

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



28<sup>th</sup> April 2022

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

**On behalf of:** Dún Laoghaire Rathdown County Council.

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**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	28 <sup>th</sup> April 2022		
Project No:	Document Reference:		
Version	Author	Reviewed	Date
Draft A	Bryan Deegan	Jack Doyle/Eoin O’Brien	6 <sup>th</sup> December 2021
Draft B	Bryan Deegan		7 <sup>th</sup> December 2021
Final	Bryan Deegan		28 <sup>th</sup> April 2022

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# 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 Shanganagh 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 guidelines have been used in preparation of this EclA:

- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002);
- Draft Guidelines on the information to be contained in EIARs (2018);
- 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.

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, the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 27 years’ experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole “External Expert” to environmentally assess internal and external projects. 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 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 Pitches:**

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 two pitches with falls and crossfalls. The topsoil will then be placed on the final levels and sand will be ameliorated into the surface. A warm-up area will also be located north of the proposed pitches between them and the sprint track.

#### **Cricket & Baseball Facilities:**

The cricket and baseball facilities will be amalgamated to an area to the south of the proposed pitches where the cricket pitch stands currently. This will include a standard baseball field with synthetic surface 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 include a storage area, a perimeter path and weldmesh fencing at a height of 1.2m.



0 1 2 3 4 5 km

Project: Shanganagh Park  
 Location: Dun Laoghaire, Co. Dublin  
 Date: 1st December 2021  
 Drawn By: Bryan Deegan (Altamar)

**ALTEMAR**  
 Marine & Environmental Consultancy



**Figure 1.** Proposed site outline and location

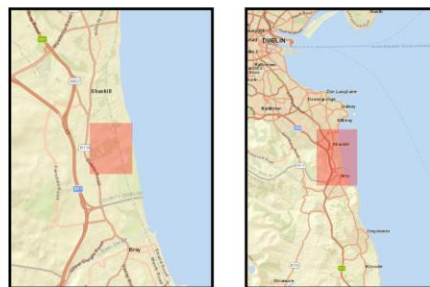


Site Outline  
 Site Access

0      100      200      300      400      500 m

Project: Shanganagh Park  
 Location: Dun Laoghaire, Co. Dublin  
 Date: 1st December 2021  
 Drawn By: Bryan Deegan (Altamar)

**ALTEMAR**  
 Marine & Environmental Consultancy



**Figure 2. Proposed site outline**

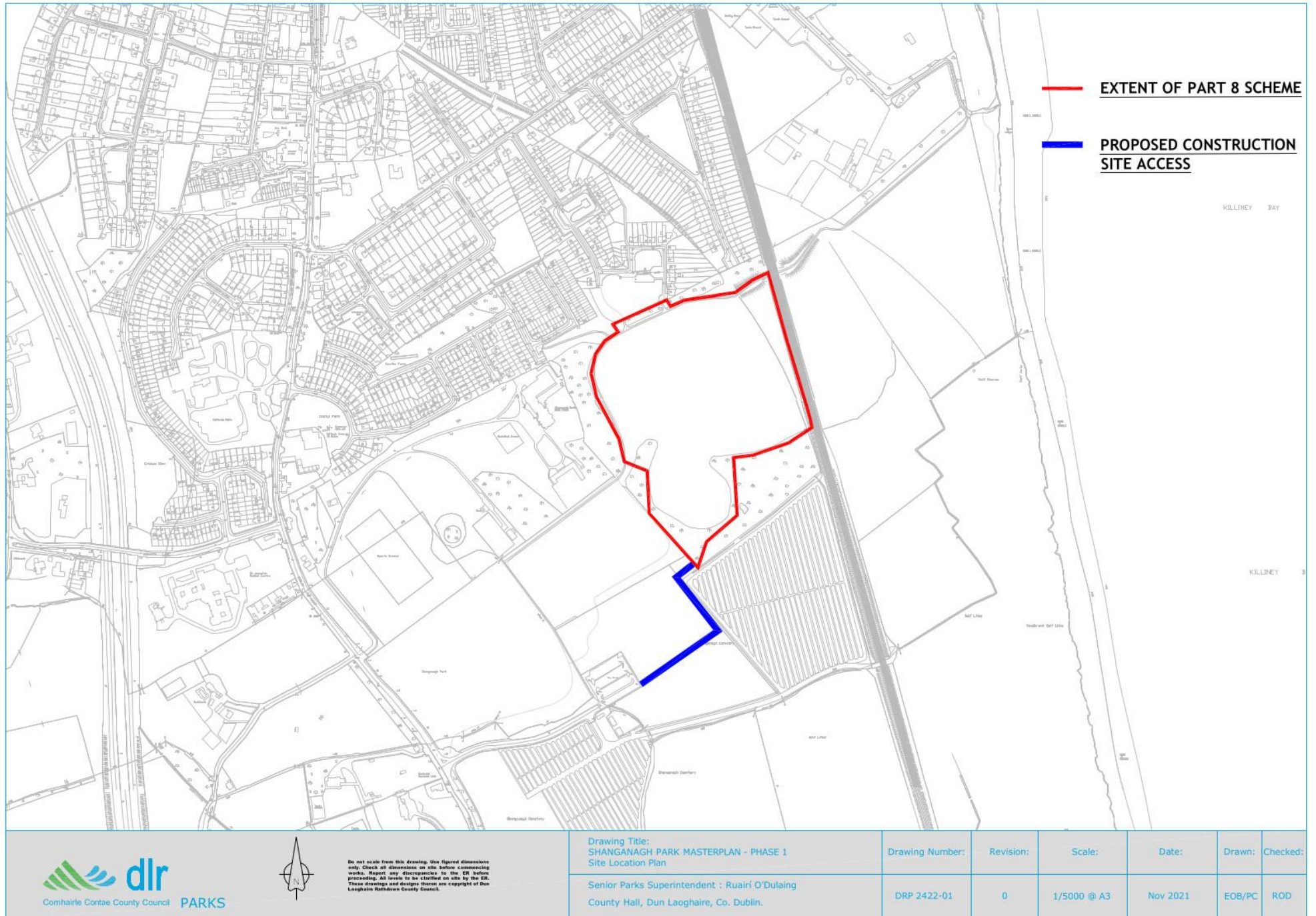
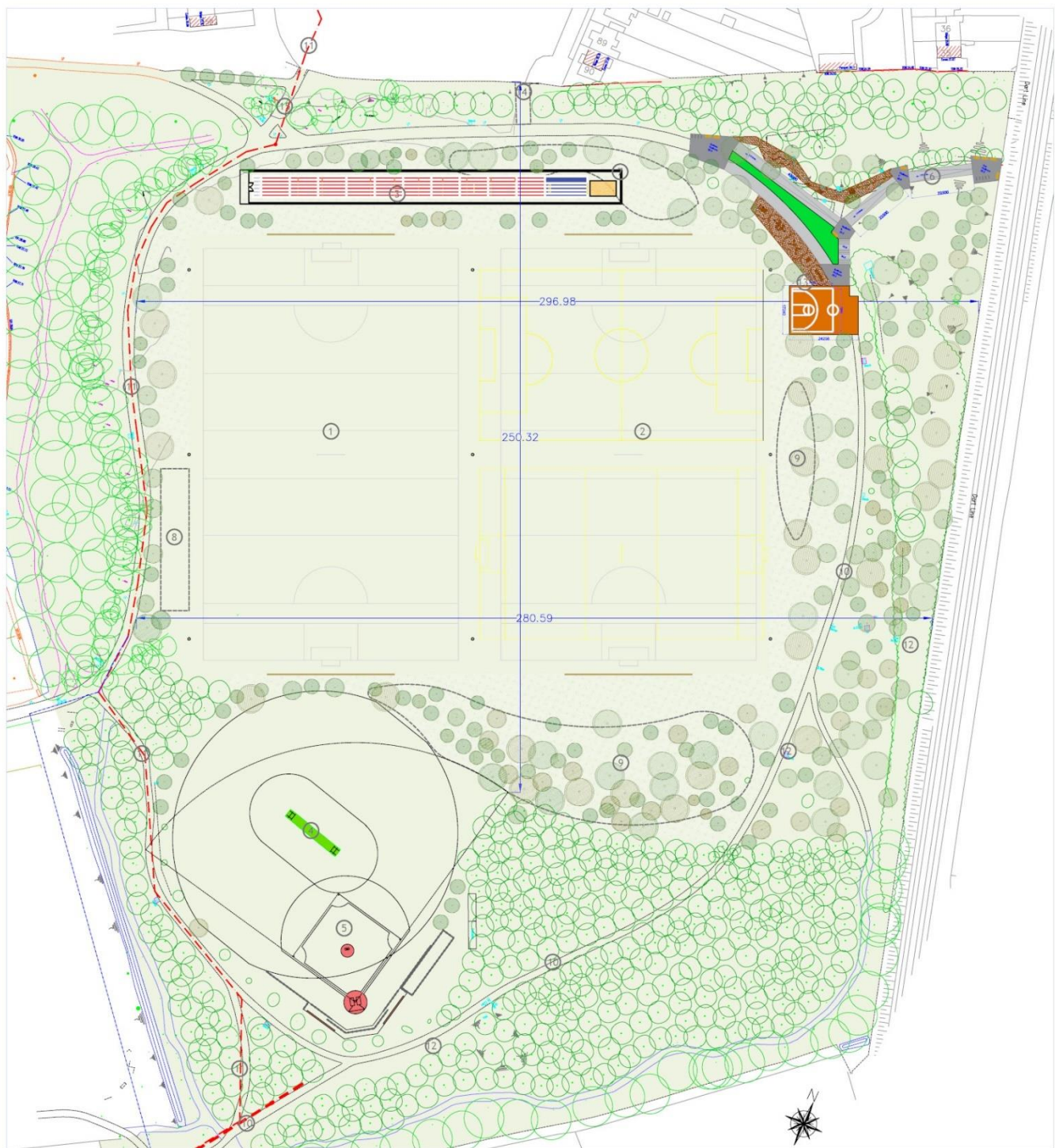


Figure 3. Site location plan





**LEGEND:**

-  **EXISTING TREES**  
TO BE PROTECTED AND RETAINED
-  **PROPOSED TREE PLANTING:**  
TO IMPROVE WILDLIFE CORRIDORS AND BIODIVERSITY
-  **PROPOSED MEADOWS:**  
AROUND PERIMETER OF PITCHES

**LEGEND:**

1. 145x90m NATURAL GRASS PITCH WITH FLOODLIGHTING AND BALLSTOP NETTING (for details see drawing 2422-03)
2. 145x100m NATURAL GRASS PITCH WITH FLOODLIGHTING, BALLSTOP NETTING WITH POTENTIAL FOR FUTURE 2 x CROSSFIELD PITCHES (for details see drawing 2422-03)
3. ATHLETICS FACILITIES: 6 LANE 100m SYNTHETIC SPRINT TRACK WITH FLOODLIGHTING, LONG/TRIPLE JUMP/HURDLES FACILITIES (for details see drawing 2422-03)
4. CRICKET CREASE WITH 65YRD BOUNDARY LINE (for details see drawing 2422-04)
5. BASEBALL FIELD 90 DIMENSIONED DIAMOND (for details see drawing 2422-04)
6. BRIDGE CROSSING WITH IMPROVED ACCESS INCORPORATING NATURAL PLAY, SEATING, BIKE STANDS, ETC (for details see drawing 2422-05)
7. DRAINAGE/ATTENUATION AREA: BIO-RETENTION AREA FOR WATER TO INFILTRATE INTO THE GROUND (for details see drawing 2422-12)
8. WARM UP: FOR PRE-MATCH DRILLS, ETC
9. MOUNDS: FOR VIEWING MATCHES
10. PATHS: WIDEN TO MIN 3m
11. FOUL SEWER: AROUND THE WESTERN PERIMETER OF THE PITCHES (by others)
12. RISING MAIN: AROUND THE EASTERN PERIMETER OF THE PITCHES (by others)
13. CALLISTHENICS: CALLISTHENIC AND HALF COURT BASKETBALL AREA (for details see drawing 2422-05)
14. SERVICES: WATER, SURFACE WATER, ESB (INCL. SUB-STATION)
15. ENTRANCE: UPGRADE AND PROVIDE BIKE PARKING



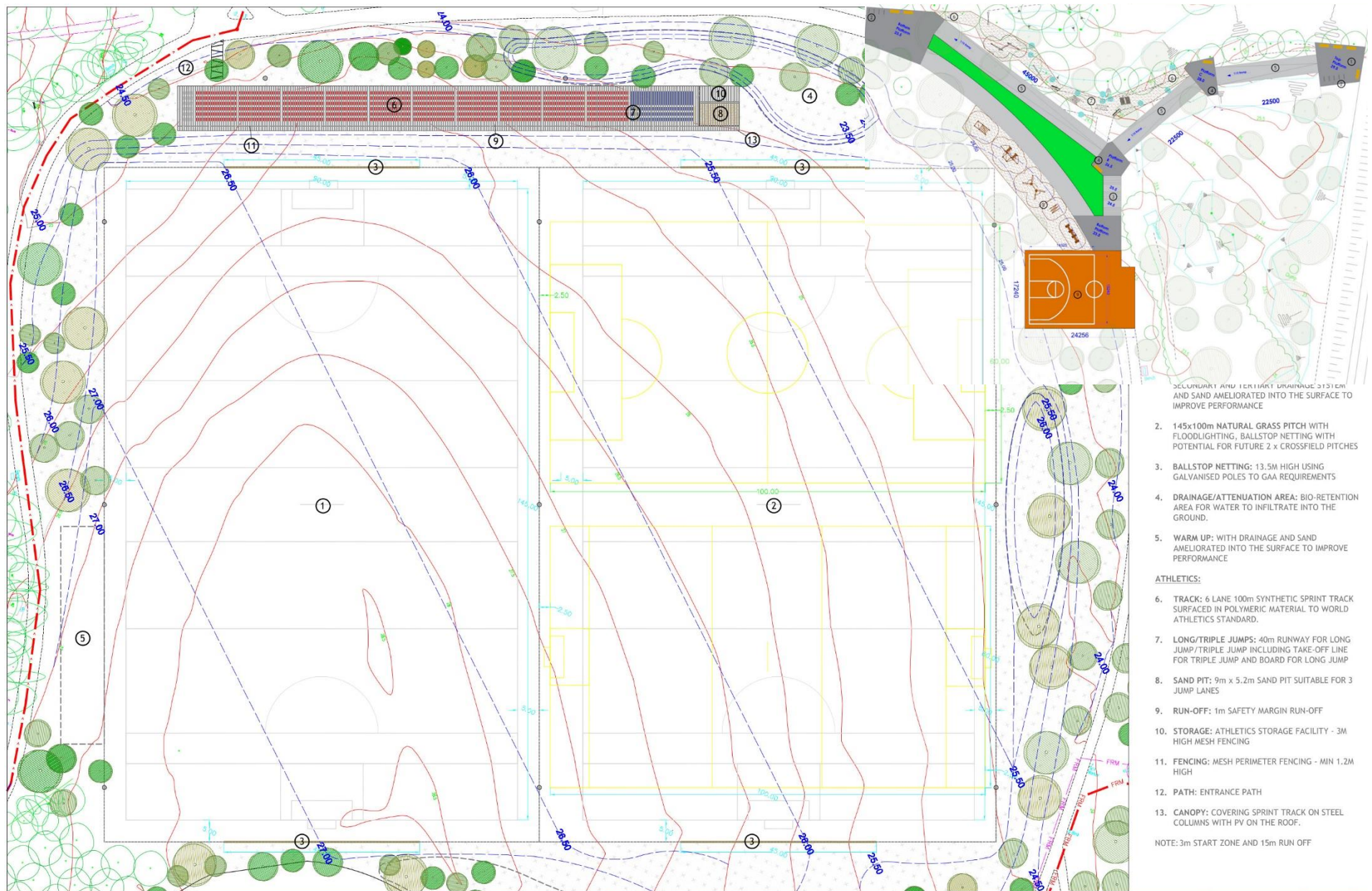
Do not scale from this drawing. Use figured dimensions only. Check all dimensions on site before commencing works. Report any discrepancies to the ER before proceeding. All levels to be checked on site by the ER. These drawings and designs thereof are copyright of Dun Laoghaire Rathdown County Council.

Drawing Title:  
**SHANGANAGH PARK MASTERPLAN - PHASE 1**  
General Arrangement

Senior Parks Superintendent : Ruairi O'Dulaing  
County Hall, Dun Laoghaire, Co. Dublin.

Drawing Number:	Revision:	Scale:	Date:	Drawn:	Checked:
DRP 2422-02	A	1/750 A1	April 2022	EOB/PC	ROD

**Figure 4. General arrangement plan**



- SECONDARY AND TERTIARY DRAINAGE SYSTEM AND SAND AMELIORATED INTO THE SURFACE TO IMPROVE PERFORMANCE
- 145x100m NATURAL GRASS PITCH WITH FLOODLIGHTING, BALLSTOP NETTING WITH POTENTIAL FOR FUTURE 2 x CROSSFIELD PITCHES
  - BALLSTOP NETTING: 13.5M HIGH USING GALVANISED POLES TO GAA REQUIREMENTS
  - DRAINAGE/ATTENUATION AREA: BIO-RETENTION AREA FOR WATER TO INFILTRATE INTO THE GROUND.
  - WARM UP: WITH DRAINAGE AND SAND AMELIORATED INTO THE SURFACE TO IMPROVE PERFORMANCE
- ATHLETICS:**
- TRACK: 6 LANE 100m SYNTHETIC SPRINT TRACK SURFACED IN POLYMERIC MATERIAL TO WORLD ATHLETICS STANDARD.
  - LONG/TRIPLE JUMPS: 40m RUNWAY FOR LONG JUMP/TRIPLE JUMP INCLUDING TAKE-OFF LINE FOR TRIPLE JUMP AND BOARD FOR LONG JUMP
  - SAND PIT: 9m x 5.2m SAND PIT SUITABLE FOR 3 JUMP LANES
  - RUN-OFF: 1m SAFETY MARGIN RUN-OFF
  - STORAGE: ATHLETICS STORAGE FACILITY - 3M HIGH MESH FENCING
  - FENCING: MESH PERIMETER FENCING - MIN 1.2M HIGH
  - PATH: ENTRANCE PATH
  - CANOPY: COVERING SPRINT TRACK ON STEEL COLUMNS WITH PV ON THE ROOF.
- NOTE: 3m START ZONE AND 15m RUN OFF

 Comhairle Contae County Council PARKS	 <small>Do not scale from this drawing. Use figured dimensions only. Check all dimensions on site before commencing works. Report any discrepancies to the ER before proceeding. All levels to be clarified on site by the ER. These drawings and designs therein are copyright of Dun Laoghaire Rathdown County Council.</small>	Drawing Title: SHANGANAGH PARK MASTERPLAN - PHASE 1 Pitches & Sprint Track Layout Plan	Drawing Number:	Revision:	Scale:	Date:	Drawn:	Chk
		Senior Parks Superintendent : Ruairi O'Dulaing County Hall, Dun Laoghaire, Co. Dublin.	DRP 2422-03	DRAFT 2	1/400 @ A1	Oct 2021	EOB/PC	R

Figure 5. Pitches and sprint track layout plan

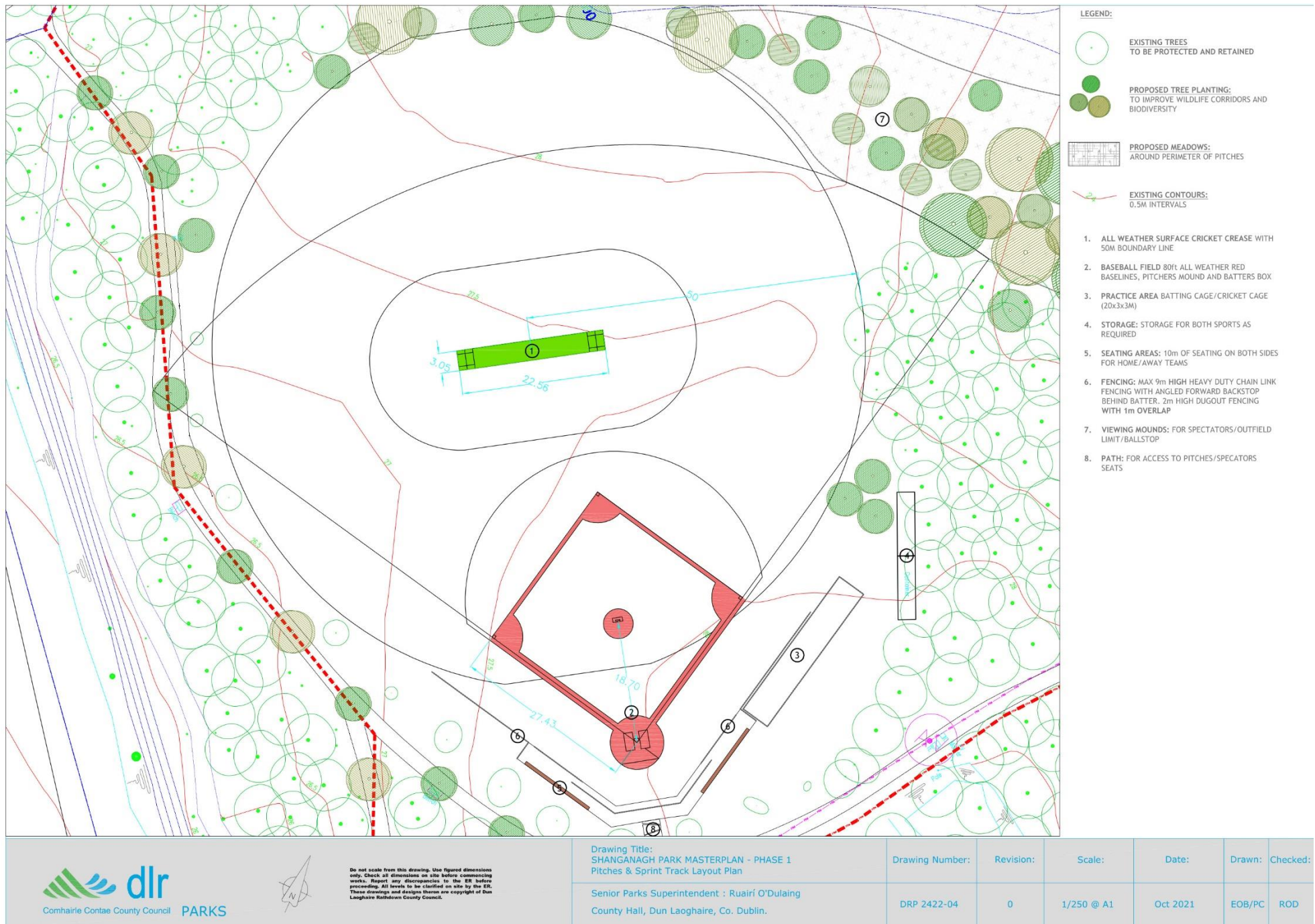


Figure 6. Baseball and cricket pitch

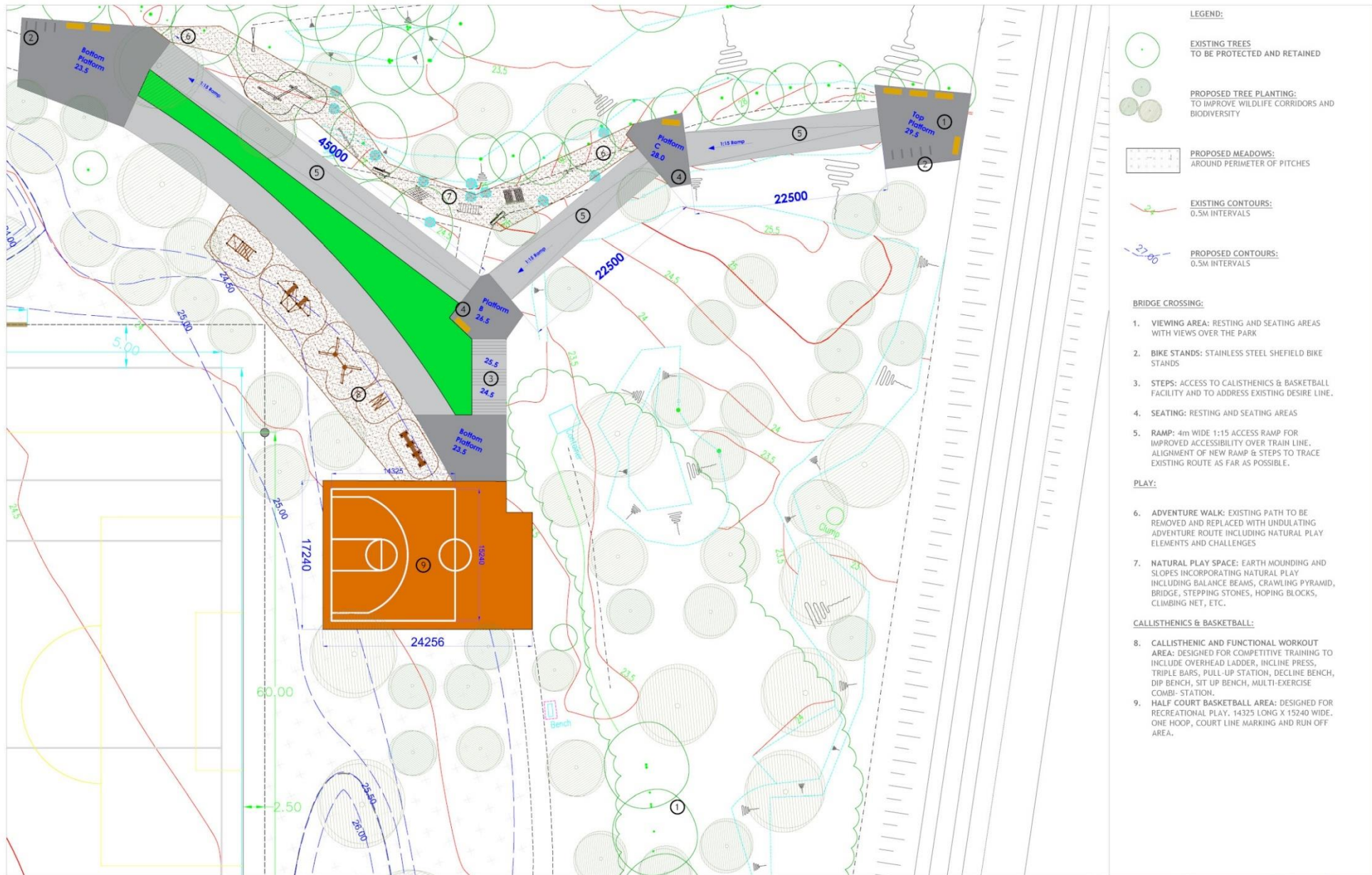


Figure 7. Bridge crossing and calisthenics area



Figure 8. Arboricultural assessment (incl. DLR markup)

## Floodlighting

Details of the proposed lighting plan for the development at Shanganagh Park are demonstrated in Figures 9-12. Discussions took place between Altemar and Musco Lighting consultants to ensure that the proposed floodlighting 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 10 the ground light levels in the vicinity of the surrounding woodland is primarily < 1 lux (blue contour) and would therefore not prohibit bats from using existing foraging corridors. The lighting report states that *“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 pitches 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 dlrs all-weather pitches. 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 dlrs tennis courts. 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 will be 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 7).”*

In discussion with Altemar a lighting strategy was prepared to further limit the potential impact of lighting on bats. The floodlighting will be operational, when required, potentially from 7am until 22:00, 7 days a week from October 15<sup>th</sup> to March 31<sup>st</sup>, during the main bat hibernation period. From April 1<sup>st</sup> to October 14<sup>th</sup> 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 as seen (Table 1.)

**Table 1.** Proposed lighting times

	<b>Time ON Civil Twilight 1<sup>st</sup> of each month</b>	<b>Time OFF Mon to Thu</b>
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

# Shanganagh Park Phase 1

Dublin, Leinster

## Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
P1	24.4	24.4	5	TLC-LED-1500	7.15 kW	B
		24.4	4	TLC-LED-900	3.56 kW	B
P2	24.4	24.4	6	TLC-LED-1500	8.58 kW	B
		24.4	6	TLC-LED-1500	8.58 kW	C
		18.3	1	TLC-LED-1500	1.43 kW	B
		18.3	1	TLC-LED-1500	1.43 kW	C
		24.4	4	TLC-LED-1500	5.72 kW	C
P3	24.4	24.4	5	TLC-LED-900	4.45 kW	C
		24.4	9	TLC-LED-1500	12.87 kW	C
P4	24.4	24.4	9	TLC-LED-1500	12.87 kW	A
		24.4	10	TLC-LED-1500	14.30 kW	A
P5	24.4	24.4	6	TLC-LED-1500	8.58 kW	C
		24.4	6	TLC-LED-1500	8.58 kW	B
		24.4	1	TLC-LED-900	0.89 kW	A
		18.3	1	TLC-LED-1500	1.43 kW	C
		18.3	1	TLC-LED-1500	1.43 kW	B
P6	24.4	24.4	9	TLC-LED-1500	12.87 kW	A
		24.4	9	TLC-LED-1500	12.87 kW	B
P7, P9	24.4	24.4	5	TLC-LED-1500	7.15 kW	A
		24.4	5	TLC-LED-900	4.45 kW	A
P8	24.4	24.4	6	TLC-LED-1500	8.58 kW	A
		24.4	5	TLC-LED-900	4.45 kW	A
P10	15.2	15.2	4	TLC-LED-900	3.56 kW	D
P11	15.2	15.2	3	TLC-LED-900	2.67 kW	D
<b>11</b>			<b>131</b>		<b>170.05 kW</b>	

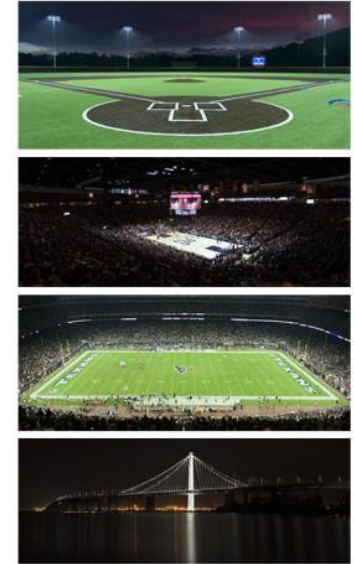
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Pitch 1	77.16 kW	60
B	Football 1 / Pitch 2	43.6 kW	32
C	Football 2 / Pitch 2	43.06 kW	32
D	Track	6.23 kW	7

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-900	LED 4000K - 70 CRI	890W	89,600	>120,000	>120,000	>120,000	32
TLC-LED-1500	LED 4000K - 70 CRI	1430W	160,000	>120,000	>120,000	>120,000	99

## Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Min/Max	Min/Ave		
Football 1	Horizontal Illuminance	516	376	734	0.51	0.73	B	32
Football 2	Horizontal Illuminance	508	364	771	0.47	0.72	C	32
GAA Pitch 1	Horizontal Illuminance	503	367	701	0.52	0.73	A	60
GAA Pitch 2	Horizontal Illuminance	543	386	775	0.50	0.71	B,C	64
Spill Blanket	Horizontal	269	0	926	0.00	0.00	A,B,C,D	131
Spill line	Horizontal	1.11	0	2.98	0.00	0.00	A,B,C,D	131
Spill line	Max Candela (by Fixture)	7148	27.3	43144	0.00	0.00	A,B,C,D	131
Track	Horizontal Illuminance	242	121	373	0.33	0.50	D	7

From Hometown to Professional



ENGINEERED DESIGN By: Carlos Castañeda Ortiz · File #214399C · 16-Sep-21



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PROJECT SUMMARY

Figure 9. Proposed lighting – project summary

# Shanganagh Park Phase 1

Dublin, Leinster

GRID SUMMARY	
Name:	Spill Blanket
Spacing:	10.0m x 10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL LUX	
Entire Grid	
Scan Average:	268.75
Maximum:	926
Minimum:	0
Min / Avg:	0.00
UG (adjacent pts):	130.37
CU:	0.99
No. of Points:	783

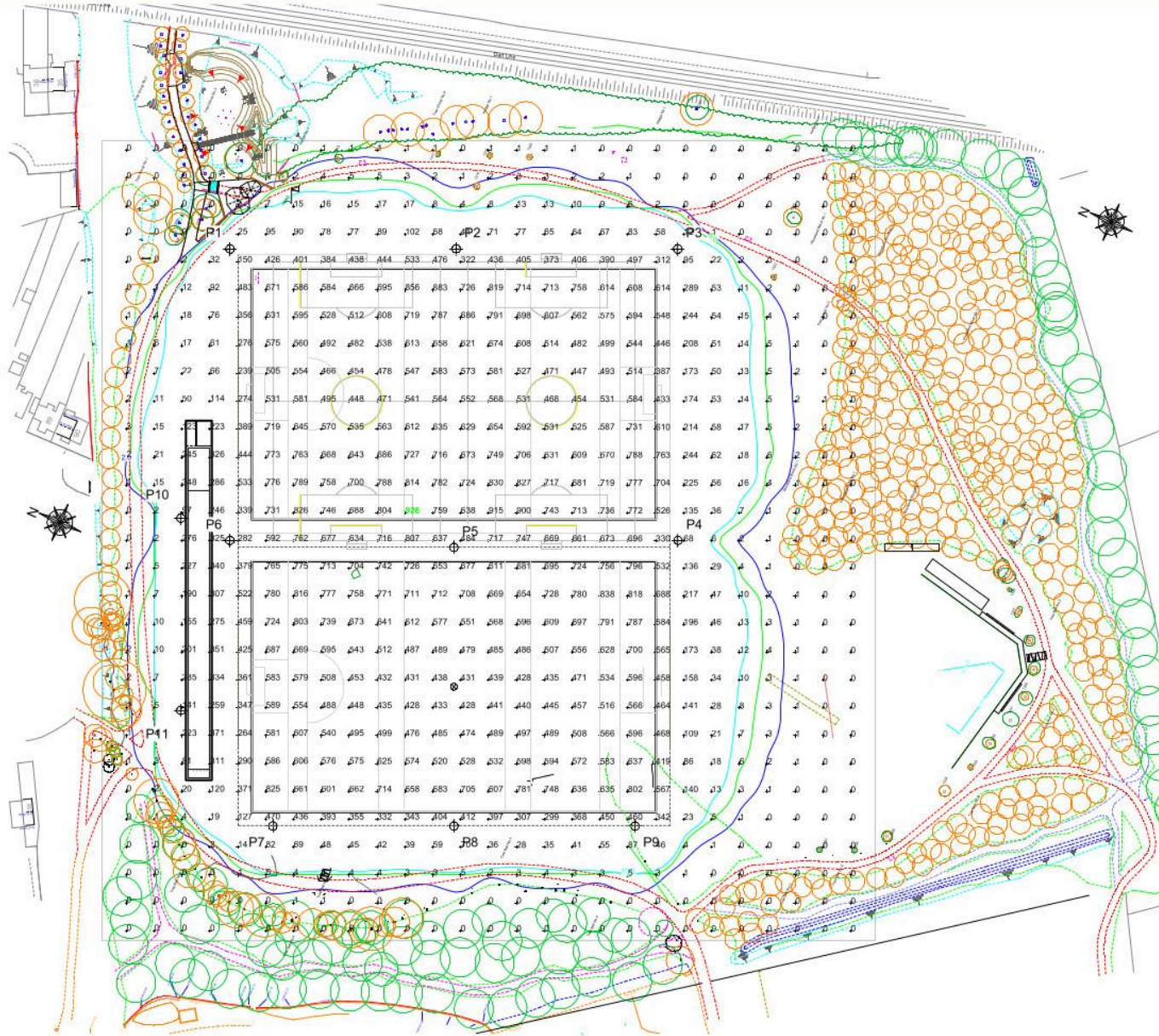
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D
No. of Luminaires:	131
Total Load:	170.05 kW

**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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



SCALE 1: 1500  
0 15m 30m

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



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## ILLUMINATION SUMMARY

Figure 10. Proposed lighting – spill blanket



## Shanganagh Park Phase 1

Dublin, Leinster

GRID SUMMARY	
Name:	Spill line
Spacing:	10.0m
Height:	1.0m above grade

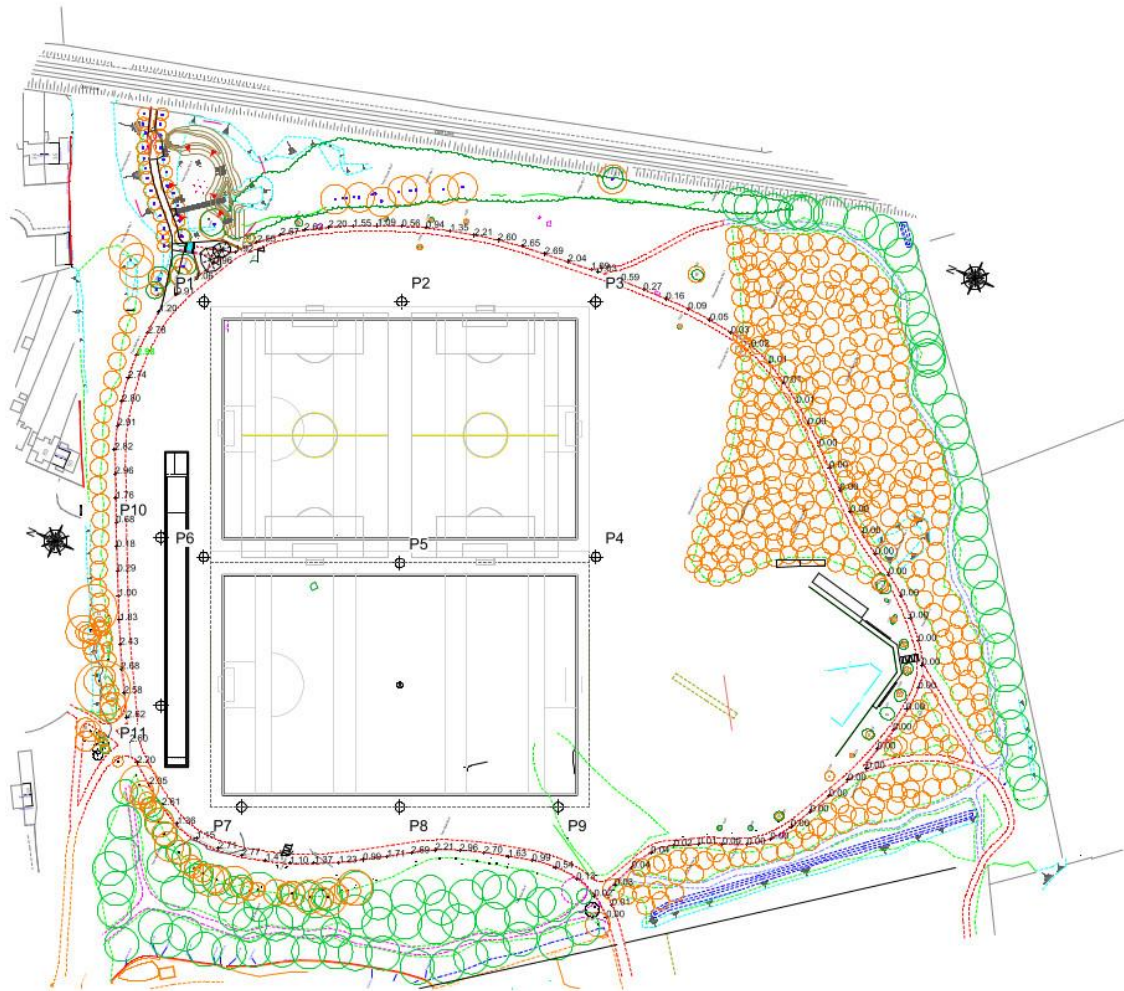
ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	Entire Grid 1.1053
Maximum:	2.98
Minimum:	0.00
No. of Points:	102
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D
No. of Luminaires:	131
Total Load:	170.05 kW

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**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: 2000  
0 20m 40m

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



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ILLUMINATION SUMMARY

ENGINEERED DESIGN By: Carlos Castañeda Ortiz · File #214399C · 16-Sep-21

Figure 11. Proposed lighting – spill line

## Shanganagh Park Phase 1

Dublin, Leinster

### EQUIPMENT LAYOUT

#### INCLUDES:

- Football 1
- Football 2
- GAA Pitch 1
- GAA Pitch 2
- Track

**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.

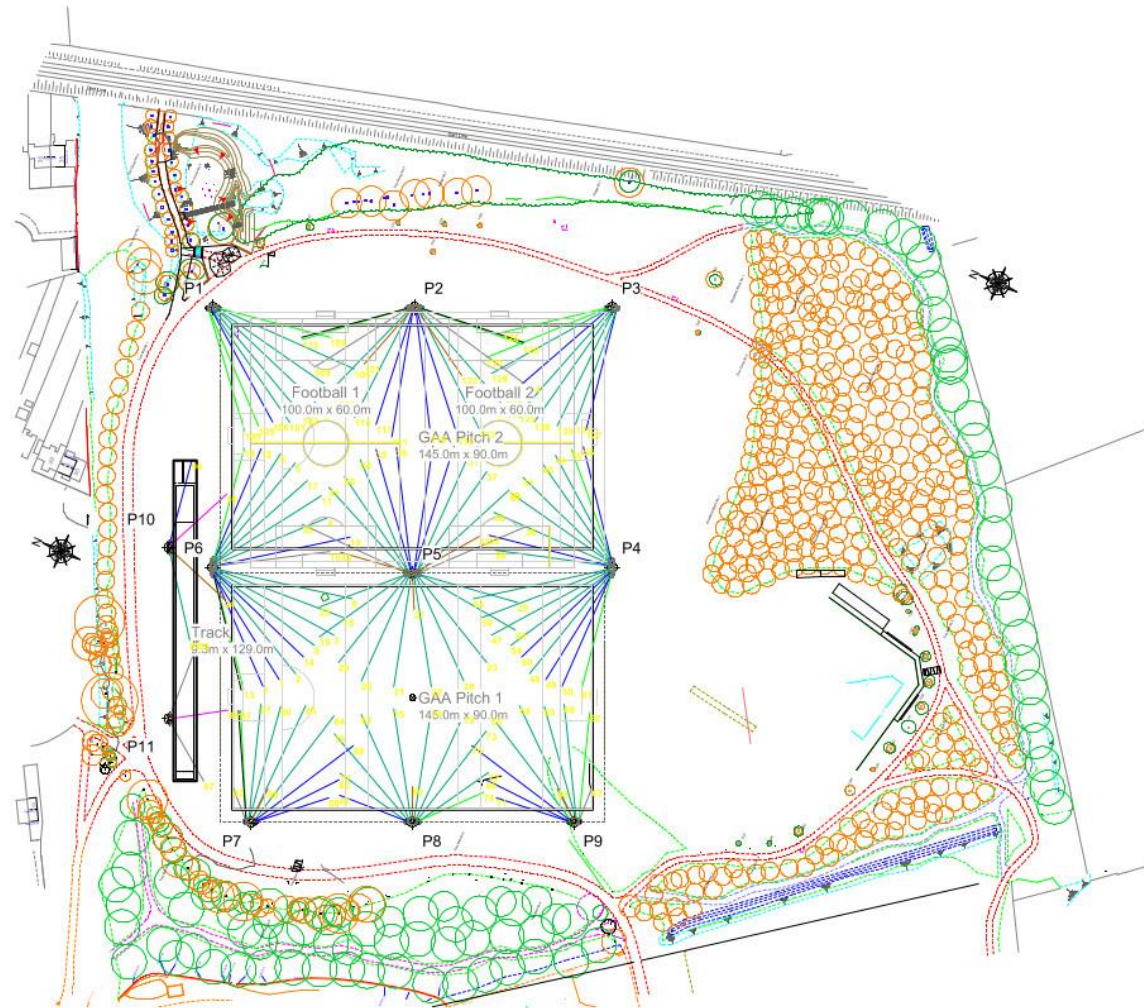
### EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires			QTY / POLE
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE		
1	P1	24.38m	-	24.38m	TLC-LED-1500	5	
				24.38m	TLC-LED-900	4	
1	P2	24.38m	-	18.29m	TLC-LED-1500	2	
1	P3	24.38m	-	24.38m	TLC-LED-1500	4	
				24.38m	TLC-LED-900	5	
2	P4, P6	24.38m	-	24.38m	TLC-LED-1500	18	
				18.29m	TLC-LED-1500	0/12	
1	P5	24.38m	-	24.38m	TLC-LED-1500	2	
				24.38m	TLC-LED-900	1	
2	P7, P9	24.38m	-	24.38m	TLC-LED-1500	5	
				24.38m	TLC-LED-900	5	
1	P8	24.38m	-	24.38m	TLC-LED-1500	6	
				24.38m	TLC-LED-900	5	
1	P10	15.24m	-	15.24m	TLC-LED-900	4	
1	P11	15.24m	-	15.24m	TLC-LED-900	3	
TOTALS						131	

\* This structure utilizes a back-to-back mounting configuration

### SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)				
	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)
Single Phase Voltage	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)
TLC-LED-900	5.0	4.8	4.6	2.9	2.8
TLC-LED-1500	8.1	7.7	7.4	4.7	4.4



SCALE 1: 2000  
0 20m 40m

ENGINEERED DESIGN By: Carlos Castañeda Ortiz - File #214399C - 16-Sep-21

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



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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 pitches 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 is to be located along the northern boundary of the pitches and will be 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 (GDSDS). The exact size of attenuation system will be determined by a drainage engineer following further geotechnical site investigation and will be subject to the agreement of the Water & Drainage Section.'*

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.

### **"Callisthenics:**

*A callisthenics and functional workout area is proposed to the east of the pitches 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.*

### **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 6m to the rear of the baseball diamond. The sprint track will be enclosed by a 1.2m high sprint welmesh fence with associated pedestrian and vecicular access gates.*

### **High Ballstop Netting:**

*The ballstop netting will 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 pitch 2 for viewing. These mounds will be also planted with trees likely to be managed as a meadow.*

**Access Over DART Line:**

*Access over the DART line is to be improved by reducing the gradient of the slope, adding handrails and resting areas. In addition, some natural play will be incorporated into the space as well as a seating and viewing space.*

**Footpaths:**

*The footpath along the eastern section of the pitches and to the south of the cricket/baseball field will be widened to approx. 3m wide and a no dig method will be used when traversing through the woodland.*

**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.*

**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."*

## Arborist

A Condition 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 residencies 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 side 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 a public footpath around its perimeter and tree belts and hedges outside of these paths. This area has also been rejuvenated with young 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 across the northern boundary and it is a prominent group of trees with a good mix of young to early- mature trees with diverse species such as Ash, Poplar, Field Maple, 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 consists 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 with some 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 and 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 it adds to the species diversification of 'Woodland Block No.1'.

**Tree Belt No.2** extends east to west across the southern 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. 0324 – 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 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 and it is a prominent tree belt in this area. 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 the crowns of these trees 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, 41NoI trees have been tagged 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:**

<b>Category Grade</b>	<b>No. of trees</b>
Category U <b>0 Trees</b>	<b>Tree Nos. No Trees</b>
Category A <b>1 Tree</b> <b>+ 2 Tree Belts</b> <b>+ 1 Tree Group</b> <b>+ 1 Woodland Block</b>	<b>Tree Nos. 1304</b> <b>Tree Belt Nos. 1 &amp; 4</b> <b>Tree Group No. 1</b> <b>Woodland Block No. 1</b>
Category B <b>8 Trees</b> <b>+ 1 Tree Belt</b> <b>+ 3 Tree Groups</b> <b>+ 1 Hedge</b>	<b>Tree Nos. 1303, 1306, 1307, 1308, 1309, 1310, 1311 &amp; 1321</b> <b>Tree Belt No. 3</b> <b>Tree Group Nos. 2, 3 &amp; 4</b> <b>Hedge No.1</b>
Category C <b>32 Trees</b> <b>+ 1 Tree Group</b>	<b>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 &amp; 1341</b> <b>Tree Group No. 5</b>
<b>Total</b>	<b>41 Trees + 4 Tree Belts + 5 Tree Groups + 1 Woodland Block + 1 Hedge</b>

### **Management**

All tree and hedge vegetation being retained within the development of this site area will require their root protection areas enclosed by fencing to the recommendations of BS5837 2012 and this will need to be retained in place for the duration of the development works on this site area.

The tree and hedge vegetation being retained will need to be reviewed once the site layout has been completed and the necessary remedial tree surgery works have been carried out to promote safety to the end users of this area. All tree works both felling and pruning are to be carried out to the specifications of BS 3998:2010 by a competent tree surgery firm with adequate insurance.'

An Arboricultural Impact Assessment (including the markup provided by DLR Consulting) is demonstrated in Figure 8.

# 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)

A provisional desk-based assessment of the potential species and habitats of conservation importance was carried out in June 2021. Altamar 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 Altamar Ltd. on the 3<sup>rd</sup> August 2021, 25<sup>th</sup> August 2021, 16<sup>th</sup> September 2021, 5<sup>th</sup> December 2021 and the 25<sup>th</sup> April 2022. 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.

A bat survey (emergent and detector) was also carried out on the 25<sup>th</sup> August 2021 and 16<sup>th</sup> September 2021 and assessed the site for roosting potential. At dusk a bat detector survey was carried out onsite using an echo meter touch 2 pro detector to determine bat activity. Bats if present were identified by their ultrasonic calls coupled with behavioural and flight observations. A mammal assessment was carried out on the 5<sup>th</sup> December 2021. A Wintering Bird Survey was carried out on October 8<sup>th</sup> 2021, October 29<sup>th</sup> 2021, November 10<sup>th</sup> 2021, November 19<sup>th</sup>, 2021, December 3<sup>rd</sup> 2021, December 19<sup>th</sup> 2021, January 8<sup>th</sup> 2022, January 29<sup>th</sup> 2022, February 9<sup>th</sup> 2022, February 26<sup>th</sup> 2022, March 11<sup>th</sup> 2022 and March 27<sup>th</sup> 2022. Following communication from NPWS a further site visit was carried out on the 25<sup>th</sup> April 2022 to assess the seasonal pond adjacent to the proposed development site.

## Survey Limitations

The surveys covered appropriate seasons for flora and bat assessments. The survey was outside the optimal time of year for terrestrial mammal and wintering bird assessments. The site consisted primarily of open ground with a small area of woodland. There was no evidence of protected terrestrial mammal activity on site. All areas of the site were accessible and there are no limitations seen in relation to the surveys. However, a further in season mammal assessment and wintering bird surveys will be carried out.

## 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.

## 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 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 impact and typical descriptions

Magnitude of impact (change)		Typical description
<b>High</b>	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.
<b>Medium</b>	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.
<b>Low</b>	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
<b>Negligible</b>	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
<b>International</b>	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.
<b>National</b>	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.
<b>Regional</b>	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.
<b>Local/County</b>	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.
<b>Local</b>	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



<b>Importance</b>	<b>Ecological Valuation</b>
	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.
<b>Site</b>	Very low importance and rarity. Ecological feature of no significant value beyond the site boundary

#### **Quality of Potential Impacts on Biodiversity**

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

#### **Significance of Impacts**

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

#### **Duration of Impact**

<b>Duration of Impact</b>	<b>Description</b>
<b>Momentary</b>	Effects lasting from seconds to minutes
<b>Brief</b>	Effects lasting less than a day
<b>Temporary</b>	Effects lasting less than a year
<b>Short-term</b>	Effects lasting one to seven years.
<b>Medium-term</b>	Effects lasting seven to fifteen years.
<b>Long-term</b>	Effects lasting fifteen to sixty years.
<b>Permanent</b>	Effects lasting over sixty years
<b>Reversible</b>	Effects that can be undone, for example through remediation or restoration
<b>Likely Effects</b>	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
<b>Unlikely Effects</b>	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
<b>Extent of Effects</b>	Description
<b>Extent</b>	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.

As outlined in IEEM (2010) 'assessment of impacts should be undertaken in relation to the baseline conditions within the zone of influence of the proposed development'. Impacts during site preparation, construction and occupation upon ecological receptors were quantified and characterised based on IEEM impact characterisation (IEEM, 2010) (Table 2) Following an evaluation of ecological receptors, the potential impact (positive, neutral or adverse) of the project on the ecological receptors was carried out based on the criteria in an impact significance matrix (based on NRA, 2009) (Table 3).

## Results

### Proximity to Designated Conservation Sites

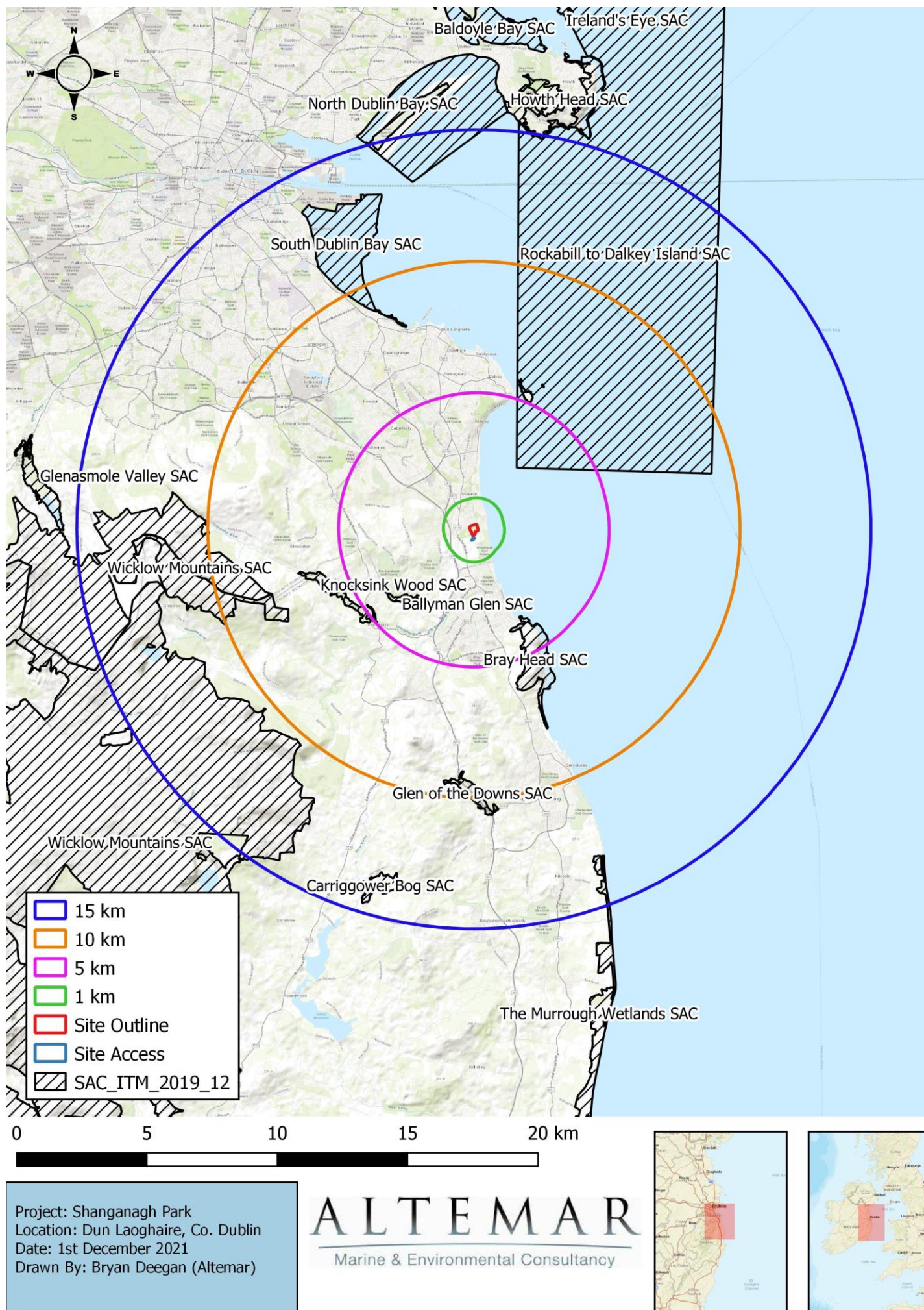
Designated conservation sites (National and international) within 15km of the proposed development are seen in Figures (13-16) and Table 4. It should be noted that the proposed development site is not within a designated conservation area. The closest Natura 2000 site is Rockabill to Dalkey Island SAC, 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. However, 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 overflow has been connected at the final stage of the project, surface water during operation 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. 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 (with the potential for an indirect hydrological pathway) are demonstrated in Figures 17-20.

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

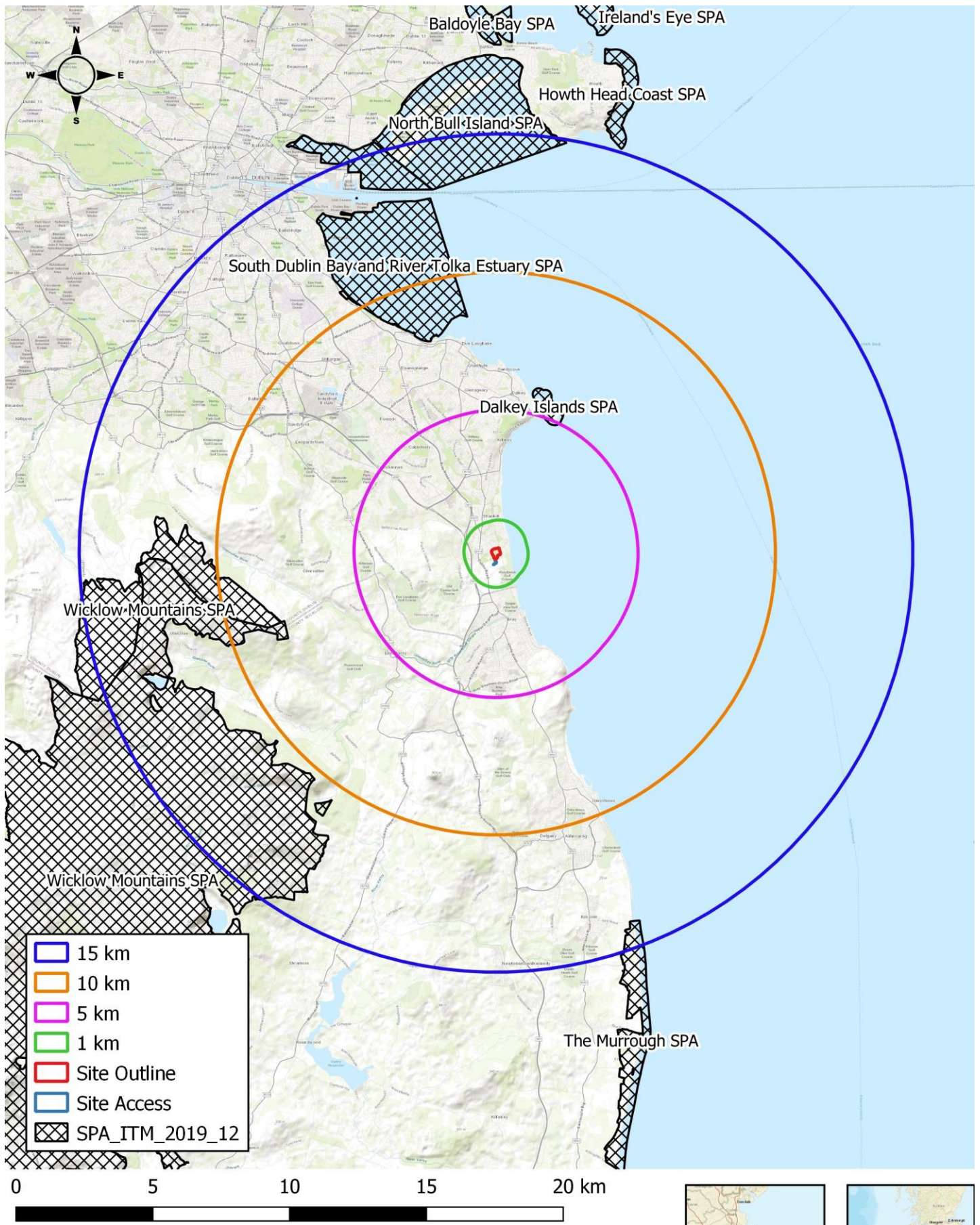
Site Code	NATURA 2000 Site	Distance
<b>Special Areas of Conservation</b>		
IE003000	Rockabill to Dalkey Island SAC	2.6 km
IE000713	Ballyman Glen SAC	3 km
IE000714	Bray Head SAC	3.5 km
IE000725	Knocksink Wood SAC	4.7 km
IE002122	Wicklow Mountains SAC	7.5 km
IE000210	South Dublin Bay SAC	7.9 km
IE000719	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
<b>Special Protection Area</b>		
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 Murrough	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

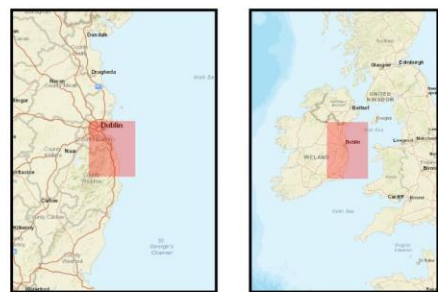


**Figure 13.** Special Areas of Conservation (SAC) within 15km of proposed development

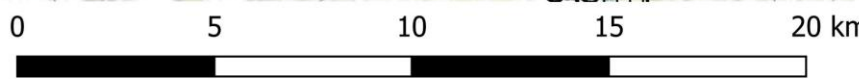
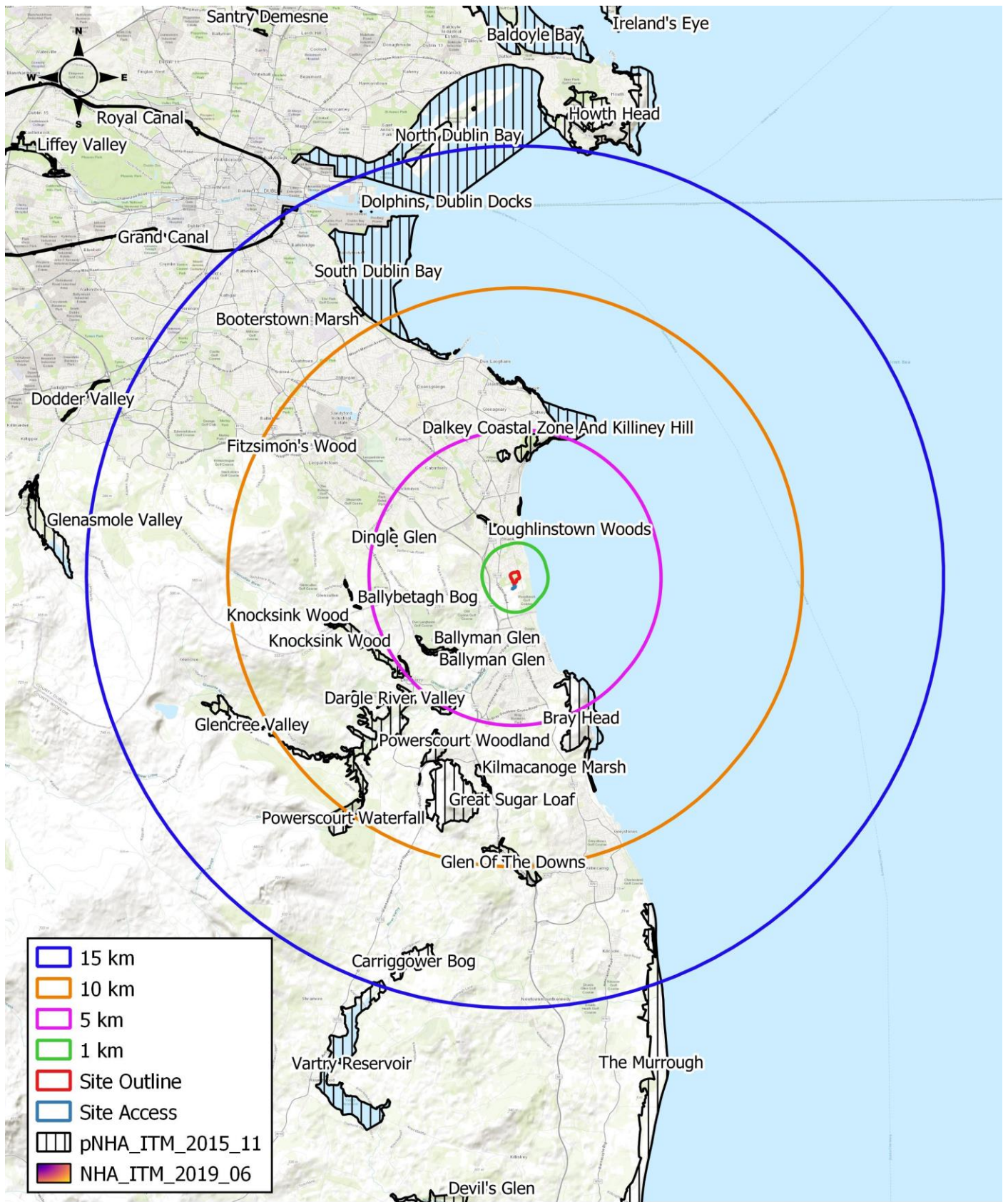


Project: Shanganagh Park  
 Location: Dun Laoghaire, Co. Dublin  
 Date: 1st December 2021  
 Drawn By: Bryan Deegan (Altamar)

**ALTEMAR**  
 Marine & Environmental Consultancy



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



Project: Shanganagh Park  
 Location: Dun Laoghaire, Co. Dublin  
 Date: 1st December 2021  
 Drawn By: Bryan Deegan (Altamar)



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

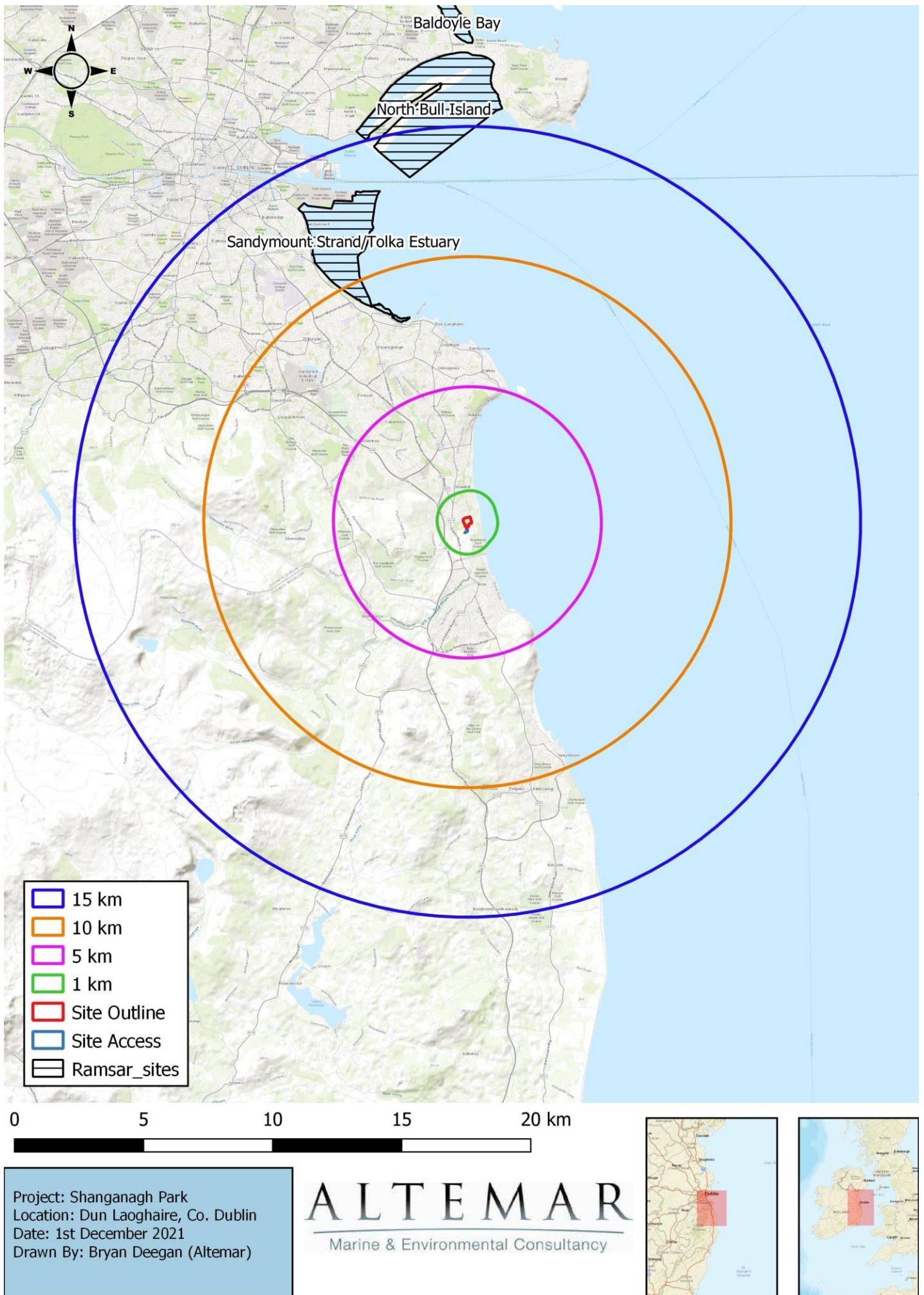
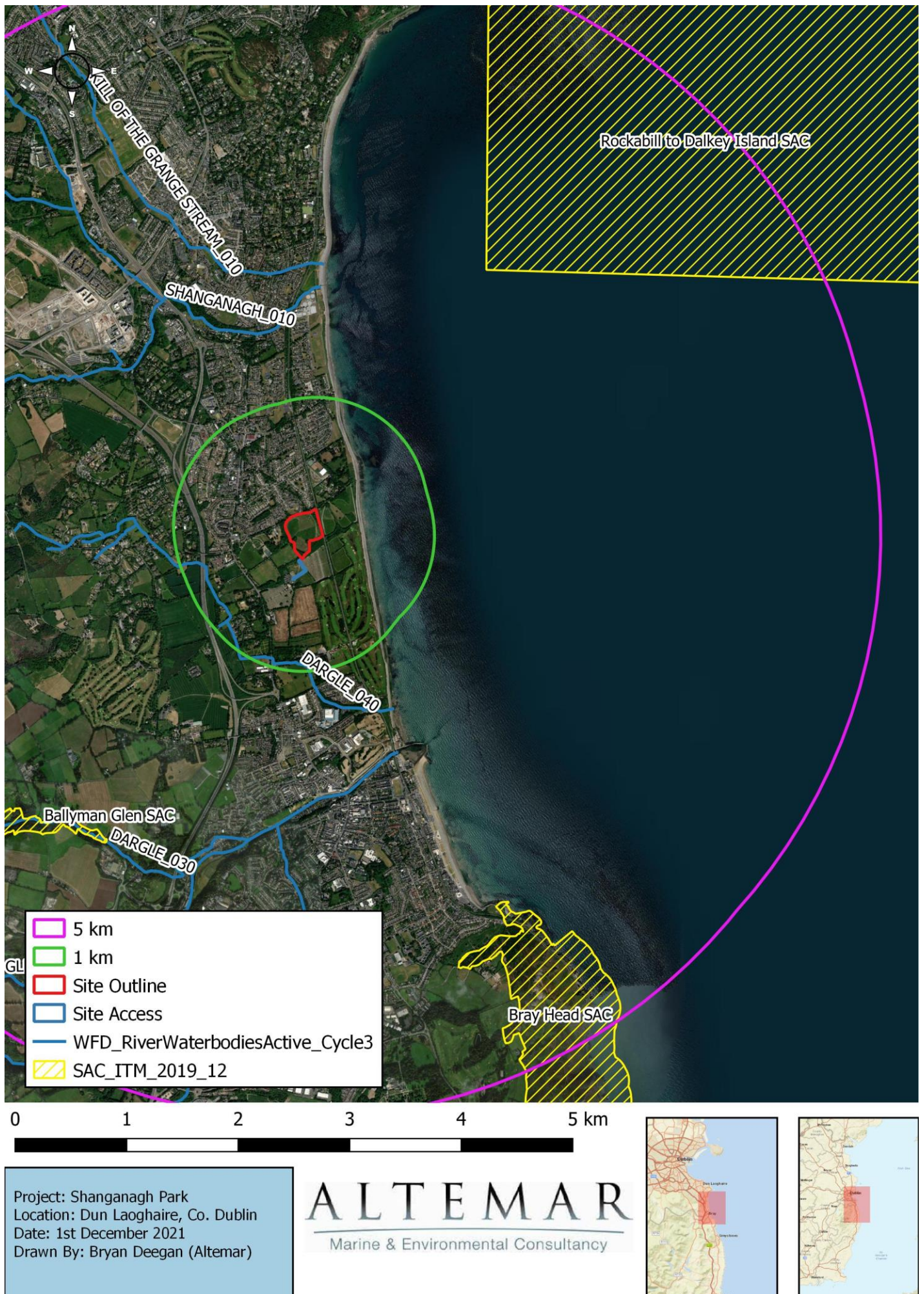


Figure 16. Ramsar sites within 15km of proposed development



Figure 17. Watercourses within close proximity to proposed development





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

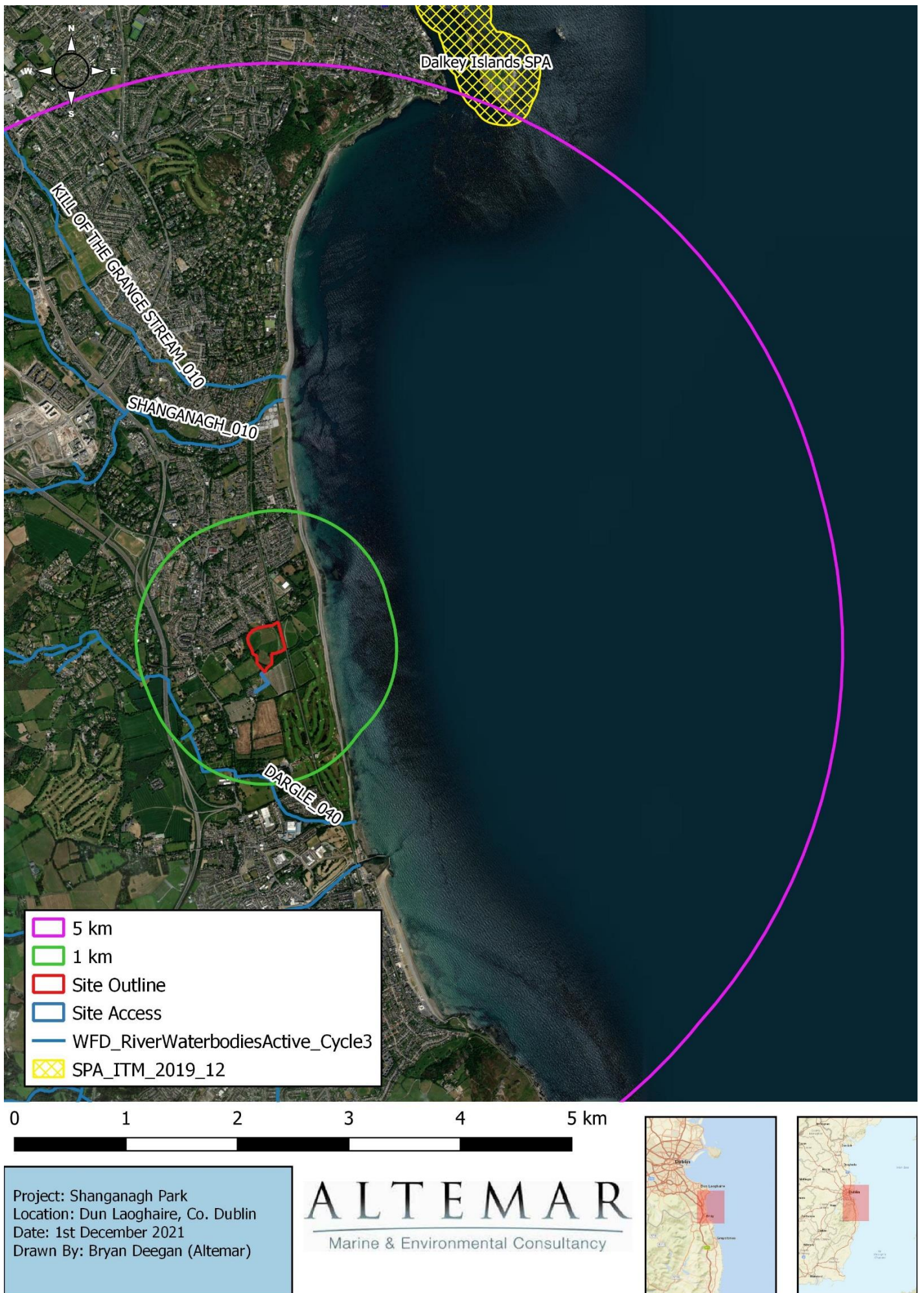


Figure 19. Watercourses and SPAs within 5km of the proposed development

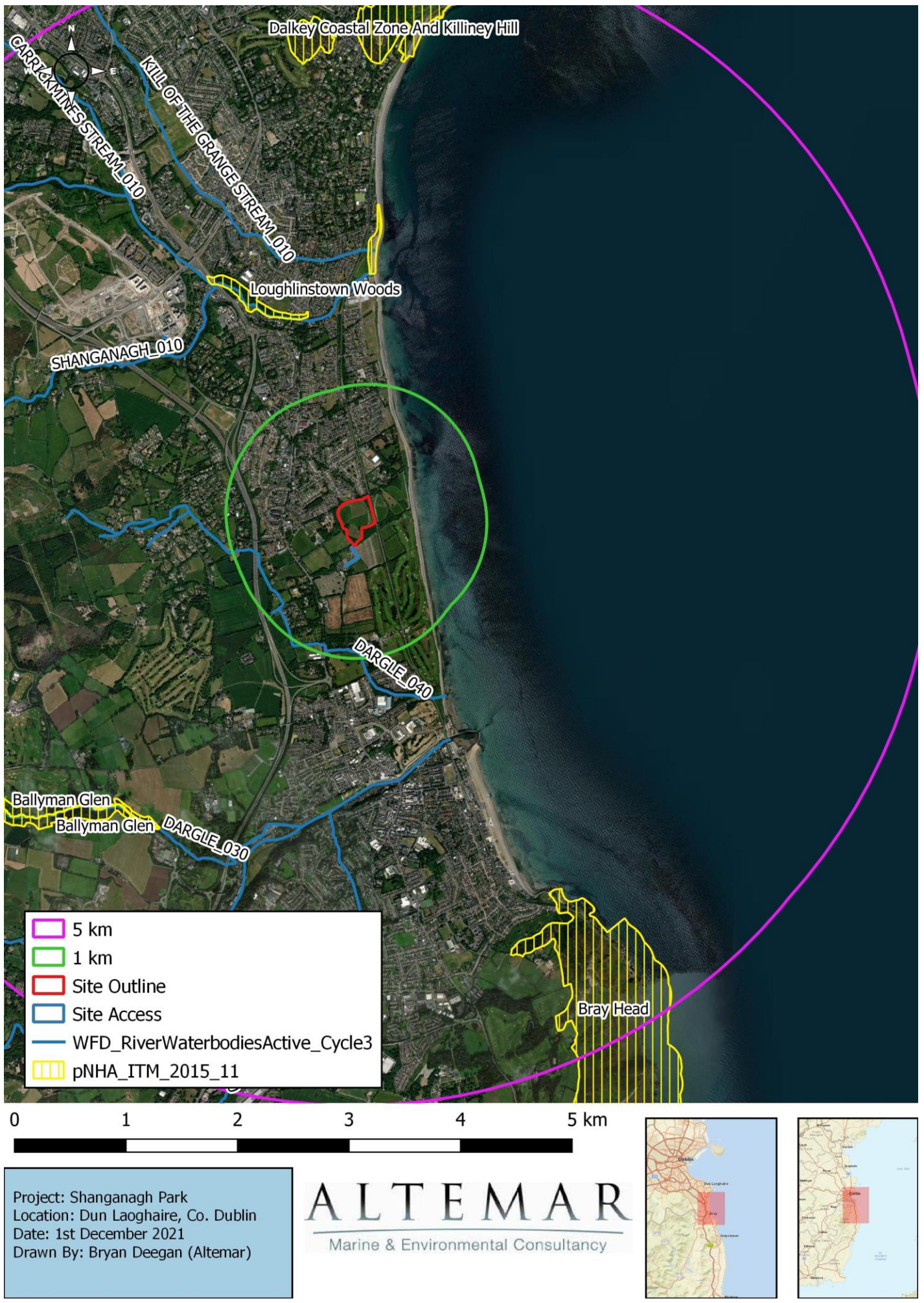
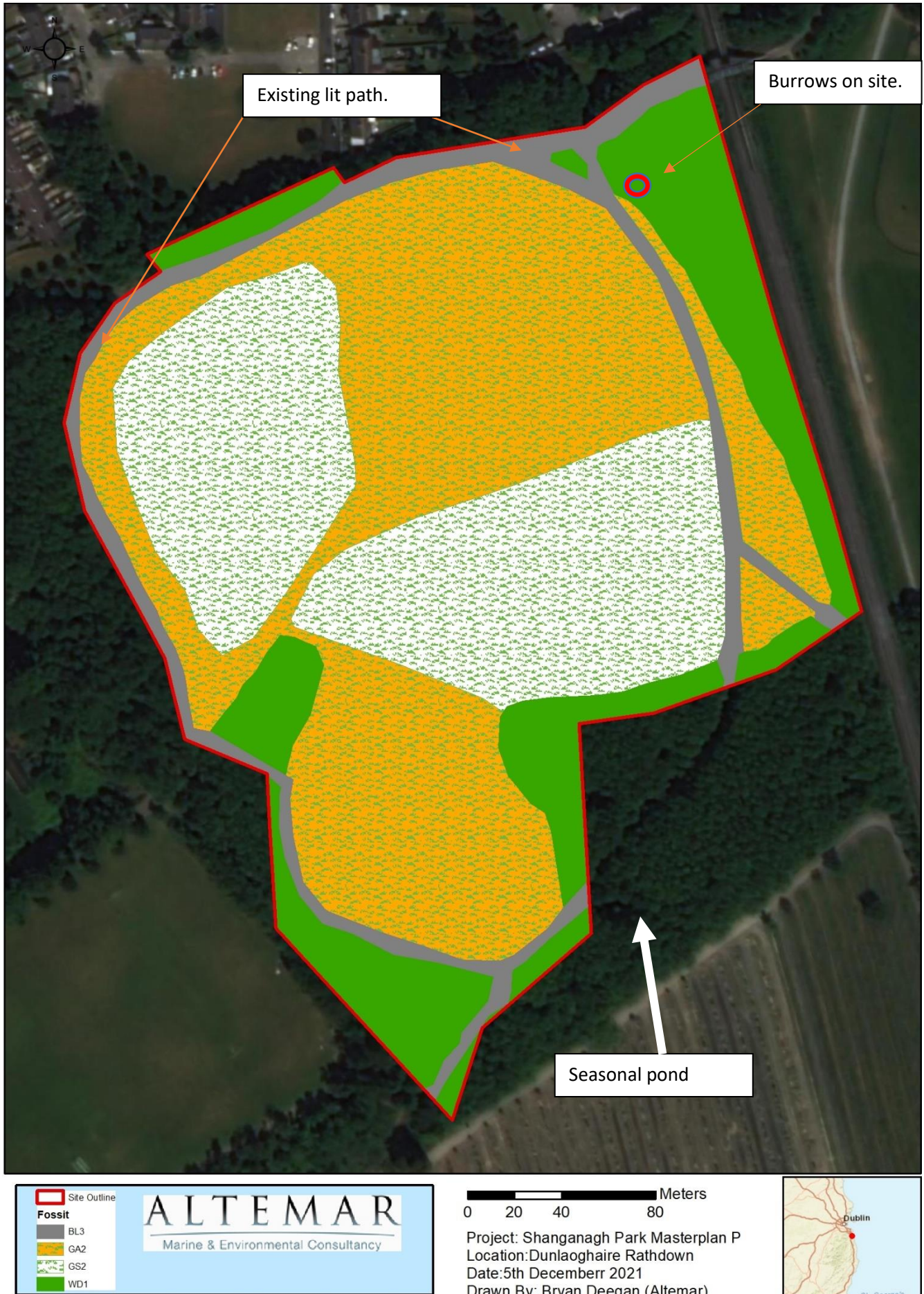


Figure 20. Watercourses and pNHAs within 5km of proposed development

## Habitats and Species

The habitat assessment was carried out on the 3<sup>rd</sup> August 2021. 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 occupies approximately two thirds 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 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*), 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.



**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. 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 is carried out in Appendix II.



**Plate 3. WD1 (Mixed) broadleaved woodland**



**Plate 4. Dry Seasonal Pond**

## Evaluation of Habitats

No rare or protected habitats were noted.

## 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 plant species were noted on site.

## Mammals

No signs of mammals were noted on site. Hedgehogs have been recorded by NBDC within the 2km of the subject site. No hedgehogs were seen during the site visit. No evidence of badger activity was noted on site. However, two fox burrows are noted on site. Further site visits are required to definitively assess the species creating the two single entry burrows.

## 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. An hydrogeological assessment of the potential impact on the proposed project on the pond is seen in Appendix II. Frogs have been recorded by the NBDC within the 2km square grid, but not at finer resolution. Newts are located within the Shanganagh Park, but not in the vicinity of the proposed works. Given the presence of Newts within the Shanganagh Park and the potential for dust and surface water impacts within the Park mitigation measures are required in relation to newts.

## Bats

A bat survey was carried out. There are no buildings or trees of bat roosting potential on site. There was foraging activity on site (Appendix I) particularly along the treelines at a height just above the existing public lighting along the paths.

## Birds

Birds noted on site included blackbird (*Turdus merula*), dunnoek (*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 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 passerines 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 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 2km<sup>2</sup> 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

Date of Record	Species Name	Designation
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 29/05/1922	Andrena (Andrena) fucata Andrena (Melandrena) nigroaenea	Threatened Species: Near threatened 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
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

Date of Record	Species Name	Designation
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
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 (Thoracombeus) 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)

Date of Record	Species Name	Designation
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 Impacts

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

### Construction Impacts

The overall development of the site is likely to have direct negative impacts 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 Conservation sites within 15km

The proposed development is not within a designated conservation site. The nearest designated conservation site is the Loughinstown Woods pNHA (1.6km). The nearest Natura 2000 site is Rockabill to Dalkey Island SAC (2.6 km). There is no direct hydrological pathway to any designated conservation site. There is no direct pathway to designated sites during construction. In relation to black headed gull that were noted on site, based on Cummins *et al.* (2019) there is a national breeding population of 7,810 pairs (15,620 individuals) in Ireland and the peak numbers seen on site were well below 1% of the National population. Piscivorous bird species such as terns will not be impacted by the proposed works. However, as outlined in the Wintering Bird Assessment "*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.*"

Impacts: Low adverse / local / Negative Impact / Not Significant / Short term.

### Terrestrial mammalian species

No protected terrestrial mammals were noted on site. Loss of habitat and habitat fragmentation may affect some common mammalian species. Further assessment is required in relation to the two burrows on the north east portion of the site.

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

### Flora

No protected flora was noted on site. Site clearance will remove the flora species on site.

Impacts: Low adverse / local / Negative Impact / Not Significant / Short term. Mitigation is required to offset tree loss.

### 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. Lighting during construction could impact on foraging activity.

Impacts: 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 or drainage ditch within the site boundary, and the lack of hydrological pathway to a watercourse, there is little potential for downstream impacts on biodiversity from silt or petrochemicals. Frogs were not observed on site, and given that there is no waterbody within the site boundaries, it is unlikely that there are any present. However, newts have been recorded within the Park and would be susceptible to dust and surface water impacts. As outlined by NPWS a seasonal pond is located (see Appendix II)

Impacts: 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 survey should be carried out for newts and frogs.

## **Bird Fauna**

A Wintering Bird Survey was carried out. Significant numbers of wintering birds were not noted on site. 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. Tree or ground nesting birds may be in the vicinity of the proposed works during site clearance. As discussed with the ornithologist ground nesting birds would be unlikely during the high levels of pedestrian and canine activity on site. Construction will result in the temporary loss of grassland on the site.

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

## **Operational Impacts**

### **Designated Conservation sites within 15km**

During operation, there is the potential for an indirect hydrological pathway to designated conservation sites located within the marine environment via surface water drainage. Overflow surface water will be directed to an existing surface water network within St. Anne's Park, located to the north of the subject site. This network ultimately discharges to the marine environment at Killiney Bay. Given the distance to the nearest conservation site along this network (2.6 km to Rockabill to Dalkey Island SAC), in the absence of mitigation, any silt or pollutants will settle, be dispersed or diluted within the watercourse and marine environment prior to reaching a designated conservation site. In the absence of mitigation, it is considered that significant impacts on designated conservation sites would be unlikely. It should be noted that no buildings will be placed on site and the majority of the grassland habitat on site will remain, although it will have increased maintenance and activity. It would be expected that wintering birds observed on site would continue to use the site for foraging/roosting. However, the altered management and increased disturbance in the area may alter the numbers on site, particularly in busy periods. For example, it would be expected that existing canine activity would reduce in the area while human activity would increase.

Impacts: Low adverse / local / Negative Impact / Not Significant / long term.

## **Biodiversity**

Biodiversity value of the site will improve as landscaping matures. However, it should be noted that the landscaping on site is being carried out in consultation with Altamar and is designed to encourage biodiversity on site.

### **Terrestrial mammalian species**

No protected terrestrial mammals were noted on site. Additional habitat will be created on site.

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

## **Flora**

No protected flora was noted on site. Landscaping will increase flora diversity on site.

Impacts: Negligible beneficial / site / Negative Impact / Not significant / long-term

## **Bat Fauna**

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 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.

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

## **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 impacts 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.

Impacts: Neutral / local / Not significant / long term

## **Bird Fauna**

A Wintering Bird Survey was carried out. Significant numbers of wintering birds were not noted on site. 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. It should be noted that in the long term an existing 1ha of highly managed grassland will be

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

### **Mitigation Measures & Monitoring**

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

**Table 9.** Sensitive Receptors/Impacts and mitigation measures.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Local Biodiversity	<ul style="list-style-type: none"> <li>• Habitat degradation</li> <li>• Dust deposition</li> <li>• Pollution</li> <li>• Silt ingress from site runoff</li> <li>• Downstream impacts</li> <li>• Negative impacts on aquatic and bird fauna</li> </ul>	<ul style="list-style-type: none"> <li>• Best available technology (BAT) mitigation measures will be monitored by an appointed project ecologist</li> <li>• Preconstruction surveys for mammals and amphibians will be carried out.</li> <li>• Staging of project to reduce risks to biodiversity</li> <li>• Local drains will be protected from dust, silt and surface water throughout the works.</li> <li>• Local silt traps established throughout site.</li> <li>• Mitigation measures on site include dust control, stockpiling away from drains</li> <li>• Stockpiling of loose materials will be kept to a minimum of 20m from drains.</li> <li>• Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• A project ecologist must be appointed and be consulted in relation to all onsite drainage during construction works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site, and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes.</li> <li>• 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.</li> <li>• Abstraction of water from watercourses is not to be permitted.</li> <li>• Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis.</li> <li>• 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.</li> </ul> <p><b>Air &amp; Dust</b>  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. The main activities that may give rise to dust emissions during construction include the following:</p> <ul style="list-style-type: none"> <li>• Excavation of material;</li> </ul>



- Materials handling and storage;
- Movement of vehicles (particularly HGV's) and mobile plant.
- Contaminated surface runoff

*Mitigation measures to be in place:*

- Consultation will be carried with an ecologist throughout the construction phase;
- 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.

*Site Management*

- Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.

*Monitoring*

- Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should 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.

*Preparing and Maintaining the Site*

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles 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.
- Maintain a vegetated strip and vehicle exclusion zone between the works and the Dawsons Demesne Stream in consultation with the project ecologist.

		<p><i>Measures Specific to Earthworks</i></p> <ul style="list-style-type: none"> <li>• Re-vegetate earthworks and exposed areas/soil stockpiles/new pitches to stabilise surfaces as soon as practicable.</li> <li>• Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.</li> <li>• Only remove the cover in small areas during work and not all at once.</li> <li>• 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.</li> <li>• Due to the proximity of the watercourse an ecologist will oversee works in particular the excavation of material from the perimeter of the site.</li> <li>• The Contractor will be required to consult with an ecologist prior to the beginning of works to identify any additional measures that may be appropriate and/or required.</li> </ul> <p><i>Storage/Use of Materials, Plant &amp; Equipment</i></p> <ul style="list-style-type: none"> <li>• Drip trays will be turned upside down if not in use to prevent the collection of rainwater;</li> <li>• 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;</li> <li>• 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;</li> <li>• No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction;</li> <li>• Re-fuelling of machinery, plant or equipment will be carried out in the site compound as per the appointed Construction Contractor re-fuelling controls;</li> </ul>
<b>Birds (National Protection)</b>	<ul style="list-style-type: none"> <li>• Removal nesting /foraging habitat.</li> <li>• Destruction and/or disturbance to nests (injury/death).</li> <li>• Predation .</li> </ul>	<ul style="list-style-type: none"> <li>• “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.</li> <li>• A Preconstruction assessment will be carried out by an ecologist for ground breeding/ or tree nesting birds.</li> <li>• The landscape strategy has been prepared in consultation with Altamar to provide significant nesting and foraging resources for birds and insects. This will be followed and assessed. Additional consultation will be carried out in relation to biodiversity enhancement measures with the DLR biodiversity officer.</li> <li>• It is recommended (not a mitigation) that in the interests of general habitat modification to managed grassland, that management practices are changed for 1 ha within the park from managed short grassland to grassland meadow as outlined in the masterplan.</li> </ul>
<b>Bats (international Protection)</b>	<ul style="list-style-type: none"> <li>• Removal roosting/foraging habitat.</li> <li>• Lighting Impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Pre Construction survey for bats</li> <li>• Lighting at all stages should be done sensitively on site 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.</li> <li>• A post construction light spill and bat foraging assessment will be carried out by a bat specialist to confirm lighting has been constructed.</li> </ul>
<b>Amphibians</b>	<ul style="list-style-type: none"> <li>• Death/injury</li> </ul>	<ul style="list-style-type: none"> <li>• A pre-construction survey of the ponds on site should be carried out. The seasonal pond will be protected from silt and runoff.</li> </ul>

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

With the successful implementation of standard mitigation measures to limit lighting, dust, surface water impacts, and including biodiversity mitigation/supervision, no significant impacts are foreseen from the construction or operation of the proposed project on terrestrial or aquatic ecology. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works. In relation to bird species there will be a short term loss of nesting habitat until landscaping matures.

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on terrestrial and aquatic biodiversity through the application of the standard construction and operational phase controls as outlined above.

## Cumulative Impacts

A review of the online planning system ([www.myplan.ie](http://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 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: - 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

		<p>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.</p>
D17A/0065	The Aske House, Dublin Road, Bray, Co. Dublin	<p>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 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</p>

		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.
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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 Impacts and Conclusion

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts 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 impacts on biodiversity are considered to be: Low adverse / site / Negative Impact / Not significant / short term.

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



2<sup>nd</sup> December 2021

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

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<b>Document Control Sheet</b>			
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	2 <sup>nd</sup> December 2021		
Version	Author	Reviewed	Date
Draft 01	Bryan Deegan	Jack Doyle	2 <sup>nd</sup> December 2021



## **SUMMARY**

<b>Structure:</b>	None; the proposed development site is a greenfield site.
<b>Location:</b>	Shankill, Co. Dublin.
<b>Bat species present:</b>	None Roosting. Common pipistrelle ( <i>Pipistrellus pipistrellus</i> ), Soprano pipistrelle ( <i>P. pygmaeus</i> ) and Leisler's bat ( <i>Nyctalus leisleri</i> ) foraging noted on site
<b>Proposed work:</b>	Development of a recreation zone with floodlighting.
<b>Impact on bats:</b>	No impact on roosting. Extensive measures have been implemented to limit light spill from flood lights 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. The residual impact is considered to be minor adverse/not significant in the short term and neutral in the long term.
<b>Survey by:</b>	Bryan Deegan MCIEEM
<b>Survey date:</b>	25 <sup>th</sup> August 2021 and 16 <sup>th</sup> September 2021

## 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

A Condition 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 residencies 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 side 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 a public footpath around its perimeter and tree belts and hedges outside of these paths. This area has also been rejuvenated with young 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 across the northern boundary and it is a prominent group of trees with a good mix of young to early- mature trees with diverse species such as Ash, Poplar, Field Maple, 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 consists 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 with some 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 and 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 it adds to the species diversification of 'Woodland Block No.1'.

**Tree Belt No.2** extends east to west across the southern 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. 0324 – 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 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 and it is a prominent tree belt in this area. 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 the crowns of these trees 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, 41NoI trees have been tagged 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:**

<b>Category Grade</b>	<b>No. of trees</b>
Category U <b>0 Trees</b>	<b>Tree Nos. No Trees</b>
Category A <b>1 Tree</b> <b>+ 2 Tree Belts</b> <b>+ 1 Tree Group</b> <b>+ 1 Woodland Block</b>	<b>Tree Nos. 1304</b> <b>Tree Belt Nos. 1 &amp; 4</b> <b>Tree Group No. 1</b> <b>Woodland Block No. 1</b>
Category B <b>8 Trees</b> <b>+ 1 Tree Belt</b> <b>+ 3 Tree Groups</b> <b>+ 1 Hedge</b>	<b>Tree Nos. 1303, 1306, 1307, 1308, 1309, 1310, 1311 &amp; 1321</b> <b>Tree Belt No. 3</b> <b>Tree Group Nos. 2, 3 &amp; 4</b> <b>Hedge No.1</b>
Category C <b>32 Trees</b> <b>+ 1 Tree Group</b>	<b>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 &amp; 1341</b> <b>Tree Group No. 5</b>
<b>Total</b>	<b>41 Trees + 4 Tree Belts + 5 Tree Groups + 1 Woodland Block + 1 Hedge</b>

## Management

All tree and hedge vegetation being retained within the development of this site area will require their root protection areas enclosed by fencing to the recommendations of BS5837 2012 and this will need to be retained in place for the duration of the development works on this site area.

The tree and hedge vegetation being retained will need to be reviewed once the site layout has been completed and the necessary remedial tree surgery works have been carried out to promote safety to the end users of this area. All tree works both felling and pruning are to be carried out to the specifications of BS 3998:2010 by a competent tree surgery firm with adequate insurance.'

An Arboricultural Impact Assessment (including the markup provided by DLR Consulting) is demonstrated in Figure 2.

## Lighting

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

## Competency of Assessor

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 26 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 (2007)) 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 Kelleher and Marnell (2007), Bat Mitigation Guidelines for Ireland.

## Legislative Context

*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 transposed into Irish Law i.e. European Communities (Natural Habitats) Regulations, 1997 (SI No. 64/1997).*

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 section 23 of SI No. 64/1997 all bats are listed under the first schedule of Section 23 which makes it an offence to:

- deliberately capture a bat
- deliberately disturb a bat,
- damage or destroy a breeding site or resting place of a bat.

## Survey methodology

At dusk, a bat detector survey was carried out onsite using an echo meter touch 2 pro bat detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations. Surveys were carried out having regard to the following guidelines:

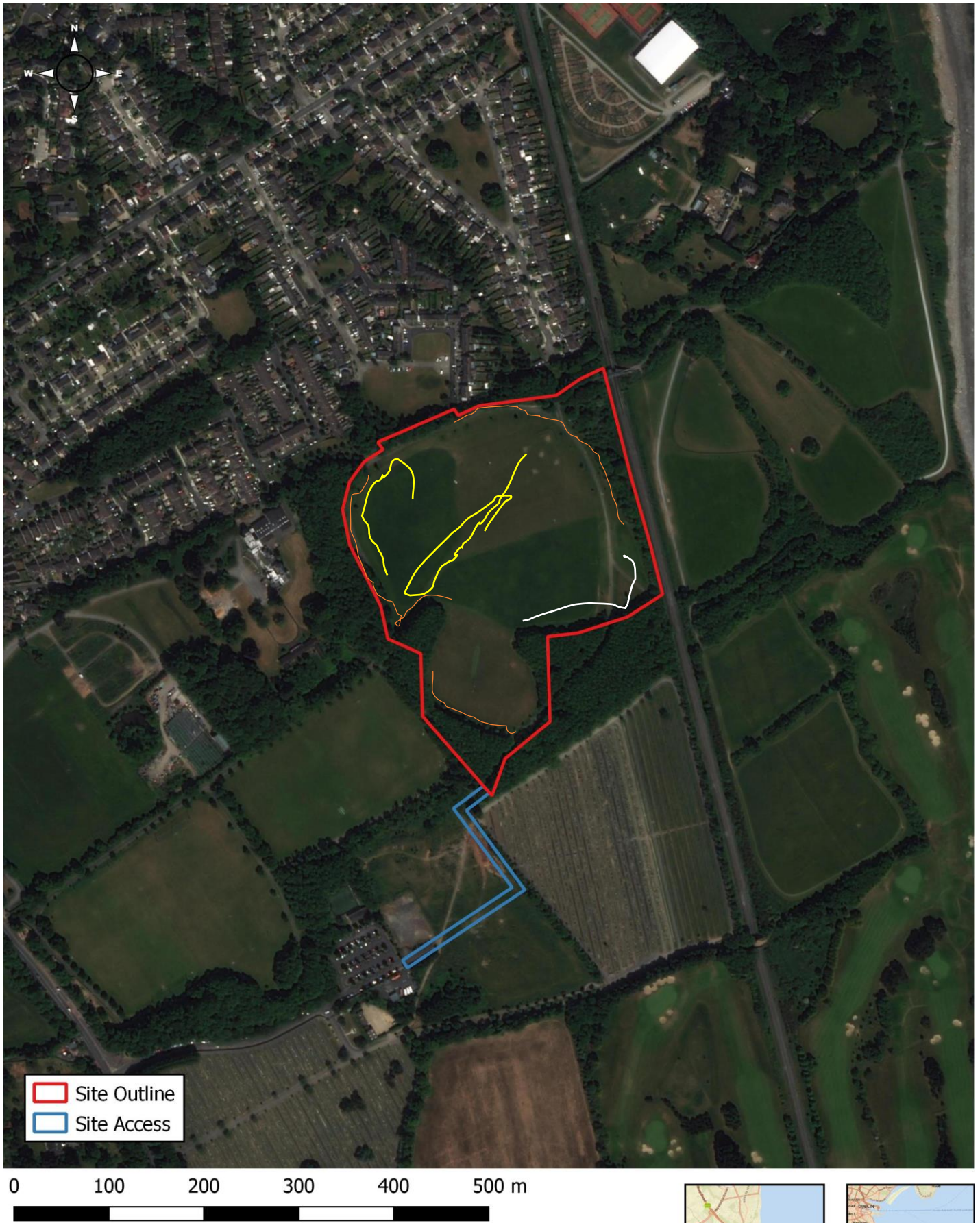
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016);
- Bat Mitigation Guidelines for Ireland (NPWS, 2006); and,
- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006).

## Bat survey

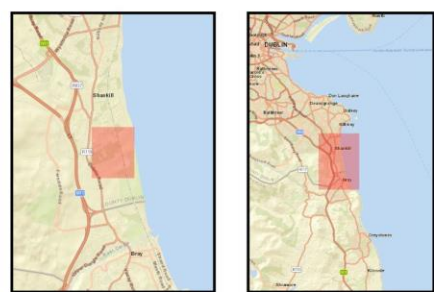
This report presents the results of site visits by Bryan Deegan (MCIEEM) on the 25<sup>th</sup> August 2021 and 16<sup>th</sup> September 2021. Bat emergent survey were also carried out. No trees of bat roosting potential are on site. There are no buildings on site or features of bat roosting potential. I

## Survey constraints

The detector survey was undertaken during the active bat season in June. Weather conditions were good with mild temperatures of >10°C after sunset. Winds were light and there was no rainfall.



Project: Shanganagh Park  
 Location: Dun Laoghaire, Co. Dublin  
 Date: 1st December 2021  
 Drawn By: Bryan Deegan (Altamar)



**Figure 1:** Site outline. Common pipistrelle (yellow), Soprano pipistrelle (orange) and Leisler's bat (white) foraging.



Figure 2. Arboricultural impact assessment (incl. DLR markup)

# Shanganagh Park Phase 1

Dublin, Leinster

## Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
P1	24.4	24.4	5	TLC-LED-1500	7.15 kW	B
		24.4	4	TLC-LED-900	3.56 kW	B
P2	24.4	24.4	6	TLC-LED-1500	8.58 kW	B
		24.4	6	TLC-LED-1500	8.58 kW	C
		18.3	1	TLC-LED-1500	1.43 kW	B
P3	24.4	18.3	1	TLC-LED-1500	1.43 kW	C
		24.4	4	TLC-LED-1500	5.72 kW	C
P4	24.4	24.4	5	TLC-LED-900	4.45 kW	C
		24.4	9	TLC-LED-1500	12.87 kW	C
P5	24.4	24.4	9	TLC-LED-1500	12.87 kW	A
		24.4	10	TLC-LED-1500	14.30 kW	A
P6	24.4	24.4	6	TLC-LED-1500	8.58 kW	C
		24.4	6	TLC-LED-1500	8.58 kW	B
		24.4	1	TLC-LED-900	0.89 kW	A
		18.3	1	TLC-LED-1500	1.43 kW	C
		18.3	1	TLC-LED-1500	1.43 kW	B
P7, P9	24.4	24.4	9	TLC-LED-1500	12.87 kW	A
		24.4	5	TLC-LED-1500	7.15 kW	A
P8	24.4	24.4	5	TLC-LED-900	4.45 kW	A
		24.4	6	TLC-LED-1500	8.58 kW	A
P10	15.2	15.2	5	TLC-LED-900	4.45 kW	A
		15.2	4	TLC-LED-900	3.56 kW	D
P11	15.2	15.2	3	TLC-LED-900	2.67 kW	D
<b>ff</b>			<b>131</b>		<b>170.05 kW</b>	

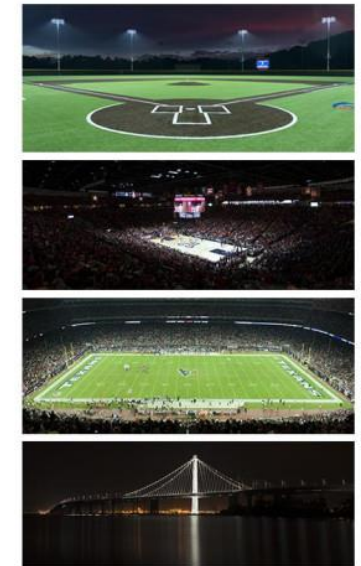
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Pitch 1	77.16 kW	60
B	Football 1 / Pitch 2	43.6 kW	32
C	Football 2 / Pitch 2	43.06 kW	32
D	Track	6.23 kW	7

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-900	LED 4000K - 70 CRI	890W	89,600	>120,000	>120,000	>120,000	32
TLC-LED-1500	LED 4000K - 70 CRI	1430W	160,000	>120,000	>120,000	>120,000	99

## Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Min/Max	Min/Ave		
Football 1	Horizontal Illuminance	516	378	734	0.51	0.73	B	32
Football 2	Horizontal Illuminance	508	364	771	0.47	0.72	C	32
GAA Pitch 1	Horizontal Illuminance	503	367	701	0.52	0.73	A	60
GAA Pitch 2	Horizontal Illuminance	543	386	775	0.50	0.71	B,C	64
Spill Blanket	Horizontal	269	0	926	0.00	0.00	A,B,C,D	131
Spill line	Horizontal	1.11	0	2.98	0.00	0.00	A,B,C,D	131
Spill line	Max Candela (by Fixture)	7148	27.3	43144	0.00	0.00	A,B,C,D	131
Track	Horizontal Illuminance	242	121	373	0.33	0.50	D	7

From Hometown to Professional



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Figure 3. Proposed lighting – project summary



# Shanganagh Park Phase 1

Dublin, Leinster

## GRID SUMMARY

Name: Spill Blanket  
 Spacing: 10.0m x 10.0m  
 Height: 1.0m above grade

## ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL LUX

Entire Grid  
**Scan Average: 268.75**  
 Maximum: 926  
 Minimum: 0  
 Min / Avg: 0.00  
**Min / Max: 0.00**

UG (adjacent pts): 130.37  
 CU: 0.99  
 No. of Points: 783

### LUMINAIRE INFORMATION

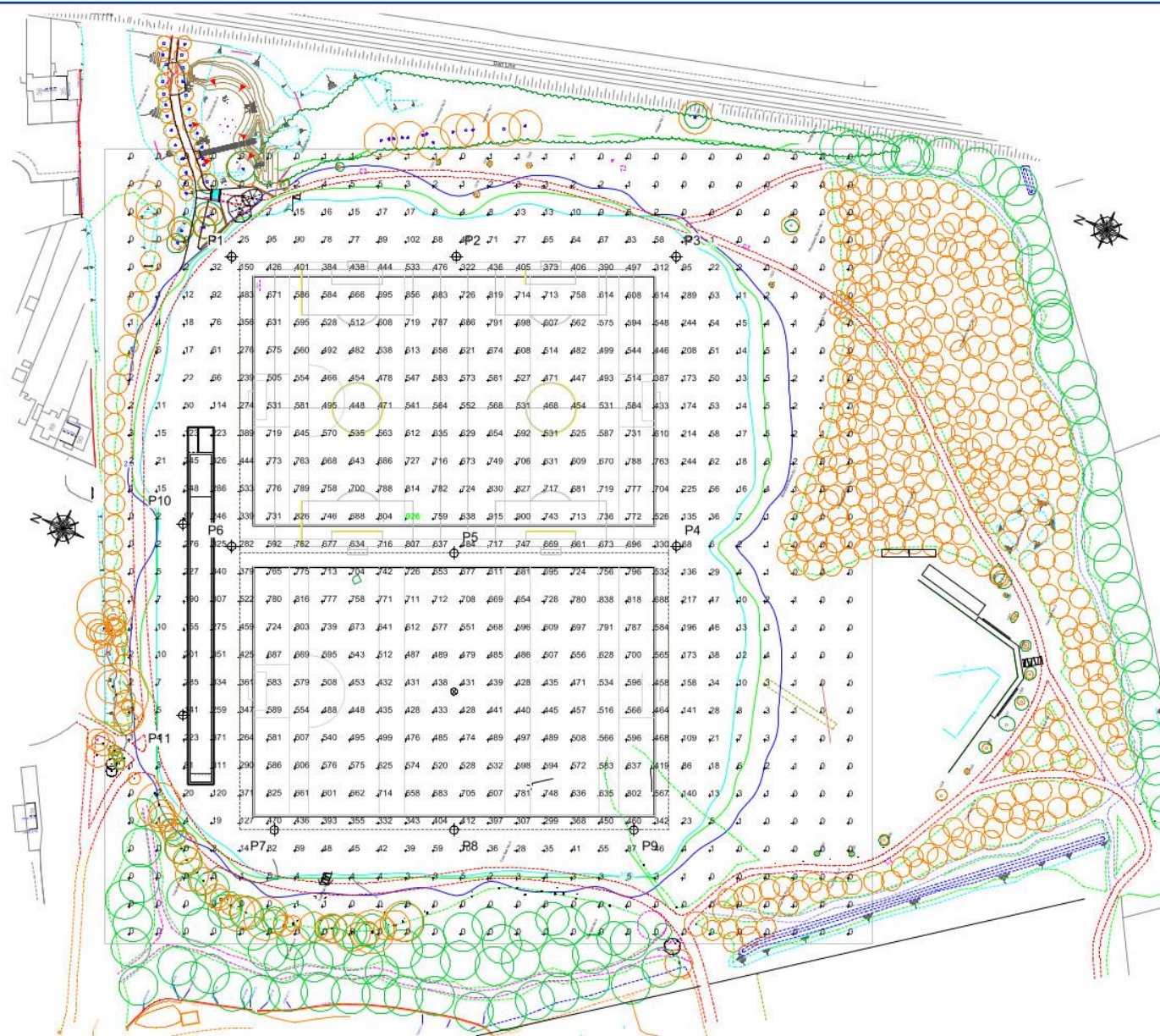
Applied Circuits: A, B, C, D  
**No. of Luminaires: 131**  
 Total Load: 170.05 kW

**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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



SCALE 1: 1500  
 0 15m 30m

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

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## ILLUMINATION SUMMARY

Figure 4. Proposed lighting – spill blanket

## Shanganagh Park Phase 1

Dublin, Leinster

GRID SUMMARY	
Name:	Spill line
Spacing:	10.0m
Height:	1.0m above grade

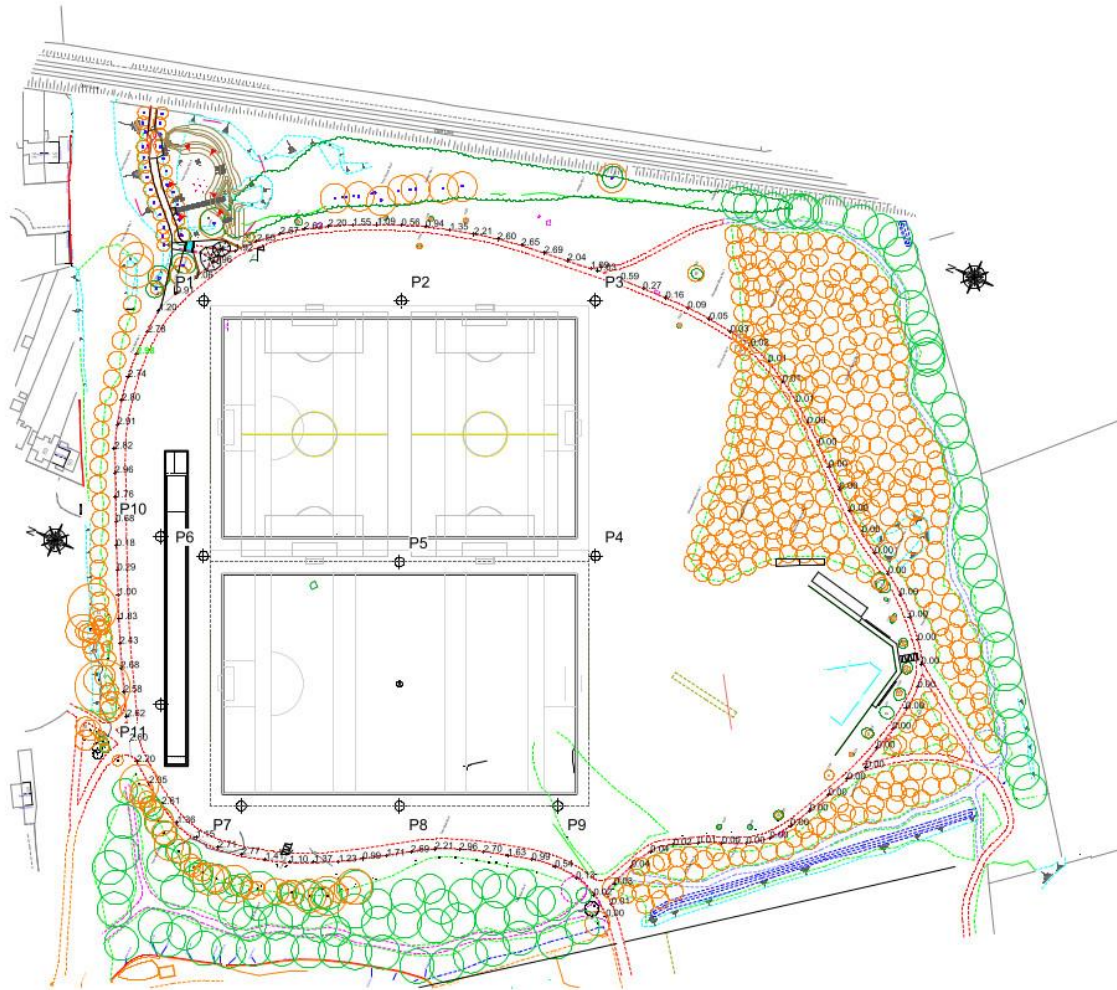
ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	Entire Grid 1.1053
Maximum:	2.98
Minimum:	0.00
No. of Points:	102
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D
No. of Luminaires:	131
Total Load:	170.05 kW

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**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: 2000



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Pole location(s)  $\oplus$  dimensions are relative to 0,0 reference point(s)  $\otimes$



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**ILLUMINATION SUMMARY**

Figure 5. Proposed lighting – spill line

## Shanganagh Park Phase 1

Dublin, Leinster

### EQUIPMENT LAYOUT

#### INCLUDES:

- Football 1
- Football 2
- GAA Pitch 1
- GAA Pitch 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.

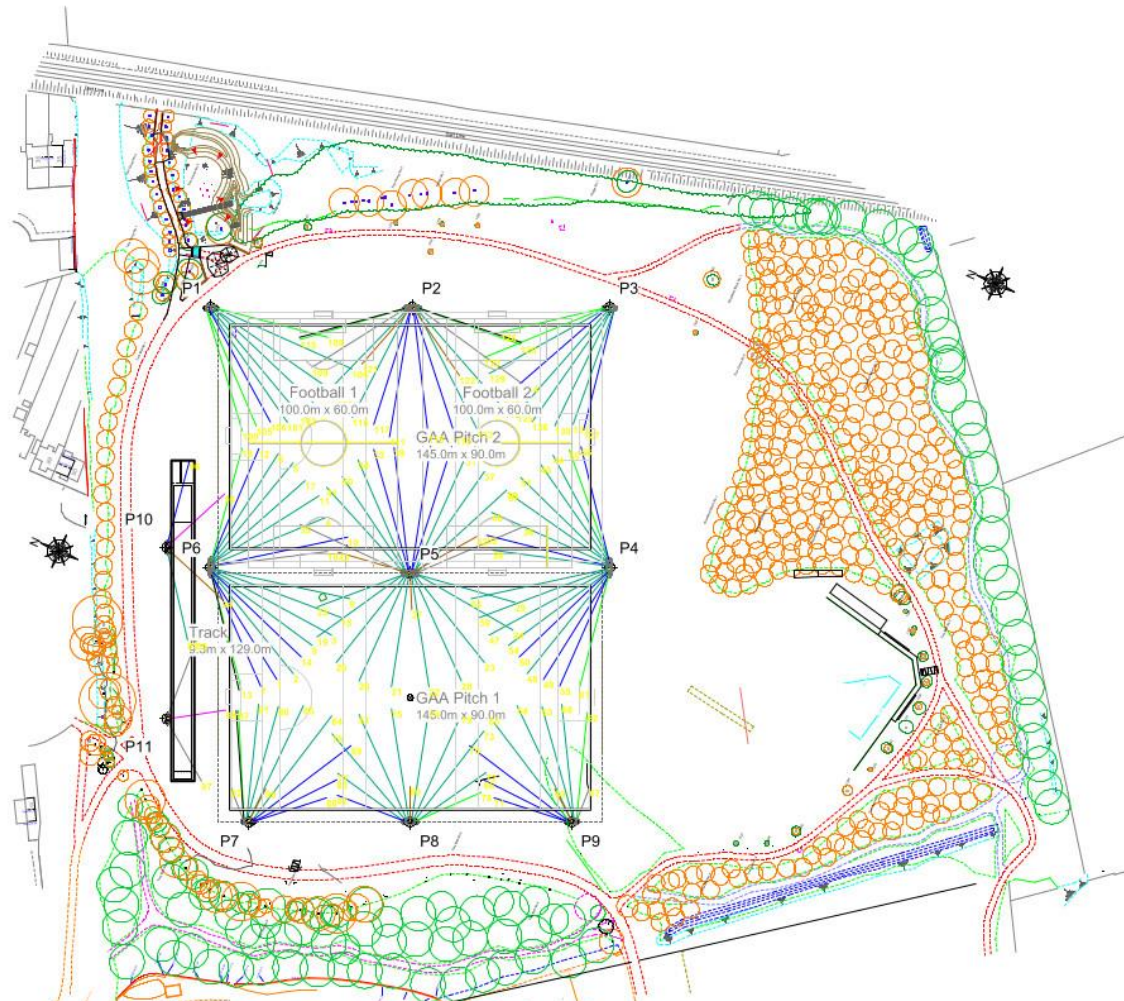
### EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires			QTY/POLE	
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	POLE		
1	P1	24.38m	-	24.38m	TLC-LED-1500	5	5	
				24.38m	TLC-LED-900	4	4	
1	P2	24.38m	-	18.29m	TLC-LED-1500	2	2	
				24.38m	TLC-LED-1500	12	12	
1	P3	24.38m	-	24.38m	TLC-LED-1500	4	4	
				24.38m	TLC-LED-900	5	5	
2	P4, P6	24.38m	-	24.38m	TLC-LED-1500	18	18	
1	P5	24.38m	-	24.38m	TLC-LED-1500	10/12*	10/12*	
				18.29m	TLC-LED-1500	2	2	
				24.38m	TLC-LED-900	1	1	
2	P7, P9	24.38m	-	24.38m	TLC-LED-1500	5	5	
				24.38m	TLC-LED-900	5	5	
1	P8	24.38m	-	24.38m	TLC-LED-1500	6	6	
				24.38m	TLC-LED-900	5	5	
1	P10	15.24m	-	15.24m	TLC-LED-900	4	4	
1	P11	15.24m	-	15.24m	TLC-LED-900	3	3	
11	TOTALS						131	131

\* This structure utilizes a back-to-back mounting configuration

### SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)				
	220 150	230 160	240 170	380 270	400 280
Single Phase Voltage	5.0	4.8	4.6	2.9	2.8
TLC-LED-900	8.1	7.7	7.4	4.7	4.4
TLC-LED-1500				4.3	



SCALE 1: 2000  
0 20m 40m

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

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EQUIPMENT LAYOUT

Figure 6. Proposed lighting – equipment layout

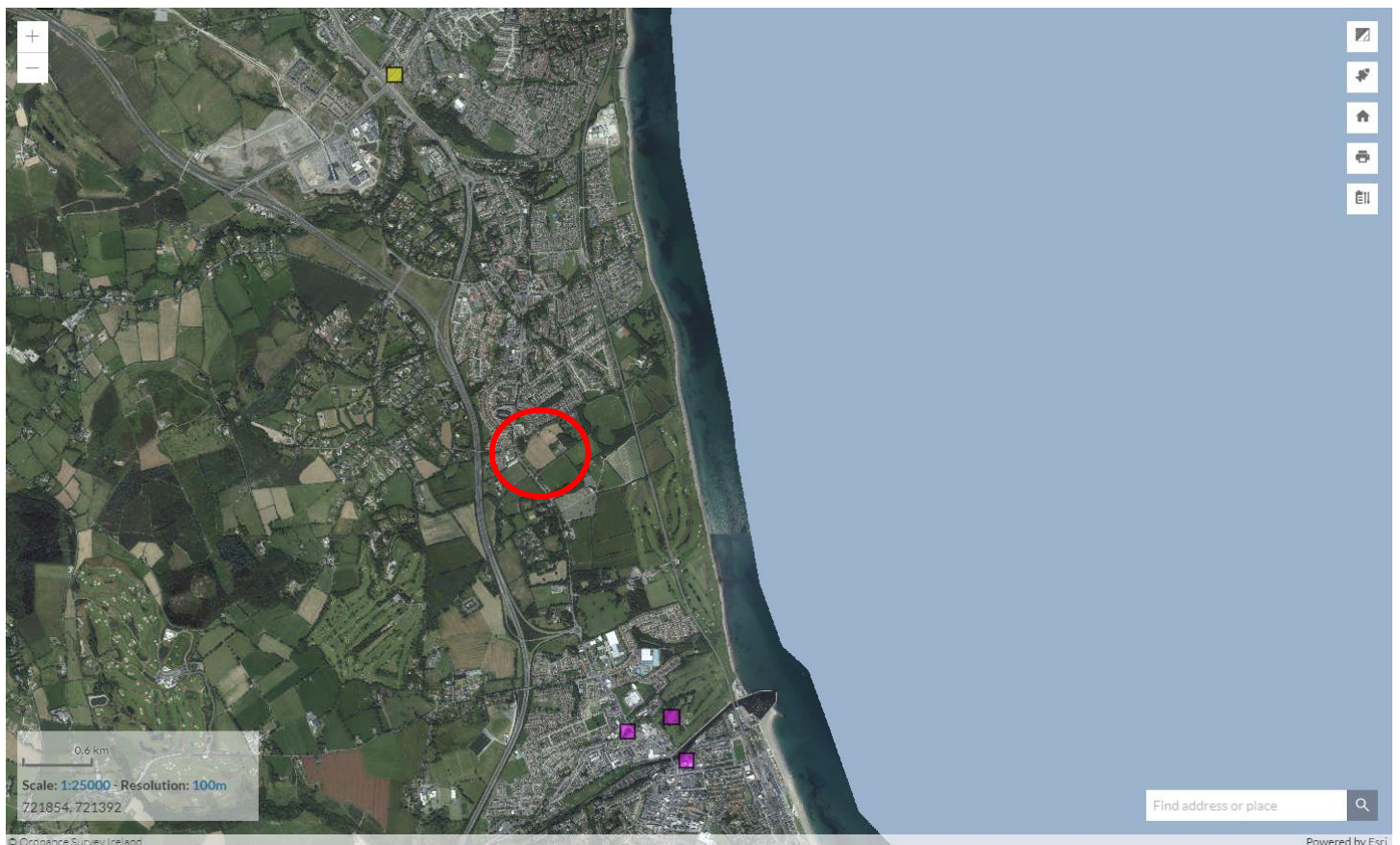
## Bat assessment findings

### Review of local bat records

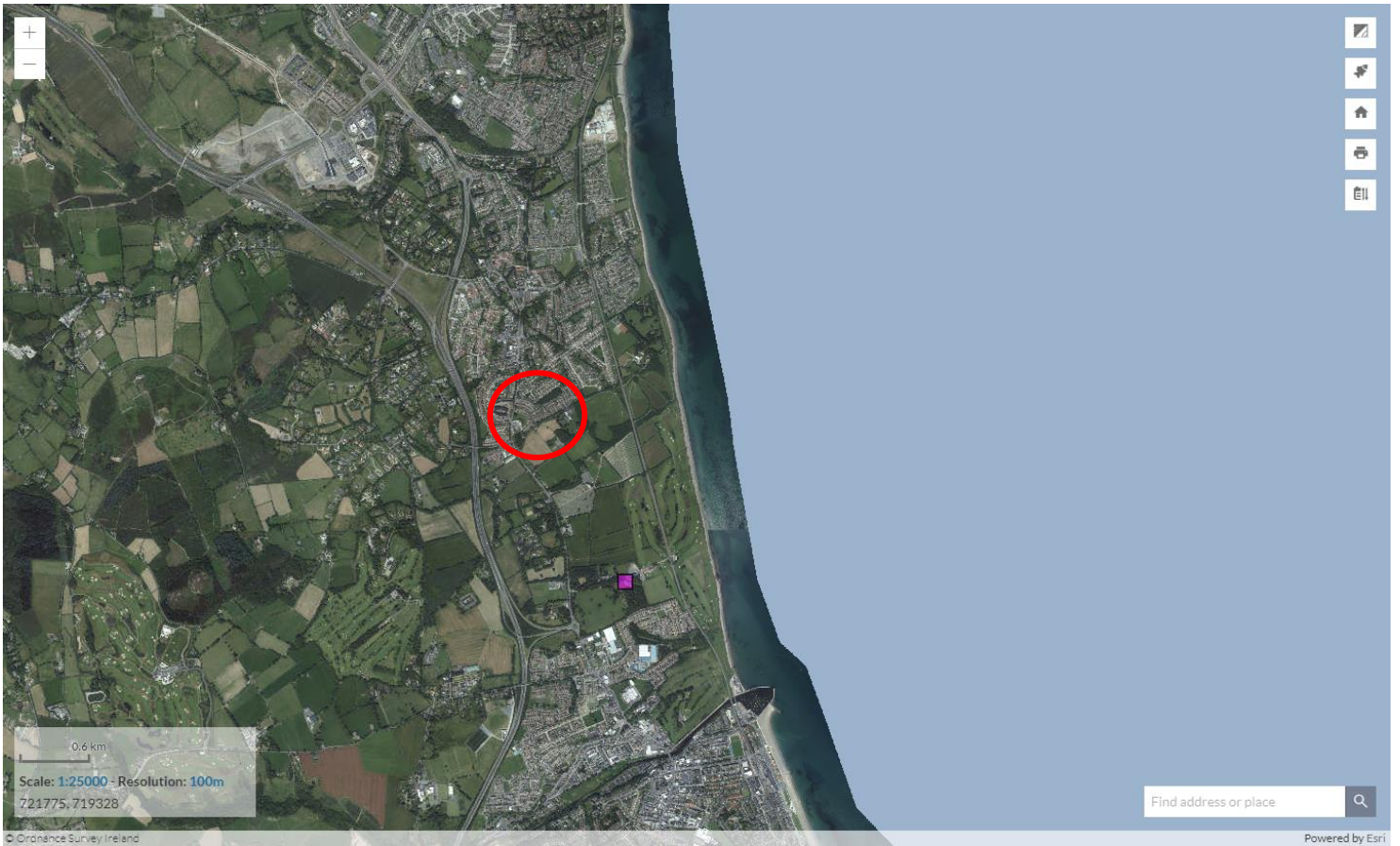
The review of existing bat records (sourced from *Bat Conservation Ireland's* National Bat Records Database) within 2km<sup>2</sup> grids (Reference grids O22K & O22Q) encompassing the study area reveals that four of the nine known Irish species have been observed locally (Table 1). The National Biodiversity 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 7-9. 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 7-9).

**Table 1:** Status of bat species within two 2km<sup>2</sup> grid encompassing the subject site (Reference nos. O22K & O22Q)

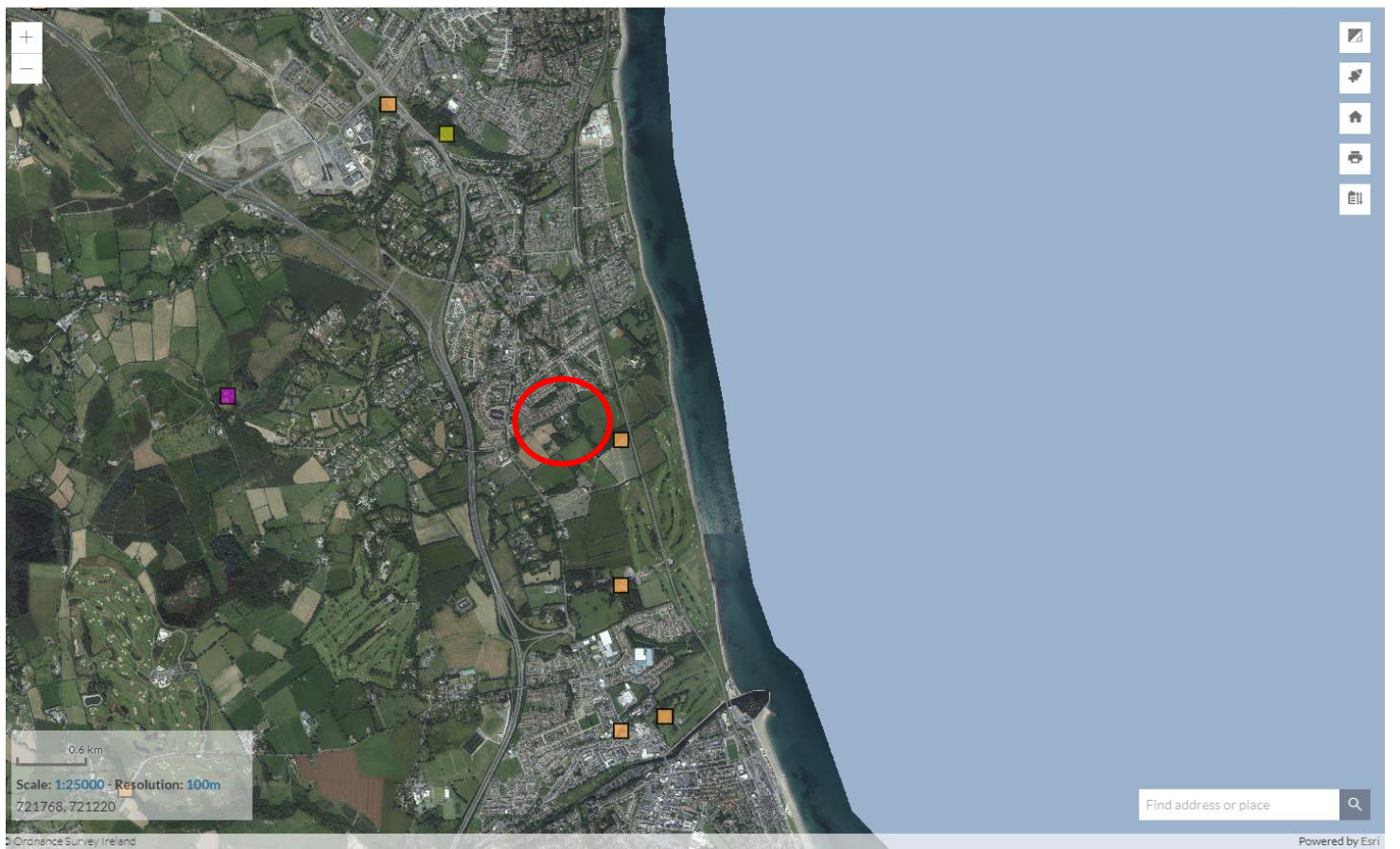
Species name	Record count	Date of last record	Note
Lesser Noctule ( <i>Nyctalus leisleri</i> )	1	16/07/2007	National Bat Database of Ireland
Natterer's Bat ( <i>Myotis nattereri</i> )	1	16/07/2007	National Bat Database of Ireland
Pipistrelle ( <i>Pipistrellus pipistrellus sensu lato</i> )	2	16/07/2007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



**Figure 7.** Brown Long-eared Bat (*Plecotus auritus*) (yellow) and Daubenton's Bat (*Myotis daubentonii*) (purple) (Source NBDC) (Site – red circle)



**Figure 8.** Natterer's Bat (*Myotis nattereri*) (purple) (Source NBDC) (Site – red circle)



**Figure 9.** 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

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.

### Potential impacts of proposed redevelopment on bats

No roosts bats were on site. Lighting during construction and operation has the potential to impact on foraging of bats on site. Discussions took place between Altamar and Musco Lighting consultants to ensure that the proposed floodlighting 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 (blue contour) and would therefore not prohibit bats from using existing foraging corridors.

### Mitigation measures

As no evidence of a bat roost was noted in any of the onsite structures, no mitigation measures in regard to these animals are needed during the proposed works. There is also no requirement for a *National Parks and Wildlife Service* derogation licence application to allow the planned works. However, as a precaution lighting at all stages should be done sensitively on site in consultation with a project ecologist, with no direct lighting of woodlands.

In discussion with Altamar a lighting strategy was prepared to further limit the potential impact of lighting on bats. The floodlighting will be operational, when required, potentially from 7am until 22:00, 7 days a week from October 15<sup>th</sup> to March 31<sup>st</sup>, during the main bat hibernation period. From April 1<sup>st</sup> to October 14<sup>th</sup> 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 as seen (Table 1.)

**Table 1.** Proposed lighting times

	<b>Time ON Civil Twilight 1<sup>st</sup> of each month</b>	<b>Time OFF Mon to Thu</b>
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.

## 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 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.

## Legal status and conservation issues – bats

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

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

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

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

Also, under existing legislation, the destruction, alteration or evacuation of a known bat roost is a notifiable action and a derogation licence has to be obtained from the *National Parks and Wildlife Service* before works can commence.

It should also be noted that any works interfering with bats and especially their roosts, including for instance, the installation of lighting in the vicinity of the latter, may only be carried out under a licence to derogate from Regulation 23 of the Habitats Regulations 1997, (which transposed the EU Habitats Directive into Irish law) issued by NPWS. The details with regards to appropriate assessments, the strict parameters within which derogation licences may be issued and the procedures by which and the order

in relation to the planning and development regulations such licences should be obtained, are set out in Circular Letter NPWS 2/07 "*Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 - strict protection of certain species/applications for derogation licences*" issued on behalf of the Minister of the Environment, Heritage and Local Government on the 16<sup>th</sup> of May 2007.

Furthermore, on 21<sup>st</sup> September 2011, the Irish Government published the European Communities (Birds and Natural Habitats) Regulations 2011 which include the protection of the Irish bat fauna and further outline derogation licensing requirements re: European Protected Species.

## References

Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982

Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992

European Communities (Birds and Natural Habitats) Regulations 2011 Government of Ireland, Dublin

Kelleher, C. and Marnell, F. 2007 *Bat Mitigation Guidelines for Ireland – Irish Wildlife Manuals No. 25*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin

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

Wildlife Act 1976 and Wildlife Amendment Acts 2000 and 2010. Government of Ireland

Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)

[https://cdn.bats.org.uk/pdf/Resources/Bat\\_Survey\\_Guidelines\\_2016\\_NON\\_PRINTABLE.pdf?mtime=20181115113931&focal=none](https://cdn.bats.org.uk/pdf/Resources/Bat_Survey_Guidelines_2016_NON_PRINTABLE.pdf?mtime=20181115113931&focal=none)

Bat Mitigation Guidelines for Ireland (NPWS, 2006)

<https://www.npws.ie/sites/default/files/publications/pdf/IWM25.pdf>

Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006).

[https://www.tii.ie/technical-services/environment/planning/Best\\_Practice\\_Guidelines\\_for\\_the\\_Conservation\\_of\\_Bats\\_in\\_the\\_Planning\\_of\\_National\\_Road\\_Schemes.pdf](https://www.tii.ie/technical-services/environment/planning/Best_Practice_Guidelines_for_the_Conservation_of_Bats_in_the_Planning_of_National_Road_Schemes.pdf)



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### TECHNICAL NOTE

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Project **Shanganagh Park Masterplan**

Subject **Hydrogeological assessment**

Author **Teri Hayes BSc MSc PGeo**

Date **27 April 2002**

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### **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 impacts 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 PGeo 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](http://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).

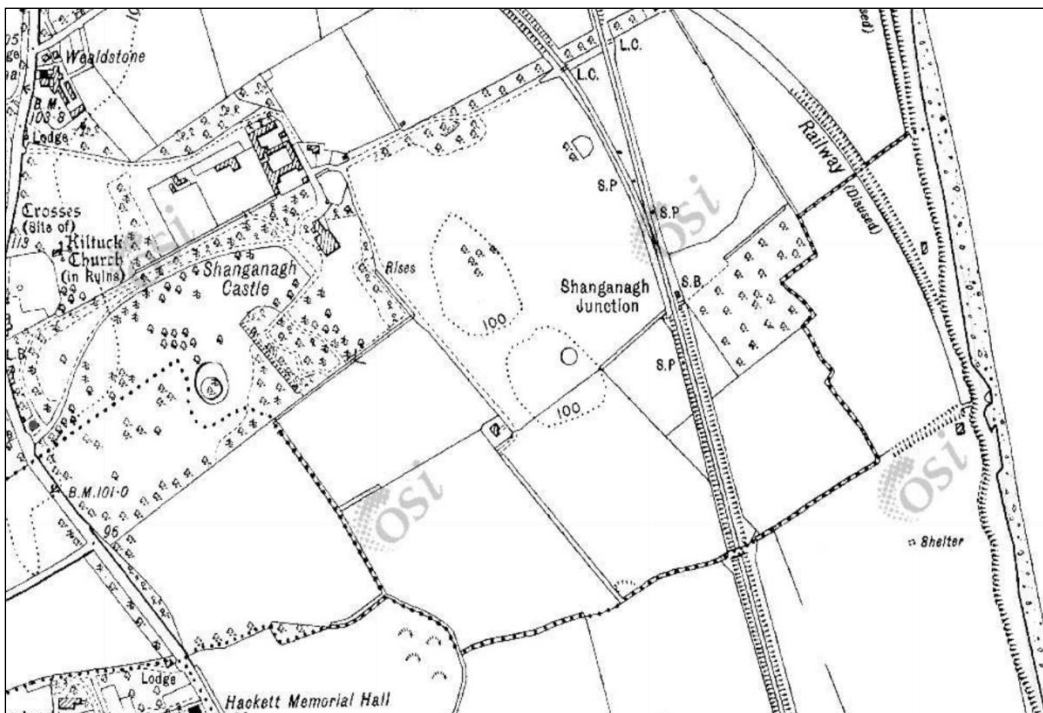
A review of the trial pit logs shows that this area is underlain by:

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 Impacts 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 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.

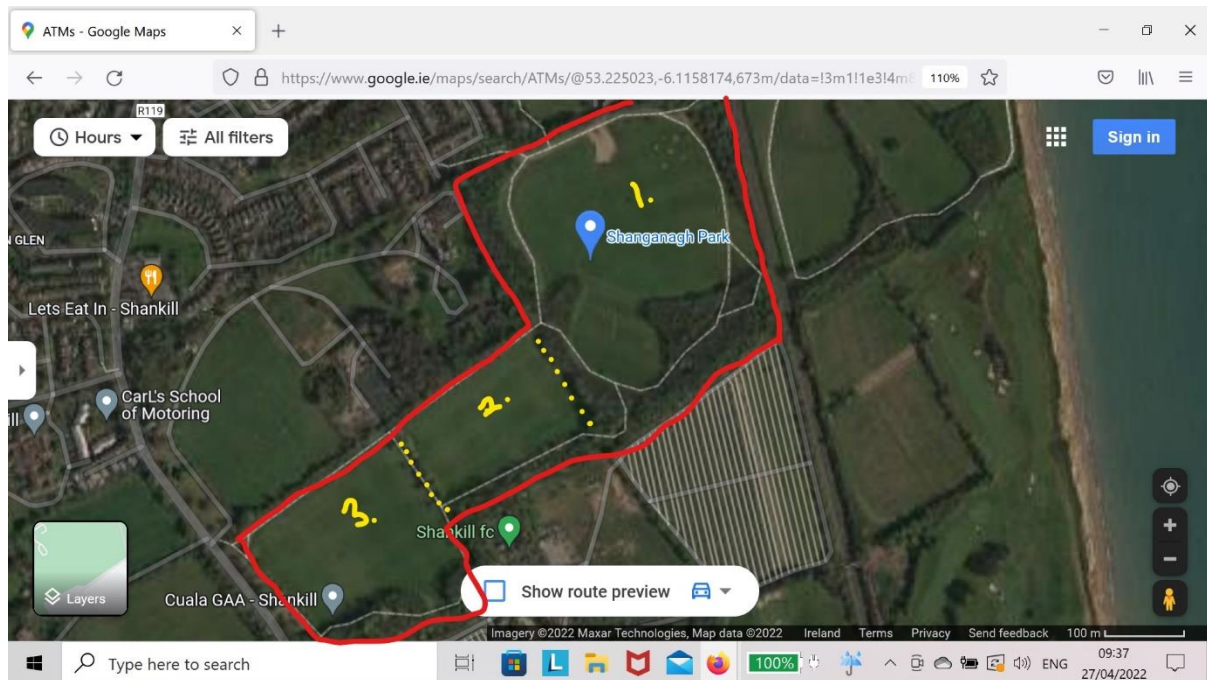
## **Introduction**

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 8<sup>th</sup>, 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 29<sup>th</sup>, 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 10<sup>th</sup>, 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 19<sup>th</sup>, 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 3<sup>rd</sup>, 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 19<sup>th</sup>, 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 8<sup>th</sup>, 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 29<sup>th</sup>, 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 9<sup>th</sup>, 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 26<sup>th</sup>, 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 11<sup>th</sup>, 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 27<sup>th</sup>, 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 has 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.