C, D	63	
Spill line 2m	Horizontal	0.46	0	2.51	0.00	0.00	A, B, C, D	63	
Track	Horizontal Illuminance	272	157	545	0.28	0.58	C	7	

ENGINEERED DESIGN By: Carlos Castaneda · File #214399K · 20-Mar-23

From Hometown to Professional



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2023 Musco Sports Lighting, LLC.

PROJECT SUMMARY

Figure 9. Proposed lighting – project summary

Shanganagh Park Phase 1 Dublin, Leinster

GRID SUMMARY

Name: Spill Blanket 1m
Size: 9.3m x 129.0m
Spacing: 10.0m x 10.0m
Height: 1.0m above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL LUX

Entire Grid

Scan Average: **126.51**

Maximum: 719

Minimum: 0

Min / Avg: 0.00

Min / Max: **0.00**

UG (adjacent pts): 172.92

CU: 0.99

No. of Points: 783

LUMINAIRE INFORMATION

Applied Circuits: A, B, C, D

No. of Luminaires: **63**

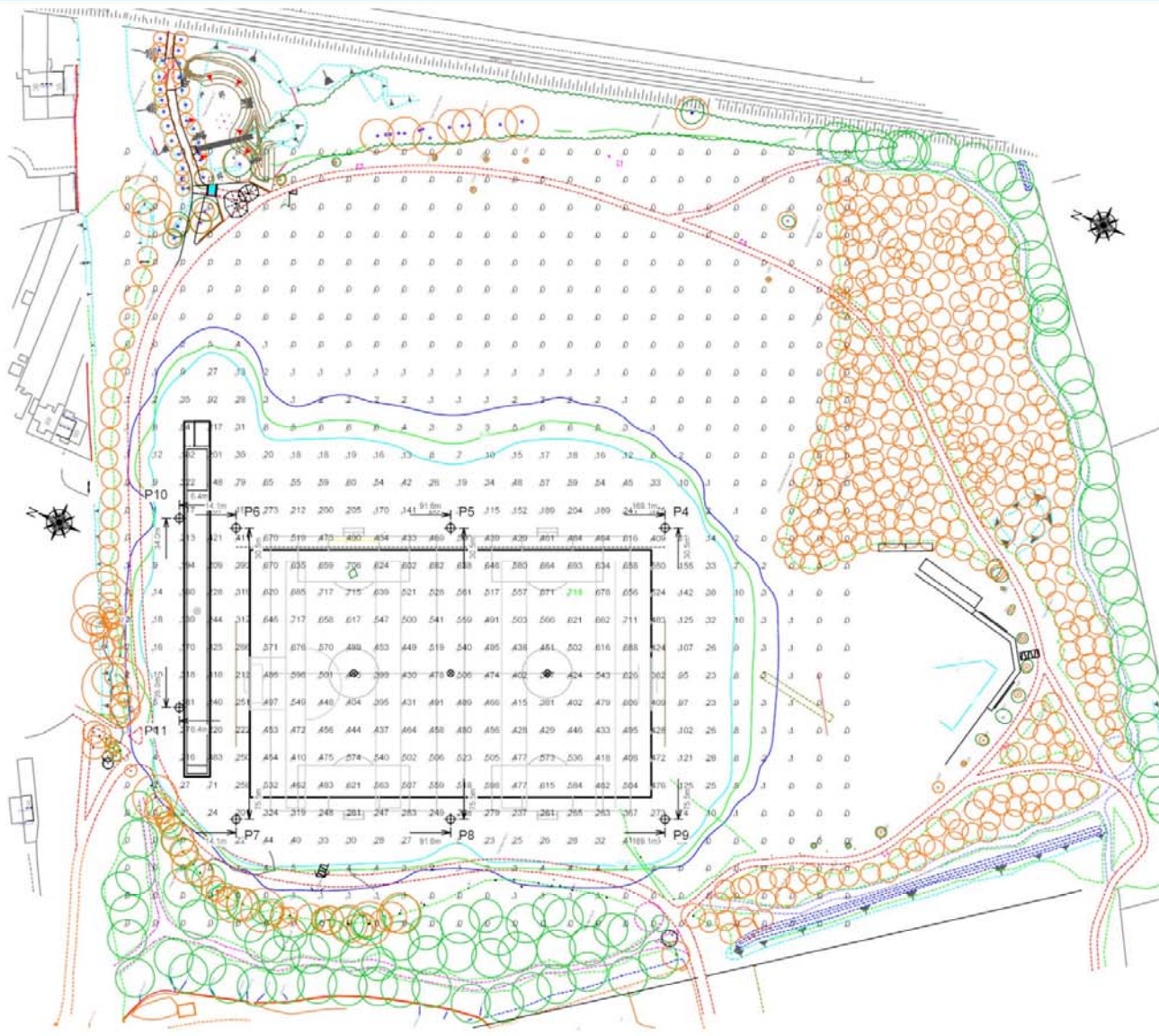
Total Load: 75.46 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



SCALE 1: 1500



ENGINEERED DESIGN By: Carlos Castaneda - File #214399K - 20-Mar-23

Pole location(s) + dimensions are relative to 0.0 reference point(s)



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981 - 2023 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

Figure 10. Proposed lighting – spill blanket

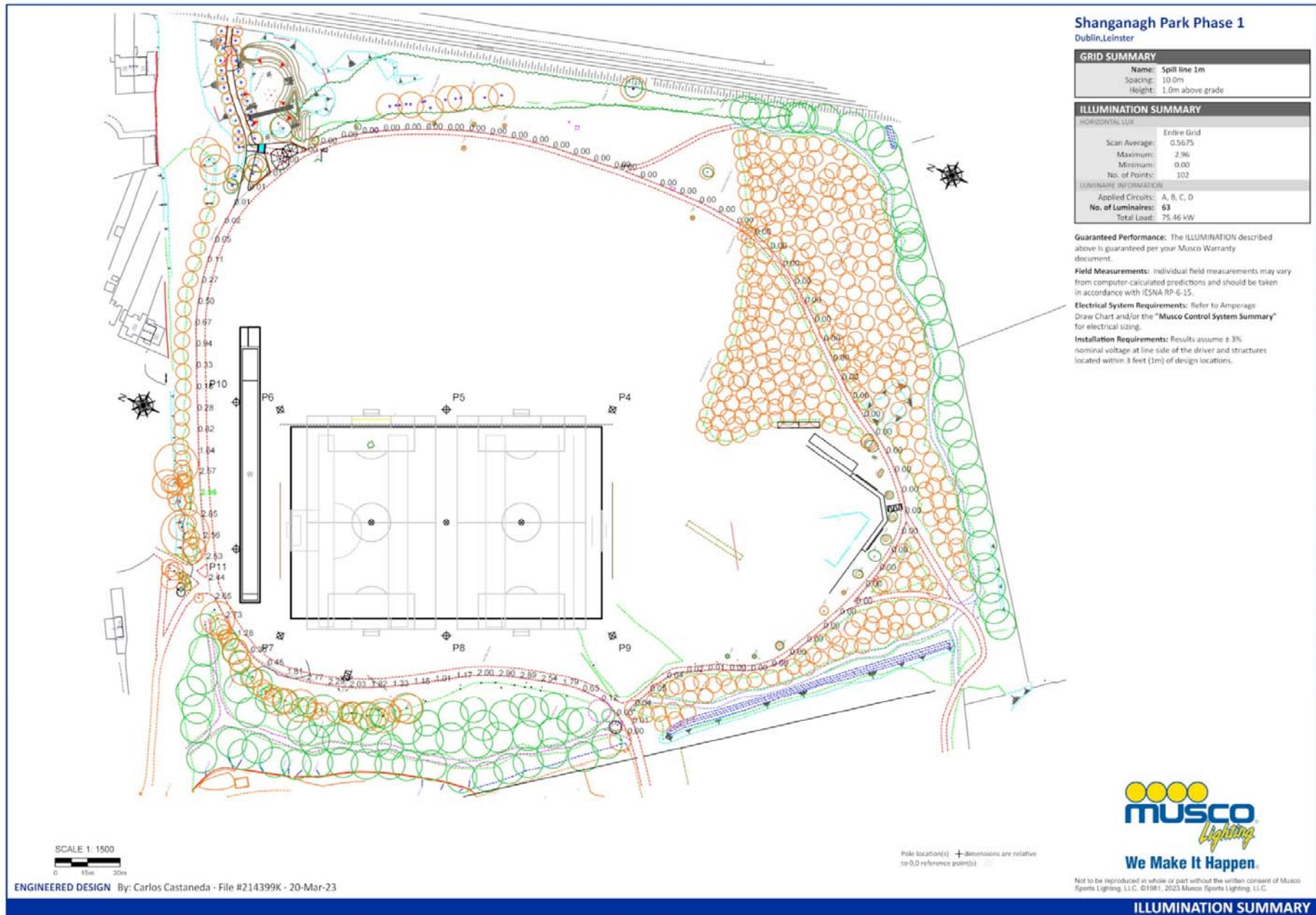


Figure 11. Proposed lighting – spill line

Shanganagh Park Phase 1 Dublin, Leinster

EQUIPMENT LAYOUT

INCLUDES:

- GAA Pitch 1
- Soccer 1
- Soccer 2
- Track

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

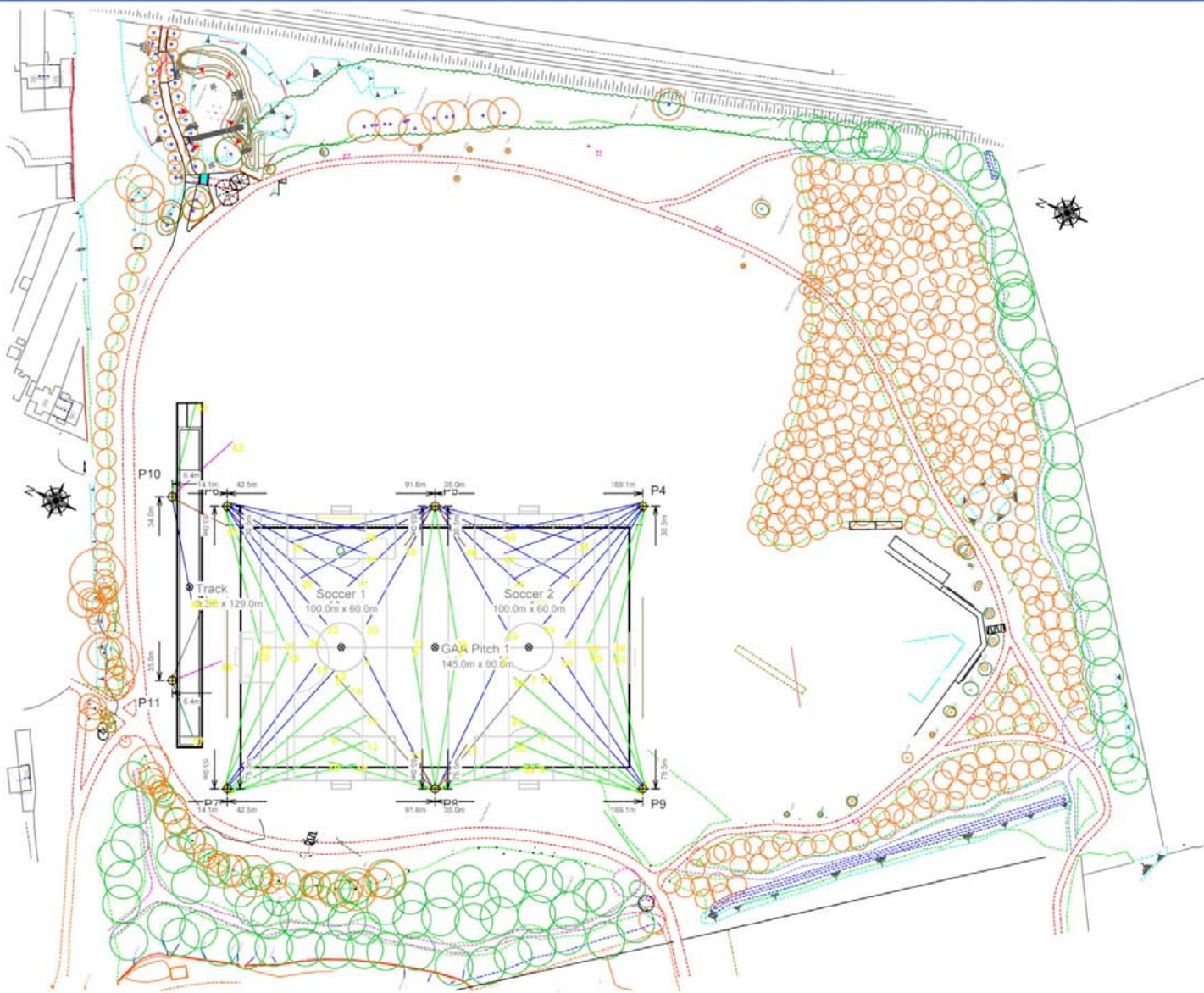
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires		QTY POLE
		SIZE	GROSS ELEVATION	HEIGHT	TYPE	
2	P4, P6	24.38m	-	24.38m	TLC-LED-1500	8
1	P5	24.38m	-	15.24m	TLC-LED-600	2
2	P7, P9	24.38m	-	24.38m	TLC-LED-1500	10
				24.38m	TLC-LED-900	4
1	P8	24.38m	-	24.38m	TLC-LED-900	4
				15.24m	TLC-LED-600	2
1	P10	15.24m	-	24.38m	TLC-LED-1500	6
				15.24m	TLC-LED-900	4
1	P11	15.24m	-	15.24m	TLC-LED-900	3
TOTALS						63

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Driver (.90 min power factor)	Line Amperage Per Luminaire (max draw)					
	220 (v)	230 (v)	240 (v)	380 (v)	400 (v)	415 (v)
TLC-LED-1500	7.9	7.6	7.3	4.6	4.4	4.2
TLC-LED-900	5.0	4.8	4.6	2.9	2.8	2.7
TLC-LED-600	3.2	3.1	3.0	1.9	1.8	1.7



SCALE 1: 1500



ENGINEERED DESIGN By: Carlos Castaneda - File #214399K - 20-Mar-23

Pole location(s) + dimensions are relative to 0,0 reference point(s)



We Make It Happen.

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2023 Musco Sports Lighting, LLC

EQUIPMENT LAYOUT

Figure 12. Proposed lighting – equipment layout

Drainage

A Part 8 Report has been prepared by Dún Laoghaire Rathdown County Council to outline details of the proposed development of Shanganagh Park – Phase 1, Shankill, Co. Dublin. In relation to Surface Water Drainage, this report outlines the following:

'Surface Water Drainage:

Slit drains and perforated lateral drains will be installed across the pitch and directed to a bio-retention area via collector drains that will be installed around the perimeter of the pitch. Further minor drainage will take place at the cricket/baseball field as required, the sprint track and at the bottom of any steep slopes. The attenuation system will be an above ground bio-retention pond, be located along the northern boundary of the field and has been designed so that attenuation will be provided for the 1.0% AEP (1:100 year) storm event. The attenuation system outflow will be controlled by a hydrobrake connected to the existing surface water drainage system with the outflow restricted to 2l/s/ha or Qbar, whichever is the greater, in accordance with the Greater Dublin Strategic Drainage Strategy (GSDSDS).'

After consultation with Dún Laoghaire Rathdown County Council, it has been concluded that surface water overflow will be directed to an existing surface water drainage network within St. Anne's Park, located to the north of the subject site. This network ultimately outfalls to the marine environment at Killiney Bay. As outlined in the AWN Hydrological Assessment (Appendix V) *'No development is proposed directly on the area of the seasonal pond or immediate surrounding area. Site conditions indicate low drainage within the shallow soil requiring drainage to be installed for the proposed development. The nature of the proposed drainage as described in Figure 3 is that it collects recharge local to the area drained. As such there is little potential for impact outside of the footprint of the pitches etc.'*

Also outlined in the Part 8 report the following should be noted:

Callisthenics:

A callisthenics and functional workout area is proposed to the east of the meadow in close proximity to the bridge crossing. This will provide an opportunity for citizens to access high quality facilities for exercise and play in a less structured manner. It will include items such as the overhead ladder, incline press, triple bars, pull-up station, decline bench, dip bench, sit-up bench and multi-exercise combi-station. It will be designed for competitive training but suitable for all levels and abilities.

Fencing & Netting:

The cricket and baseball zone will include a zone of fencing to the rear of the batting area to protect members of the public. The fencing is to be a maximum height of 9m to the rear of the baseball diamond. The sprint track will be enclosed by a minimum 1.2m high weldmesh fence with associated pedestrian and vehicular access gates.

Play:

A natural play space is proposed adjacent to the DART crossing. This will take the form of challenge course with free play elements such as balance beams, balance nets, stepping stones, hoping blocks, etc.

High Ballstop Netting:

The ballstop netting will be installed to the rear of the goals on the GAA pitch. The netting will be supported by galvanised steel uprights to a height of 13.5m.

Bicycle Parking:

Bike stands will be located adjacent to the St. Annes entrance and the bridge crossing at the DART line.

Car Parking:

The main car park at Shanganagh Park & Cemetery will be the car parking to serve this site. Dun Laoghaire Rathdown County Council will actively work with club users to encourage more sustainable modes of transport and to refrain from parking in nearby housing developments.

Entrances:

The entrance into St. Annes will be upgraded to improve permeability and promote access for all.

Mounding:

Earth mounding will be provided to the south and east of the pitch for viewing. This mound will be also planted with trees and likely to be managed as a meadow.

Access Over DART Line:

Access over the DART line is to be improved by creating a much improved and more accessible ramp (1:15 gradient). New steps will be created, and the required tactile paving and handrails included in accordance with Part M. In addition, this area will now have seating and resting/viewing areas.

Footpaths:

The footpath along the eastern section of the meadow will be widened to approx. 3.5m.

Services:

The ESB and water connections will be brought to the site via the nearby St. Annes estate. A small galvanised and powder coated substation will be placed in the tree-line close to the maintenance access gates from St. Annes. In addition, the surface water connection from the attenuation system will be brought out in the same trench to minimise any impacts to trees and hedgerows.

Refillable Water Fonts:

Refillable water fonts will be placed at appropriate locations throughout the site.

Tree Planting:

Significant additional tree planting will take place throughout the site to add to the sense of enclosure and provide shelter for the sports. The majority of the proposed planting will be native species with some suitable non-native species to be considered. The new planting will primarily consist of whips and standards but will also include some semi-mature trees to have immediate impact on the site. This will help to sequester carbon, improve air quality and increase biodiversity. The area for new tree planting is estimated as the equivalent of 1 Hectare of additional woodland.

Meadows:

The areas that are not sports related will be managed as meadows where paths can be cut through if appropriate. This will add a buffer to the woodland and hedgerows while adding interest and improving biodiversity. The meadows will be interspersed with significant additional tree planting and improved through good management in line with the All Ireland Pollinator Plan. The existing meadow is estimated at 2.32 Hectares and the proposed meadow is estimated at 2.87 Hectare..'

Ecological Assessment Methodology

Desk Study

A desk study was undertaken to gather and assess ecological data prior to undertaking fieldwork elements.

Sources of datasets and information included:

- The National Parks and Wildlife Service
- National Biological Data Centre
- Satellite, aerial and 6" map imagery
- ESRI (QGIS)
- 6 inch mapping
- Relevant planning applications and previous surveys carried out on site.

A provisional desk-based assessment of the potential species and habitats of conservation importance was carried out in June 2021 and updated in January 2023. Altemar assessed the project, the proposed access, construction methodology and the operation of the proposed development. It was determined that the proposed development had the potential to impact beyond the site outline and into the surrounding environment, primarily via lighting, dust, noise, surface water runoff and drainage which includes the proposed outfall of overflow surface water drainage to an existing surface water network within St. Anne's Park, located to the north of the site. As this network ultimately outfalls to the marine environment at Killiney Bay, there is an indirect hydrological pathway to designated conservation sites located within the marine environment. In relation to lighting considerable consultation has been carried out with the lighting designer in relation to spill and the bat foraging routes along woodland boundaries. This has resulted in a design with contained light spill and restricted hours during summer months in order to ensure that bat foraging remains on site.

Spatial Scope and Zone of Influence

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

The potential ZOI of the construction phase of the project in the absence of mitigation was deemed to be within the site outline and habitats proximate to the proposed works. However, due to the self-contained nature and limited temporal/ geographical scale of the project, within a public park space, in addition to compliance requirements in relation to SUDS, Water Pollution Acts and on site discharges, it is considered that the impacts of the proposed works, following mitigation, would not extend beyond site outline, with the exception of mammal and avian activity where the proposed site may form part of a larger territorial range. The project would also involve reprofiling, which may impact beyond the site through noise, dust. In addition, lighting of the pitches could impact beyond the site outline. However, as previously discussed considerable consultation has gone in to limit the potential for light spill from the proposed lighting. Standard but robust construction phase controls need to be implemented to limit the potential impact of the proposed development into the surrounding environment. The ZOI of the operation of the proposed development would be the immediate area of the proposed development site with potential for noise and surface water impacts beyond the site outline.

Field Survey

Field survey of the proposed development site was carried out by Altemar Ltd. on the 3rd August 2021, 25th August 2021, 16th September 2021, 5th December 2021, 25th April 2022, 20th August 2022 and 14th September 2022. An additional assessment of trees of bat roosting potential was carried out on the 5th January 2023. All surveys were carried out in compliance with best practice guidelines (CIEEM, 2019 'Guidelines for Ecological Impact Assessment in the UK and Ireland').

Habitats and Flora

The purpose of the field surveys was to identify habitat types according to the Fossitt (2000) habitat classification and map their extent. In addition, more detailed information on the species composition and structure of habitats, conservation value and other data were gathered. The nomenclature for vascular plants is taken from The New Flora of the British Isles (Stace, 2010).

Bats

Bat surveys (emergent and detector) were also carried out on the 25th August 2021, 16th September 2021 and 14th September 2022 and assessed the site for bat activity. As outlined in Appendix I 'The detector surveys were undertaken following best practice guidelines (Collins, 2016 & Marnell, 2022) within the active bat season and the transects covered the entire site multiple times during the night.' At dusk bat detector surveys were carried out onsite using an echo meter touch 2 pro detector. Bats if present were identified by their ultrasonic calls coupled with behavioural and flight observations.

Large Mammals

A mammal assessment was carried out on the 5th December 2021 and 25th April 2022 in line with best practice guidelines.

Amphibians and Reptiles

Following communication from NPWS a further site visit was carried out on the 25th April 2022 (Amphibian survey) which included an assessment of the seasonal pond adjacent to the proposed development site.

Breeding Birds

The presence of breeding birds were recorded on site during the onsite field assessments.

Wintering Birds

A Wintering Bird Survey was carried on October 8th 2021, October 29th 2021, November 10th 2021, November 19th, 2021, December 3rd 2021, December 19th 2021, January 8th 2022, January 29th 2022, February 9th 2022, February 26th 2022, March 11th 2022 and March 27th 2022. The number of surveys (12) exceeded best practice guidelines.

Survey Limitations

The surveys followed CIEEM best practice guidance and covered appropriate seasons for flora, bat, mammal, amphibian and wintering bird assessments. All areas of the site were accessible and there are no limitations seen in relation to the surveys. The number of wintering bird surveys (12) exceeded the number of minimum surveys required to be carried out i.e. one survey per month¹ and '3 survey visits spread out throughout the winter season'² during the Covid 19 outbreak. The wintering bird assessment provides a robust assessment with at least twice the number of surveys required. No limitations are foreseen in relation to the ecological assessments.

Consultation

The National Parks and Wildlife Service (NPWS) were consulted in relation to species and sites 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. NPWS assessed the design of the project and stated the following in their correspondence of 1st February 2022 (Appendix III). As stated in the correspondence '*Having studied the documentation supporting this development proposal this Department notes and welcomes that the design of the flood lighting to be installed on the new hurling/ football pitches to be constructed as part of part of the current proposal has been modified be more 'bat friendly' by minimising light pollution. The timing of the periods when the flood lighting will be in use so as to limit its impacts on bats is also welcomed. The adoption of these measures to mitigate the effects of the proposed scheme on bats is particularly valuable because a significant soprano pipistrelle bat roost is believed to be present in "The Court" part of the St. Anne's Park residential estate immediately to the north east of the area which is the subject of the present development proposal, and the bats from this roost probably mainly feed over the section of Shanganagh Park to the east between the railway and the sea.*

In addition it states '*this document does not mention the presence of a seasonal pond which is used by smooth newts for breeding in a depression located in an area of woodland within the park just to the south east of where it is intended to develop the combined cricket and baseball pitch and immediately to the south of and on the cemetery of the footpath in this area.*' An additional survey was carried out on the pond in April 2022. In addition, a technical note was prepared by AWN in relation to

'The provision of a new access ramp to the footbridge which leads east across the railway from the area of the proposed development towards the sea is included in the current development proposals. It is intended to construct

¹ <https://birdsurveyguidelines.org/non-breeding-walkover-survey/>

² CIEEM Guidance on Ecological Survey and Assessment in the Republic of Ireland and Northern Ireland During the Covid-19 Outbreak Version 1 Published 30 May 2020

this new ramp up to the footbridge from the south immediately adjacent to the railway line through an area of rank grassland colonised by scrub which was formerly owned by CIE. This area contains the remains of a section of the old Harcourt Street railway line embankment which joined the mainline railway just to the south and a triangle of land which previously lay between the two railway lines. This scrub area is regularly used by whitethroats and reed buntings for nesting, which do not otherwise nest in Shanganagh Park, except possibly along its seaward boundary. Stonechat formerly nested in this area as well and possibly still do. Other nesting birds also occur here. The presence of pygmy shrew (a protected species) was in addition noted here in the past and it almost certainly is still present. This area is botanically diverse too with numerous grasses and other flowering plants present.

On account of the high biodiversity value of the triangular area south of the footbridge, this Department recommends that the proposal to construct a new ramp up to the footbridge from the south should be omitted from the current development proposals. Instead the existing ramp to the footbridge from the east could be regraded. It is recommended the proposal for an adventure playground to the south of the present ramp in the triangular area should also be dropped.'

The design of the access ramp was modified to incorporate the comments from NPWS. A Hydrological Assessment of Seasonal Pond was carried out by Teri Hayes of AWN and this is seen in Appendix V.

Impact Assessment Significance Criteria

This section of the EclA examines the potential causes of impact that could result in likely significant effects to the species and habitats that occur within the ZOI of the proposed development. These impacts could arise during either the construction or operational phases of the proposed development. The following terms are derived from EPA EIAR Guidance (2022) 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.

Magnitude of effect and typical descriptions

Magnitude of effect (change)		Typical description
High	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Medium	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial effect on attribute or a reduced risk of negative effect occurring
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

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

Significance of Effect	Description of Potential Effect
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 effect which obliterates sensitive characteristics.

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

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

Results

Proximity to Designated Conservation Sites

Designated conservation sites (National and international) within 15km of the proposed development are seen in Figures (13-16) and Table 4. It should be noted that the proposed development site is not within a designated conservation area. The closest Natura 2000 site is Rockabill to Dalkey Island SAC, located 2.6 km from the proposed development site (Figure 13). The nearest SPA to the proposed development site is the Dalkey Islands SPA which is located 4.8 km from the subject site (Figure 14). There are no designated Natural Heritage Areas (NHA) within a 15km radius, however, the nearest Proposed NHA (Loughlinstown Woods pNHA) is located 1.6 km from the site (Figure 15). The closest RAMSAR Site is Sandymount Strand/Tolka Estuary at 7.9 km (Figure 16). There is no direct hydrological pathway to designated conservation sites. Given that the proposed development will largely consist of reconfiguring a relatively flat greenfield site, it would be expected that surface water drainage during construction will settle within the site boundaries during construction.

Measures should be in place to control surface water runoff into adjacent habitats particularly along site boundaries and haulage routes. However, as there are no watercourses on site or pathways to Natura 2000 sites during construction, these measures are deemed for local biodiversity protection and are not necessary for the protection of Natura 2000 sites. Post construction and during operation when the surface water has been connected at the final stage of the project, surface water will be directed to slit drains and perforated lateral drains, an above ground bio-retention pond and to an existing surface water drainage network. This network ultimately outfalls to the marine environment at Killiney Bay. In the absence of mitigation, any silt or pollutants will settle, be dispersed or diluted within the marine environment and will have no significant impact on the designated sites. Watercourses and designated conservation sites within 10km of the subject site and sites with the potential for an indirect hydrological pathway are demonstrated in Figures 17-20.

As outlined in the Dún Laoghaire-Rathdown County Development Plan 2022-2028 *'The biodiversity of DLR is not just contained within specifically Designated Areas but is found throughout the County. Many areas that do not have formal protection under legislation still possess a level of natural heritage importance, which needs to be recognised and protected, where possible. These areas include woodlands, wetlands, semi-natural grasslands, hedgerows, trees, rivers, streams, private gardens, and other urban green spaces. Other areas of important biodiversity in DLR can include graveyards, cemeteries and the green spaces associated with institutional lands.'* As outlined the development plan (Supplementary Maps B1 Ecological Network Map) Shanganagh Park is classed as a Locally Important Biodiversity Site (LIBS).

Table 1. Natura 2000 sites within 15km of the proposed site

Site Code	NATURA 2000 Site	Distance
Special Areas of Conservation		
IE003000	Rockabill to Dalkey Island SAC	2.6 km
IE000713	Ballyman Glen SAC	3 km
IE000714	Bray Head SAC	3.5 km
IE000725	Knocksink Wood SAC	4.7 km
IE002122	Wicklow Mountains SAC	7.5 km
IE000210	South Dublin Bay SAC	7.9 km
IE000719	Glen of the Downs SAC	8.9 km
IE000716	Carriggower Bog SAC	13.2 km
IE002249	The Murrough Wetlands	13 km
IE000206	North Dublin Bay SAC	13.2 km
IE000202	Howth Head SAC	14.8 km
Special Protection Area		
IE004172	Dalkey Islands SPA	4.8 km
IE004040	Wicklow Mountains SPA	7.8 km
IE004024	South Dublin Bay and River Tolka Estuary SPA	7.9 km
IE004006	North Bull Island SPA	13.1 km
IE004186	The Murrough SPA	14 km

Table 2. (proposed) NHAs within 15km of the proposed development site

Status	Site Name	Distance
Ramsar	Sandymount Strand/Tolka Estuary	7.9 km
Ramsar	North Bull Island	13.2 km
Proposed NHA	Loughlinstown Woods	1.6 km
Proposed NHA	Ballyman Glen	3 km
Proposed NHA	Bray Head	3.5 km
Proposed NHA	Dargle River Valley	4.4 km
Proposed NHA	Dingle Glen	4.1 km
Proposed NHA	Dalkey Coastal Zone and Killiney Hill	1.9 km
Proposed NHA	Knocksink Wood	4.7 km
Proposed NHA	Ballybetagh Bog	5.3 km
Proposed NHA	Powerscourt Woodland	5.3 km
Proposed NHA	Great Sugar Loaf	5.8 km
Proposed NHA	Kilmacanoge Marsh	6.5 km
Proposed NHA	South Dublin Bay	7.8 km
Proposed NHA	Glencree Valley	8.2 km
Proposed NHA	Fitzsimons Wood	8.7 km
Proposed NHA	Glen of the Downs	8.9 km
Proposed NHA	Boosterstown Marsh	10.5 km
Proposed NHA	The Murrrough	12.2 km
Proposed NHA	Carriggower Bog	13 km
Proposed NHA	North Dublin Bay	13.2 km
Proposed NHA	Dolphins, Dublin Docks	13.6 km
Proposed NHA	Grand Canal	14.5 km
Proposed NHA	Howth Head	14.8 km
Proposed NHA	Vartry Reservoir	14.8 km

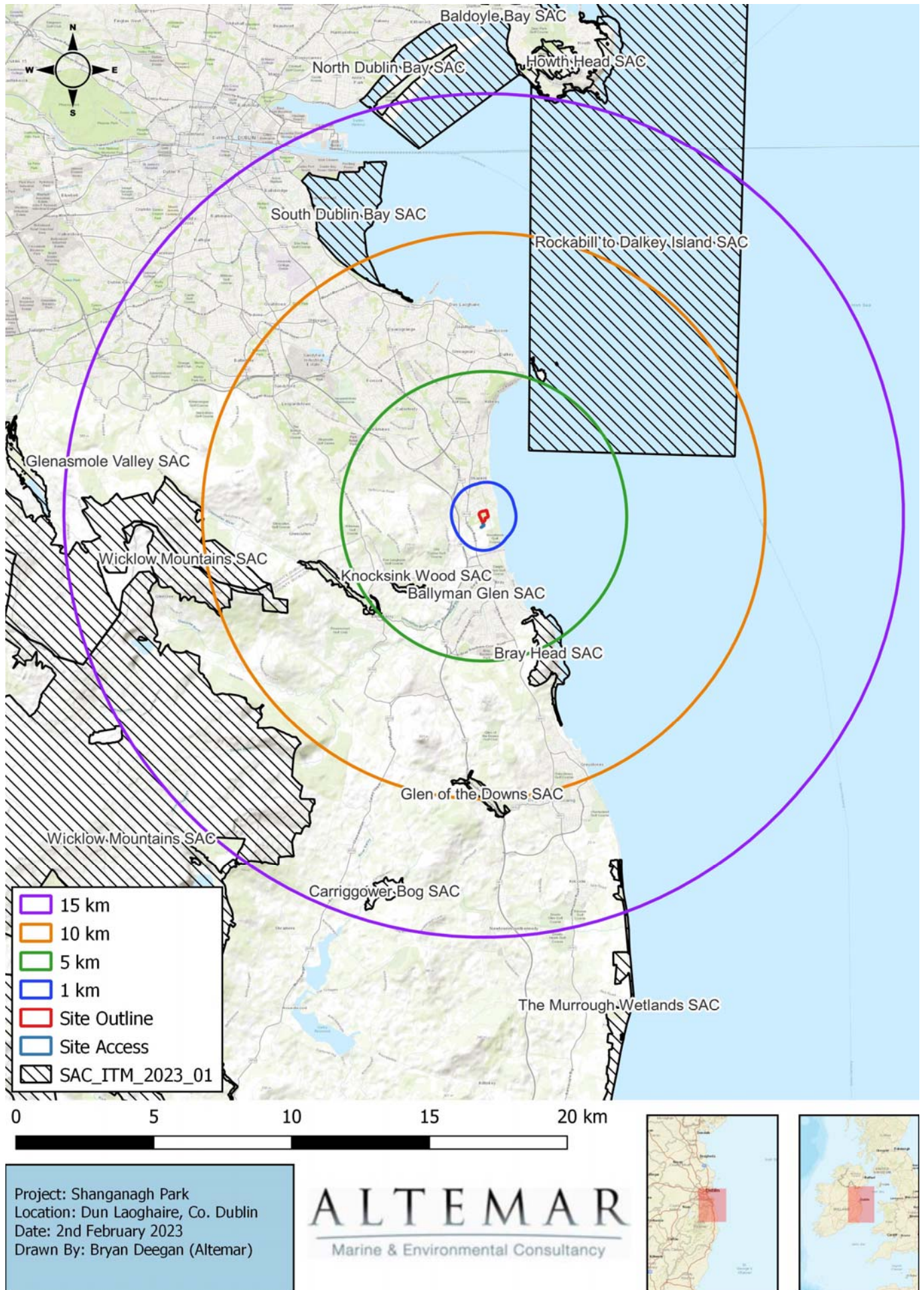
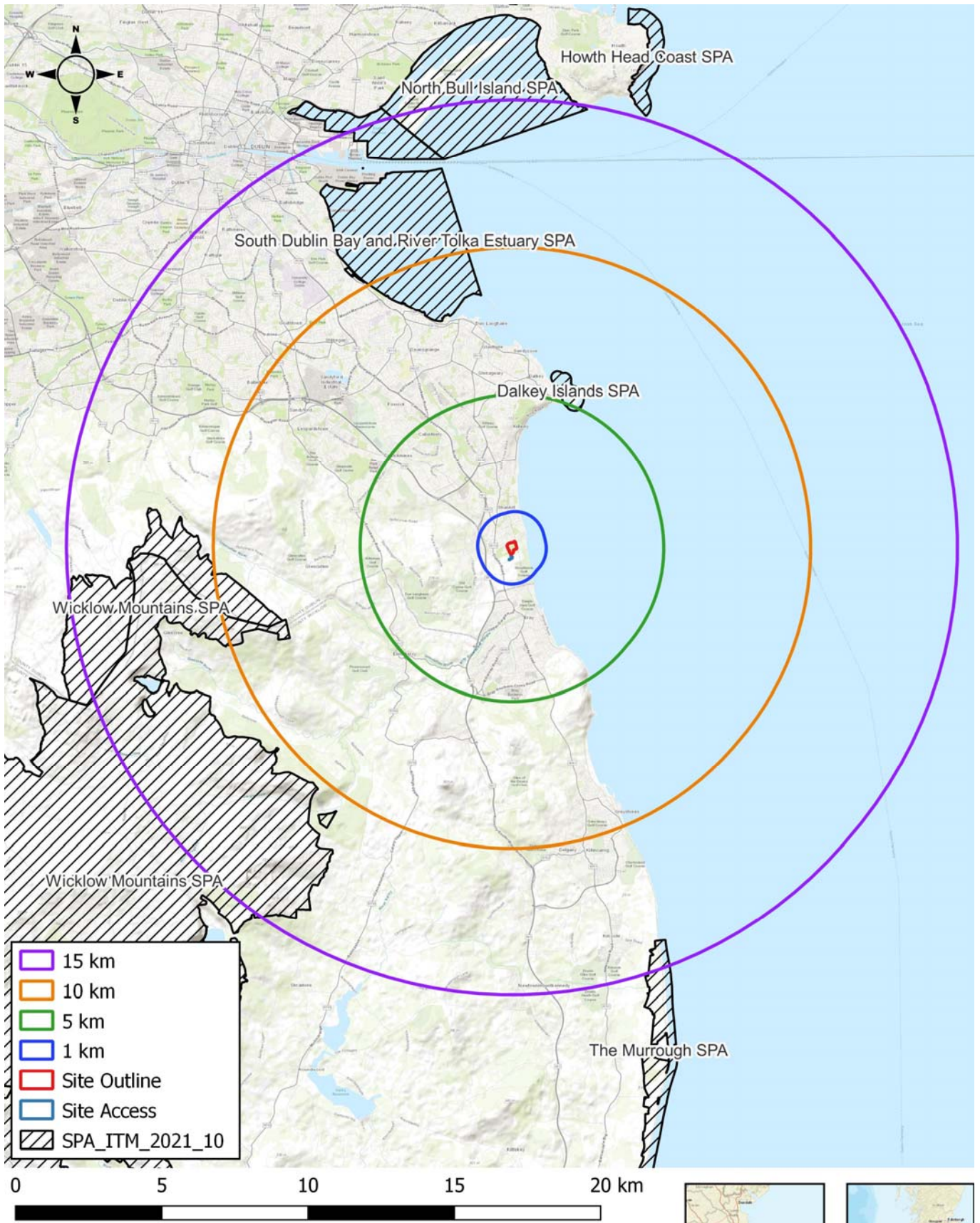


Figure 13. Special Areas of Conservation (SAC) within 15km of proposed development



Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

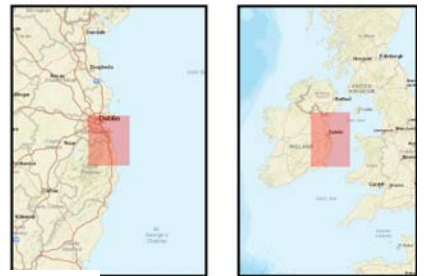
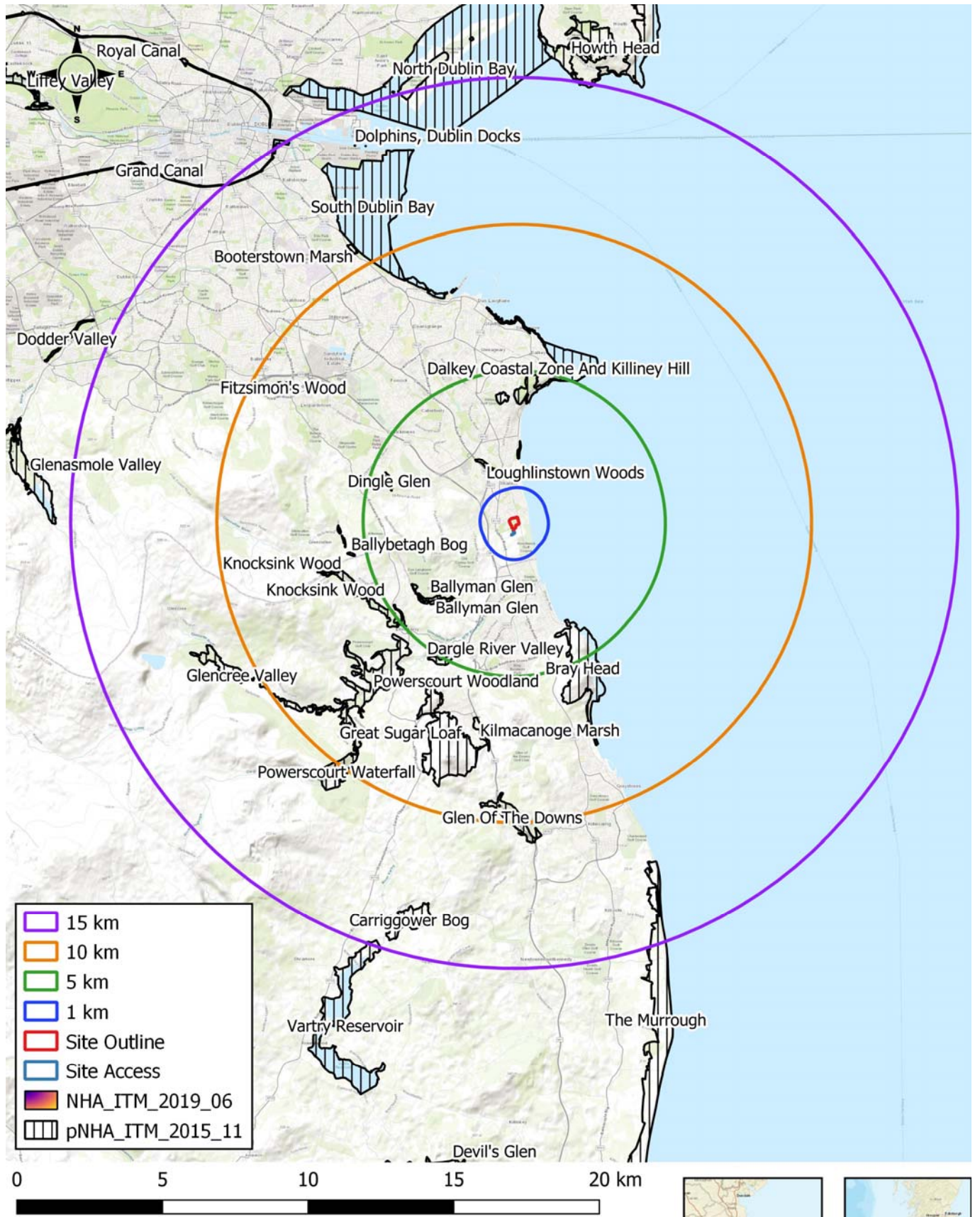


Figure 14. Special Protection Areas (SPA) within 15km of proposed development



Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altemar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 15. Natural Heritage Areas (NHA) and proposed Natural Heritage Areas (pNHA) within 15km of proposed development

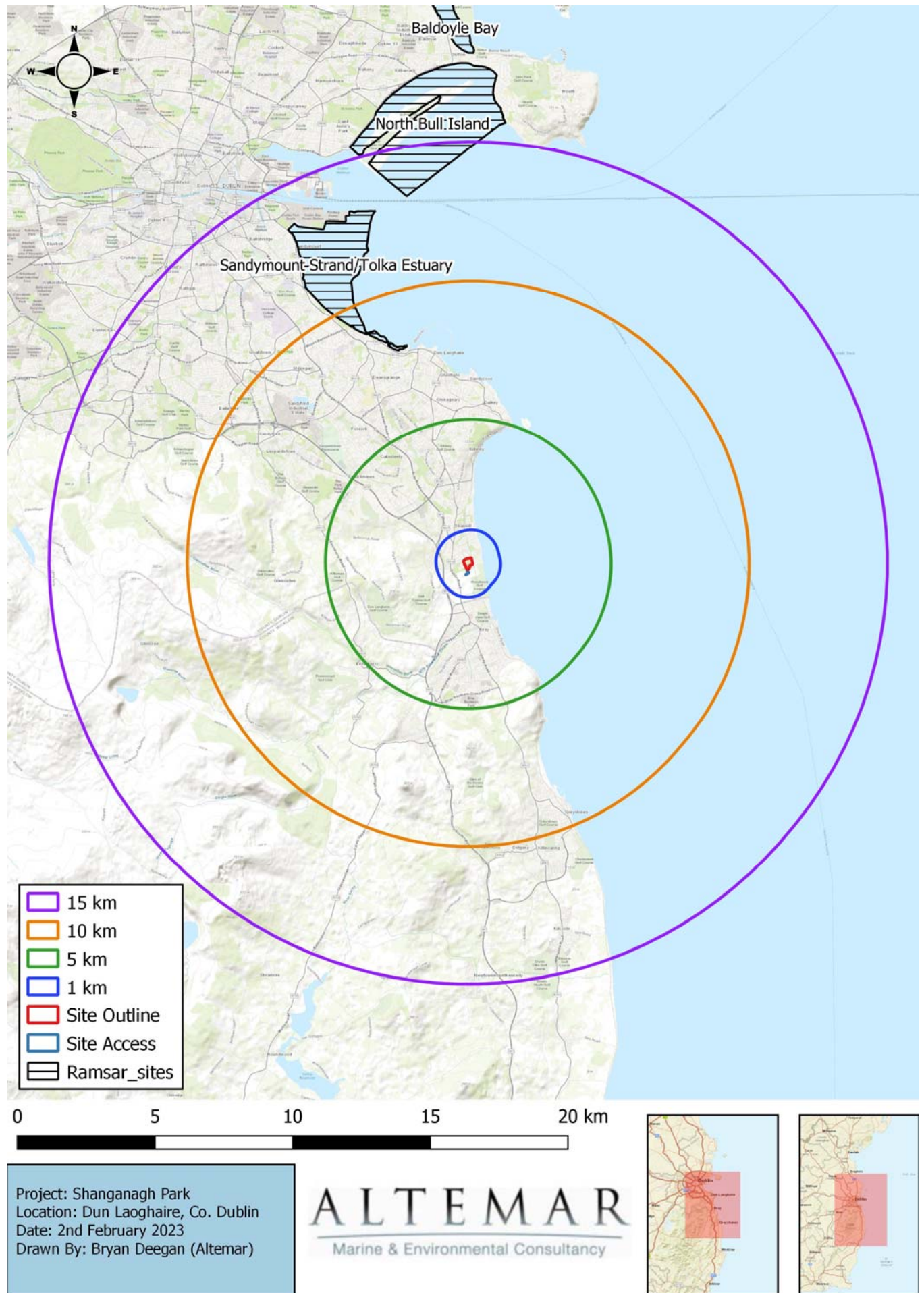


Figure 16. Ramsar sites within 15km of proposed development



Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)



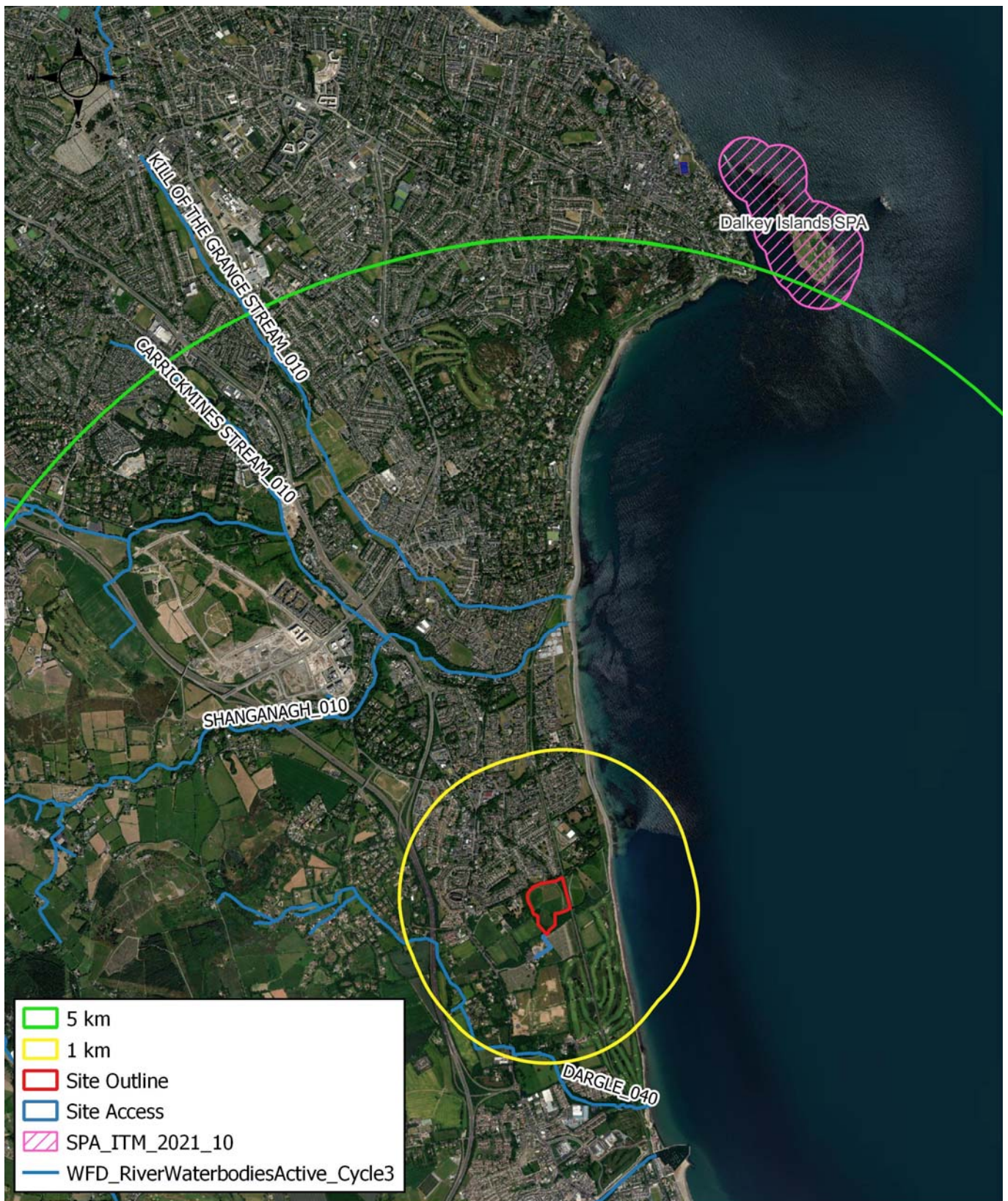
Figure 17. Watercourses within close proximity to proposed development



Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

Figure 18. Watercourses and SACs within 5km of the proposed development

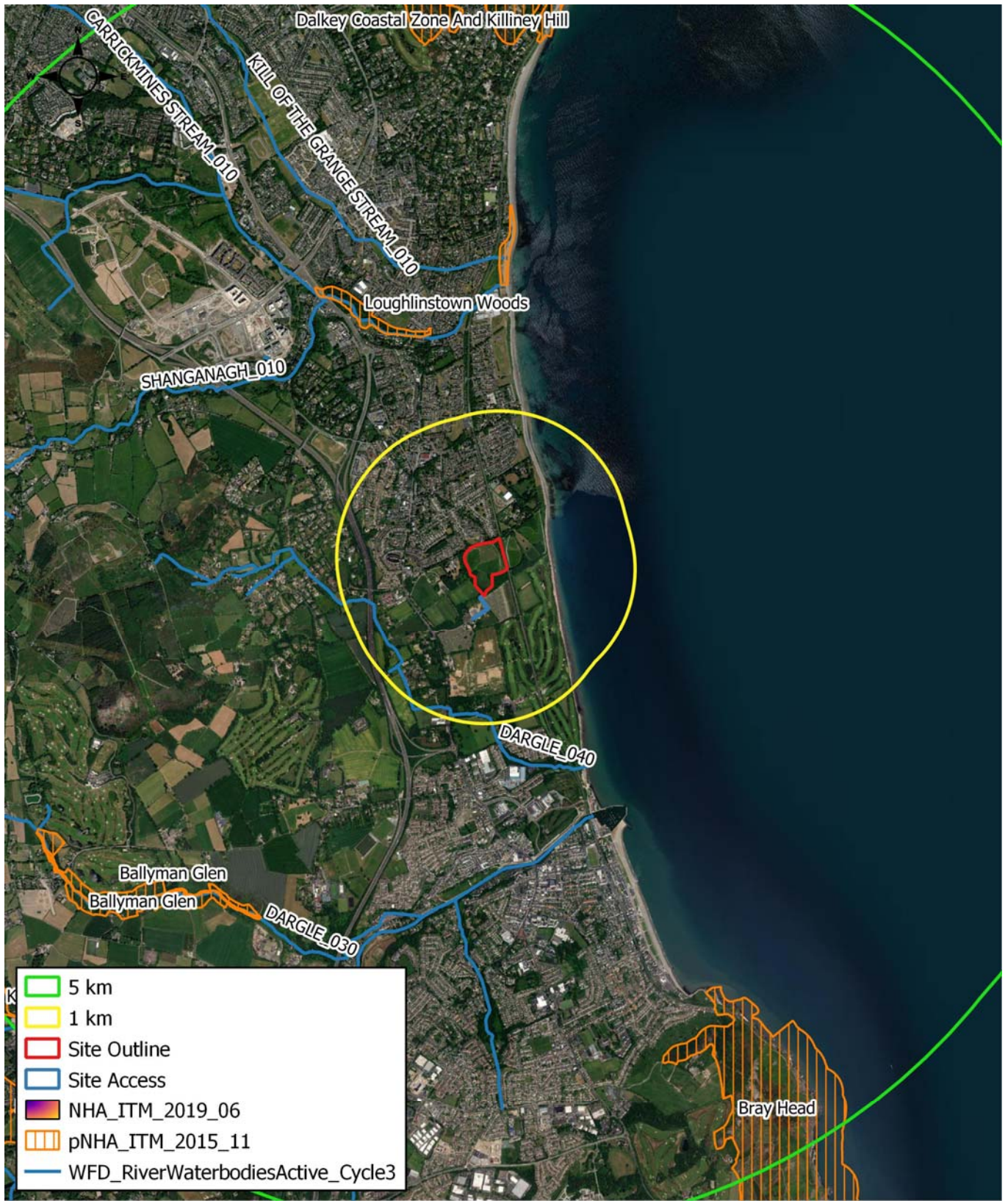


Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 19. Watercourses and SPAs within 5km of the proposed development



Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

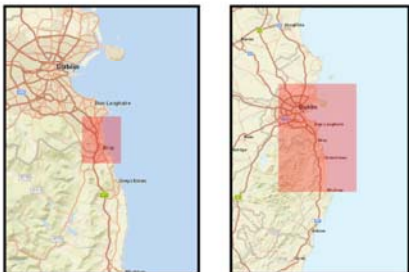


Figure 20. Watercourses and pNHAs within 5km of proposed development

Habitats and Species

The habitat assessments were carried out on the 3rd August 2021 and 20th August 2022. Habitats within the proposed site were classified according to Fossitt (2000) (Figure 21).



Figure 21. Habitats based on Fossitt Classification within the proposed development site

GA2-Amenity grassland

Amenity grassland (3.74 ha) occupies approximately half of the proposed site. The amenity grassland is well maintained and had a short sward. Biodiversity in this area was poor. Species within the amenity grassland included, creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum spp.*), docks (*Rumex spp.*), daisy (*Bellis perennis*), clover (*Trifolium repens*), plantains (*Plantago spp.*), thistles (*Cirsium vulgare*) and nettle (*Urtica dioica*). No flora or fauna of conservation importance were noted in these areas. A wintering bird assessment has been carried out and is seen in Appendix III.



Plate 1. GA2 Amenity grassland

GS2- Dry meadows and grassy verges

Two areas of Dry meadows and grassy verges (2.62 ha) are noted on site. These areas are managed with a long grass policy to promote biodiversity within the main grassland area. Species included buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), daisy (*Bellis perennis*), plantains (*Plantago spp.*), thistles (*Cirsium sp.*), docks (*Rumex spp.*), cat's-ear (*Hypochaeris radicata*), nettle (*Urtica dioica*), dandelion (*Taraxacum spp.*), cow parsley (*Anthriscus sylvestris*), lesser trefoil (*Trifolium dubium*), germander speedwell (*Veronica chamaedrys*), Self-heal (*Prunella vulgaris*), common mouse-ear (*Cerastium fontanum*), upright hedge-parsley (*Torilis japonica*), common ragwort (*Senecio jacobaea*), common knapweed (*Centaurea nigra*) and bush vetch (*Vicia sepium*). No flora or fauna of conservation importance were noted in these areas. A wintering bird assessment has been carried out and is seen in Appendix III.

In the Irish Semi-natural Grasslands Survey (BEC, 2010) this grassland in Shanganagh was classified as '5a. *Lolium perenne* – *Trifolium repens* vegetation type': 'This vegetation type includes rather species-poor, semi-improved swards on well-drained mineral soils and gleys typically dominated by *Lolium perenne* and *Trifolium repens*, with the grasses *Holcus lanatus* and *Agrostis stolonifera* generally also being obvious in the sward. Herb cover is moderate and the main herbaceous elements comprise ruderal species such as *Ranunculus repens*, *Cerastium fontanum*, *Rumex acetosa* and *Taraxacum agg.* Sward height is generally low due to fairly intensive management practices. The prominence of *Lolium perenne* and *Trifolium repens* suggests that these fields have been reseeded and fairly heavily fertilised; indeed, it has the highest score for fertility and pH within this group.'



Plate 2. GS2- Dry meadows and grassy verges

WD1 (Mixed) broadleaved woodland

As can be seen from figure 21 a portion of the proposed development site consists of an area of WD1 (Mixed) broadleaved woodland (1.58 ha). The small woodland sections form part of the larger Shanganagh Park woodland. However, it is important to note that these areas of woodland are relatively young and densely planted. As a result of this species biodiversity within these areas is relatively low. Low light levels within these areas has resulted in a poorly developed underflora and the trees are overcrowded, resulting in tall slim specimens. Species within this area included ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), larch (*Larix decidua*), field maple (*Acer campestre*), cherry (*Prunus avium*), oak (*Quercus robur*), birch (*Betula pendula*), beech (*Fagus sylvatica*), hazel (*Corylus avellana*), horse chestnut (*Aesculus hippocastanum*), hawthorn (*Crataegus monogyna*) primarily with an ivy (*Hedera helix*) and/or bramble (*Rubus fruticosus*) under flora. Of note within the north eastern section of woodland are two freshly dug single entry burrows. A camera trap confirmed that these are fox (*Vulpes vulpes*) burrows. Outside the site outline to the south east of the site within the woodland is a seasonal pond. During the site visit in 2022 this area was dry with no standing water. A hydrogeological assessment of the pond is seen in Appendix II.

Dry seasonal pond

A dry seasonal pond was located to the south east of the site. No water was present in the pond during site assessment. There area had a well-trodden path through it and vegetation consisted primarily of scrub (WS1). Species included bramble (*Rubus fruticosus agg.*), cow parsley (*Anthriscus sylvestris*), Ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), ferns (*Dryopteris filix-mas* and *Asplenium scolopendrium*), ivy (*Hedera helix*), wood anemone (*Anemone nemorosa*), horse chestnut (*Aesculus hippocastanum*), sycamore (*Acer pseudoplatanus*) and hazel (*Corylus avellana*).



Plate 3. WD1 (Mixed) broadleaved woodland



Plate 4. Dry Seasonal Pond

Evaluation of Habitats

The habitats observed on site are outlined above. No rare or protected habitats were noted. These habitats include Amenity grassland, Dry meadows and grassy verges, (Mixed) broadleaved woodland and a Dry seasonal pond adjacent to the site. The amenity grassland is of low biodiversity while Dry meadows and grassy verges would be considered to be of greater local biodiversity importance. However, as outlined in the Irish Semi-natural Grasslands

Survey (BEC, 2010) 'This vegetation type includes rather species-poor, semi-improved swards on well-drained mineral soils and gleys typically dominated by *Lolium perenne* and *Trifolium repens*, with the grasses *Holcus lanatus* and *Agrostis stolonifera* generally also being obvious in the sward.' The (Mixed) broadleaved woodland is of local biodiversity importance as it forms a nesting and foraging resource for birds and would also form a wider biodiversity corridor and reservoir for insect species on which the local bat population would forage. However, many of the trees are tightly spaced which would limit growth and leads to thin underdeveloped trees. As part of the proposed landscaping strategy there will be an increase in the scattered trees and parkland habitat which would allow trees to grow larger, this increasing the biodiversity value.

Plant Species

The plant species encountered at the various locations on site are detailed above. No protected species were noted. No rare or threatened plant species were recorded in the vicinity of the proposed site. No invasive species listed on the third Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011 were noted on site.

Mammals

Mammal surveys were carried out on 5th December 2021 and 25th April 2022. No signs of mammals of conservation value were noted on site. Hedgehogs (*Erinaceus europaeus*) have been recorded by NBDC within the 2km of the subject site and on site in 2021 (NBDC record) No hedgehogs or Eurasian Pygmy Shrew (*Sorex minutus*) were seen during the site visit. However, given the nature of the mixed broadleaf habitat and a sighting in 2021 on NBDC on site, hedgehogs may be present. Eurasian Pygmy Shrew may also be present on site as they have been noted to the north of the site. No evidence of badger activity was noted on site. However, two fox burrows are noted on site. The use of these burrows by foxes was confirmed by the use of trail cameras.

Amphibians

The common frog (*Rana temporaria*) or newts (*Triturus vulgaris*) were not observed on site. There are no watercourses or drainage ditches in the vicinity of the proposed works. NPWS outlined the presence of a seasonal pond to the south east of the site outside the site outline. This was dry during site assessments notwithstanding this they have potential use for amphibians. A hydrogeological assessment of the potential impact on the proposed project on the pond is seen in Appendix II. As outlined in Appendix II 'groundwater infiltration tests showed very low infiltration rates in the shallow clays. A review of the historical mapping for the area shows the location of a drainage ditch fed by a spring ("rises") to the west of the park (Figure 2) which may be a source of water supply to the seasonal lake during winter periods.' Frogs have been recorded by the NBDC within the 2km square grid. Common Frog (*Rana temporaria*) were noted in the vicinity of the pond in February 2020 by NPWS. Newts are located within the Shanganagh Park, but not in the vicinity of the proposed works. However, newts may be present given the proximity of works to drainage ditches and the pond. Given the presence of Newts and presence of frogs also within the Shanganagh Park and the potential for disturbance, dust and surface water impacts within the Park mitigation measures are required in relation to amphibians.

Bats

Three bat detector surveys were carried out (Appendix I). There are no buildings or trees of bat roosting potential on site. There are no trees of bat roosting potential proximate to the site. As outlined in the Arborist report the majority of trees are young, early or semi mature trees and as such would not have developed features of bat roosting potential e.g. cracks, hollows etc. There was bat foraging and transiting activity on site (Appendix I), particularly along the treelines at a height just above the existing public lighting along the paths at the perimeter of the site. As outlined in the Arborist report the majority of trees are young, early or semi mature trees and as such would not have developed features of bat roosting potential e.g. cracks, hollows etc. There are no trees of bat roosting potential present on site or within the potential zone of influence of the works or lighting on site.

In the 2021 surveys foraging activity on site was relatively high on site with three soprano pipistrelle (*Pipistrellus pygmaeus*) a common pipistrelle (*Pipistrellus pipistrellus*) and Leisler's bat (*Nyctalus leisleri*) foraging over the site. Pipistrelle activity was primarily concentrated along the edges of the woodland while Leisler's bats were observed in more open areas.

During the survey conducted on 14th September 2022, two common pipistrelle (*Pipistrellus pipistrellus*) and two soprano pipistrelle (*Pipistrellus pygmaeus*) bats were noted foraging on site. Foraging activity was concentrated along the northern and western / southwestern treelines that border the subject site. Two Leisler's bats (*Nyctalus*

leisleri) were noted transiting through the subject site along the eastern and northern boundaries. A single common pipistrelle was noted transiting through the woodland located to the southeast of the subject site.

Birds

Breeding birds were noted within the woodland habitat. Birds noted on site included blackbird (*Turdus merula*), duncock (*Prunella modularis*), chaffinch (*Fringilla coelebs*), song thrush (*Turdus philomelos*), wren (*Troglodytes troglodytes*), great tit (*Parus major*), robin (*Erithacus rubecula*), blue tit (*Cyanistes caeruleus*), hooded crow (*Corvus cornix*) and magpie (*Pica pica*).

This site is 7.9 km from South Dublin Bay and River Tolka SPA where the Light-bellied Brent Goose (*Branta bernicla hrota*) is a qualifying interest. This species is known to frequent terrestrial grassed sites near the SPA. During high tide when *Zostera* sp. (and *Ulva intestinalis*) is not available to feed on due to the presence of overlying water, Brent geese move inland to feed in large managed greenfield sites. Twice monthly Bird Surveys were undertaken at Shanganagh Park in South Dublin between October 2021 and March 2022 by Hugh Delaney (ornithologist). As outlined in the wintering bird survey report “37 bird species were recorded in Shanganagh Park during the 12 winter bird surveys. The species diversity being a typical representation of that which might be expected in a suburban Dublin parkland context. 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) Redwing was recorded. A Great Spotted Woodpecker recorded in the first half of the surveys was noteworthy, likely emanating from the expanding Wicklow population. Three gull species listed in the amber wintering species category were recorded, these being Black-headed, Herring and Lesser black-backed Gull.

On the pitches and playing areas the species foraging frequently were dominated by Black-headed Gulls (counts averaging < 50 to <100) and to a lesser extent, Herring Gulls, the pitches closest to the Bray Road being most preferential. Other species foraging in these areas were dominated by Corvid species, specifically Rook (nesting in the park) and Jackdaw with smaller numbers of Hooded Crow and Magpie. The species diversity recorded within the park in the survey period was quite typical of that expected in a suburban Dublin context with a range of passerine species found in the patches of woodland around the park – Species like Thrushes (Song and Mistle Thrush and Blackbird), Robin, Dunnock, Wren, Tit species, Finches such as Chaffinch, Bullfinch, Goldfinch etc, and Goldcrest. A Great Spotted Woodpecker recorded early in the winter was notable (a species expanding its range from recent colonisation in Wicklow).

The results suggest that the site is not significant ex-situ foraging or roosting site for any species of qualifying interest from nearby SPA’s. Close monitoring of the pitches did not record any visitations whatsoever of Brent Geese or wader species (in a Dublin context that would be Curlew, Oystercatcher and Black-tailed Godwit). Consultation with locals regularly visiting the park and birders living nearby the surveyor is familiar with and concluded (albeit anecdotal information) that such species have not been seen within the park in recent years. Despite large areas of grass playing areas the site is nonetheless very heavily visited by recreational users (walkers, dog walkers etc.) and this is likely a disincentive to the aforementioned species visiting the site.”

Historic Records of Biodiversity

The National Biodiversity Data Centre’s online viewer was consulted in order to determine the extent of biodiversity and/or species of interest in the area. First, an assessment of the site specific area was carried out. Species of interests recorded within the site area are outlined in the table below.

Table 3. Recorded species, associated designations and grid references

Date of Record	Species Name	Designation
16/12/2015	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
02/01/2016	Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

Following this, two 2km² reference grids (O22K & O22Q) were assessed. Two reference grids were assessed as the entire site outline is not encompassed within a singular reference grid. Table provides a list of all species recorded in both grid areas that possess a specific designation, such as Invasive Species or Protected Species.

Table 7. Recorded species, associated designations and grid references

Date of Record	Species Name	Designation
22/02/2020	Common Frog (<i>Rana temporaria</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
21/05/2016	Smooth Newt (<i>Lissotriton vulgaris</i>)	Protected Species: Wildlife Acts
21/05/2016	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
31/12/2011	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
31/12/2011	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
31/12/2011	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
31/12/2011	Common Pheasant (<i>Phasianus colchicus</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
21/05/2016	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
31/12/2011	Eurasian Curlew (<i>Numenius arquata</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
21/05/2016	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
21/05/2016	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
19/01/2016	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
14/06/2019	Giant Hogweed (<i>Heracleum mantegazzianum</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
22/04/2019	Three-cornered Garlic (<i>Allium triquetrum</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
29/05/1922	Andrena (Andrena) fucata	Threatened Species: Near threatened
29/05/1922	Andrena (Melandrena) nigroaenea	Threatened Species: Vulnerable
29/05/1922	Andrena (Taeniandrena) wilkella	Threatened Species: Data deficient
29/05/1922	Great Yellow Bumble Bee (<i>Bombus (Subterraneobombus) distinguendus</i>)	Threatened Species: Endangered

Date of Record	Species Name	Designation
23/03/2020	Large Red Tailed Bumble Bee (<i>Bombus (Melanobombus) lapidarius</i>)	Threatened Species: Near threatened
25/03/1928	Lasioglossum (<i>Lasioglossum</i>) lativentre	Threatened Species: Critically Endangered
17/07/2015	Moss Carder-bee (<i>Bombus (Thoracomus) muscorum</i>)	Threatened Species: Near threatened
29/05/1922	Nomada striata	Threatened Species: Endangered
15/04/2018	Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
28/07/2017	Eurasian Badger (<i>Meles meles</i>)	Protected Species: Wildlife Acts
12/09/2018	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
22/10/2020	West European Hedgehog (<i>Erinaceus europaeus</i>)	Protected Species: Wildlife Acts
22/05/2016	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
21/07/2017	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
31/12/2011	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
21/05/2016	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
21/05/2016	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
31/12/2011	Eurasian Curlew (<i>Numenius arquata</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
02/11/2017	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
02/11/2017	European Shag (<i>Phalacrocorax aristotelis</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
30/10/2017	Great Cormorant (<i>Phalacrocorax carbo</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
21/07/2017	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
06/04/2011	Northern Gannet (<i>Morus bassanus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
21/07/2017	Ringed Plover (<i>Charadrius hiaticula</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Date of Record	Species Name	Designation
19/08/2017	Sand Martin (<i>Riparia riparia</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
20/09/2020	Butterfly-bush (<i>Buddleja davidii</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
13/05/2017	Spanish Bluebell (<i>Hyacinthoides hispanica</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
07/04/2021	Sycamore (<i>Acer pseudoplatanus</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
07/04/2021	Three-cornered Garlic (<i>Allium triquetrum</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
17/07/2015	Field Cuckoo Bee (<i>Bombus (Psithyrus) campestris</i>)	Threatened Species: Vulnerable
17/07/2015	Large Red Tailed Bumble Bee (<i>Bombus (Melanobombus) lapidarius</i>)	Threatened Species: Near threatened
17/07/2015	Moss Carder-bee (<i>Bombus (Thoracombus) muscorum</i>)	Threatened Species: Near threatened
08/05/2012	Bottle-nosed Dolphin (<i>Tursiops truncatus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
26/07/2014	Common Porpoise (<i>Phocoena phocoena</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts Threatened Species: OSPAR Convention
12/05/2019	Grey Seal (<i>Halichoerus grypus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
16/04/1987	Leathery Turtle (<i>Dermochelys coriacea</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts Threatened Species: OSPAR Convention
22/06/2017	Brown Rat (<i>Rattus norvegicus</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
28/12/2018	Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
16/07/2007	Lesser Noctule (<i>Nyctalus leisleri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
16/07/2007	Natterer's Bat (<i>Myotis nattereri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
16/07/2007	Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
16/07/2007	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

An assessment of files received from the NPWS (Code No. 2020_185) which contain records of rare and protected species and grid references for sightings of these species was carried out as part of this EclA. There has been a sighting of Common Frog (*Rana temporaria*) within a grid that encompasses a north-westerly portion of the subject site (Sample 20347 in the table below). Further, there are some records for grids that are in close proximity to the subject site. The following table provides a summary of the species identified, the year of identification, survey name and Grid Reference.

Table 8. Recorded species within NPWS Records

Sample ID	Species	Survey Name	Sample Year
20347	Common Frog (<i>Rana temporaria</i>)	Frog IPCC data from National Frog Survey 2011	2010
20509	Sharp-leaved Fluellen (<i>Kickxia elatine</i>)	NPWS Rare/Threatened and Scarce (Final) Plant Database	1989
6228	Otter (<i>Lutra lutra</i>)	Otter Survey of Ireland 1982 – Vincent Wildlife Trust	1980
1303	West European Hedgehog (<i>Erinaceus europaeus</i>)	AFF Mammals, Reptiles & Amphibians Distribution Atlas 1978 (II)	1972
13163	Eurasian Badger (<i>Meles meles</i>)	Animal Survey IBRC – Location Species List	1968
16846	Sika Deer (<i>Cervus nippon</i>)	Deer data Coillte	2004

Potential Effects

This report has been prepared to outline the construction and operational phase measures in addition to detailing the potential effects on sensitive receptors within the Zone of Influence (ZOI).

Construction Effects

The overall development of the site is likely to have direct negative effects upon the existing habitats, fauna and flora. Direct negative effects will be manifested in terms of the removal of the site's habitats during site clearance and reprofiling. This will result in the loss of areas of grassland and woodland that are relatively poor in biodiversity value. The removal of these habitats will result in a loss of species of low biodiversity importance. However, the perimeter woodland would be considered locally important and would provide nesting habitat for birds. Some foraging was noted within the grassland areas.

Designated European Conservation sites

The effect of the proposed project on Nature 2000 sites are assessed in the accompanying Appropriate Assessment Screening report. Screening for AA. As outlined in the accompanying AA Screening '*No European sites are within the zone of influence of the proposed development. In the absence of mitigation measures and having taken into consideration the proposed works, the potential pathways for impacts from the development site, the potential for in-combination effects, the distance between the proposed development site to designated conservation sites, the lack of a direct hydrological pathway or biodiversity corridor link to conservation sites and the dilution, mixing and settlement effect within the drainage network, watercourses and in the marine environment in addition to the Wintering Bird Assessment Report, it is concluded that the development would not give rise to any significant effects to designated sites.*'

Effects: Low adverse / local / Negative Impact / Not Significant / long term. No mitigation is required.

Other Designations – National, County and Local

The proposed development is not within a designated conservation site. The nearest national designated conservation site is the Loughlinstown Woods pNHA (1.6km). The proposed development will not impact on Nationally designated sites. Shanganagh Park is classed as a Locally Important Biodiversity Site (LIBS). During construction the proposed development will result in localised biodiversity displacement in the vicinity of the works. However, it should be noted that discussion have taken place throughout the design phase within the design team and Altemar, to improve the biodiversity value of this area Shanganagh Park. This has involved the introduction of scattered trees and parkland in addition to grassland and woodland habitats.

Expected Effects: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of reducing the potential effects of the project on biodiversity in Shanganagh Park through the implementation of standard construction phase controls.

Terrestrial mammalian species

No protected terrestrial mammals were noted on site. Loss of habitat and habitat fragmentation may affect some common mammalian species. Foxes (not protected) are present on site. In the absence of mitigation hedgehogs and pygmy shrew if present could be impacted by the works.

Expected Effects: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of a pre-construction inspection for terrestrial mammals of conservation importance.

Flora

Invasive Alien Species

No invasive species listed on the third Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011 were noted on site. Winter Heliotrope (*Petasites fragrans*) is noted bordering woodland edges.

Grassland Habitats (Amenity Grassland & Dry meadows and grassy verges)

During construction there will be a loss of grassland habitats. The grasslands consist of Amenity grassland (3.74 ha) and species poor Dry meadows and grassy verges (2.32 ha) which is being maintained as a meadow. The proposed development will see an increase in Dry meadows and grassy verges by 0.55ha to a total of 2.87 ha of meadow.

Effects: Low adverse / local / Negative Impact / Not Significant / Short term. No mitigation is required.

Woodland

As outlined in the arborist report *“The loss of the above listed tree vegetation is being mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area.”* It should be noted that in order to mitigate the loss of trees as outlined in Figure 4, a planting regime will include the Fossitt (2000) habitat scattered trees and parkland. This will be introduced into the areas surrounding the pitch and will allow for the growth of grassland habitat while also offsetting tree loss. The layout of the trees in this manner will provide an improved long term improvement in biodiversity value.

Effects: Low adverse / local / Negative Impact / Not Significant / Short term. Mitigation to offset tree loss has been incorporated into the design of the project.

Bat Fauna

Three bat species were noted foraging on site. No bats were noted roosting on site. No bats were noted emerging from trees on site or proximate to the site. A soprano pipistrelle bat roost has been noted in St. Anne’s Park Court. This roost will not be impacted by the proposed development. No trees of bat roosting potential are located within or proximate to the site. No trees of bat roosting potential will be lost as a result of the site clearance. Lighting during construction, if required, could impact on foraging activity.

Effects: Low adverse / international / Negative Impact / Not significant / short term. Mitigation is needed in the form of control of light spill during construction.

Aquatic Biodiversity

Due to the lack of any watercourse within the site boundary, and the lack of hydrological pathway to a watercourse, there is little potential for downstream effects on biodiversity from silt or petrochemicals. There are a seasonal pond and a drainage ditch proximate to the site. Frogs were no observed on site. However, given that there is a drainage ditch and seasonal pond proximate to the site there is potential that frogs may be present on site. In addition, newts have been recorded within the Park and would be susceptible to dust and surface water effects. As outlined by NPWS a seasonal pond is located (see Appendix II). This report concludes *‘No development is proposed directly on the area of the seasonal pond or immediate surrounding area. Site conditions indicate low drainage within the shallow soil requiring drainage to be installed for the proposed development. The nature of the proposed drainage as described in Figure 3 is that it collects recharge local to the area drained. As such there is little potential for impact outside of the footprint of the pitches etc.*

There is no evidence that the drainage plan will divert any streams feeding the seasonal pond. Also, as the site will remain greenfield there is no overall change in the recharge pattern to the underlying soils or aquifer which would impact on any groundwater pathway to the pond.’

Effects: Low adverse / local / Negative Impact / Slight Effects / short term. Mitigation is needed in the form of ecological supervision and the control of silt, petrochemical and dust during construction. A pre-construction inspection will be carried out for newts and frogs.

Bird Fauna

Wintering Birds

A Wintering Bird Survey was carried out. Significant numbers of wintering birds were not noted on site. As outlined in the Wintering Bird Assessment *‘37 bird species were recorded in Shanganagh Park during the 12 winter bird surveys. The species diversity being a typical representation of that which might expected in a suburban Dublin parkland context. 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) Redwing was recorded.’*

‘The results suggest that the site is not significant ex-situ foraging or roosting site for any species of qualifying interest from nearby SPA’s. Close monitoring of the pitches did not record any visitations whatsoever of Brent Geese or wader species (in a Dublin context that would be Curlew, Oystercatcher and Black-tailed Godwit). Consultation with locals regularly visiting the park and birders living nearby the surveyor is familiar with concluded (albeit anecdotal information) that such species have not being seen within the park in recent years. Despite large areas of grass playing areas the site is nonetheless very heavily visited by recreational users (walkers, dog walkers etc.) and this is likely a disincentive to the aforementioned species visiting the site.’

Breeding Birds

Tree or ground nesting birds may be in the vicinity of the proposed works during site clearance including blackbird (*Turdus merula*), dunnock (*Prunella modularis*), chaffinch (*Fringilla coelebs*), song thrush (*Turdus philomelos*), wren (*Troglodytes troglodytes*), great tit (*Parus major*), robin (*Erithacus rubecula*) and blue tit (*Cyanistes caeruleus*). These species would be displaced in areas of woodland that are to be removed. As discussed with the ornithologist ground nesting birds would be unlikely due to the high levels of pedestrian and canine activity on site. Construction will result in the loss of trees and grassland on site which would provide for foraging of breeding birds on site.

Effects: Low adverse / local / Negative Impact / Slight Effects / short term. Mitigation is required to offset nesting and foraging resource loss and carry out a pre-construction assessment.

Operational Effects

Designated European Conservation sites

The effect of the proposed project on Nature 2000 sites are assessed in the accompanying Appropriate Assessment Screening report. Screening for AA. As outlined in the accompanying AA Screening '*No European sites are within the zone of influence of the proposed development. In the absence of mitigation measures and having taken into consideration the proposed works, the potential pathways for impacts from the development site, the potential for in-combination effects, the distance between the proposed development site to designated conservation sites, the lack of a direct hydrological pathway or biodiversity corridor link to conservation sites and the dilution, mixing and settlement effect within the drainage network, watercourses and in the marine environment in addition to the Wintering Bird Assessment Report, it is concluded that the development would not give rise to any significant effects to designated sites.*'

Effects: Low adverse / local / Negative Impact / Not Significant / long term. No mitigation is required.

Other Designations – National, County and Local

The proposed development is not within a designated conservation site. The nearest national designated conservation site is the Loughlinstown Woods pNHA (1.6km). The proposed development will not impact on Nationally designated sites. Shanganagh Park is classed as a Locally Important Biodiversity Site (LIBS). During construction the proposed development will result in localised biodiversity displacement in the vicinity of the works. However, it should be noted that discussion have taken place throughout the design phase within the design team and Altemar, to improve the biodiversity value of this area Shanganagh Park. This has involved the introduction of scattered trees and parkland in addition to grassland and woodland habitats in addition to strict requirements in relation to lighting on site. It is expected that as the landscaping matures the biodiversity value of the site will increase and the proposed project would have no significant negative long term impact on Shanganagh Park.

Expected Effects: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of ecological supervision during landscaping elements to ensure the biodiversity value of the site will improve in the long term.

Biodiversity

Some aspects of biodiversity may improve as landscaping matures. However, it should be noted that the landscaping on site is being carried out in consultation with Altemar and is designed to encourage biodiversity on site and includes encouraging bat foraging and roosting (in the long term), in addition to increasing the biodiversity value of surrounding habitats which will provide increased biodiversity connectivity and diversity within the site.

Terrestrial mammalian species

No protected terrestrial mammals were noted on site. In the long term the value of the site for mammals would be expected to improve, particularly within woodland areas. Lighting on site may be expected to deter nocturnal species. However, a strict lighting regime has been put in place.

Expected Effects: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of a post-construction inspection of lighting to ensure lighting has been installed as outlined, which would limit the spill of lighting into the woodland. areas.

Flora

Invasive Alien Species

No invasive species listed on the third Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011 were noted on site. Winter Heliotrope (*Petasites fragrans*) is noted bordering woodland edges.

Grassland Habitats (Amenity Grassland & Dry meadows and grassy verges)

The grasslands consist of Amenity grassland (3.74 ha) and species poor Dry meadows and grassy verges (2.32 ha) which is being maintained as a meadow. The proposed development will see an increase in meadow of (0.55ha).

Effects: minor positive / local / Positive Impact / Not Significant / Long term.

Woodland

As outlined in the arborist report *"The loss of the above listed tree vegetation is being mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area."* It should be noted that in order to mitigate the loss of trees as outlined in Figure 4, a planting regime will include the Fossitt (2000) habitat scattered trees and parkland. This will be introduced into the areas surrounding the pitches and will allow for the growth of grassland habitat while also offsetting tree loss. In total 2.13ha of scattered trees and parkland will be created with an additional 0.5 ha of woodland will be planted.

Effects: Low adverse / local / Negative Impact / Not Significant / Short term. Mitigation to offset tree loss has been incorporated into the design of the project.

Bat Fauna

The proposed development will change the local environment as lights are to be erected and some of the existing vegetation will be removed. No bat roosts will be lost due to this development and the species expected to occur onsite should persist. Minor loss of foraging areas through the site (not at the perimeter) will be seen when lighting is on. However, mitigation has been placed within the design and operation of the proposed lighting. Landscaping is provided to enhance bat foraging on site and limit spill further. This includes the planting of the scattered trees and parkland habitat which will allow trees to grow to full size and provide future foraging corridors and roosting areas for bats. It should be noted that strict lighting requirements will be in place during the active bat season. As outlined in Appendix I *'The floodlighting will be operational, when required, potentially from 7am until 22:00, 7 days a week from October 15th to March 31st, during the main bat hibernation period. From April 1st to October 14th should lights be deemed necessary they will cease operation at civil twilight (rounded hour) e.g. 8pm in April, 9pm in May, 9pm in August and 8pm in September, in order to further protect bat foraging activity. This in effect reduces the potential lighting times i.e. cease lighting before 10pm for only 4 months of the year and no lighting will be used in June or July'.*

Effects: Low adverse / International / Negative Impact / Not significant / long term. Mitigation is required in relation to the provision of the ecological supervision during the landscaping stage to ensure bat foraging corridors are developed and that lighting installed is as per proposed lighting strategy.

Aquatic Biodiversity

Due to the lack of any watercourse or drainage ditch within the site boundary, and the lack of a direct hydrological pathway to a watercourse, there is little potential for downstream effects on biodiversity from silt or petrochemicals. Standard controls will be in place. Mitigation will be in place to protect the seasonal pond to the south east of the site. A pond will be created on site which will improve aquatic biodiversity on site.

Effects: Minor beneficial/ site / Not significant / long term

Bird Fauna

Wintering Birds

A Wintering Bird Survey was carried out. Significant numbers of wintering birds were not noted on site. The results the results suggest that the site is not significant ex-situ foraging or roosting site for any species of qualifying interest from nearby SPA's. The site is currently an amenity area with human activity and dog walking. As observed on site the dog leash policy within the park is not observed by all dog walkers and as a result disturbance of wintering birds on site already exists. Once the proposed development has been constructed, during times of high intensity use, wintering birds may be displaced from the site in the vicinity of amenity activities. During lower use intensity periods it would be expected that wintering birds would utilise the site.

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

Breeding Birds

It would be expected that in the long term, once landscaping matures, the biodiversity value of the site for breeding birds would improve, particularly in the vicinity of the scattered trees and parkland in addition to the woodland areas. The amenity grassland would be of low biodiversity value to breeding birds and as a result additional meadow will be put in place (1 ha) within Shanganagh Park as a compensatory measure.

Effects: Low adverse / local / Negative Impact / Slight Effects / short term. Mitigation is required to offset nesting and foraging resource loss.

Mitigation Measures & Monitoring

Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative effects on the ecology within the Zone of Influence (Zol) are outlined in Table 9.

Table 9. Sensitive Receptors/Effects and mitigation measures.

	Potential Effects	Designed-in Mitigation	Residual Effect
<p>Other Designations – Locally Important Biodiversity Site (LIBS).</p>	<ul style="list-style-type: none"> • Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Downstream effects • Negative effects on aquatic and bird fauna 	<ul style="list-style-type: none"> • A project ecologist (min 10 year’s experience of Ecological Clerk of Works) will be appointed to oversee the works on site. • The project will be staged to reduce risks to biodiversity in consultation with project ecologist. • Fuel bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the stream. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • The project ecologist will be consulted in relation to all onsite clearance and drainage during construction works. • Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains and drainage ditches. • Spill containment equipment will be available for use in the event of an emergency. The spill containment equipment will be replenished if used and shall be checked on a scheduled basis. • All site personnel will be trained in the importance of good environmental practices including reporting to the site manager when pollution, or the potential for pollution, is suspected. All persons working on-site will receive work specific induction in relation to surface water management and run off controls. Daily environmental toolbox talks / briefing sessions will be conducted to outline the relevant environmental control measures and to identify any environment risk areas/works. <p>Dust may enter the drainage ditches via air or surface water or impact on biodiversity. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on biodiversity.</p> <p><i>Mitigation measures to be in place:</i></p> <ul style="list-style-type: none"> • Consultation will be carried with an ecologist throughout the construction phase in relation to dust emissions and control; • Trucks leaving the site with excavated material (if required) will be covered so as to avoid dust emissions along the haulage routes. • Speed limits on site (15kmh) to reduce dust generation and mobilisation. <p><i>Site Management</i></p> <ul style="list-style-type: none"> • Regular inspections of the site and boundary will be carried out to monitor dust, records and notes on these inspections should be logged. • All dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and the measures taken will be recorded. • A complaints log will be made available to the local authority when asked. 	<p>Low adverse-neutral/ local / Negative-neutral Impact / Not Significant / long term.</p>

	Potential Effects	Designed-in Mitigation	Residual Effect
		<ul style="list-style-type: none"> • Any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation will be recorded. <p><i>Preparing and Maintaining the Site</i></p> <ul style="list-style-type: none"> • The site layout will be laid out so that machinery and dust causing activities are located away from receptors, as far as is possible. • Specific operations where there is a high potential for dust production and the site is active for an extensive period will be enclosed. • Site runoff of water or mud off the site will be avoided. • Site fencing, barriers will be kept clean using wet methods. • Materials that have a potential to produce dust will be removed from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Stock piles will be covered, seeded or fenced to prevent wind whipping. • Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. <p><i>Measures Specific to Earthworks</i></p> <ul style="list-style-type: none"> • Earthworks and exposed areas/soil stockpiles/new pitches will be revegetated as soon as possible to stabilise surfaces as soon as practicable. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust. <p><i>Storage/Use of Materials, Plant & Equipment</i></p> <ul style="list-style-type: none"> • Drip trays will be turned upside down if not in use to prevent the collection of rainwater; • Waters collected in drip trays must be assessed prior to discharge. If classified as contaminated, they shall be disposed by a permitted waste contractor in accordance with current waste management legal and regulatory requirements; • Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips; • No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction; • Re-fuelling of machinery, plant or equipment will be carried out in the site compound as per the appointed Construction Contractor re-fuelling controls; 	

	Potential Effects	Designed-in Mitigation	Residual Effect
GA2-Amenity grassland GS2- Dry meadows and grassy verges	<ul style="list-style-type: none"> Increase of meadow grassland. 	<ul style="list-style-type: none"> The grasslands consist of Amenity grassland (3.74 ha) and species poor Dry meadows and grassy verges (2.32 ha) which is being maintained as a meadow. The proposed development will see an increase in Dry meadows and grassy verges by 0.55ha. 	minor positive / local / positive Impact / Not Significant long term.
WD1 (Mixed) broadleaved woodland	<ul style="list-style-type: none"> Loss or damage to additional trees 	<p>As outlined in the arborist report <i>“The loss of the above listed tree vegetation is being mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area.”</i> It should be noted that in order to mitigate the loss of trees as outlined in Figure 4, a planting regime will include the Fossitt (2000) habitat scattered trees and parkland. This will be introduced into the areas surrounding the pitch and will allow for the growth of grassland habitat while also offsetting tree loss.</p> <ul style="list-style-type: none"> Prior to site clearance an arborist will inspect the site and mark out the trees to be removed. The arborist will also mark out the areas where tree protection will be put in place. 	<u>Neutral-Positive / local / Not Significant / long term.</u>
Ponds and drainage ditches	<ul style="list-style-type: none"> Siltation or pollution impacting on biodiversity of ponds and drainage ditch biodiversity. 	<ul style="list-style-type: none"> Local drains and ditches will be protected from dust, silt and surface water throughout the works. Local silt traps established throughout site. Mitigation measures on site include dust control, stockpiling away from drains Stockpiling of loose materials will be kept to a minimum of 20m from drains. Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, excavations and other locations where it may cause pollution 	Neutral/ local / Not Significant / long term.
Mammals	<ul style="list-style-type: none"> Effects on resting or breeding places of protected mammals. 	<ul style="list-style-type: none"> Preconstruction inspections for mammals will be carried out. On-site inspections will be carried out by project ecologist who will be appointed at least 1 month prior to the commencement of any works on site. If resting or breeding places of mammals of conservation importance are found NPWS will be contacted and appropriate measures/mitigation put in place to the satisfaction of NPWS. 	Neutral / local / Not Significant / Short term.
Birds (National Protection)	<ul style="list-style-type: none"> Removal nesting /foraging habitat. Destruction and/or disturbance to nests (injury/death). 	<ul style="list-style-type: none"> “Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. A Preconstruction assessment will be carried out by an ecologist for ground breeding/ or tree nesting birds. The landscape strategy has been prepared in consultation with Altemar to provide significant nesting and foraging resources for birds and insects. This will be followed and assessed. Additional 	Neutral-Positive / local / Not Significant / long term.

	Potential Effects	Designed-in Mitigation	Residual Effect
	<ul style="list-style-type: none"> • Predation . 	<p>consultation will be carried out in relation to biodiversity enhancement measures with the DLR biodiversity officer.</p>	
Bats (international Protection)	<ul style="list-style-type: none"> • Removal roosting/foraging habitat. • Lighting Effects 	<ul style="list-style-type: none"> • Pre Construction inspection for bats • During construction lighting at all stages will be done sensitively with no direct lighting of hedgerows and treelines. • All lighting during construction and operation will be carried out to the satisfaction of the project ecologist. • A post construction light spill and bat foraging assessment will be carried out by a bat specialist to confirm lighting has been constructed as per project submission. It is recommended that a monitoring report is submitted by bat specialist to NPWS. • A letter will be provided to DLR Biodiversity Officer from the bat specialist confirming that they have checked and are satisfied with the installation of the lighting as per its design. Any remedial actions, if required, will be implemented to the satisfaction of the bat specialist. 	<p>minor adverse/not significant in the short term and low beneficial positive in the long term</p>
Amphibians	<ul style="list-style-type: none"> • Death/injury 	<ul style="list-style-type: none"> • A pre-construction inspection of the ponds and drainage ditches adjacent to the site will be carried out. The seasonal pond will be protected from silt and runoff. If amphibians are found discussions with NPWS will take place and suitable additional mitigation will be put in place to the satisfaction of NPWS and DLR biodiversity officer. • Newt and frog fencing will be installed prior to works commencing by a suitably qualified contractor to protect amphibians and with input from a suitably qualified ecologist. This will include measures to prevent amphibians from entering the works area. On-site inspections will be carried out by project ecologist who will be appointed at least 1 month prior to the commencement of any works on site. 	<p>Neutral / local / Not Significant / long term.</p>

Construction and Operational Monitoring

During construction daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results will be carried out. This will include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary. During construction best available technology (BAT) mitigation measures will be used on site and be monitored by an appointed project ecologist. The appointed project ecologist will be in place prior to works commencing on site and will oversee works until all works are completed on site.

Residual Effects- Effects likely to occur from the project (post mitigation)

With the successful implementation of standard mitigation measures to limit lighting, dust, surface water effects and including biodiversity mitigation/supervision, no significant effects are foreseen from the construction or operation of the proposed project on ecology. Residual effects of the proposed project will be localised to the immediate vicinity of the proposed works. In relation to bird species there will be a short term loss of nesting habitat until landscaping matures. In the long term the provision of additional woodland and scattered trees and parkland will provide additional foraging corridors for bats and nesting resource for birds. The creation of a pond on site will improve aquatic biodiversity on site.

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential effects on terrestrial and aquatic biodiversity through the application of the standard construction and operational phase controls in addition to compensatory measures for the provision of additional meadow habitat as outlined above.

Cumulative Effects

A review of the online planning system (www.myplan.ie) was carried out. It was found that the majority of approved planning permissions located within the area of the subject site relate to small-scale residential developments, such as single-storey extensions to residential units and attic conversions. The table below outlines a number of planning applications located within and in close proximity to the subject site that are of note.

Table 10. Developments proximate to the subject site.

Ref. No.	Address	Proposal
D20A/0744	Woodbrook Dart Station Iarnród Eireann/CIE lands just south of the masonry over Rail Bridge OBR 134, Shanganagh Cemetery, Townland of Cork Little and Shanganagh, Woodbrook, Shankill, Co. Dublin.	Permission for a new DART/Railway Station. The site for the station is in a partial embankment cutting with local grade being some 1.9 m above platform level. The station will include two 174 m platforms with 8 m end ramps, platform shelters, seating, lighting, Overhead line equipment (OHLE), CCTV, ticket vending machines and validators, commercial advertising, driver operating monitors, public address, customer information signage, directional and station signage, including a totem pole, as well as a telecoms equipment room (TER) building and permanent way vehicular access route on the western (Up) side. The station platforms will be accessed via ramps and steps integrated into an in-situ concrete retaining wall structure. There will be a continuous paladin fence at the top of the embankment with sliding gates at the station entrance. Above the station will be a public realm structure comprising of two sets of staircases, ramps and a footbridge. These will serve both the station and a future cycleway planned by DLRCC. The overall superstructure design will be an open and transparent steel structure with stainless steel mesh balustrade.
ABP30584419	Townland of Corke Little, Woodbrook, Shankill, Co. Dublin.	Permission for a Strategic Housing Development consisting of a residential-led development comprising 685no. residential units and 1 no. childcare facility in buildings ranging from 2 to 8-storeys. The breakdown of residential accommodation is as follows: - 207no. own door detached, semi-detached, terraced and end of terrace houses, including: - 134no. 3-bed 2-storey houses (House Type 01, 02, 03, 08, 10) - (House Type 01 are provided

Ref. No.	Address	Proposal
		<p>with optional ground floor extensions and/or attic conversions, House Type 03 are provided with optional ground floor extensions); 48no. 4-bed 2 - 3-storey houses (House Type 04, 05, 07) - (House Type 05 are provided with optional ground floor extensions); 25no. 5-bed 3-storey houses (House Type 06). 48no. duplexes (33no. own door), in 3 to 4-storey buildings, including:</p> <ul style="list-style-type: none"> - Old Dublin Road Blocks accommodating 16no. 2-bed duplex and 17 no. 3-bed duplex; Park Edge Block accommodating 6no. 2-bed duplex 6no. 3-bed duplex; Block A accommodating 3no. duplexes (3no. 2-beds). 430no. apartment units accommodated in 6no. 3 to 8-storey buildings, including : - Block A accommodating 66no. apartments (14no. 1-beds and 52no. 2-beds) and Tenant Amenity area (c. 93 sq. m gross floor area); Block B accommodating 151no. apartments (47no. 1-beds and 104no. 2-beds) and Tenant Amenity area (c. 203 sq. m gross floor area); Block C accommodating 151no. apartments (47no. 1-beds and 104no. 2-beds) and Tenant Amenity area (c. 203 sq. m gross floor area); Block D accommodating 36no. apartments (13no. 1-beds, 18no. 2-beds and 5no. 3-bed); Block E accommodating 21no. apartments (7no. 1-beds, 13no. 2-beds and 1 no. 3-bed); Old Dublin Road Block accommodating 5no. apartments (2no. 1-beds and 3no. 2beds). Private rear gardens are provided for all houses. Private patios/ terraces and balconies are provided for all duplex and apartment units at ground floor. Balconies are proposed on elevations to all upper levels of duplex and apartment buildings. The proposed development includes 1 no. childcare facility (c. 429 sq. m gross floor area).And, all associated and ancillary site development and infrastructural works (including plant), hard and soft landscaping and boundary treatment works (including temporary hoarding to un-developed lands), including : - Provision of Woodbrook Distributor Road/ Woodbrook Avenue from the Old Dublin Road (R119) to the future Woodbrook DART Station, including the provision of a temporary surface car park (164no. parking spaces including set down areas and ancillary bicycle parking and storage) adjacent to the future Woodbrook DART Station in northeast of site on lands currently forming part of Woodbrook Golf Course; New vehicular access provided from the Old Dublin Road (R119) opposite Woodbrook Downs entrance including new junction arrangements and associated road re-alignment; Provision of emergency access to Shanganagh Cemetery access road; Provision of internal road network including pedestrian and cycle links; Provision of a series of linear parks and green links (Coastal Park and Corridor Park), including 2no. pedestrian/ cycle links to Shanganagh Public Park to allow full north/ south connection, supplemented by smaller pocket parks; Provision of SuDS infrastructure and connection to existing surface water culvert on Old Dublin Road (R119); Provision of waste water infrastructure (pumping station including 2.4m fencing to perimeters, 24 hour emergency storage and rising foul main through Shanganagh Public Park to tie-in to existing services at St. Anne's Park Residential Estate) and the extension of and connection to public watermain on Old Dublin Road (R119); 844no. car parking spaces; 1,305no. long and short-term bicycle parking spaces; Bin store and bicycle storage for all terraced houses, duplex/ apartment and apartment blocks; 2no. ESB Unit Sub- stations; Provision of 2no. replacement golf holes in lands to the east of the rail line (northeast of the future DART Station) and associated 2m paladin fence to western and northern perimeter. All on a total site area of approximately 21.9 Ha.
D17A/0065	The Aske House, Dublin Road, Bray, Co. Dublin	Permission for the development of a Specialist Hospital for 56 no. in-patients, out-patient care and teaching unit, including works to Protected Structures. The works comprise: A. Change of Use of The Aske House, stables and out buildings, a part single and part two storey Protected

Ref. No.	Address	Proposal
		<p>Structure, from existing residential use to Educational use associated with the Specialist Hospital and incorporating internal alterations and refurbishment works to provide 10 single bed en-suite bedrooms, seminar rooms, library/reading rooms, administration offices, dining area, kitchen, staff changing and ancillary accommodation. B. Change of Use of existing single storey Gate Lodge, a Protected Structure, from residential use to Transitional Accommodation Unit associated with the Specialist Hospital incorporating alterations and refurbishment works, with existing structure requiring part demolition of rear single storey extension and new single storey extension to rear for kitchen and shower room. C. New single storey Specialist Hospital in-patient and out-patient Treatment and Therapy building incorporating main reception/admissions and waiting area, treatment rooms (for both group treatment and individual therapy), hydrotherapy pool, gym, consulting rooms, offices, kitchen and dining rooms, laundry and ancillary stores and accommodation. D. Specialist Hospital adult in-patients accommodation for 48 no. single patient bedrooms within 6 no. 2 storey inter-linked blocks, each unit comprising 2 no. 4 bedroom living clusters and incorporating nursing office, living areas, treatment rooms, family bedrooms and ancillary accommodation. E. Two storey Specialist Hospital in-patients accommodation for care of persons under nineteen years of age, with 8 no. single patient bedrooms in 4 bedroom clusters, incorporating nursing office and living areas, treatment rooms, family bedrooms and ancillary accommodation. F. Single storey garden pavilion incorporating garden maintenance equipment shed and pump house. G. Demolition of existing single storey garage. H. Modification/widening of existing site entrance, a Protected Structure, onto Dublin Road. I. Remedial works to existing Crinken Woodbrook stream. J. 84 no. car parking spaces and 3 no. covered cycle parking units. K. Landscaping works to include management of existing trees and all ancillary site works and site services.</p>

In relation to Planning Ref. **ABP30584419**, an Information for Screening for Appropriate Assessment was prepared by Brady Shipman Martin (BSM) to accompany this application. This report concludes with the following:

'This report concludes on the best scientific evidence that it can be clearly demonstrated that no elements of the project will result in any likely significant impact on any relevant European site, either on their own or in-combination with other plans or projects, in light of their conservation objectives. Based on these conclusions a Stage 2 Natura Impact Statement is not required for the proposed development.

As such no mitigation measures are required for the protection of any European sites.

It is considered that this report provides sufficient relevant information to allow the Competent Authority (An Bord Pleanála) to carry out an AA Screening, and reach a determination that the proposed development will not have any likely significant effects on European sites under Article 6 of the Habitats Directive (92/43/EEC) in light of their conservation objectives.'

In relation to Planning Ref. **D20A/0744**, a Screening for Appropriate Assessment was prepared by Irish Rail to accompany this planning application. This report concludes with the following:

'Further to the assessment, it is concluded that there will be no significant effects on Natura 2000 sites.

Therefore, on the basis of this Screening Exercise, it is submitted that a Stage 2 Appropriate Assessment is not required.'

No significant projects are proposed or currently under construction that could potentially cause in combination effects on designated conservation sites. Given this, it is considered that in combination

effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on designated conservation sites will be seen as a result of the proposed development alone or combination with other projects. **No significant effects are likely from in combination effects**

Residual Effects and Conclusion

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential effects on the terrestrial, mammalian, avian and aquatic sensitive receptors through the application the standard construction and operational phase controls. No significant effects on biodiversity are likely. Residual effects on biodiversity are considered to be: Low adverse / site / Negative Impact / Not significant / short term.

References

1. **Bat Conservation Ireland 2004** on-going, *National Bat Record Database*. Virginia, Co. Cavan
2. **Boyd, I. and Stebbings, R.E. 1989** Population changes in brown long-eared bats (*Plecotus auritus*) in Bat Boxes at Thetford Forest. *Journal of Applied Ecology* **26**: 101 - 112
3. **Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982**
4. **Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979**
5. **EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992**
6. **Jefferies, D.J. 1972** Organochlorine insecticide residues in British bats and their significance. *Journal of Zoology*, London **166**: 245 - 263
7. **Kelleher, C. 2004**, Thirty years, six counties, one species – an update on the lesser horseshoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland – *Irish Naturalists' Journal* **27**, No. 10, 387 – 392
8. **Kelleher, C. 2015** *Proposed Residential Development, Church Road, Killiney, Dublin: Bat Fauna Study*. Report prepared for Altemar Marine and Environmental Consultants
9. **Marnell, F., Kingston, N. and Looney, D. 2009** *Ireland Red List No. 3: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
10. **Racey, P.A. and Swift, S.M. 1986** The residual effects of remedial timber treatments on bats. *Biological Conservation* **35**: 205 – 214
11. **Smal, C.M. 1995** *The Badger & Habitat Survey of Ireland*. The Stationery Office, Dublin
12. **Wildlife Act 1976 and Wildlife [Amendment] Act 2000**. Government of Ireland.
13. NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
14. NPWS (2019) Conservation Objectives: Ballyman Glen SAC 000713. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.
15. NPWS (2017) Conservation Objectives: Bray Head SAC 000714. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
16. NPWS (2021) Conservation Objectives: Knocksink Wood SAC 000725. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
17. NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
18. NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
19. NPWS (2020) Conservation Objectives: Glen of the Downs SAC 000719. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
20. NPWS (2019) Conservation Objectives: Carriggower Bog SAC 000716. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.
21. NPWS (2021) Conservation Objectives: The Murrough Wetlands SAC 002249. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
22. NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
23. NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
24. NPWS (2022) Conservation objectives for Dalkey Islands SPA [004172]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
25. NPWS (2022) Conservation objectives for Wicklow Mountains SPA [004040]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

26. NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
27. NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
28. NPWS (2022) Conservation objectives for The Murrrough SPA [004186]. First Order Site specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
29. Stace C. 2010. New Flora of the British Isles. Cambridge University Press

Appendix I. Bat fauna impact assessment for the proposed development of Shanganagh Park – Phase 1, Shankill, Co. Dublin.



23rd March 2023

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Dún Laoghaire Rathdown County Council.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie

Directors: Bryan Deegan and Sara Corcoran

Company No.427560 VAT No. 9649832U

www.altemar.ie

Document Control Sheet			
Client	Dún Laoghaire Rathdown County Council		
Project	Bat fauna impact assessment for the proposed development of Shanganagh Park, Shankill, Co. Dublin.		
Report	Bat Fauna Assessment		
Date	23 rd March 2023		
Version	Author	Reviewed	Date
Draft 01	Bryan Deegan	Jack Doyle	2 nd December 2022
Planning	Bryan Deegan		23 rd March 2023

SUMMARY

Structure:	None; the proposed development site is a greenfield site.
Location:	Shankill, Co. Dublin.
Bat species present:	None Roosting. Common pipistrelle (<i>Pipistrellus pipistrellus</i>), Soprano pipistrelle (<i>P. pygmaeus</i>) and Leisler's bat (<i>Nyctalus leisleri</i>) foraging and transiting noted on site
Proposed work:	Development of a recreation zone with floodlighting.
Impact on bats:	No impact on roosting. Extensive measures have been implemented to limit light spill from lighting including lighting design and timing of lights. Essentially timing of lights are restricted during the active bat season. Landscaping has been developed to enhance bat foraging and assist in the control of light spill from the lighting strategy. The residual impact is considered to be minor adverse/not significant in the short term and low beneficial positive in the long term.
Survey by:	Bryan Deegan MCIEEM
Survey date:	25 th August 2021, 16 th September 2021, and 14 th September 2022. An additional assessment of trees of bat roosting potential was carried out on the 5 th January 2023.

Introduction

Dún Laoghaire Rathdown County Council intend to apply for planning permission for the proposed development of Shanganagh Park – Phase 1, Shankill, Co. Dublin.

The development will consist of:

The Shanganagh Park Masterplan identifies an intense active recreation zone towards the rear of the park. Currently DLR clubs are renting grass and all-weather pitches outside of the county for training and matches. Given the proposed significant increase in population as a result of the Woodbrook Shanganagh Local Area Plan, the development of this facility is a priority for Shanganagh Park Masterplan. The development of these facilities will increase active participation in the county through a multiple of different sports including GAA, Soccer, Baseball, Cricket, Athletics, etc. It strongly aligns with Space to Play, DLR Sports Facilities Strategy 2017-2022. The provision of these facilities ensures access to high quality active recreation facilities for the community.

The proposed site outline and location is demonstrated in Figure 1.

Arborist

An Arboricultural assessment of Trees within the site area at 'Shanganagh Park', Shankill, Co. Dublin has been prepared by Arborist Associates Ltd. to accompany this planning application. This report outlines the following:

'Findings

The site area is irregularly square in shape and is bordered by private houses to the north, by the railway line to its east and by the grounds of 'Shanganagh Park' to its south and west. Metal fencing makes up the boundaries on the north and east sides and the tree belts make up the boundaries on the south and west sides. There is a large open grass area in the middle of the site with public footpaths around its perimeter with tree belts and hedges outside of these paths. This area has also been rejuvenated with tree planting over the last few years.

The following gives a brief summary of the vegetation within the site area. Tree Belt No.1 extends east to west along the northern boundary and it is a prominent group of trees with a good mix of young to early- mature trees with a diverse mix of species such as Ash, Poplar, Field Maple, Elm, Hazel and Larch, to name but a few.

Tree Group No.1 is located at the western end of 'Tree Belt No.1' and they are a prominent group of trees within this area. It is an early -mature group of trees consisting of Ash, Sycamore and Willow.

Tree Group No.2 and Tree Group No.3 are growing in the north-east corner of the site area on either side of the pedestrian footpath/ bridge that extends over the railway line. They are semi-mature trees with good potential for the long-term tree cover in this area and they contain mixed species such as Ash, Alder and Larch.

Tree Nos.0301-0309 are located to the south of the above tree belts and groups and consist of a mix of tree species generally of a semi-mature to early-mature age class establishing well with some having the potential to provide good quality tree cover for the future.

Hedge No.1 extends north to south along the eastern boundary with the railway line and it is a broad scrubby hedge consisting predominantly of Bramble and Dogrose with some clumps of Hawthorn, Holly and Elder in places. Within Hedge No.1 is Tree Group No.4 and Tree Nos.0311 & 0321 all Ash of a semi-mature to early mature age class and some, in particular Tree Group No.4 are of prominence within this hedge. This hedge and the trees within have value as screening in this area and act as a buffer between 'Shanganagh Park' and the railway line to the east.

Tree Nos.0312-0320, 0322 & 0323 are located west of 'Hedge No.1' and consists of a mix of tree species planted either side of the perimeter path. These are of a young age class having been planted in recent years and most of them are establishing well with good potential to form part of the long-term tree cover.

Woodland Block No.1 is located in the south-west corner of the site area and it is a large prominent group of mixed species of varying age-classes. The most predominant species is Ash and Sycamore with a lot of Field Maple in the lower canopy along with seedling trees developing throughout the undergrowth.

Pedestrian footpaths break up this woodland block into sub-compartments and the crowns of these trees overhang these paths. On either side of the pedestrian path on the north side of this woodland block is Tree Group No.5 which consists of a group of young mixed Pine trees with good potential for the long-term tree cover in this area and they add to the species diversification of 'Woodland Block No.1'.

Tree Belt No.2 extends east to west across the south to south-eastern boundary and the crowns of these trees overhang the public footpaths in this area. It consists of mixed species of predominantly early-mature trees and as a tree belt; they are of prominence within the treescape of the area. It is comprised of mainly Ash with some Beech and Horse Chestnut in places.

Tree Nos. 1324 – 1337 are located on the northern side of the public footpath out from 'Tree Belt No.2' and consists of a mix of tree species. These are of a young to semi-mature age class having been planted in recent years and most of them are establishing well with potential to form part of the long-term tree cover.

Tree Belt No.3 is located north of 'Tree Belt No.2' and it protrudes out into the open grass area. It is a prominent tree belt in this area consisting of mixed species such as Ash and Sycamore throughout the upper-canopy and Field-Maple and Rowan within the lower canopy. This tree group is made up of mainly early-mature trees.

Tree Belt No.4 extends north to south along the western boundary of this site area and it is a prominent tree belt. This tree belt consists of mostly early-mature trees with self-seeded trees, such as Sycamore developing throughout the lower canopy. It is comprised mainly of Ash and Sycamore trees with some Poplar towering above the rest of the upper-canopy at the southern end. Hazel and Alder can be found within the lower canopy, and their crowns overhang the public footpath at the southern end of this tree belt.

Tree Nos.1338-1341 are located on the eastern side of the public pathway out from the northern end of 'Tree Belt No.4' and consists of a mix of tree species. These are of a young age class having been planted in recent years and most are establishing well with good potential to form part of the long-term tree cover.

Within the site area, 41No. Trees have been tagged individually with one Woodland Block, five Tree Groups, four Tree Belts and one Hedge numbered numerically. The following table gives a breakdown of the category grading allocation as per the cascade chart in BS5837 2012:'

Category Grade	No. of trees
Category U 0 Trees	Tree Nos. No Trees
Category A 1 Tree + 2 Tree Belts + 1 Tree Group + 1 Woodland Block	Tree Nos. 1304 Tree Belt Nos. 1 & 4 Tree Group No. 1 Woodland Block No. 1
Category B 8 Trees + 1 Tree Belt + 3 Tree Groups + 1 Hedge	Tree Nos. 1303, 1306, 1307, 1308, 1309, 1310, 1311 & 1321 Tree Belt No. 3 Tree Group Nos. 2, 3 & 4 Hedge No. 1
Category C 32 Trees + 1 Tree Group	Tree Nos. 1301, 1302, 1305, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340 & 1341 Tree Group No. 5
Total	41 Trees + 4 Tree Belts + 5 Tree Groups + 1 Woodland Block + 1 Hedge

An Arboricultural Impact Assessment (including the markup provided by DLR Consulting) is demonstrated in Figure 8. '18 individually tagged trees plus five trees from one Tree Group, 764m² of tree belts/wooded areas and c.30m x 16m length of hedging are proposed for removal to facilitate the proposed development of this area for a new sporting facility.

The tree vegetation for removal is made up of the following category grades:

- Category 'A' – c.64m² of a linear tree belt.

- Category 'B' – 5 No. trees plus 5 No. trees from a tree group, 700m² of tree belts, plus c.30m x 16m section of hedging

- Category 'C' – 13 No. trees'

In the design layout, great efforts have been made to retain as much of the perimeter tree vegetation as possible to ensure that this area continues to be screened off from the surrounding residential areas and the remaining parts of the park and to give this area a sense of enclosure.

The loss of the above tree vegetation is scattered throughout a large site area and in the overall context of the tree cover in this area, the extent of tree cover being lost to facilitate the proposed development has minimal impact on the treescape of the greater area.

The loss of the above listed tree vegetation is being mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area. It will also help to provide good quality and sustainable long-term tree cover, and as this establishes and grows in size, it will be continuously mitigating any negative impacts created with the loss of the existing tree vegetation to facilitate the proposed development. See landscape architects drawings and schedules for detail.

The planting strategy key factors are to:

- *Create a sense of identity using trees, shrub and hedge planting.*
- *Create a robust landscape that performs all year round and is suitable for the current proposed use of this site area.*
- *Use vegetation to screen and enhance views.*
- *Use a more diverse mix of plant species that will include good pollinators.*
- *Plant robust species that tolerate drought and site-specific micro-climates*
- *Plant species that are maintenance friendly.'*

An Arboricultural Impact Assessment is demonstrated in Figure 2.

Lighting

A lighting plan has been prepared by Musco to accompany this planning application. Details of the proposed lighting plan for the development at Shanganagh Park are demonstrated in Figures 3-6.



0 100 200 300 m

Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 1. Proposed site outline

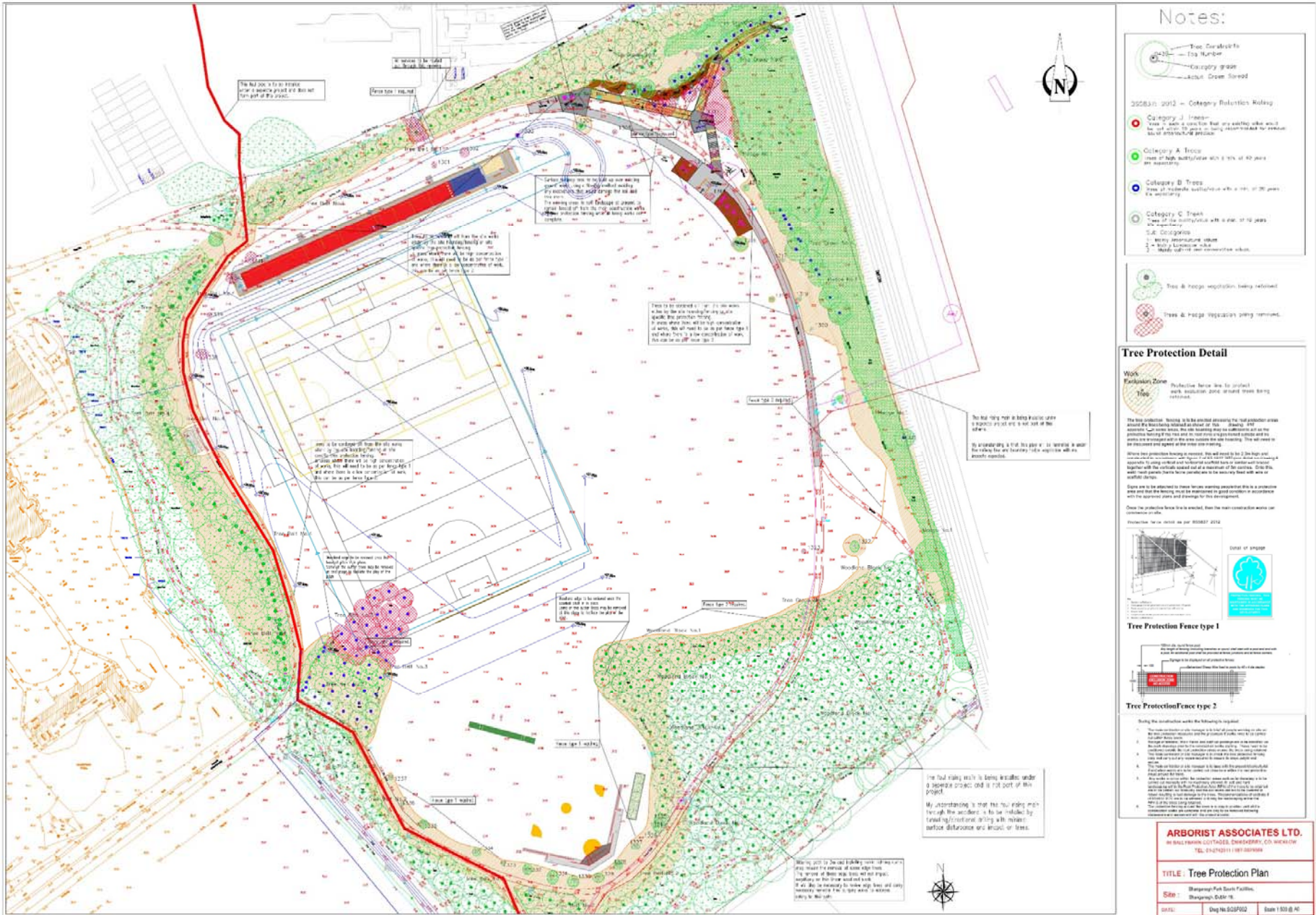


Figure 2. Arboricultural impact assessment

Shanganagh Park Phase 1
Dublin, Leinster

Lighting System

Pole / Fixture Summary							
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit	
P4	24.4	24.4	8	TLC-LED-1500	11.28 kW	B	
P5	24.4	24.4	5	TLC-LED-1500	7.05 kW	A	
		24.4	5	TLC-LED-1500	7.05 kW	B	
		15.2	1	TLC-LED-600	0.58 kW	A	
P6	24.4	15.2	1	TLC-LED-600	0.58 kW	B	
		24.4	8	TLC-LED-1500	11.28 kW	A	
		24.4	4	TLC-LED-1500	5.64 kW	A	
P7	24.4	24.4	4	TLC-LED-900	3.52 kW	A	
		24.4	3	TLC-LED-1500	4.23 kW	B	
		24.4	3	TLC-LED-1500	4.23 kW	A	
P8	24.4	24.4	1	TLC-LED-900	0.88 kW	A	
		24.4	1	TLC-LED-900	0.88 kW	B	
		24.4	1	TLC-LED-900	0.88 kW	A	
		15.2	1	TLC-LED-600	0.58 kW	B	
		15.2	1	TLC-LED-600	0.58 kW	A	
		24.4	4	TLC-LED-1500	5.64 kW	B	
P9	24.4	24.4	4	TLC-LED-900	3.52 kW	B	
		24.4	4	TLC-LED-900	3.53 kW	C	
P10	15.2	15.2	4	TLC-LED-900	2.85 kW	C	
P11	15.2	15.2	3	TLC-LED-900	2.85 kW	C	
8			63		75.46 kW		

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football 1 - Pitch 1	34.64 kW	28
B	Football 2 / Pitch 1	34.64 kW	28
C	Track	6.18 kW	7

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	26
TLC-LED-1500	LED 4000K - 70 CRI	1410W	181,000	>120,000	>120,000	>120,000	14
TLC-LED-900	LED 4000K - 70 CRI	890W	89,600	>120,000	>120,000	>120,000	2
TLC-LED-900	LED 4000K - 70 CRI	880W	104,000	>120,000	>120,000	>120,000	15
TLC-LED-600	LED 5700K - 75 CRI	580W	65,600	>120,000	>120,000	>120,000	4
TLC-LED-900	LED 5700K - 75 CRI	880W	104,000	>120,000	>120,000	>120,000	2

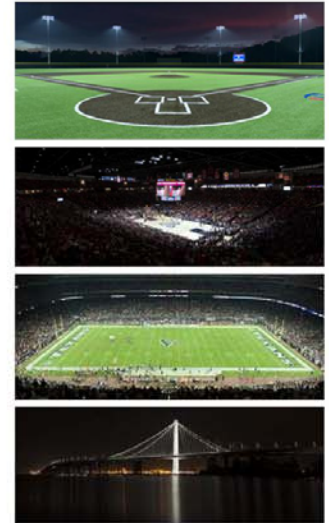
Single Luminaire Amperage Draw Chart						
Driver (.90 min power factor)	Line Amperage Per Luminaire					
Single Phase Voltage	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)	415 (50)
TLC-LED-1500	7.9	7.6	7.3	4.6	4.4	4.2
TLC-LED-900	5.0	4.8	4.6	2.9	2.8	2.7
TLC-LED-600	3.2	3.1	3.0	1.9	1.8	1.7

Light Level Summary

Calculation Grid Summary									
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty	
		Ave	Min	Max	Min/Max	Min/Ave			
GAA Pitch 1	Horizontal Illuminance	507	388	705	0.52	0.73	A,B	56	
Soccer 1	Horizontal Illuminance	291	219	414	0.53	0.75	A	28	
Soccer 2	Horizontal Illuminance	289	216	409	0.53	0.75	B	28	
Spill Blanket 1m 50%	Horizontal	69.3	0	394	0.00	0.00	A,B,C,D	63	
Spill Blanket 1m	Horizontal	127	0	719	0.00	0.00	A,B,C,D	63	
Spill Blanket 2m 50%	Horizontal	69.2	0	403	0.00	0.00	A,B,C,D	63	
Spill Blanket 2m	Horizontal	126	0	735	0.00	0.00	A,B,C,D	63	
Spill line 1m 50%	Horizontal	0.33	0	1.70	0.00	0.00	A,B,C,D	63	
Spill line 1m	Horizontal	0.57	0	2.90	0.00	0.00	A,B,C,D	63	
Spill line 2m 50%	Horizontal	0.25	0	1.38	0.00	0.00	A,B,C,D	63	
Spill line 2m	Horizontal	0.46	0	2.51	0.00	0.00	A,B,C,D	63	
Track	Horizontal Illuminance	272	157	545	0.29	0.58	C	7	

ENGINEERED DESIGN By: Carlos Castaneda - File #214399K - 20-Mar-23

From Hometown to Professional



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2023 Musco Sports Lighting, LLC.

PROJECT SUMMARY

Figure 3. Proposed lighting – project summary

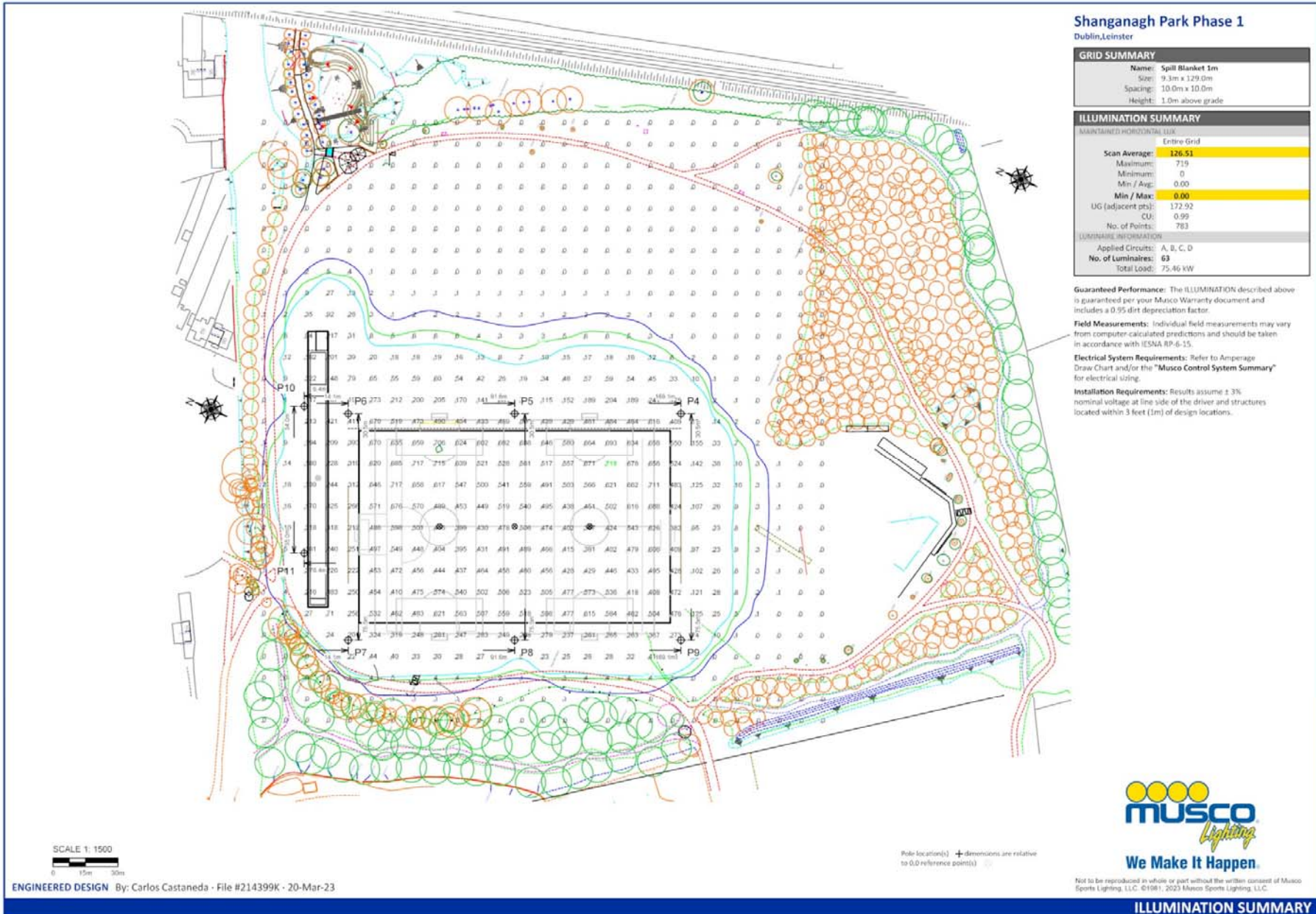


Figure 4. Proposed lighting – spill blanket

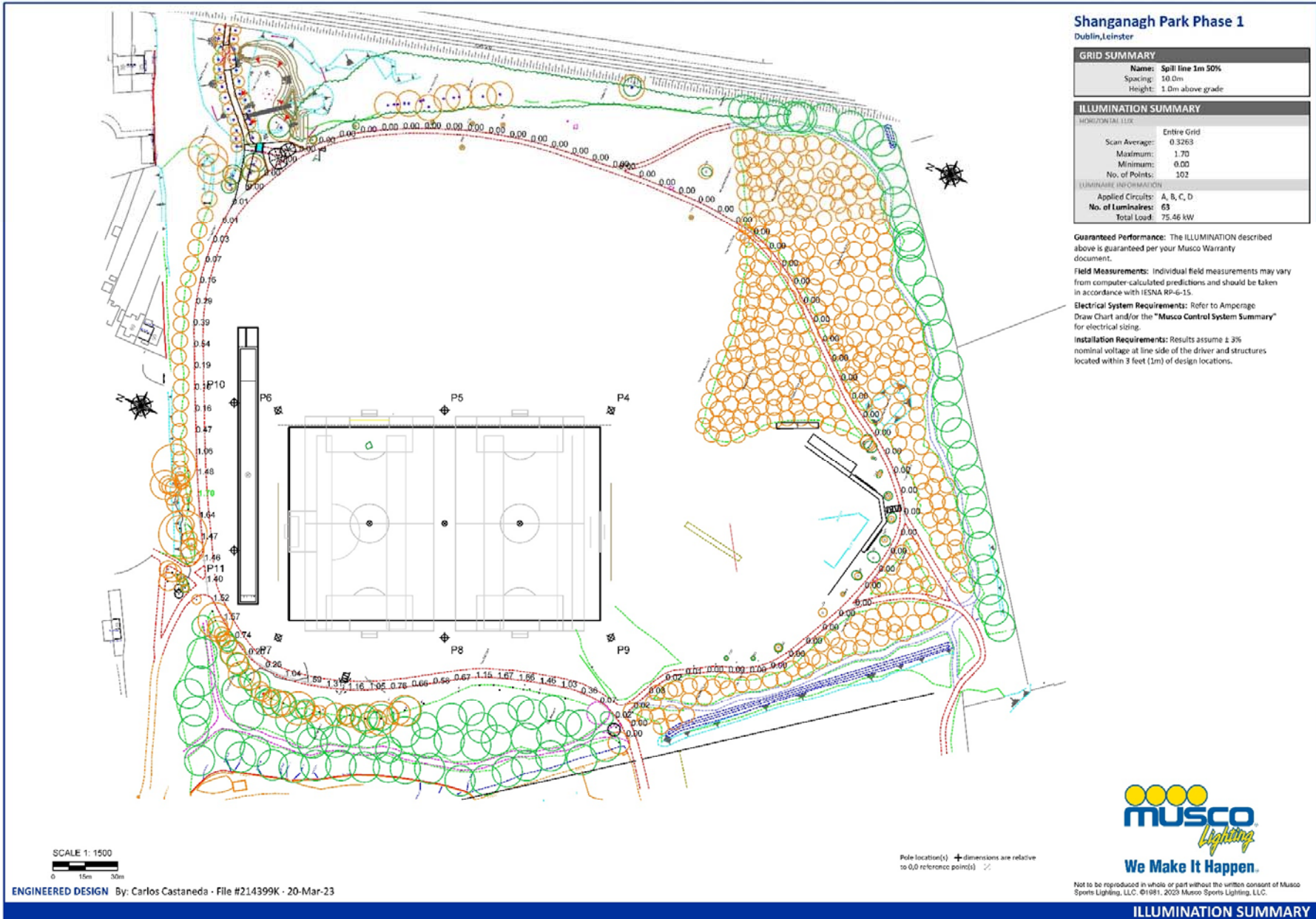


Figure 5. Proposed lighting – spill line

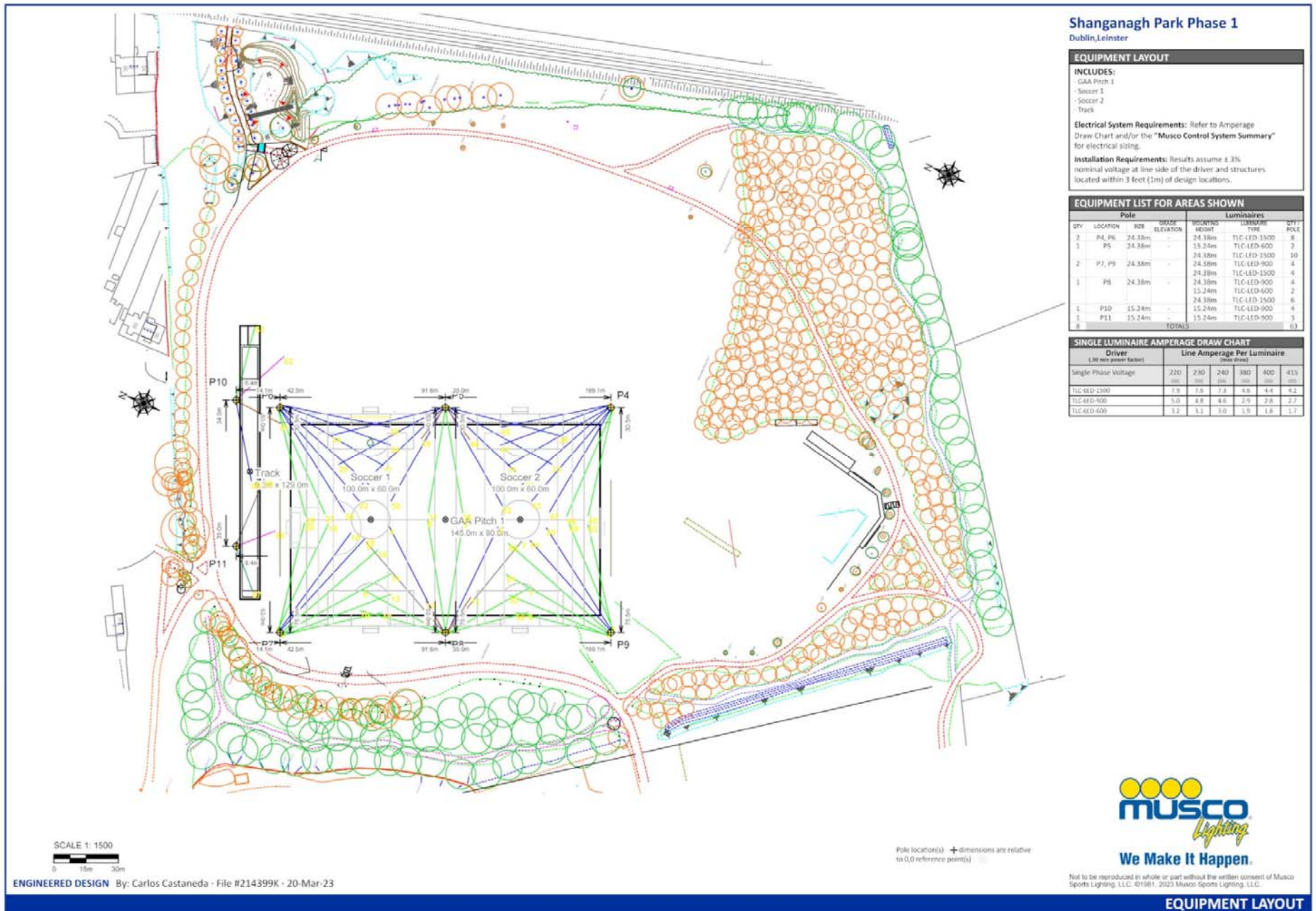


Figure 6. Proposed lighting – equipment layout

Competency of Assessor

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 28 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2022)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Marnell, Kelleher and Mullen (2022), Bat Mitigation Guidelines for Ireland V2 (which update and replace the Bat Mitigation Guidelines for Ireland published in 2006).

Legislative Context

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

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

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

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

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

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

Bat survey

This report presents the results of site visits by Bryan Deegan (MCIEEM) on the 25th August 2021, 16th September 2021, and 14th September 2022. A bat emergent and detector survey was also carried out.

Survey methodology

As outlined in Marnell et al. 2022 *‘The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited by active bats provide the best clues. Roosts of species which habitually enter roof voids are probably the easiest to detect as the droppings will normally be readily visible. Roosts of crevice-dwelling species may require careful searching and, in some situations, the opening up of otherwise inaccessible areas. If this is not possible, best judgement might have to be used and a precautionary approach adopted. Roosts*

used by a small number of bats, as opposed to large maternity sites, can be particularly difficult to detect and may require extensive searching backed up by bat detector surveys (including static detectors) or emergence counts.’ In relation to the factors influencing survey results the guidelines outlines the following ‘During the winter, bats will move around to find sites that present the optimum environmental conditions for their age, sex and bodyweight and some species will only be found in underground sites when the weather is particularly cold. During the summer, bats may be reluctant to leave their roost during heavy rain or when the temperature is unseasonably low, so exit counts should record the conditions under which they were made. Similarly, there may be times when females with young do not emerge at all or emerge only briefly and return while other bats are still emerging thus confusing the count. Within roosts, bats will move around according to the temperature and may or may not be visible on any particular visit. Bats also react to disturbance, so a survey the day after a disturbance event, may give a misleading picture of roost usage.’

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

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

Survey Results

Trees as potential bat roosts.

As outlined in the Arborist report the majority of trees are young, early or semi mature trees and as such would not have developed features of bat roosting potential e.g. cracks, hollows etc. There are no trees of bat roosting potential present on site or within the potential zone of influence of the works or lighting on site.

Buildings as potential bat roosts.

There are no buildings or structures of bat roosting potential present on site.

Emergent/detector surveys.

An emergent/detector survey was carried out by Bryan Deegan (MCIEEM) on the 25th August 2021, 16th September 2021, and 14th September 2022.

The detector surveys were undertaken following best practice guidelines (Collins, 2016 & Marnell, 2022) within the active bat season and the transects covered the entire site multiple times during the night. Weather conditions were good with mild temperatures of warmer than 10°C after sunset. Winds were light and there was no rainfall. Insects were observed in flight during all surveys.

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

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



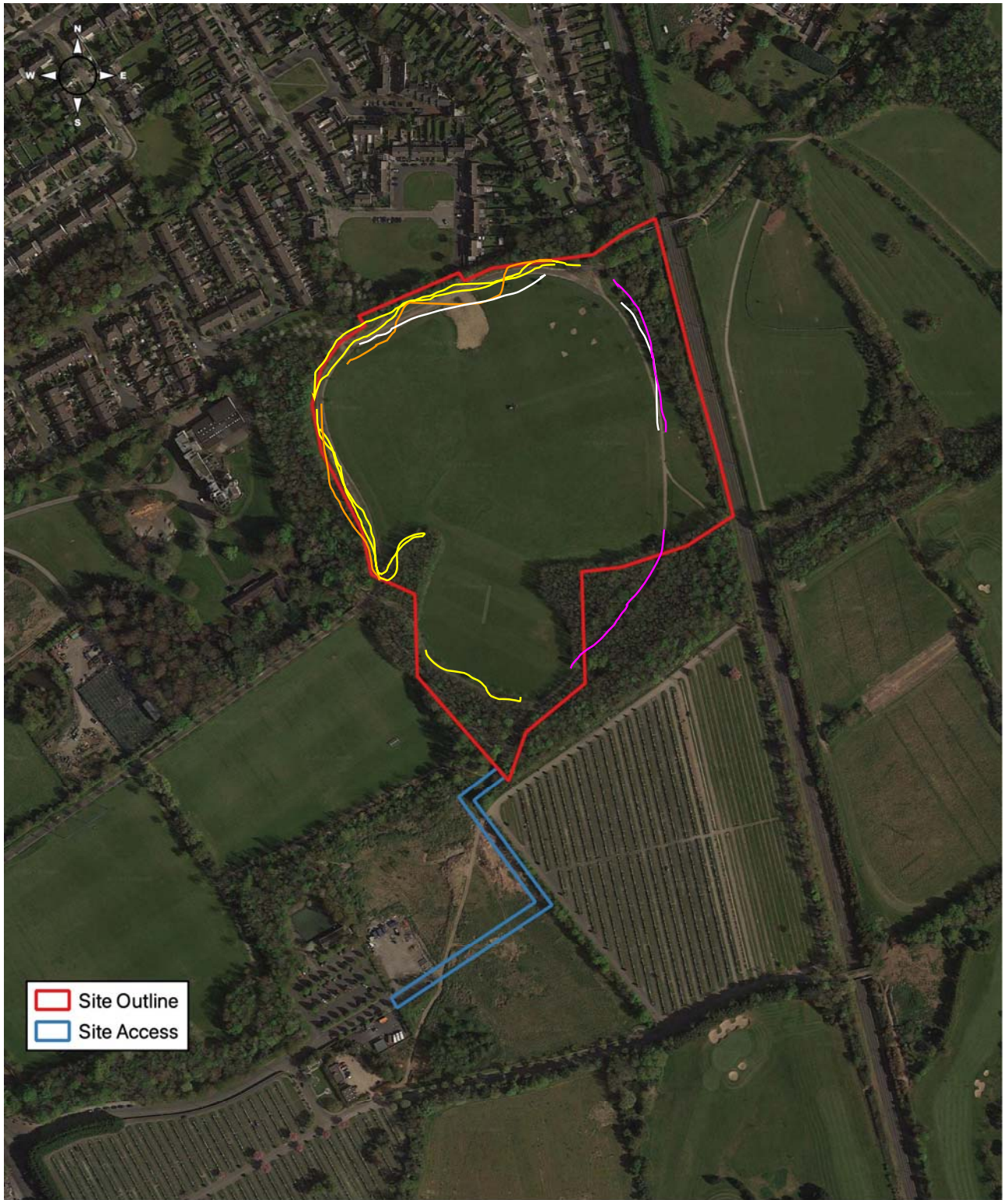
0 250 500 m

Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 7: Site outline. Common pipistrelle (yellow), Soprano pipistrelle (orange) Leisler's bat (white) foraging (data from 25th August 2021 and 16th September 2021 surveys).



0 250 500 m

Project: Shanganagh Park
 Location: Dun Laoghaire, Co. Dublin
 Date: 2nd February 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

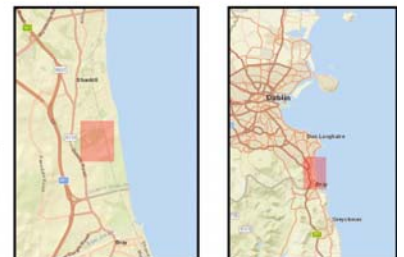


Figure 8: Common pipistrelle (yellow) and Soprano pipistrelle (orange) foraging. Leisler's bat (white) and Common Pipistrelle (pink) transiting (data from 14th September 2022).

Bat assessment findings

Review of local bat records

The review of existing bat records (sourced from *Bat Conservation Ireland's* National Bat Records Database) within 2km² grids (Reference grids O22K & O22Q) encompassing the study area reveals that four of the nine known Irish species have been observed locally (Table 1). The National Biodiversity Data Centre's online viewer was consulted in order to determine whether there have been recorded bat sightings in the wider area. This is visually represented in Figures 8-10. The following species were noted in the wider area: Brown Long-eared Bat (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Daubenton's Bat (*Myotis daubentonii*), Natterer's Bat (*Myotis nattereri*), and Pipistrelle (*Pipistrellus pipistrellus sensu lato*) (Figures 8-10). In addition, as outlined by NPWS a Soprano Pipistrelle bat roost has been recorded in St. Anne's Park Court to the north of the site.

Table 1: Status of bat species within two 2km² grid encompassing the subject site (Reference nos. O22K & O22Q)

Species name	Record count	Date of last record	Note
Lesser Noctule (<i>Nyctalus leisleri</i>)	1	16/07/2007	National Bat Database of Ireland
Natterer's Bat (<i>Myotis nattereri</i>)	1	16/07/2007	National Bat Database of Ireland
Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	2	16/07/2007	National Bat Database of Ireland
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	2	16/07/2007	National Bat Database of Ireland

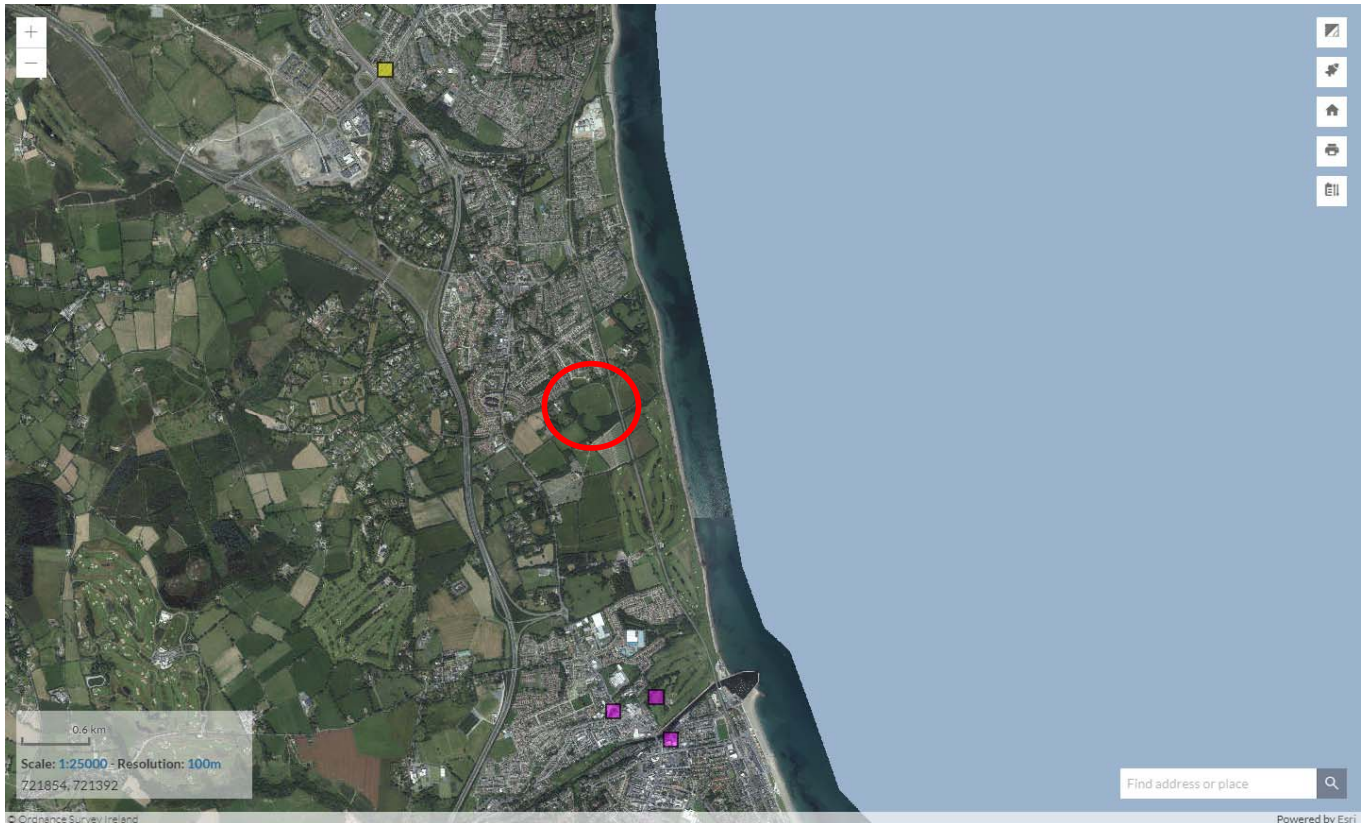


Figure 8. Brown Long-eared Bat (*Plecotus auritus*) (yellow) and Daubenton's Bat (*Myotis daubentonii*) (purple) (Source NBDC) (Site – red circle)

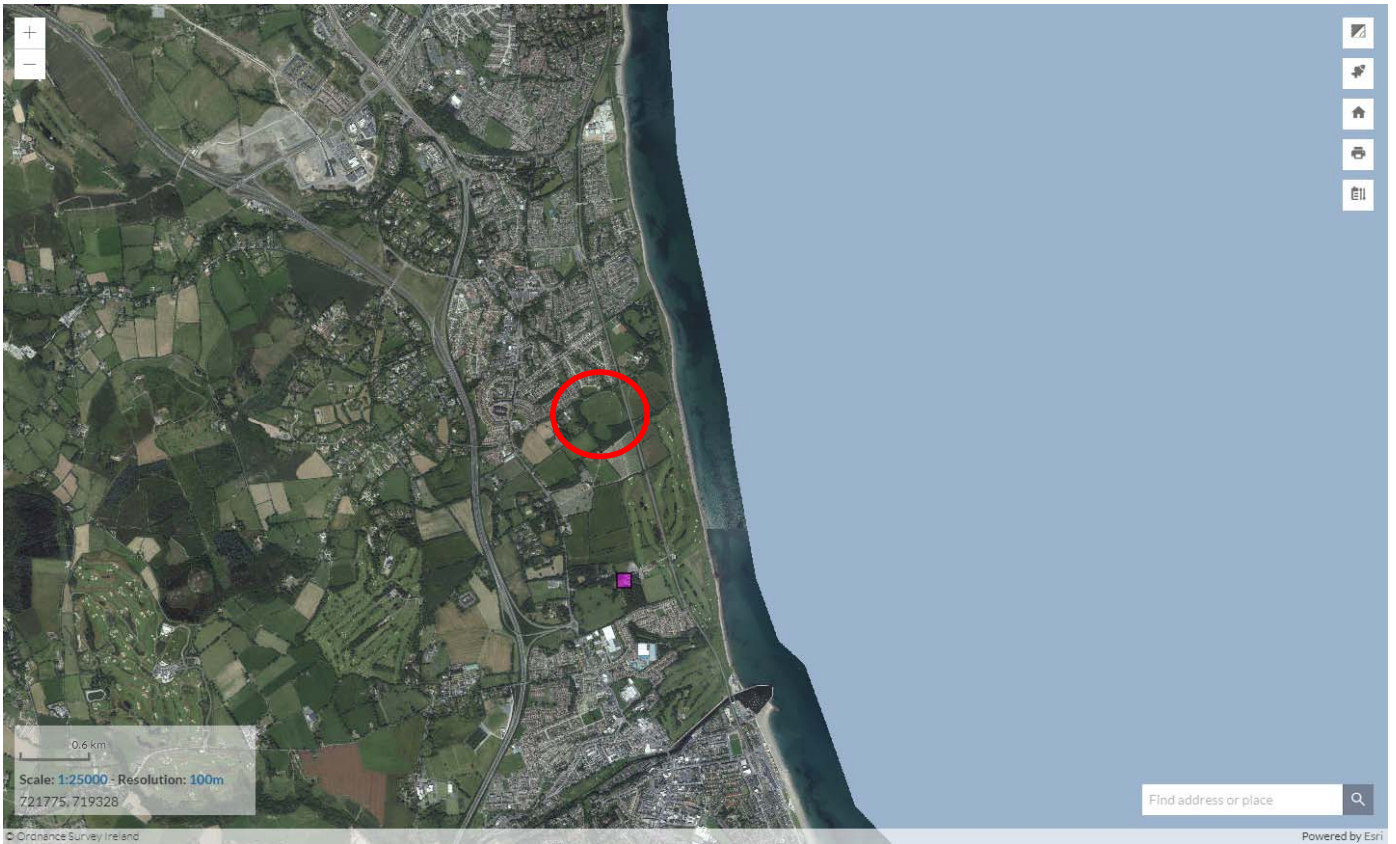


Figure 9. Natterer's Bat (*Myotis nattereri*) (purple) (Source NBDC) (Site – red circle)

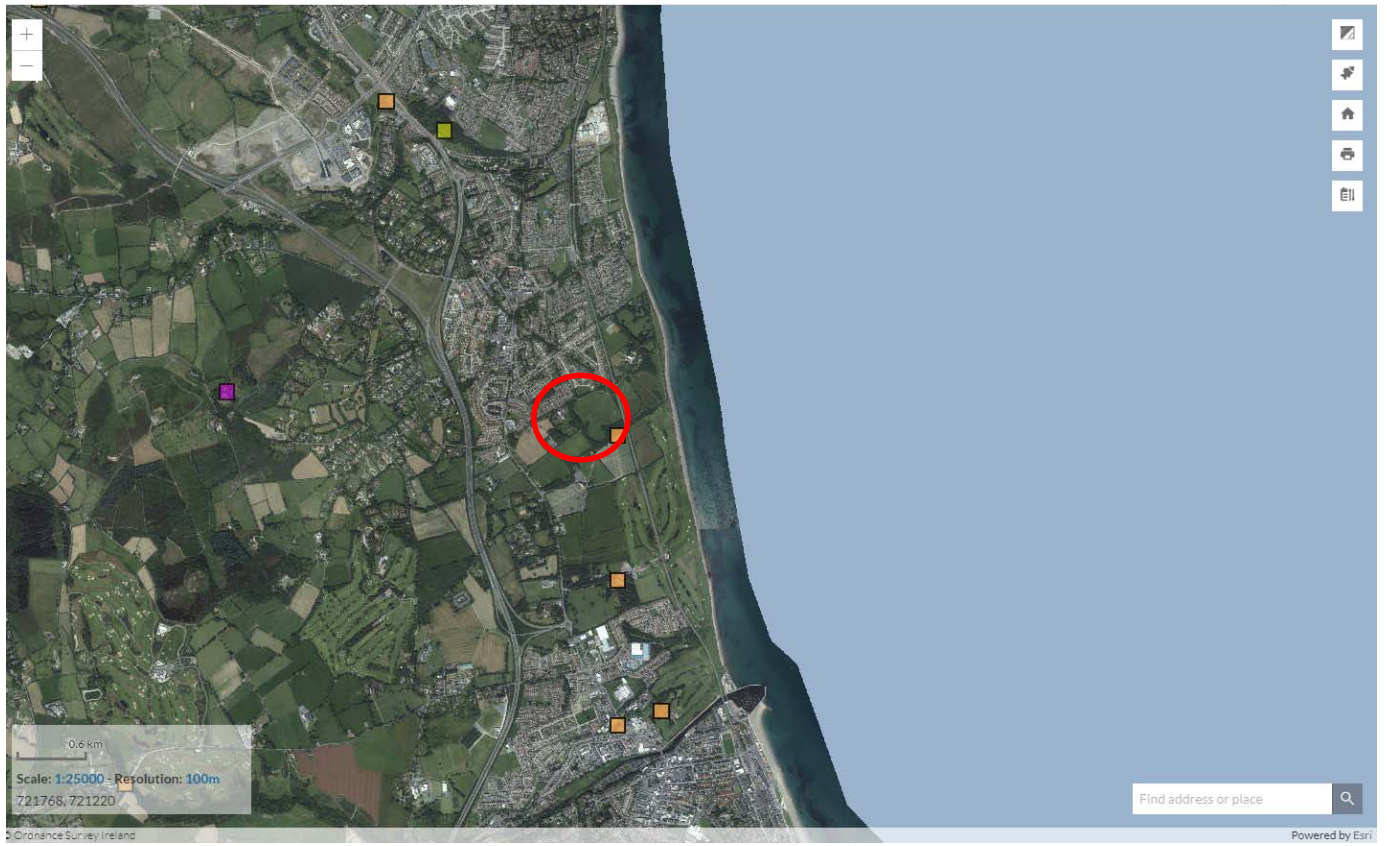


Figure 10. Pipistrelle (*Pipistrellus pipistrellus sensu lato*) (purple) (Species aggregate), Soprano Pipistrelle (*Pipistrellus pygmaeus*) (yellow), and both Pipistrelle and Soprano Pipistrelle (orange) (Source NBDC) (Site – red circle)

Specifically, NBDC records show sightings of a bat species in a location that encompasses a portion of the subject site:

1. Soprano Pipistrelle (*Pipistrellus pygmaeus*) in grid reference O260210, encompassing a portion of the subject site. Recorded on 01/09/2004.

Detector survey

In the 2021 surveys foraging activity on site was relatively high on site with three soprano pipistrelle (*Pipistrellus pygmaeus*) a common pipistrelle (*Pipistrellus pipistrellus*) and Leisler's bat (*Nyctalus leisleri*) foraging over the site. Pipistrelle activity was primarily concentrated along the edges of the woodland while Leisler's bats were observed in more open areas.

During the survey conducted on 14th September 2022, two common pipistrelle (*Pipistrellus pipistrellus*) and two soprano pipistrelle (*Pipistrellus pygmaeus*) bats were noted foraging on site. Foraging activity was concentrated along the northern and western / southwestern treelines that border the subject site. Two Leisler's bats (*Nyctalus leisleri*) were noted transiting through the subject site along the eastern and northern boundaries. A single common pipistrelle was noted transiting through the woodland located to the southeast of the subject site.

Potential effects of proposed redevelopment on bats

As outlined in consultation with NPWS (Appendix III), NPWS stated that *'Having studied the documentation supporting this development proposal this Department notes and welcomes that the design of the flood lighting to be installed on the new hurling/ football pitches to be constructed as part of part of the current proposal has been modified be more 'bat friendly' by minimising light pollution. The timing of the periods when the flood lighting will be in use so as to limit its impacts on bats is also welcomed. The adoption of these measures to mitigate the effects of the proposed scheme on bats is particularly valuable because a significant soprano pipistrelle bat roost is believed to be present in "The Court' part of the St. Anne's Park residential estate immediately to the north east of the area which is the subject of the present development proposal, and the bats from this roost probably mainly feed over the section of Shanghanagh Park to the east between the railway and the sea. '*

No trees of bat roosting potential were noted on site or proximate to the site. No buildings on site. Lighting during construction and operation has the potential to impact on foraging of bats on site in the absence of mitigation. The bat roost in St Annes Park will not be impacted. However, bats from this roost may forage within the park. Discussions took place between Altemar and Musco Lighting consultants to ensure that the proposed lighting did not significantly impact on foraging bat activity within the park and introduce excessive light spill into the surrounding environment. Several iterations of the lighting strategy were prepared and assessed for potential negative impact on bats. The strategy proposed represent the final version of this consultation process. As seen in Figure 4, the ground light levels in the vicinity of the surrounding woodland is primarily < 1 lux (dark blue contour) with the exception of areas in proximity of the sprint track where levels are predicted to reach 5 lux (green line). Mitigation measures will be required to limit light spill to protect bat foraging areas. In addition, landscaping has also been designed to assist in limiting light spill from the proposed development..

Mitigation measures

As no evidence of a bat roost was noted in any of the onsite structures or trees, no mitigation measures in regard to these animals are needed during the proposed construction works. There is also no requirement for a *National Parks and Wildlife Service* derogation licence application to allow the planned works. No lighting is foreseen during the construction phase during the months of bat foraging. However, as a precaution, if lighting is required at any stage during construction, all lighting will be done sensitively on site in consultation with a project ecologist, with no direct lighting of woodlands or main bat foraging areas.

In discussion with Altemar the operational lighting strategy was prepared to further limit the potential impact of lighting of the development on bats. The floodlighting will be operational, when required, potentially from 7am until 22:00, 7 days a week from October 15th to March 31st, during the main bat hibernation period. From April 1st to October 14th should lights be deemed necessary they will cease operation at civil twilight (rounded hour) e.g. 8pm in April, 9pm in May, 9pm in August and 8pm in September, in order to further protect bat foraging activity. This in effect reduces the potential lighting

times i.e. cease lighting before 10pm for only 4 months of the year and no lighting will be used in June or July, as seen (Table 1.)

Table 1. Proposed lighting times

	Time ON Civil Twilight 1st of each month	Time OFF Mon to Thu
Jan	16:15	22:00
Feb	17:07	22:00
Mar	18:02	22:00
Apr	19:59	20.00
May	20:53	21.00
Jun	21:42	22.00 (Not used)
Jul	21:56	22.00 (Not used)
Aug	21:20	21.00
Sep	20:15	20.00
Oct	19:02	22:00
Nov	16:53	22:00
Dec	16:10	22:00

A post construction light spill and bat foraging assessment will be carried out by a bat specialist to confirm lighting has been constructed as per plans submitted. It is recommended that a monitoring report is submitted by bat specialist to NPWS.

As previously outlined NPWS have reviewed the proposed lighting strategy (for the previous application which included an additional pitch and lighting for two pitches as well as the current plan for lighting on the sprint track) and have stated in (Appendix III) NPWS stated that *‘Having studied the documentation supporting this development proposal this Department notes and welcomes that the design of the flood lighting to be installed on the new hurling/ football pitches to be constructed as part of part of the current proposal has been modified be more ‘bat friendly’ by minimising light pollution. The timing of the periods when the flood lighting will be in use so as to limit its impacts on bats is also welcomed. The adoption of these measures to mitigate the effects of the proposed scheme on bats is particularly valuable because a significant soprano pipistrelle bat roost is believed to be present in “The Court’ part of the St. Anne’s Park residential estate immediately to the north east of the area which is the subject of the present development proposal, and the bats from this roost probably mainly feed over the section of Shanganagh Park to the east between the railway and the sea.’*

Predicted and residual impact of the proposal

The proposed development will change the local environment as new lights are to be erected and some of the existing vegetation will be removed. No bat roosts or potential bat roosts will be lost or impacted due to this development and the species expected to occur onsite will persist. In the absence of mitigation minor loss of foraging areas through the site will be seen when lighting is on. However, mitigation has been placed within the design and operation of the proposed lighting. During operation time restrictions will be in place during the bat foraging season. Landscaping is provided to enhance bat foraging on site and the placing of trees will be carried out in consultation with the project ecologist to create additional foraging corridors and assist in further limiting light spill.

The residual impact is considered to be minor adverse/not significant in the short term and low beneficial positive in the long term. However, it should be noted that the planting of scattered trees and parkland habitat will improve the site for bat foraging and potential bat roosting.

References

- Collins, J. (ed.) (2016).** *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1
- Marnell, F., Kelleher, C. & Mullen, E. (2022).** *Bat mitigation guidelines for Ireland V2. Irish Wildlife Manuals, No. 134.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.
- Chartered Institute of Ecology and Environmental Management (2021).** *Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Beta version.* Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018).** *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.
- Institution of Lighting Professionals (2018). *Bats and Artificial Lighting in the UK – Bats and the Built Environment Series: Guidance Note 08/18.* Institution of Lighting Professionals and the Bat Conservation Trust.
- Department of Housing, Planning and Local Government (December, 2018).** *Urban Development and Building Heights Guidelines for Planning Authorities.*
- Bat Conservation Trust (May 2022).** *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.* The Bat Conservation Trust, London.
- Bat Conservation Ireland 2004** on-going, *National Bat Record Database.* Virginia, Co. Cavan
- BEC (2010)** Irish Semi-natural Grasslands Survey. Annual Report No. 3: Counties Donegal, Dublin, Kildare & Sligo.
- Boyd, I. and Stebbings, R.E. 1989** Population changes in brown long-eared bats (*Plecotus auritus*) in Bat Boxes at Thetford Forest. *Journal of Applied Ecology* **26**: 101 - 112
- Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982**
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979**
- EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992**
- Jefferies, D.J. 1972** Organochlorine insecticide residues in British bats and their significance. *Journal of Zoology*, London **166**: 245 - 263
- Kelleher, C. 2004,** Thirty years, six counties, one species – an update on the lesser horseshoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland – *Irish Naturalists' Journal* **27**, No. 10, 387 – 392
- Kelleher, C. 2015** *Proposed Residential Development, Church Road, Killiney, Dublin: Bat Fauna Study.* Report prepared for Altemar Marine and Environmental Consultants
- Marnell, F., Kingston, N. and Looney, D. 2009** *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
- Marnell, F., Kelleher, C., & Mullen, E. (2022),** BAT MITIGATION GUIDELINES FOR IRELAND – V2 <https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf>
- Racey, P.A. and Swift, S.M. 1986** The residual effects of remedial timber treatments on bats. *Biological Conservation* **35**: 205 – 214
- Smal, C.M. 1995** *The Badger & Habitat Survey of Ireland.* The Stationery Office, Dublin
- Wildlife Act 1976 and Wildlife [Amendment] Act 2000.** Government of Ireland.

TECHNICAL NOTE



Project **Shanganagh Park Masterplan**

Subject **Hydrogeological assessment**

Author **Teri Hayes BSc MSc PGeo**

Date **27 April 2022**

The Tecpro Building,
Clonsaugh Business & Technology Park,
Dublin 17, Ireland.

T: + 353 1 847 4220
F: + 353 1 847 4257
E: info@awnconsulting.com
W: www.awnconsulting.com

Re: Assessment of Seasonal Pond in relation to proposed Shanganagh Park Masterplan (Phase 1)

1.0 Objective of Report

The scope of this desktop review is to assess the potential for any likely significant effects as a result of the proposed development on water supply to the seasonal pond located south of the proposed redevelopment of lands at Shanganagh Park.

The assessment relies on information regarding design provided by Dun Laoighre Rathdown County Council and site assessment completed by Bryan Deegan of Altemar Ltd.

This report was prepared by Teri Hayes (BSc MSc PGeol EurGeol). Teri is a hydrogeologist with over 25 years of experience in water resource management and impact assessment. She has a Masters in Hydrogeology and is a former President of the Irish Group of the Association of Hydrogeologists (IAH) and has provided advisory services on water related environmental and planning issues to both public and private sector bodies. She is qualified as a competent person as recognised by the EPA (IGI Register of competent persons www.igi.ie). Her specialist area of expertise is water resource management eco-hydrogeology, hydrological assessment and environmental impact assessment

2.0 Summary of existing drainage and site conditions

The Geological Survey of Ireland (GSI) has identified the area of Shanganagh park as being underlain by Ordovician aged Maulin Formation slates and siltstones. The soil cover is 3-5 metres indicating “High” Vulnerability. Data from the geotechnical investigation (August 2021) shows a possible depth of c. 2 metres of overburden above bedrock in the south of the site, thickening towards the north of the site.

The Quaternary soils map indicates the presence of “Irish Sea Till” derived from Limestone. The closest investigation trial pits to the seasonal lake are TP08 and TP 07 (as shown on Figure 1 below).

A review of the trial pit logs shows that this area is underlain by:

Sandy gravelly Clay 0-1m below land surface (bls) overlying greyish brown sandy Gravel with high cobble content. Possible boulders or bedrock were encountered at 1.90 m and 2.6m respectively. Excavations were undertaken during a dry summer period and no water table was encountered at that time. Groundwater infiltration tests showed very low infiltration rates in the shallow clays.



Figure 1 Location of trial pits

A review of the historical mapping for the area shows the location of a drainage ditch fed by a spring (“rises”) to the west of the park (Figure 2) which may be a source of water supply to the seasonal lake during winter periods. However, there is no indication of connectivity from mapping or from a review of photographs (taken by B. Deegan April 2022).

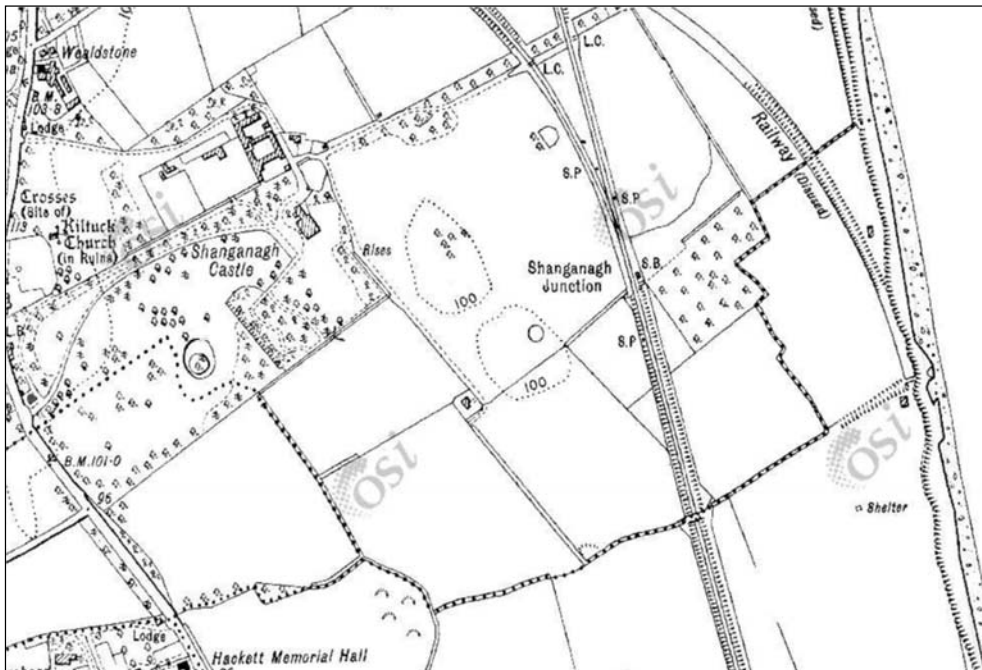


Figure 2 Cassini map dated 1930s

3.0 Review of Effects from the Proposed Development

A review of the proposed site drainage indicates a shallow drainage system comprising slit drains and perforated lateral drains across pitch areas directed to a bio-retention area via collector drains located around pitch perimeters (Figure 3).



Figure 3 Site Drainage – Drawing no DRP 2422-12

4.0 Conclusions

No development is proposed directly on the area of the seasonal pond or immediate surrounding area.

Site conditions indicate low drainage within the shallow soil requiring drainage to be installed for the proposed development. The nature of the proposed drainage as described in Figure 3 is that it collects recharge local to the area drained. As such there is little potential for impact outside of the footprint of the pitch etc.

There is no evidence that the drainage plan will divert any streams feeding the seasonal pond. Also, as the site will remain greenfield there is no overall change in the recharge pattern to the underlying soils or aquifer which would impact on any groundwater pathway to the pond.

Introduction

Between October 2021 and March 2022, a total of 12 winter bird surveys were conducted at Shanganagh Park, in Shankill, South County Dublin by Hugh Delaney, a freelance ecologist (Birds primarily) with an experienced background in bird surveying on numerous sites with ecological consultancies over 10+ years. Hugh, a lifelong birder, 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.

Site Location

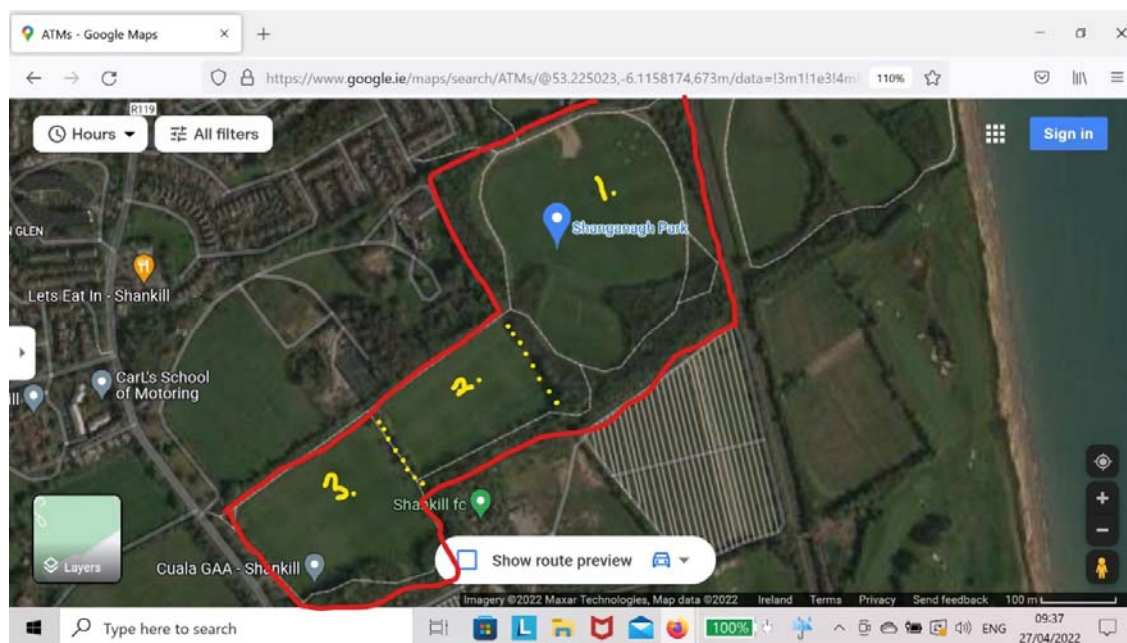


Figure 1 Shanganagh Park

Shanganagh Park survey recording area, subdivided into areas 1 (principal site survey area), and areas 2 and 3 (playing fields nearest the Bray Road), also other adjacent areas – the dog park area east of the railway, and the Shanganagh castle lands were also regularly checked during the surveys.

Site Description

Shanganagh Park comprises a mixed parkland of short grass playing fields, bordered by woodland and hedgerows. More extensive mature broadleaf woodland present to the south and east of area 1 especially.

Specific site survey methodology

Site area checked throughout the day with more specific emphasis on area 1 especially, with vantage point observations made from east and west sides of area alternately (c.1 hour on each side) during the survey

periods. Areas 2 and 3 also regularly checked during the surveys with checks made on adjacent lands and dog park area to the east of the railway.

Survey results

October 8th, 2021

Sunrise- 07.39hrs/Sunset 18.45hrs. Weather – Wind F4 Southeast, Cloud 8/8, occasional showers, 15c, Excellent visibility. On-site 07.45hrs – 16.30hrs.

Species recorded – Black-headed Gull, Herring Gull, Mediterranean Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Wren, Goldfinch, Siskin, Linnet, Woodpigeon, Dunnock, Pied Wagtail, Chiffchaff.

Observations from 07.45hrs – 12.00hrs –

In area 1 Jackdaw and Rook were recorded foraging in center of site the morning with peak counts 36 Jackdaw at 10.20hrs and 26 Rook at 11.05hrs. Smaller numbers (<15) Jackdaw and Rook (<10) almost continually foraging in area 1 throughout the morning, with occasional Hooded Crow (<3) and Magpie (<5) recorded. Adjacent woodland yielded a typical array of parkland species with 4 Tit species, Goldcrest, Song Thrush, Blackbird, Siskin etc. recorded. 8 Black-headed Gull were noted foraging at area 3 from 09.20-09.40hrs, areas 2 and 3 in recreational use no other foraging species were recorded there.

Observations from 12.00hrs – 16.30hrs –

Foraging flocks of Gulls noted in areas 2 and 3, Black-headed (<20), Mediterranean Gull (<1), Herring Gull (<5) noted foraging between areas 2 and 3 from 12.40-14.00hrs. Woodpigeon noted foraging in area 1 with a peak of 22 at 14.30hrs. Jackdaw numbers foraging in area 1 peaked at 34 at 15.05hrs and likewise Rook numbers foraging in area 1 peaked at 16 at 13.35hrs. Smaller numbers of corvids noted at other times in area 1 (<10) each of Jackdaw and Rook. No other target species recorded on-site or passing through the site.

October 29th, 2021

Sunrise- 08.18hrs/Sunset 17.58hrs. Weather – Wind F3 West, Cloud 8/8, Light showers, 11c, Excellent visibility. On-site 07.50hrs – 16.30hrs.

Species recorded – Black-headed Gull, Herring Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Wren, Goldfinch, Siskin, Linnet, Woodpigeon, Greenfinch, Dunnock, Pied Wagtail, Great Spotted Woodpecker, Buzzard.

Observations from 07.50hrs – 12.00hrs –

No target species foraging on areas 1-3 at sunrise, small numbers of Black-headed (<20) and Herring Gull (<10) noted passing west over the site moving inland from sunrise. A foraging Gull flock of Black-headed Gull (<30), Mediterranean Gull (<1) and Herring Gull (<1) noted in area 3 from 09.10-09.40hrs, disturbed off-site by dog walkers. At area 1 a foraging flock of Rook (<25) was noted from 09.30hrs-11.00hrs, with smaller numbers of Jackdaw (<10). A Great Spotted Woodpecker was located foraging in the southwest corner of area 1, a notable find of this recent colonizer from its Wicklow stronghold. A Buzzard was noted soaring over area 3 at 10.15hrs, no other target species located.

Observations from 12.00hrs – 16.30hrs –

Great Spotted Woodpecker again noted foraging in woodland at west side of area 1 at 12.15hrs. In area 1 Rook (<20), Jackdaw (<15), and Woodpigeon (<10) were noted foraging intermittently during the afternoon until 14.30hrs when recreational users disturbed the birds out of the area. At 13.00-13.40hrs Black-headed Gull (<15) and Herring Gull (<2) were noted foraging in area 3. No other target species recorded.

November 10th, 2021

Sunrise- 07.41hrs/Sunset 16.36hrs. Weather – Wind F1 South, Cloud 6/8, Dry, 12c, Excellent visibility. On-site 07.30hrs – 15.30hrs.

Species recorded – Black-headed Gull, Mediterranean Gull, Herring Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Mistle Thrush, Redwing, Wren, Goldfinch, Siskin, Linnet, Redpoll, Greenfinch, Woodpigeon, Dunnock, Pied Wagtail, Great Spotted Woodpecker, Skylark, Buzzard.

Observations from 07.30hrs – 12.00hrs –

Increase noted of Gull foraging activity compared with previous visits with Black-headed Gull (<125), Herring Gull (<14) and Mediterranean Gull (<1) foraging at area 3 from 07.35-09.00hrs. A Buzzard was noted foraging in area 2 on ground from 07.40-08.00hrs, also Black-headed Gull (<18) in same area. Foraging Gull flock in area 3 decreasing to 35 Black-headed Gull at 09.15hrs, then all birds moving off-site. In area 1 Black-headed Gull (<75) and Herring Gull (<1) were noted roosting in center of site from 09.15-09.50hrs. A Skylark was noted passing over area 3 at 09.07hrs. By 10.30hrs no foraging Gulls were noted in areas 1-3 with an increase in recreational activity public usage on-site. The Great Spotted Woodpecker was noted again at the southwest corner of area 1 foraging in trees at 10.15hrs. A Raven was noted flying northwest over area 2 at 11.04hrs.

Observations from 12.00hrs – 15.30hrs –

(<10) Black-headed Gull noted foraging in area 1 from 12.10-12.40hrs. No further Gulls noted foraging in area 1, Rook (<18 peak count) and Jackdaw (<7 peak count) noted foraging in area 1 intermittently during afternoon. In area 3 Black-headed Gull (<15) and Herring Gull were noted foraging from 13.15-14.00hrs. Small numbers (<10) of Redwing noted passing north and west over the site in afternoon.

November 19th, 2021

Sunrise- 07.59hrs/Sunset 16.23hrs. Weather – Wind F2 Southwest, Cloud 6/8, Dry, 11c, Excellent visibility. On-site 08.30hrs – 17.15hrs.

Species recorded – Black-headed Gull, Mediterranean Gull, Herring Gull, Robin, Goldcrest, Blue Tit, Great Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Mistle Thrush, Wren, Goldfinch, Siskin, Bullfinch, Woodpigeon, Dunnock, Pied Wagtail, Meadow Pipit, Buzzard.

Observations from 08.30hrs – 12.00hrs –

Rook (<30 peak count) and Jackdaw (<15 peak count) noted foraging in area 1 from 09.10-11.00hrs. Small foraging flocks of Woodpigeon noted in area 1 from 10.15-11.00hrs (<8) and another flock of Woodpigeon (<10) in area 2 from 10.45-11.15hrs. A Buzzard was noted soaring over area 1 at 11.20hrs. Small numbers (<5) of Meadow Pipit noted passing over the site.

Observations from 12.00hrs – 17.15hrs –

From 13.30-14.15hrs Black-headed Gull (<6), Rook (<26) and Jackdaw (<5) were noted foraging in area 1. Black-headed Gulls (<16) again noted foraging in area 1 from 15.00-15.25hrs. In area 3 a foraging flock of Black-headed Gulls from 14.15hrs to 15.10hrs peaked at 57 birds at 14.42hrs accompanied by 2 Mediterranean Gulls. A Herring Gull was noted foraging in area 1 from 15.20-15.50hrs. A late stay to dark on-site to attempt to locate Woodcock or Owl species found neither. No other target species located.

December 3rd, 2021

Sunrise- 08.20hrs/Sunset 16.09hrs. Weather – Wind F2 West, Cloud 6/8, Dry, 6c, Excellent visibility. On-site 08.30hrs – 15.30hrs.

Species recorded – Black-headed Gull, Herring Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Mistle Thrush, Redwing,

Wren, Goldfinch, Siskin, Redpoll, Bullfinch, Woodpigeon, Dunnock, Pied Wagtail, Meadow Pipit, Buzzard, Sparrowhawk, Great Spotted Woodpecker.

Observations from 08.30hrs – 12.00hrs –

At area 1 a foraging flock of Gulls in the center of the site from 09.20-10.30hrs comprised Black-headed Gull (<12) and Herring Gulls (<3), the birds flushed off-site by recreational users. A Sparrowhawk passed south over area 2 at 10.45hrs. In area 3 a foraging flock of Gulls from 11.00-12.10hrs comprised Black-headed Gull (<22) and Herring Gull (<2). The Great Spotted Woodpecker was again located at the west side of area 1 foraging in trees at 09.50hrs and again at 10.40hrs. Two Buzzard were noted soaring over woodland at the south side of area 1 at 10.15hrs.

Observations from 12.00hrs – 15.30hrs –

In area 1 no gulls were noted foraging in the afternoon with peak counts of Rook at 14.05hrs (<32) and a peak count of Jackdaw at 13.35hrs (<17). Small numbers (<10) of Woodpigeon also noted in area 1 intermittently during the afternoon. Redwing (<5) were noted foraging on the west side of area 2 at 12.45rs, accompanied by Mistle Thrush (<3), Blackbird (<6) and Song Thrush (<4). In area 3 a foraging flock of Black-headed Gull (<25) was present from 13.00-14.15hrs. Redpoll (<6) and Siskin (<10) were noted in foraging in woodland at the south side of area 1 at 14.30hrs. No other target species recorded.

December 19th, 2021

Sunrise- 08.37hrs/Sunset 16.07hrs. Weather – Wind F2 East, Cloud 5/8, Dry, 5c, Excellent visibility. On-site 08.45hrs – 15.15hrs.

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

Observations from 08.45hrs – 12.00hrs –

At area 1 only corvids and Woodpigeon were noted foraging in the area with a peak count of 30 Rook at 09.40hrs and 22 Jackdaw at 10.15hrs, small numbers of Woodpigeon (<10) noted foraging intermittently during the morning mainly at the west side of site. Black-headed Gulls (<6) noted foraging in area 2 from 10.10-10.40hrs. No other Gull flock noted with all pitches and green spaces in heavy recreational use.

Observations from 12.00hrs – 15.15hrs –

Two Buzzard were noted soaring over area 2 at 12.15hrs drifting south. In area 3 Black-headed Gull (<15) were noted foraging from 14.05-14.25hrs. In area 1 small numbers of Rook (<15) and Jackdaw (<8) noted foraging intermittently during the afternoon. A Sparrowhawk was noted hunting at the south side of area 1 at 13.20hrs. No other target species recorded.

January 8th, 2022

Sunrise- 08.37hrs/Sunset 16.26hrs. Weather – Wind F3 West, Cloud 7/8, Light showers, 6c, Excellent visibility. On-site 09.00hrs – 15.30hrs.

Species recorded – Black-headed Gull, Mediterranean Gull, Herring Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Redwing, Mistle Thrush, Wren, Goldfinch, Linnet, Siskin, Redpoll, Bullfinch, Greenfinch, Woodpigeon, Dunnock, Pied Wagtail, Buzzard.

Observations from 09.00hrs – 12.00hrs-

At area 3 a foraging flock of Gulls from 09.20-10.45hrs comprised Black-headed Gull (<55), Mediterranean Gull (<2) and Herring Gull (<4). No Gulls noted foraging at area 1 with peak counts of Rook (<18) at 11.10hrs

and Jackdaw (<11) at 11.30hrs recorded. A Buzzard was noted foraging on the pitch at area 2 from 11.20-11.35hrs. Woodpigeon noted foraging in area 1 with a peak count of 16 at 11.40hrs.

Observations from 12.00hrs – 15.30hrs –

A small flock of roosting Gulls noted resting in the center of area 1 from 12.40-13.30hrs comprised Black-headed (<15) and Herring Gulls (<2), the birds flushed off-site by dog walkers. Redwing (<15) noted foraging in area 2 at 13.45-14.10hrs. Two Buzzard were noted soaring over the south side of area 1 at 14.15hrs. A foraging flock of Black-headed Gulls (<20) were noted in area 3 from 14.55-15.40hrs. No other target species recorded.

January 29th, 2022

Sunrise- 08.14hrs/Sunset 17.02hrs. Weather – Wind F4 West, Cloud 5/8, Dry, 8c, Excellent visibility. On-site 08.30hrs – 16.00hrs.

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

Observations from 08.30hrs – 12.00hrs –

At area 1 Black-headed Gull (<6) and Herring Gull (<3) were noted foraging in the center of the site from 09.15-10.10hrs. Small numbers of Rook (<15) and Jackdaw (<12) noted foraging intermittently at area 1 during the morning with occasional Hooded Crow (<4) also present. At area 3 a foraging flock of Gulls from 10.15-11.20hrs comprised Black-headed (<25) and Herring Gulls (<3). One Buzzard was noted soaring over the south side of area 1 at 11.45hrs.

Observations from 12.00hrs – 16.00hrs –

No Gulls noted foraging at area 1 in the afternoon and only between 13.30hrs-13.50hrs at area 3 (<5) Black-headed Gull, heavy recreational activity throughout park for the duration of the afternoon. Woodpigeon (<5) noted foraging at area 1 intermittently during the afternoon. Two Buzzard noted soaring over the south side of area 2 at 14.15hrs. Two Raven passed south over area 1 at 15.05hrs. No other target species recorded.

February 9th, 2022

Sunrise- 07.55hrs/Sunset 17.24hrs. Weather – Wind F3 West, Cloud 3/8, Dry, 8c, Excellent visibility. On-site 09.30hrs – 17.15hrs.

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

Observations from 09.30hrs – 12.00hrs –

No foraging Gull flocks noted at areas 1-3 all morning with occasional Black-headed and Herring Gulls passing over the site only. At area 1 from 11.15-13.00hrs Rook (<20) and Jackdaw (<10) were noted foraging, small numbers (<10 of each) noted intermittently thereafter. A Buzzard was noted soaring over the east side of area 1 at 11.15hrs. Woodpigeon (<5) noted foraging at area 2 from 10.15-10.40hrs.

Observations from 12.00hrs – 17.15hrs –

Park very busy during afternoon with again no Gulls noted foraging in areas 1-3. Redwing (<13) noted foraging in area 2 from 15.00-15.30hrs, associating with Blackbird (<5) and Song Thrush (<3). A Buzzard was noted soaring at the east side of area 1 at 15.42hrs. No other target species recorded.

February 26th, 2022

Sunrise- 07.19hrs/Sunset 17.57hrs. Weather – Wind F3 South, Cloud 5/8, Dry, 9c, Excellent visibility. On-site 07.45hrs – 16.00hrs.

Species recorded – Black-headed Gull, Herring Gull, Lesser black-backed Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Mistle Thrush, Wren, Goldfinch, Linnet, Siskin, Greenfinch, Bullfinch, Woodpigeon, Starling, Stock Dove, Dunnock, Pied Wagtail, Buzzard.

Observations from 07.45hrs – 12.00hrs –

At area 1 small numbers of corvids were present throughout the morning with a peak count of Rook at 10.25hrs (<18) and Jackdaw at 11.00hrs (<9). Rooks were noted tending 6 nests in woodland at the northeast corner of area 1 near bridge over rail line. No Gulls were noted foraging in area 1 with small numbers of Woodpigeon (<10) foraging intermittently in the area. A Stock Dove was noted at the south side of area 1 at 08.40hrs. At area 2 Black-headed Gulls (<4) were noted foraging from 11.30-11.45hrs. No other target species located.

Observations from 12.00hrs – 16.00hrs –

At area 3 a foraging flock of Gulls from 12.15-13.45hrs comprised Black-headed Gulls (<16) and Herring Gulls (<3). Two Lesser black-backed Gull were noted passing north over area 2 at 14.10hrs. In area 1 corvids remained foraging intermittently during the afternoon with Rook (peak count of 15) and Jackdaw (peak count of 10) noted. Small numbers of Woodpigeon noted in area 1 with a peak of 8 foraging at 14.50hrs. A Buzzard was noted foraging over area 3 at 15.15rs. No other target species located.

March 11th, 2022

Sunrise- 06.47hrs/Sunset 18.22hrs. Weather – Wind F3 South, Cloud 4/8, Dry, 12c, Excellent visibility. On-site 08.45hrs – 16.30hrs.

Species recorded – Black-headed Gull, Herring Gull, Lesser black-backed Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush, Mistle Thrush, Redwing, Wren, Goldfinch, Linnet, Siskin, Greenfinch, Bullfinch, Woodpigeon, Dunnock, Pied Wagtail, Buzzard.

Observations from 08.45hrs – 12.00hrs –

In area 1 Black-headed Gull (<5) were noted foraging in the center area from 09.45-10.15hrs. Small numbers of Rook (<18 max count) and Jackdaw (<10) foraging intermittently in area 1 during the morning, Rooks noted to continue to attend 6 nests near footbridge over rail line in the northeast corner of area 1. At area 3 a foraging flock of Black-headed Gull (<40), Herring Gull (<2) and Lesser black-backed Gull was noted from 10.30hrs-11.40hrs when the birds were flushed off-site. A Buzzard was noted foraging in area 2 at 11.50hrs.

Observations from 12.00hrs – 16.30hrs –

At area 3 from 12.25hrs-15.40hrs Black-headed Gulls peaked at 45 birds at 14.55hrs, also Herring Gull (<8) in same area, heavy overnight rain causing spot flooding attracting the birds to forage more continually in the area. No foraging Gulls noted at area 1 with Rooks and Jackdaw continuing to forage there in small numbers, like that which was recorded in the morning. A nesting colony of Rook was located at the southeast corner of area 3 in woodland south of the small footbridge, comprising 8 nests. No other target species recorded.

March 27th, 2022

Sunrise- 07.10hrs/Sunset 19.51hrs. Weather – Wind F1 East, Cloud 6/8, Dry, 7c, Excellent visibility. On-site 08.15hrs – 16.45hrs.

Species recorded – Black-headed Gull, Herring Gull, Lesser black-backed Gull, Robin, Goldcrest, Blue Tit, Great Tit, Coal Tit, Long-tailed Tit, Jackdaw, Rook, Magpie, Hooded Crow, Chaffinch, Blackbird, Song Thrush,

Mistle Thrush, Starling, Wren, Goldfinch, Linnet, Siskin, Redpoll, Greenfinch, Bullfinch, Woodpigeon, Stock Dove, Dunnock, Pied Wagtail, Sparrowhawk, Buzzard.

Observations from 08.15hrs – 12.00hrs –

At area 1 Black-headed Gulls (<11) and Herring Gull (<2) were noted foraging from 08.50-09.20hrs (disturbed off-site by dog walkers). Small numbers of Woodpigeon (<15) also recorded foraging during the morning intermittently. Rooks peaked in number at 10.20hrs with 26 birds recorded with small numbers (<10) of Jackdaw also present. Two Buzzard were observed soaring over the southeast corner area 1 at 9.40hrs and 11.10hrs. No Gulls were noted foraging in areas 2 or 3 during the morning. A Sparrowhawk was noted hunting along the east side of area 2 at 11.45hrs.

Observations from 12.00hrs – 16.45hrs –

No Gulls were noted foraging at area 1 during the afternoon with Rooks (<20) and Jackdaw (<15) recorded intermittently. A peak of 18 Woodpigeon were noted foraging at the south side of area 1 at 13.15hrs. At area 3 Black-headed Gull (<13) and Herring Gull (<4) were recorded foraging from 14.10-14.40hrs. Lesser black-backed Gull (<5) were noted passing north over the site (likely spring migrants). Rooks were still attending the nesting sites at areas 3 and 1. No other target species were recorded.

Comments and observations on the survey results

37 bird species were recorded in Shanganagh Park during the 12 winter bird surveys. The species diversity being a typical representation of that which might be expected in a suburban Dublin parkland context. 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) Redwing was recorded. A Great Spotted Woodpecker recorded in the first half of the surveys was noteworthy, likely emanating from the expanding Wicklow population. Three gull species listed in the amber wintering species category were recorded, these being Black-headed, Herring and Lesser black-backed Gull.

On the pitches and playing areas the species foraging frequently were dominated by Black-headed Gulls (counts averaging < 50 to <100) and to a lesser extent, Herring Gulls, the pitches closest to the Bray Road being most preferential. Other species foraging in these areas were dominated by Corvid species, specifically Rook (nesting in the park) and Jackdaw with smaller numbers of Hooded Crow and Magpie. The species diversity recorded within the park in the survey period was quite typical of that expected in a suburban Dublin context with a range of passerine species found in the patches of woodland around the park – Species like Thrushes (Song and Mistle Thrush and Blackbird), Robin, Dunnock, Wren, Tit species, Finches such as Chaffinch, Bullfinch, Goldfinch etc, and Goldcrest. A Great Spotted Woodpecker recorded early in the winter was notable (a species expanding its range from recent colonisation in Wicklow).

The results suggest that the site is not a significant ex-situ foraging or roosting site for any species of qualifying interest from nearby SPA's. Close monitoring of the pitches did not record any visitations whatsoever of Brent Geese or wader species (in a Dublin context that would be Curlew, Oystercatcher and Black-tailed Godwit). Consultation with locals regularly visiting the park and birders living nearby the surveyor is familiar with and concluded (albeit anecdotal information) that such species have not been seen within the park in recent years. Despite large areas of grass playing areas the site is nonetheless very heavily visited by recreational users (walkers, dog walkers etc.) and this is likely a disincentive to the aforementioned species visiting the site.

Appendix IV. NPWS Consultation

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage



Planning Ref: PC/PKS/03/2021
(Please quote in all related correspondence)

1st February 2022

Director of Services – Planning
Dún Laoighre Rathdown County Council
Marine Road
Dún Laoighre
Co. Dublin
A96 K6C9

Via email: parcsconsultations@DLRCOCO.IE

Re: Notification under Article 28 (Part 4) or Article 82 (Part 8) of the Planning and Development Regulations, 2001, as amended.

Proposed Development: Part 8 application for a proposed development at Shanganagh Park (Phase 1).

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Nature Conservation

Having studied the documentation supporting this development proposal this Department notes and welcomes that the design of the flood lighting to be installed on the new hurling/ football pitches to be constructed as part of part of the current proposal has been modified be more ‘bat friendly’ by minimising light pollution. The timing of the periods when the flood lighting will be in use so as to limit its impacts on bats is also welcomed. The adoption of these measures to mitigate the effects of the proposed scheme on bats is particularly valuable because a significant soprano pipistrelle bat roost is believed to be present in ‘The Court’ part of the St. Anne’s Park residential estate immediately to the north east of the area which is the subject of the present development proposal, and the bats from this roost probably mainly feed over the section of Shanganagh Park to the east between the railway and the sea.

Aonad na nIarratas ar Fhorbairt

Development Applications Unit

Oifigí an Rialtais

Government Offices

Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90



It is also noted that while the presence of smooth newt is referred to in the Ecological Impact Assessment (EclA) supporting the current proposal, this document does not mention the presence of a seasonal pond which is used by smooth newts for breeding in a depression located in an area of woodland within the park just to the south east of where it is intended to develop the combined cricket and baseball pitch and immediately to the south of and on the cemetery of the footpath in this area. This omission is not surprising, because the survey work for the EclA was carried out over the summer of 2021, when because of minimal rainfall the seasonal pond in the depression remained dry. As a result almost certainly no breeding by smooth newts occurred at this site in 2021, but in previous years both newt adults and larvae have been observed in the seasonal pond as well as frog spawn and tadpoles. It is therefore the breeding place of two amphibian species protected under the Wildlife Acts, 1976 to 2020. There is the possibility that the currently proposed development might affect the hydrology of the seasonal pond/depression and this matter requires investigation.

In connection with the planned development of the adjacent Shanganagh Castle lands for housing by the Land Development Agency, survey work been carried out in recent years has identified the presence of a small number of smooth newts during their breeding season in a ditch within Shanganagh Park immediately south of the park's boundary with the Shanganagh Castle lands and between the boundary and a parallel tarmac path leading from the area to be developed under the current proposals west to the Bray Road. Unfortunately artificial lighting was installed along this path which may in future inhibit the use of the ditch beside it for breeding purposes by the smooth newts. In view of the possible negative impacts of the recently installed lighting and the current development proposal on the smooth newts (and frogs) in Shanganagh Park, this Department recommends that an Amphibian Conservation Plan should be drawn up for Shanganagh Park by Dún Laoghaire-Rathdown County Council, this plan to include to provide for investigations of the present status of smooth newts and frogs in Shanganagh Park, provide for investigation of the hydrology of the seasonal pond referred to above and measures to maintain the use by smooth newts as a breeding site of the ditch along the boundary with the Shangabnagh Castle lands. Provision of a small artificial pond in the vicinity of the seasonal pond to provide a secure long term breeding site for smooth newts and frogs should also possibly be included in this plan.

The provision of a new access ramp to the footbridge which leads east across the railway from the area of the proposed development towards the sea is included in the current development proposals. It is intended to construct this new ramp up to the footbridge from the south immediately adjacent to the railway line through an area of rank grassland colonised by scrub which was formerly owned by CIE. This area contains the remains of a section of the old Harcourt Street railway line embankment which joined the mainline railway just to the south and a triangle of land which previously lay between the two railway lines. This scrub area is regularly used by whitethroats and reed buntings for nesting, which do not otherwise nest in Shanganagh Park, except possibly along its seaward boundary. Stonechat formerly nested in this area as well and possibly still do. Other nesting birds also occur here. The presence of pygmy shrew (a protected species) was in addition noted here in the past and it almost certainly is still present. This area is botanically diverse too with numerous grasses and other flowering plants present.



On account of the high biodiversity value of the triangular area south of the footbridge, this Department recommends that the proposal to construct a new ramp up to the footbridge from the south should be omitted from the current development proposals. Instead the existing ramp to the footbridge from the east could be regraded. It is recommended the proposal for an adventure playground to the south of the present ramp in the triangular area should also be dropped.

You are requested to send further communications to this Department's Development Applications Unit (DAU) at manager@housing.gov.ie where used, or to the following address:

The Manager
Development Applications Unit (DAU)
Government Offices
Newtown Road
Wexford
Y35 AP90

Is mise, le meas

Simon Dolan
Development Applications Unit
Administration