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Marine & Environmental Consultancy

Ecological Impact Assessment (EclA) for a Proposed Residential Development at Scholarstown Road, Dublin 16, Co. Dublin.



4th May 2023

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

On behalf of: Emmaville Ltd.

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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 EclA has been prepared by Altemar Ltd. at the request of Emmaville Ltd. in response to a Request for Further Information (RFI) issued by South Dublin County Council (SDCC) in relation to a proposed residential development at Scholarstown Road, Dublin 16, Co. Dublin (Planning Ref. SD22A/0401).

Study Objectives

The objectives of this EclA are to:

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

The following guidelines have been used in preparation of this 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 28 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

Project Description

Request for Additional Information

This report has been prepared by Altemar Ltd. at the request of Emmaville Ltd. in response to a formal Request for Further Information (RFI) issued by South Dublin County Council (SDCC) in relation to a proposed residential development at Scholarstown Road, Dublin 16, Co. Dublin (Planning Ref. SD22A/0401). Specifically, SDCC requested the following on the 15th December 2022:

'6. (a) Given the extent of existing trees and vegetation onsite and the number proposed for removal, the applicant is requested to assess the full ecological impact assessment of the proposed development as appropriate. This might include a breeding bird survey and other assessments.

(b) Additional tree planting should be provided as part of the landscape proposals in order to ensure that there is a positive net gain in terms of new tree proposed compared to those being removed. As a minimum existing tree lost should be replaced on a 3:1 ratio basis. Full details of all proposed tree planting should be provided on a detailed planting plan. This planting plan will include planting and maintenance specifications, including cross-section drawings, use of guards or other protective measures and confirmation of location, species and sizes, nursery stock type, supplier and defect period.'

Development Description (Submitted Application)

Emmaville Limited intend to apply for: Permission for development at this site: Scholarstown House, Scholarstown Road, Dublin 16, D16 E2H9.

The development will consist of:

- a) The demolition of the 4 no. existing shed structures on site within the curtilage of the protected structure;
- b) The retention and conversion of Scholarstown House (Protected Structure) into two no. units comprised of 1 no. 2-bed and 1 no. 3-bed units served by private open space in the form of ground floor terraces. The proposed works to Scholarstown House include but are not limited to internal re-configuration; the re-location of the staircase to its original location within the house; the removal of non-original features including the closing up of non-original openings; and the creation of a new door opening within the existing alcove, and the blocking up of a window opening both located on the northern elevation.
- c) The construction of a 5-storey apartment block containing 74 no. apartment units comprised of 32 no. 1-bed apartments, 33 no. 2-bed apartments, and 9 no. 3-bed apartments all served by private open space in the form of balconies and/or ground floor terraces.
- d) The proposed development also includes 100 sq.m of residential amenities and facilities consisting of but not limited to a reception, communal amenity room and parcel room.
- e) The development will be served by a total of 40 no. car parking spaces including 8 no. EV parking spaces and 183 no. cycle parking spaces accessed via a new pedestrian and vehicular access off Orlagh Grove with the existing entrances on Scholarstown Road and Orlagh Grove being re-configured to provide for pedestrian and cycle access.
- f) The development will also consist of all ancillary development works required to facilitate the development including but not limited to, plant rooms, a substation, bin stores, landscaping, boundary treatments and lighting.

The development to be applied for includes a building on the South Dublin County Council Record of Protected Structures: Scholarstown House (RPS Ref: 322).

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

Landscape

The landscape strategy for the proposed development has been prepared by Cunnane Stratton Reynolds to accompany this planning application. The proposed overall landscape plan is demonstrated in Figure 4.



0 0.5 1 1.5 km

Project: Scholarstown House
 Location: Scholarstown Road, D16
 Date: 20th April 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 1. Site outline and location



Project: Scholarstown House
 Location: Scholarstown Road, D16
 Date: 20th April 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
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Figure 2. Site outline

Arborist

An Arboricultural Report has been prepared by Charles McCorkell Arboricultural Consultancy to accompany this planning application. This report details the following arboricultural impact of the proposed development:

'Loss of Trees – The proposed development requires the removal of 56 trees and five groups of trees. Of the survey entries to be removed, six trees are of moderate quality and value (B Category), 34 trees and five tree groups are of low quality and value (C Category), and 16 trees are of poor quality (U Category).

The majority of trees to be removed are of low and poor quality; however, due to their large size and prominent location, they are of visual public amenity value and their loss will have a moderate impact on the appearance of the surrounding landscape. In addition, considering the number of trees to be removed, there will also be an initial impact on the canopy cover of the immediate local area.'

The tree survey and constraints plan, tree removals plan, and tree protection plan are demonstrated in Figures 5-7.

Drainage

An Engineering Report has been prepared by Horganlynch Consulting Engineers to accompany this planning application. This report outlines the following foul and surface water drainage strategy for the proposed development:

Foul Water

In relation to foul wastewater drainage, this report outlines the following:

'Record drawings as issued by Irish Water in response to a pre connection enquiry identify foul drainage networks south west of the site at Orlagh Green and west of the site in Orlagh Crescent. These networks being as follows:

- 225mm dia. foul along at junction of Orlagh Grove and Orlagh Green
- 225mm dia. foul along Orlagh Way'

'A topographical survey was carried out at the site and this was extended to include the invert levels of the nearest foul drainage manholes. Resulting from this survey it was found that the invert levels were such that the development could not be served solely by a gravity foul sewerage system and the pumping of foul is required. It is proposed that the foul from the development be collected in a gravity foul sewer which will discharge to a pumping station at the south west corner of the site, The foul will be pumped a height of circa 1m a short distance to a manhole at the entrance to the site and from this manhole will discharge via a gravity foul sewer to the Irish Water network at the junction of Orlagh Grove and Orlagh Green.'

Surface Water

In relation to surface water drainage, this report outlines the following:

'Record drawings as issued by Irish Water identify storm drainage pipework along Orlagh Grove and Scholarstown Road. These services being as follows:

- 1200mm concrete pipe and 225mm unknown pipe on Orlagh Grove
- 1200mm concrete pipe and 225mm unknown pipe on Scholarstown Road

A pre-planning meeting was held between the design team for the development and South Dublin City Council, the agenda of which included a discussion on the strategy for the disposal of surface water from the site. Arising from this meeting, it is the desired wish of SDCC that all surface water, where possible, be addressed within the site by means of site infiltration etc. and that little to no surface water from the site be discharged to the local authority storm drainage system.

A geotechnical site investigation was carried out at the site and in the case of soil infiltration, this investigation found as follows:

5.5. Soakaway Design

At the locations of SA02 the water level dropped too slowly to allow calculation of 'f' the soil infiltration rate. These locations are therefore not recommended as suitable for soakaway design and construction.

In view of the findings from the Geotechnical site investigation it is evident that 100% on-site infiltration cannot be achieved. That said, by implementing suds features throughout the development, a sustainable strategy for

surface water drainage design can be achieved and the run-off from the site should reflect the present green field run off.

The strategy for surface water drainage design is to include the following suds features:

- Green roof technology throughout the development
- Introduction of swales to the west of the development
- Introduction of retention basins/winter gardens to the north of the development
- Permeable paving for the length of the access road

The public realm will include a significant area of soft landscaping and it is proposed to incorporate Suds features such as tree planters & hardstand areas complete with underlying free draining aggregate and drainage board throughout the development.

At the south west corner of the site, surface water will be discharged to the existing surface water drainage system on Orlagh Grove. This discharge will be controlled by means of a flow restrictor to reflect the present green field run off from the site.'

The proposed foul, surface water drainage, and catchments layout is demonstrated in Figures 8 - 10.

Flood Risk Assessment

A Site-specific Flood Risk Assessment Report has been prepared by Horganlynch Consulting Engineers to accompany this planning application. This report concludes with the following:

'It is the considered view that the proposed development can be delivered on the subject site in the context of flood risk to same and that the mitigating measures can be accommodated by the site's detail design and surface water drainage design. The OPW's document 'The Planning System and Flood Risk Assessment Management – Guidelines For Planning Authorities' require that the proposed development is compatible with the flood risk for the site. In accordance with these guidelines, the subject site is located within Flood Zone 'C'. Lands in Flood Zone 'C' are suitable for all types of land use, including Residential type developments such as this, which is classified as 'less vulnerable development' in the Guidelines. In light of this, the proposed development is suitable for this type of flooding zoning and the Planning Guidelines Sequential Approach is passed.

In summary, it is concluded that the proposed development meets the requirements of the Flood Risk Assessment Guidelines and that the proposed development is appropriate to this zone and a justification test is not required.'



Figure 5. Tree Survey and Constraints Plan



This drawing is to be used in conjunction with the arboricultural schedule and reports prepared for this project.
 Where contradictions between the drawings and any other design information become apparent, the respective parties should be contacted immediately.
 As the responsibility of the main site contractor to check and verify all information and measurements made and confirm prior to the commencement of work, and to ensure that all site operations such as excavation with respect to arboriculture comply with BS5837:2012. Trees in situ to be removed, retained and maintained.

BS5837:2012 Tree Categorisation

- **Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years
- **Category B**
Trees of medium quality with an estimated life expectancy of at least 20 years
- **Category C**
Trees of low quality with an estimated life expectancy of at least 10 years, or young trees with a clear diameter below 100mm
- **Category D**
Trees in such a condition that they cannot realistically be retained as long trees in the context of the current land use for longer than 10 years

Key

- Root Protection Area**
The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability
- Tree, Shrub or Hedge Row Group**
- T2** **Reference Number for Tree, Group or Hedge Row**
- Trees to be removed to facilitate the development shown shaded grey and dashed**
- Trees to be removed for arboricultural reasons shown shaded orange and dashed**
- SGCC Tree T19 to be removed to facilitate the proposed site entrance shaded cyan and dashed**
- Site boundary**

Revision	Date	Description
Title		
Tree Removals Plan		
Project		
Scholarstown House		
Client		
Ennerville Ltd.		
Scale	Sheet	Block
1:250	04/1	1/250 @ A1
Drawn by	Checked by	Scale
CMC	CMC	1/250
Created by	Project No.	
CMC	210000-P-11	
<small>This drawing is the property of Charles McCorkell and Associates and is not to be used for any other project without the written consent of Charles McCorkell and Associates. The user of this drawing is to be held responsible for any errors or omissions.</small>		
CHARLES MCCORKELL		
ARBORICULTURAL CONSULTANCY		
<small>T: 003 843 7015 E: charles@charlesmccorkell.com W: www.charlesmccorkell.com</small>		

Figure 6. Tree Removals Plan

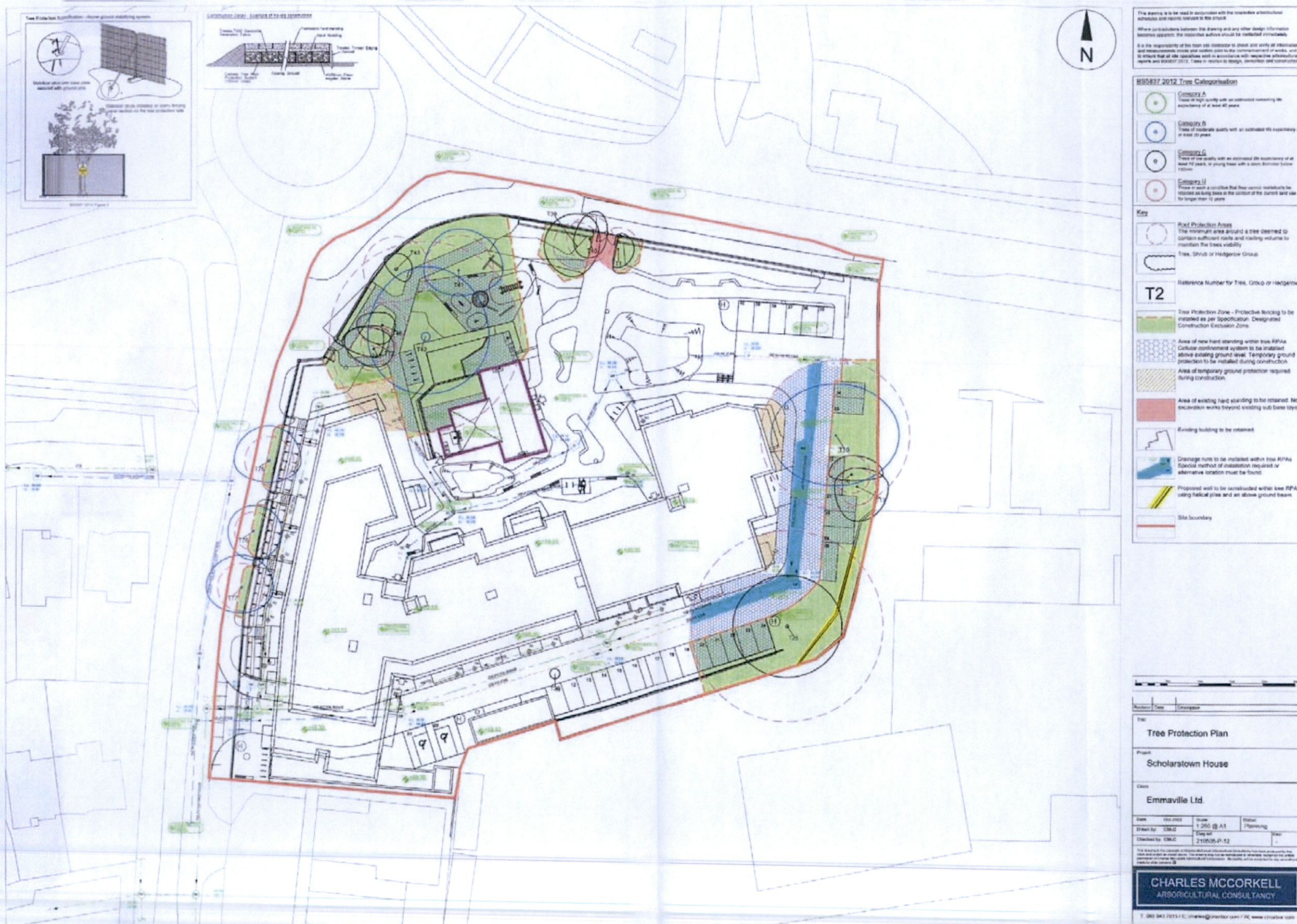


Figure 7. Tree Protection Plan



Figure 8. Proposed Storm Drainage Layout



Figure 9. Proposed Storm Catchment Areas

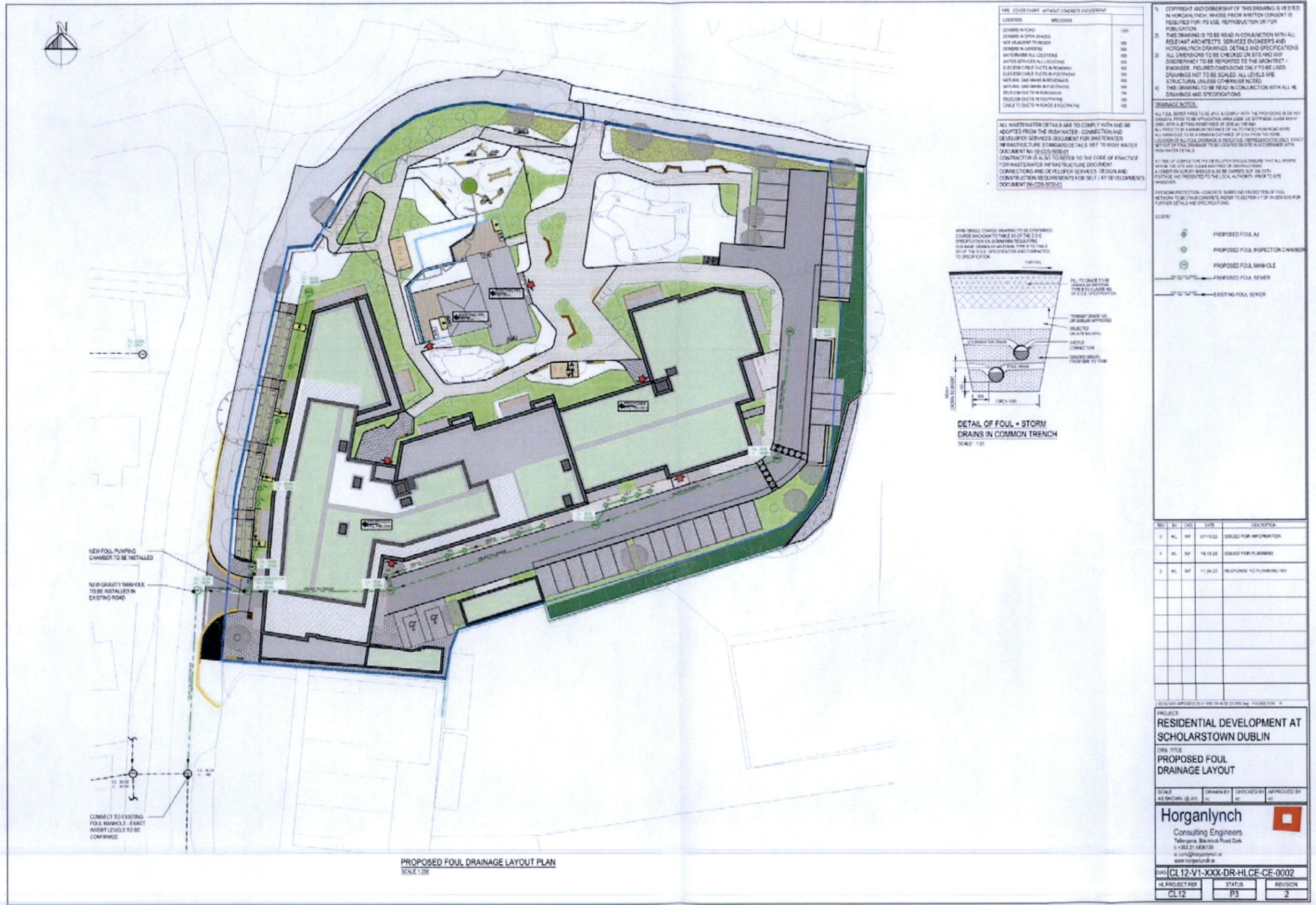
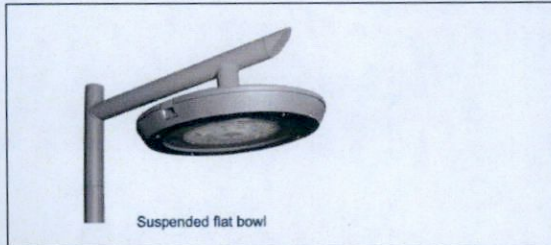


Figure 10. Proposed Foul Drainage Layout

Lighting

An External Lighting Study has been prepared by Marson Consulting Engineers to accompany this planning application. This report details the following lighting strategy for the subject site:



Suspended flat bowl

DESCRIPTION

Product name	ITEM 500
Housing	Die cast aluminium
Plates	SMOOTH, HONEYCOMB or TRAJD plate
Bowl	Thermally tempered and screen printed flat glass (VPC) Deep clear polycarbonate bowl (PHC), optional internal diffuser
Finish	Polyester powder coating, any colour available
Mechanical impact protection code	IK 10
Ingress Protection	IP66 Extruded silicone gasket Cable gland with anchoring device Breathing system with activated carbon filter
Mounting	LTO 60: Directional covering lateral top for Ø 60 mm, SM: Suspended with a threaded Nipple Ø 27 pdg (G3/4") and Ø 34 pdg, SR: Suspended with swivel joint,
Electrical class	I or II
Ambient temperature	- 40°C to + 55°C

MAINTENANCE

Maintenance	The luminaire cover can be opened without tools using the 2 flaps. The luminaire is held in the open position by a safety stay. Quick electrical disconnection without tools. Circuit board removable onsite without tools. Access to the LED sources after removal of the bowl.
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LED SOURCES

Sources	BLS Strips (8 to 72 LED)
Colour temperature (K)	BLS Strips: 2700 K (others upon request)
CRI	> 70 (others upon request)
Luminaire SDCM	<4
LED lifetime	L90 > 100 000 h

Optics and light distribution options

Photobiology RG1 (3000 K)

MAXIMUM PERFORMANCES (SEE ANNEX FOR ALL LED MODULES OPTIONS)

ITEM 500 - BLS (36 LED)			
	Flux ^(A) at 700 mA (lm)	Power ^(B) (W)	Efficiency (lm/W)
2700 K	9061	75	121

(A) Output flux from the luminaire at commissioning (including thermal and optical yields compared to the Flux from sources) for given optics, maximal current and ambient temperature 25°C, as per IEC 62711 and IEC 62722 standards
(B) Total power absorbed by the luminaire including all electrical equipment, as per IEC 62717 and IEC 62722 standards.

DRIVER

Power	230 V / 240 V - 50 Hz / 60 Hz / pSurge protection 10Kv
Brand	Philips Xitanium Full Prog or OSRAM 4 DIM - D4i option (SR and DEXAL)
Power factor	90% minimum
Total harmonic distortion	15% max
Current	Dimmable current up to 1000 mA
Lifetime	10% failure at 100 000 hours
Control	DALI or 1-10V

SMARTLIGHTING (OPTIONS)

Smart-ready®	Pre-configuration, to connect communicating systems with Sensor Ready drivers, to a base in compliance with ZHAGA Book 18.
Standalone solutions	Dimming calculator from 2 to 5 slots (Dimming 5, POLEDRIE or POLEDRIE Bluetooth) Motion sensor (Motion, Motion P, Motion DALI, MD) Motion sensor combined with dimming calculator (Motion P, Motion 5, MD) Constant Light Output (CLO) Adjustable driver (POLEDRIE)
Local Network	Luminaires group: detection through ZIGBEE 3.0 communication protocol or pilot wires.
Telemangement	WIZARD - ECLATEC

STANDARDS / MARKING / CERTIFICATIONS

Compliance	CE marking requirements: - Directive 2014/35/EU, Low voltage Directive - Directive 2014/130/EU Electromagnetic Compatibility - Directive 2011/65/EU Restriction of Hazardous substances (RoHS) - Directive 2009/125/EC Ecodesign requirements
NF EN 15201	In accordance with the lighting calculations issued.
REACH	Products conformity regulatory management of chemicals
WEEE	(Waste Electrical and Electronic Equipment) Manufacturer involvement

WARRANTY

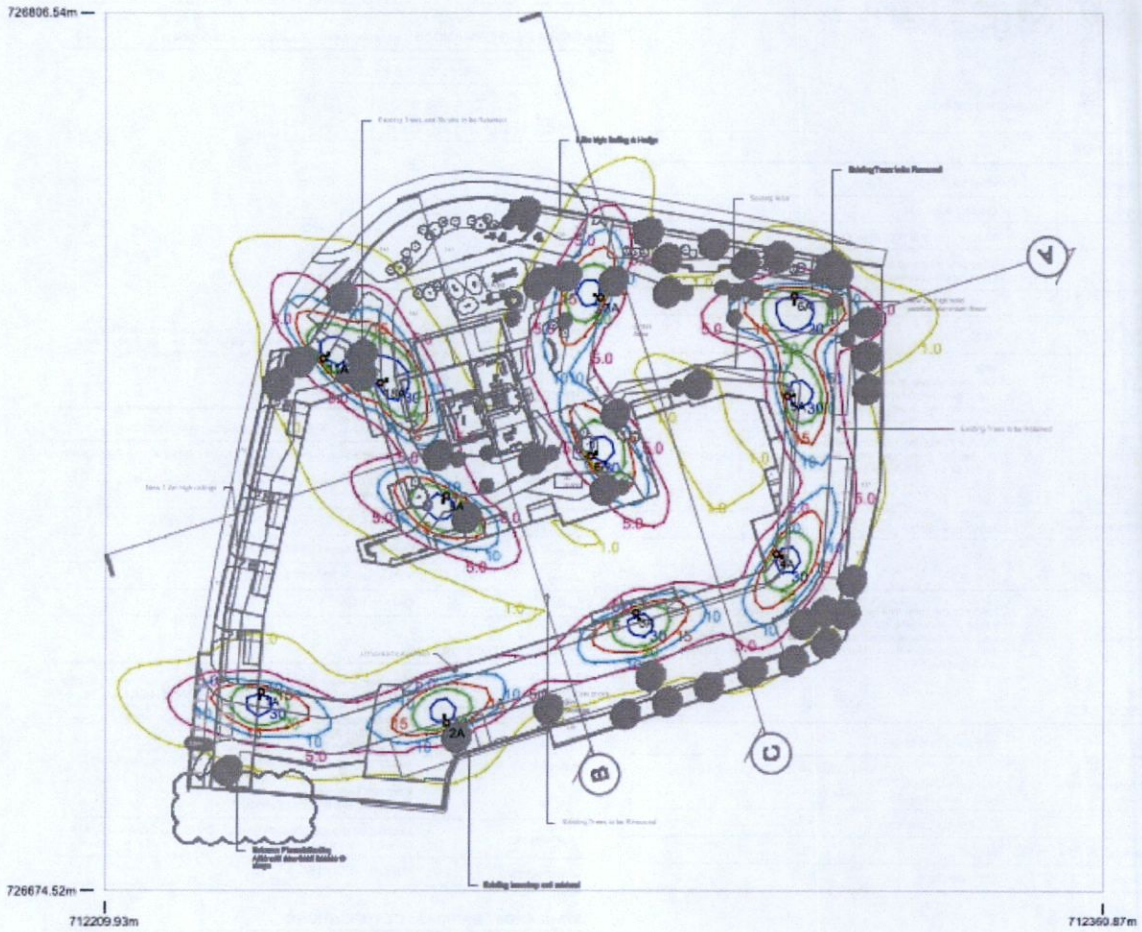
According to our general sales conditions

Further, this report details that the columns will be 6m in height.

The proposed Horizontal Illuminance (lux) grid for the subject site is demonstrated in Figure 11.

Horizontal Illuminance (lux)

Grid 1



Results

Eav	11.70
Emin	0.21
Emax	44.51
Emin/Emax	0.00
Emin/Eav	0.02

Figure 11. Proposed Horizontal Illuminance (lux) Grid

Ecological Assessment Methodology

Desk Study

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

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

A provisional desk-based assessment of the potential species and habitats of conservation importance was carried out in March 2023 and updated in April 2023. Altemar assessed the project, the proposed construction methodology and the operation of the proposed development.

Field Survey

An initial field survey was carried out by Altemar Ltd. on the 8th September 2022, following completion of the desk-based assessment. A site visit was carried out by Bryan Deegan in relation to flora, fauna and included a bat survey. A second survey was carried out by Altemar on the 4th April 2023. The surveys were carried out in mild dry conditions and covered all the lands within the site outline and the land immediately outside the site. The purpose of the field survey was to identify habitat types according to the Fossitt (2000) habitat classification and map their extent. In addition, more detailed information on the species composition and structure of habitats, conservation value and other data were gathered.

Survey Limitations

The field surveys were carried out in September and April. This is within the period for full species assessments of the floral cover in addition to bat and mammal surveys. An assessment of breeding birds was carried out on the 4th April 2023. Weather conditions were mild and dry and allowed a bat detector surveys to take place. It should be noted that good coverage of the site was possible and there was full and clear access to all areas. This is no limitation in relation to the survey timings.

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.

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 Zol of the proposed project would be seen to be restricted to the site outline, with potential for minor localised noise impacts during construction which do not extend significantly beyond the site outline nor are they likely to have any significant effects on any designated conservation sites.

However, there is the potential for increased lighting impacts on bat species during construction and operation. Standard but robust construction phase controls need to be implemented to limit the potential impact of the proposed development into the surrounding environment.

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 (EPA, 2022) and CIEEM EclA (CIEEM,2018) 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 effect and typical descriptions

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

Criteria for Establishing Receptor Sensitivity/Importance

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

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

Significance of Effects

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

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

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

Results

Proximity to Designated Conservation Sites

Designated conservation sites (National and international) within 15km of the proposed development are seen in Figures (12-15) and Tables 1 & 2. It should be noted that the proposed development site is not within a designated conservation area. The closest European site is Glenasmole Valley SAC, located 4 km from the proposed development site (Figure 12). There are no designated Natural Heritage Areas (NHA) within a 15km radius. However, the nearest Proposed NHA (Dodder Valley pNHA) is located 1.3 km from the site (Figure 13). The nearest RAMSAR site (Sandymount Strand/Tolka Estuary) is located 8.5 km from the proposed development site (Figure 14).

The Zol of the proposed project would be seen to be restricted to the site outline, with potential for minor localised noise and lighting impacts during construction which would not be expected to not extend significantly beyond the site outline nor are they likely to have any significant effects on any conservation sites. Foul wastewater drainage will be directed to an existing public foul network located on Orlagh Grove, with ultimate treatment in Ringsend WwTP. Surface water drainage will be directed to an existing public surface water drainage system located on Orlagh Grove, which ultimately outfalls to the marine environment at Dublin Bay via the River Dodder. Therefore, it is considered that there is an indirect hydrological pathway from the subject site to conservation Sites located within Dublin Bay.

Watercourses located proximate to the subject site are demonstrated in Figure 15.

Table 1. Distances to NATURA 2000 sites within 15km of the subject site

Code	NATURA 2000 Site	Distance	Direct Hydrological / Biodiversity Connection
Special Areas of Conservation			
IE001209	Glenasmole Valley SAC	4 km	No
IE002122	Wicklow Mountains SAC	4.8 km	No
IE000210	South Dublin Bay SAC	8.4 km	No
IE000725	Knocksink Wood SAC	10 km	No
IE000206	North Dublin Bay SAC	12.6 km	No
IE000713	Ballyman Glen SAC	12.6 km	No
IE001398	Rye Water Valley / Carton SAC	14.7 km	No
IE003000	Rockabill to Dalkey Island SAC	15 km	No
Special Protection Area			
IE004040	Wicklow Mountains SPA	4.6 km	No
IE004024	South Dublin Bay and River Tolka Estuary SPA	8.4 km	No
IE004006	North Bull Island SPA	12.6 km	No
IE004172	Dalkey Islands SPA	14.6 km	No

Table 2. Distances to designated conservation sites within 15km of the subject site

Conservation Site Name	Conservation Type	Distance
Dodder Valley	pNHA	1.3 km
Glenasmole Valley	pNHA	4 km
Fitzsimon's Wood	pNHA	5.3 km
Lugmore Glen	pNHA	6 km
Grand Canal	pNHA	6 km
South Dublin Bay	pNHA	8.4 km
Boosterstown Marsh	pNHA	8.4 km
Liffey Valley	pNHA	8.5 km
Slade Of Saggart And Crooksling Glen	pNHA	8.6 km
Royal Canal	pNHA	9.1 km
Ballybetagh Bog	pNHA	9.4 km
Dingle Glen	pNHA	9.8 km
Knocksink Wood	pNHA	10 km
North Dublin Bay	pNHA	10.3 km
Glencree Valley	pNHA	10.4 km
Dolphins, Dublin Docks	pNHA	10.5 km
Powerscourt Woodland	pNHA	12.4 km
Dalkey Coastal Zone and Killiney Hill	pNHA	12.4 km
Loughlinstown Woods	pNHA	12.5 km
Ballyman Glen	pNHA	12.6 km
Santry Demesne	pNHA	13.9 km
Rye Water Valley/Carton	pNHA	14.7 km
Dargle River Valley	pNHA	14.7 km
Kilteel Wood	pNHA	14.8 km
Sandymount Strand/Tolka Estuary	Ramsar	8.5 km
North Bull Island	Ramsar	12.8 km

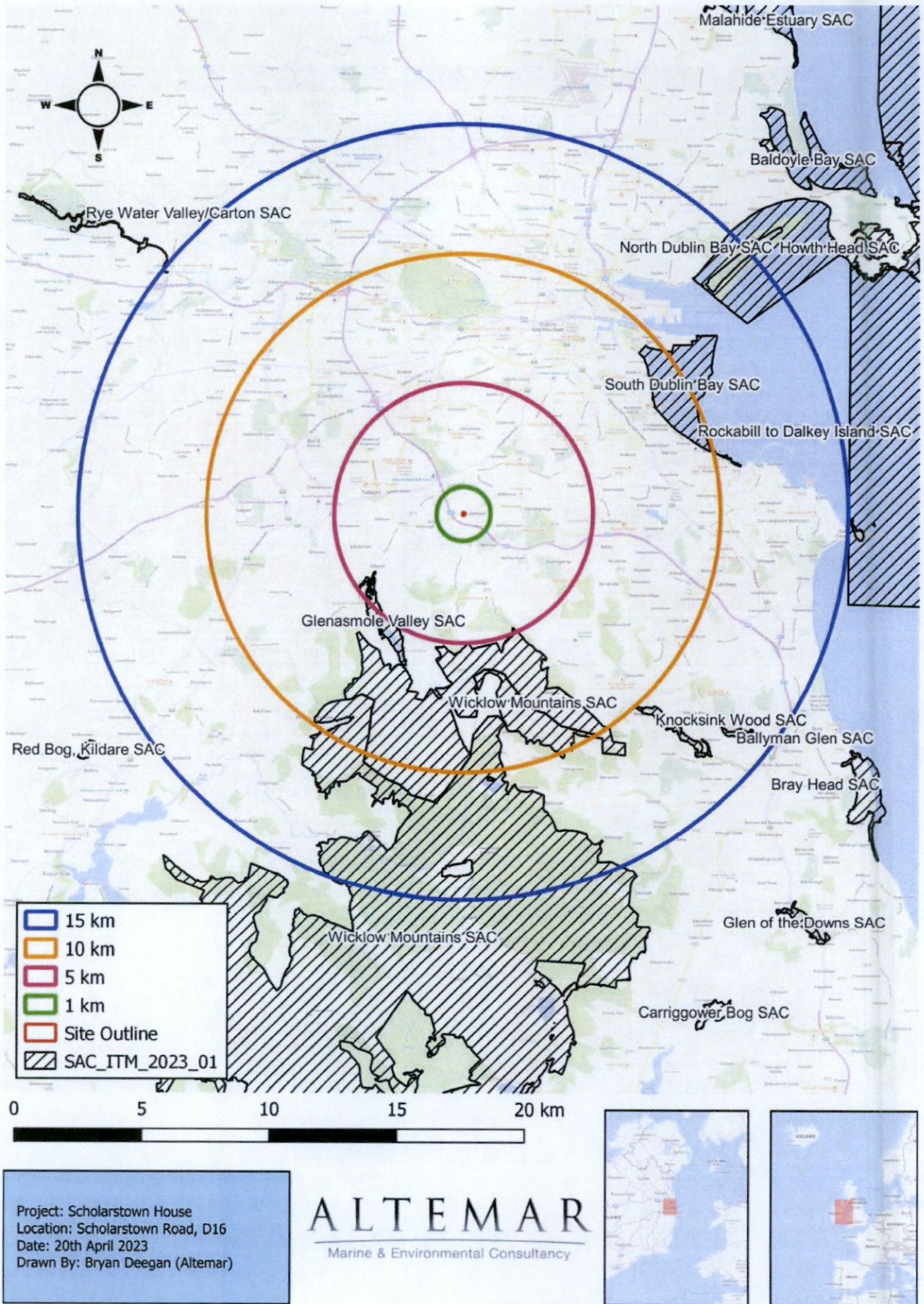


Figure 12. Special Areas of Conservation (SAC) located within 15km of the proposed development

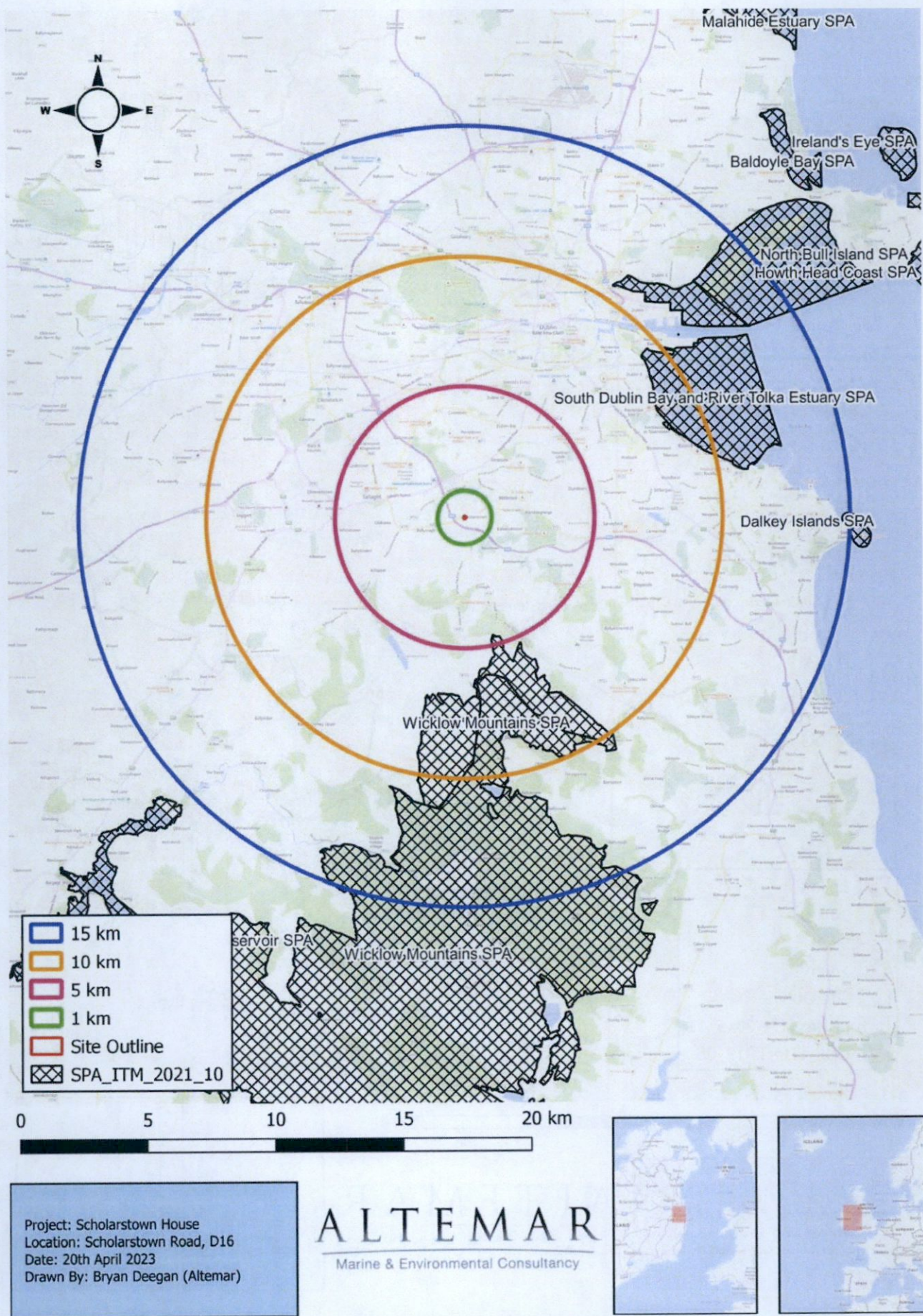


Figure 13. Special Protection Areas (SPA) within 15km of proposed development

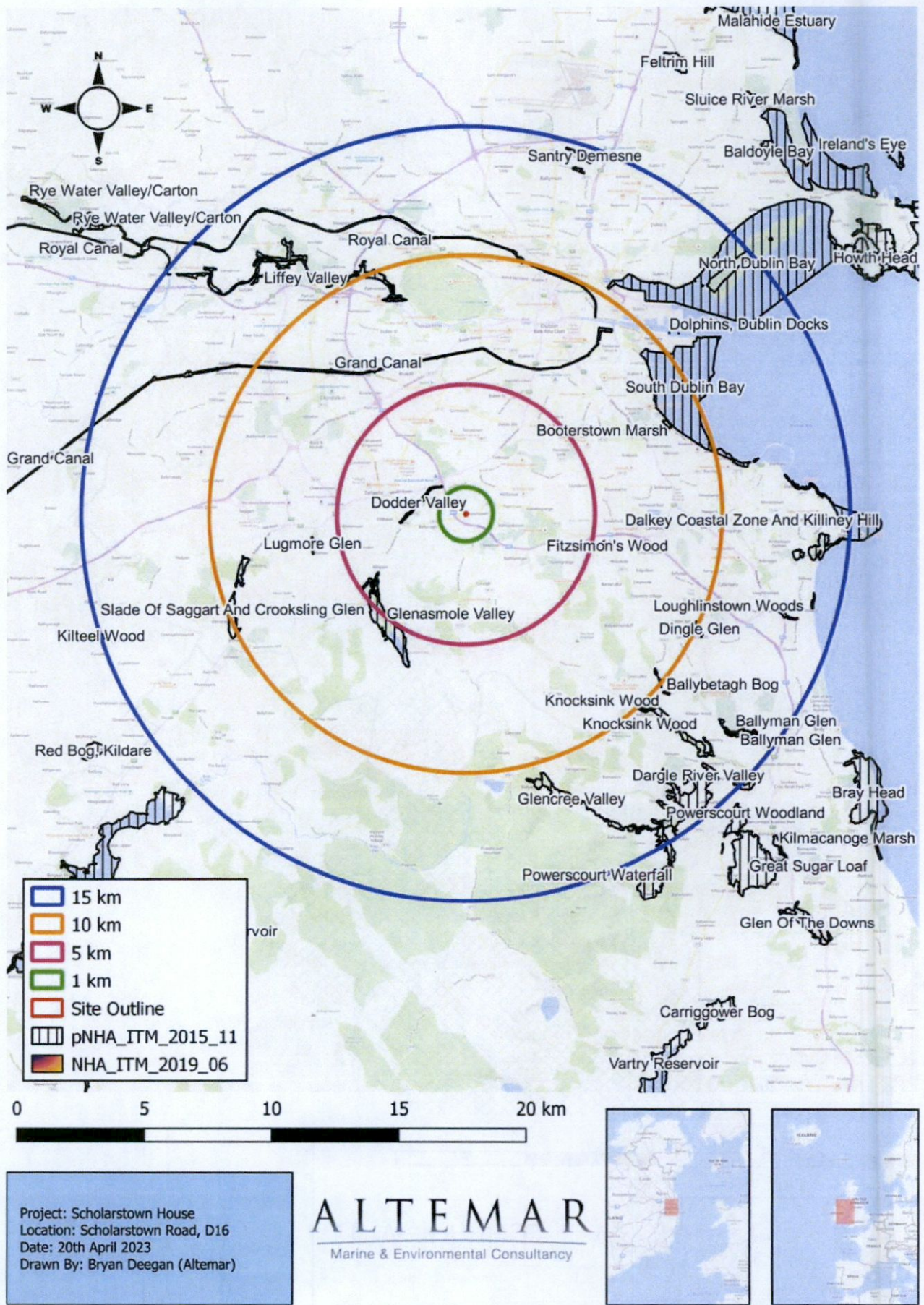


Figure 14. Proposed Natural Heritage Areas (pNHA) within 15km of the proposed development

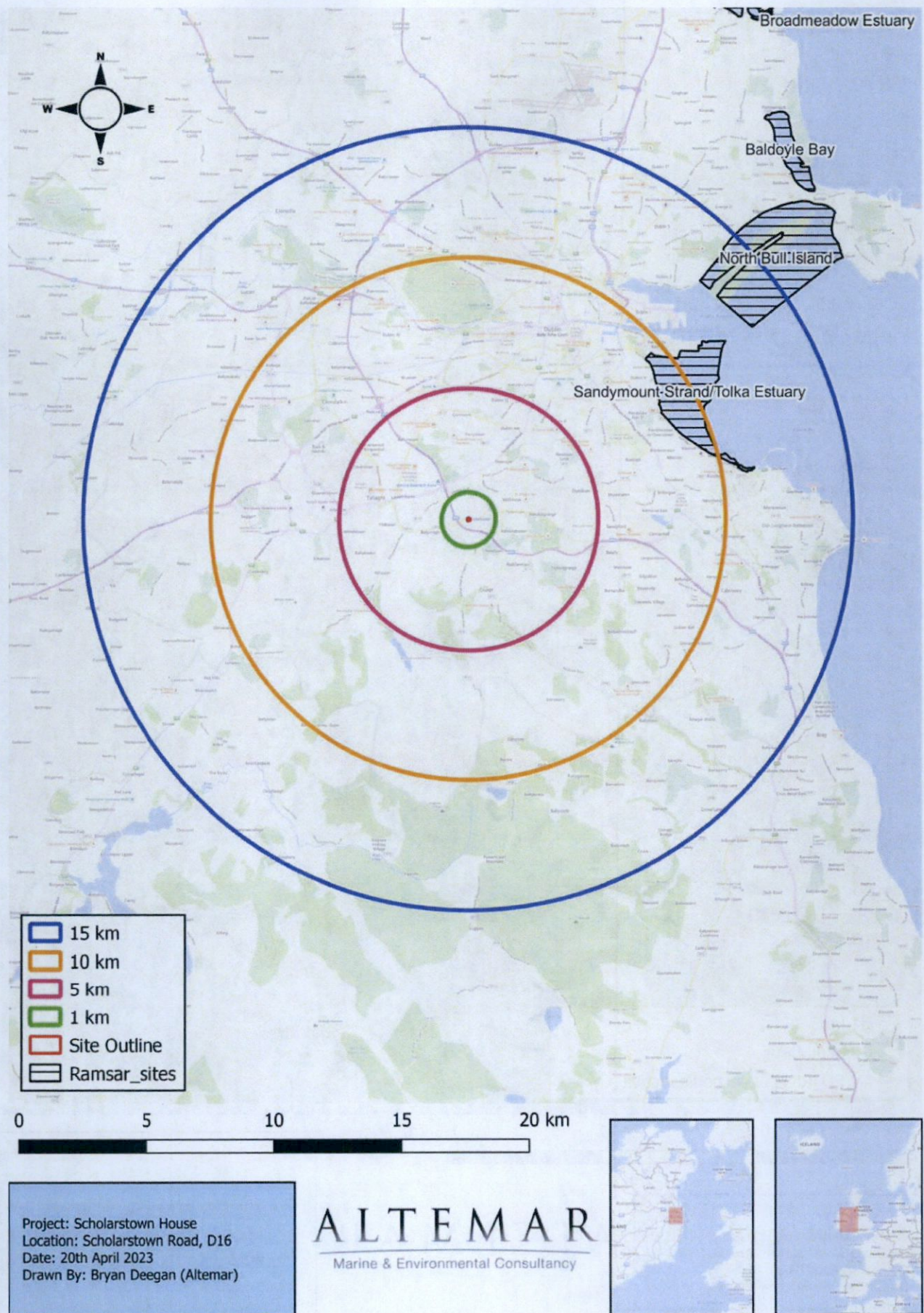
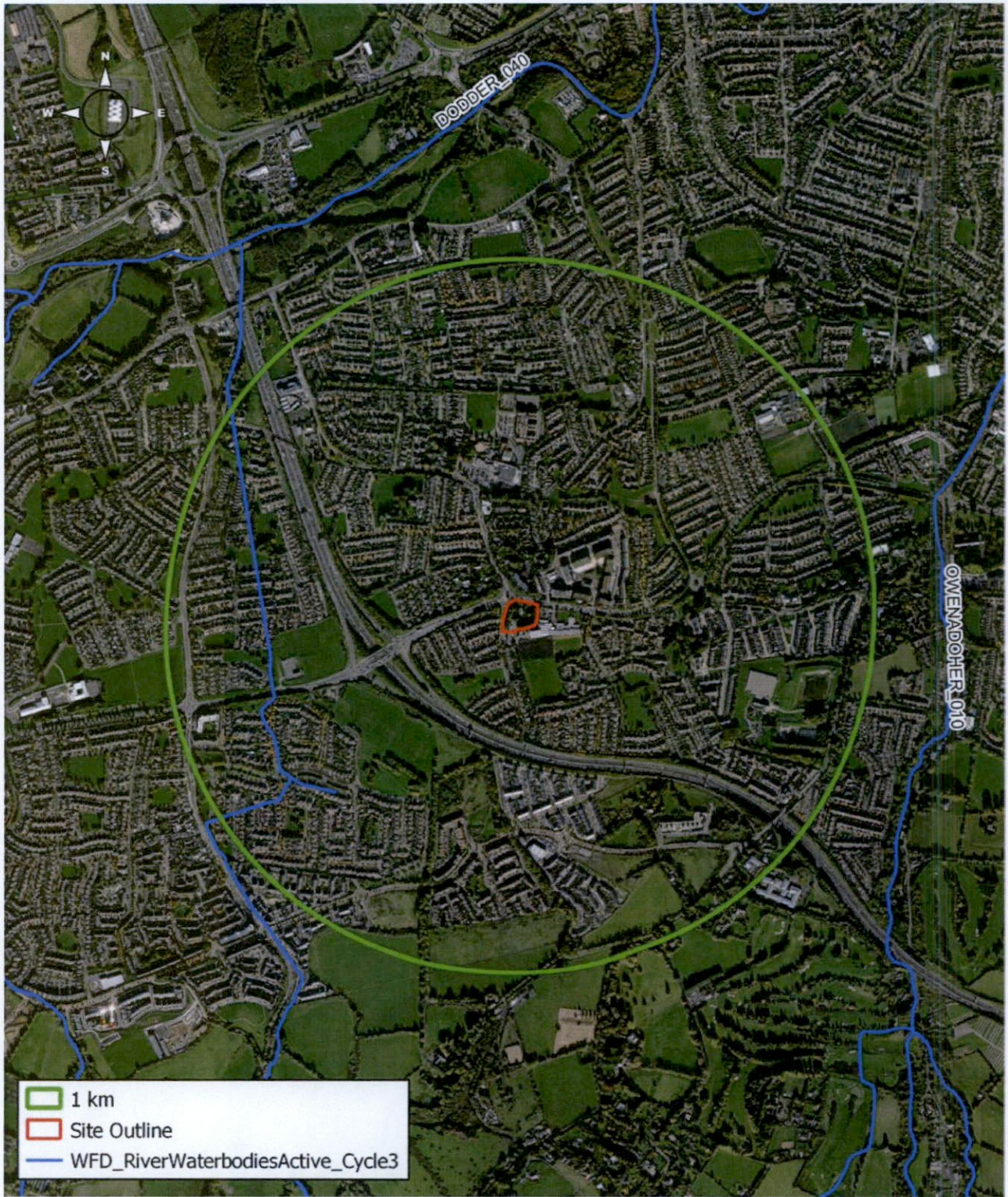


Figure 15. Ramsar sites within 15km of the proposed development



0 0.5 1 1.5 km

Project: Scholarstown House
 Location: Scholarstown Road, D16
 Date: 20th April 2023
 Drawn By: Bryan Deegan (Altemar)

ALTEMAR
 Marine & Environmental Consultancy

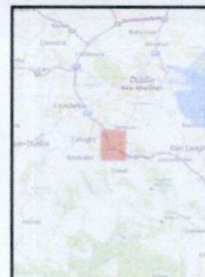


Figure 16. Watercourses within 1km of the proposed development

Habitats and Species

Site assessments were carried out on the 8th September 2022 and the 4th April 2023. Habitats within the proposed site were classified according to Fossitt (2000) (Figure 17).



Figure 17. Fossitt (2000) Habitat map of proposed development site

As can be seen from Figure 17, the site consists of the following habitats (Fossitt, 2000):

BL3- (Buildings and artificial surfaces)

The site consists of a house and numerous farm buildings, some of which consist of metal with low block walls and the older building consists of poured concrete. No flora or fauna of conservation importance were noted in these areas. As outlined in Appendix I there was no evidence of bat activity in the vicinity of the buildings and no bats were observed emerging from the buildings. A derogation licence is not required to remove a bat roost as bats no evidence of bats roosting in these buildings was observed.



Plate 1. Picture of buildings on site.

WL2- Treelines

Treelines are a prominent feature of the western, southern and eastern boundaries of the site. This habitat consisted of sycamore (*Acer pseudoplatanus*), wych elm (*Ulmus glabra*), Lombardy Poplar (*Populus nigra* 'Italica'), apple sp. (*Malus* sp), ash (*Fraxinus excelsior*), silver birch (*Betula pendula*), Leyland Cypress (*Cupressocyparis leylandii*), Lilac sp. (*Syringa* sp), elder (*Sambucus nigra*), Laburnum (*Laburnum* sp.), common beech (*Fagus sylvatica*), spindle (*Euonymus europaeus*), lime (*Tilia* sp.), holly (*Ilex aquifolium*), ground flora included bramble (*Rubus fruticosus* agg.), ivy (*Hedera helix*), herb-Robert (*Geranium robertianum*), honeysuckle (*Lonicera periclymenum*), cleavers (*Galium aparine*), cow parsley (*Anthriscus sylvestris*), thistles (*Cirsium* sp.), winter heliotrope (*Petasites pyrenaicus*), ground-elder (*Aegopodium podagraria*), Lords-and-ladies (*Arum maculatum*), box (*Buxus* sp.) and snowberry (*Symphoricarpos albus*).



Plate 2. Treelines on site.

GA2-Amenity Grassland

Species included dandelion (*Taraxacum spp.*), thistles (*Cirsium arvense* & *C. vulgare*), Common Dog-violet (*Viola riviniana*), creeping buttercup (*Ranunculus repens*), red dead-nettle (*Lamium purpureum*), plantains (*Plantago spp.*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), docks (*Rumex spp.*), Lesser Celandine (*Ficaria verna ssp verna*), common ragwort (*Jacobaea vulgaris*) and nettle (*Urtica dioica*). Montbretia (*Crocsmia x crocosmiiflora*) and common Vetch (*Vicia sativa ssp. Segetalis*) was also noted at the edge of the habitat.



Plate 3. Amenity Grassland.

WS1-Scrub

Several isolated areas of scrub were noted in the western portion of the site. Species included thistles (*Cirsium arvense* & *C. vulgare*), docks (*Rumex spp.*), bramble (*Rubus fruticosus agg.*), creeping buttercup (*Ranunculus repens*), clover (*Trifolium spp.*), hedge bindweed (*Calystegia sepium*), Herb-Robert (*Geranium robertianum*), bluebell (*Hyacinthoides non-scripta*), St John's-wort (*Hypericum sp.*) and box (*Buxus sp.*).

Evaluation of Habitats

The site consists of the existing Scholarstown House dwelling, disused metal barns, associated outbuildings, grassland, scrub and bordering treelines. No habitats of conservation significance were noted within the site outline.

Plant Species

The plant species encountered at the various locations on site are detailed above. No plant species protected under Irish or international legislation were noted on site. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened plant species were recorded within the proposed development site.

Invasive Plant species

A single clump of three-cornered leek (*Allium triquetrum*) was noted on the western boundary. This species is noted as invasive species that are listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011) which makes it an offence under Regulation 49 to plant, disperse, allow or cause to grow these plants.

Terrestrial Mammals

All areas of the site were accessible. Full survey coverage of the site was possible and there are no limitations in relation to the mammal assessment. No badgers or badger activity was noted on site. Otters (*Lutra lutra*) activity was not noted on site and it is unlikely that they are present due to the lack of a nearby watercourse. No evidence of deer was noted on site. Hedgehogs (*Erinaceus erinaceus*) have been recorded by NPWS within the 10km square. No hedgehogs were seen during the site visit, but may be present on site. No protected terrestrial mammals were noted on site or in the vicinity of the site. A single disused fox burrow was noted within the treeline area. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened faunal species were recorded within the proposed site.

Bats

A number of bat surveys were carried out and the results of the survey are seen in Appendix I. There were no seasonal or climatic constraints as survey was undertaken within the active bat season in good weather conditions with temperatures of 10°C after dark. Winds were very light and there was no rainfall. No evidence of bats or bat roost were identified in any of the onsite trees or buildings. A detector survey was carried out with an Echo Meter Touch 2 Pro. A single Lesser Noctule (*Nyctalus leisleri*) bat was noted on both nights foraging briefly over the grassland area to the south east of Scholarstown house in the vicinity of the treeline. A single Soprano Pipistrelle (*Pipistrellus pygmaeus*) was observed briefly to the west of Scholarstown house on the 21st September 2022. No bats were observed emerging from onsite trees or structures on or proximate to the subject site.

Amphibians/Reptiles

The common frog (*Rana temporaria*) or the common lizard (*Lacerta vivipara*) were not observed on site. There are no water features within the site boundary that could be important to frogs.

Birds

The proposed development is surrounded by tall trees within a suburban environment. The following breeding bird species were noted on site on the 4th April 2023 site visit.

Common Name	Scientific name
Wren	<i>Troglodytes troglodytes</i>
Robin,	<i>Erithacus rubecula</i>
Dunnock	<i>Prunella modularis</i>
Blackbird	<i>Turdus merula</i>
Song Thrush	<i>Turdus philomelos</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Great tit	<i>Parus major</i>
Magpie	<i>Pica pica</i>
Chaffinch	<i>Fringilla coelebs</i>
Goldfinch	<i>Carduelis carduelis</i>
Hooded Crow	<i>Corvus cornix</i>
Wood pigeon	<i>Columba palumbus</i>
Jackdaw	<i>Corvus monedula</i>

Assessment of Biodiversity Records

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 by generating a report based on the site outline, however it recorded no species of interest in the site area. Following this a 2 km² grid, reference number O12I, based on the Ordnance Survey Ireland (OSI) Irish Grid classification system was assessed. Table 3 provides a list of all species recorded in the species reports generated for this grid that possess a specific designation, such as Invasive Species or Protected Species.

Table 3. Table of species, NBDC

Date of Record	Species Name	Designation
31/05/1974	Smooth Newt (<i>Lissotriton vulgaris</i>)	Protected Species: Wildlife Acts
31/07/1991	Common Starling (<i>Sturnus vulgaris</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of

Date of Record	Species Name	Designation
		Conservation Concern >> Birds of Conservation Concern - Amber List
31/07/1991	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
31/07/1991	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
31/12/0004	<i>Arthurdendyus triangulatus</i>	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
04/06/2013	Butterfly-bush (<i>Buddleja davidii</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
31/01/2018	Japanese Knotweed (<i>Fallopia japonica</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
26/06/2008	Parrot's-feather (<i>Myriophyllum aquaticum</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)
21/04/2020	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)
28/06/2015	Large Red Tailed Bumble Bee (<i>Bombus (Melanobombus) lapidarius</i>)	Threatened Species: Near threatened
15/06/2019	Common Lizard (<i>Zootoca vivipara</i>)	Protected Species: Wildlife Acts
11/07/2022	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)
05/12/2022	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
24/05/2007	Lesser Noctule (<i>Nyctalus leisleri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
21/10/2010	Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
25/04/2021	West European Hedgehog (<i>Erinaceus europaeus</i>)	Protected Species: Wildlife Acts

An assessment of files received from the NPWS (Code No. 2022_120) which contain records of rare and protected species and grid references for sightings of these species was carried out as part of this EclA for the proposed development. There are no recorded sightings within the site itself, however the following table (Table 4) provides a summary of the species identified, the year of identification/sample, survey name and data ID of sightings locations in the areas surrounding the proposed development.

Table 4. Species survey, NPWS

Data ID.	Species	Survey Name	Sample Year
4219	Common Frog (<i>Rana temporaria</i>)	Frog IPCC data	2003
14176	Irish Stoat (<i>Mustela erminea subsp. hibernica</i>)	<i>Mustela erminea subsp. hibernica</i> Records	1961
27916	Smooth Newt (<i>Lissotriton vulgaris</i>)	AFF Mammals, Reptiles & Amphibians Distribution Atlas 1978 (II)	1974

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 internal habitats. The removal of these habitats will result in a loss of species and habitats of low biodiversity importance. The area is not deemed to be an important foraging area for terrestrial mammals or birds of conservation importance.

Designated Conservation sites within 15km

The proposed development is not within a designated conservation site. The nearest designated conservation site is Dodder Valley pNHA (1.3 km). There is no direct hydrological pathway to any designated conservation site. During construction, there is the potential for an indirect hydrological pathway to designated conservation sites located downstream of the subject site via the proposed surface water drainage strategy. Surface water drainage will be directed to an existing public surface water drainage system located on Orlagh Grove, which ultimately outfalls to the marine environment at Dublin Bay via the River Dodder. Given the scale of the proposed development, and the minimum distance to designated conservation sites along this pathway (8.4 km to South Dublin Bay SAC & pNHA, and South Dublin Bay and River Tolka Estuary SPA) across a substantial public drainage network, any silt or pollutants will settle, be dispersed or diluted along this existing network. In the absence of mitigation, it is considered that significant impacts on designated conservation sites would be unlikely.

Biodiversity

The impact of the development during construction phase will be a loss of existing habitats and species on site. It would be expected that the flora and fauna associated with these habitats would also be displaced.

Terrestrial mammalian species

No protected terrestrial mammals were noted on site. Loss of habitat and habitat fragmentation may affect some common mammalian species.

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. A single clump of the invasive species three cornered leek was noted on site.

Impacts: Low adverse / site / Negative Impact / Not Significant / Short term

Bat Fauna

Two bat species was noted foraging onsite. No bats were noted roosting on site. No bats were noted emerging from trees or adjacent buildings on site. No significant impacts are foreseen. Lighting during construction could impact on foraging activity.

Impacts: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of a pre-construction survey and the control of light spill during construction. A post construction assessment of lighting will be required.

Aquatic Biodiversity

Due to the lack of any watercourse, pond or drainage ditch within the site boundary, and the lack of direct hydrological pathway to a watercourse, there is little potential for significant downstream impacts on biodiversity from silt or petrochemicals. Standard measures will be in place in relation to surface water discharges. No additional mitigation is required.

Potential Impacts in the absence of mitigation: Low adverse / local / Negative Impact / Slight Effects / short term.

Bird Fauna

No bird species of conservation importance have been noted on site. However, site clearance could impact on bird nesting.

Impacts: Low adverse / Local / Negative Impact / Not significant / short term. Mitigation is needed in the form of site clearance out side bird nesting season.

Operational Impacts

Once developed, the site would be seen as a stable ecological environment. Appropriate measures should be taken to prevent contaminated surface water run-off and silt into adjacent habitats. The construction of new drainage networks will have to comply with SUDS and County Council requirements and as a result would have negligible impact on habitats and species surrounding proposed development site.

Designated Conservation sites within 15km

The proposed development includes a sustainable drainage strategy. No mitigation is required to prevent significant effects on designated sites. The development will comply with SDCC requirements and the Water Pollution Acts and standard measures will be in place to prevent downstream impacts.

Impacts: Negligible / International / Neutral Impact / Not significant / Long-term

Biodiversity

Biodiversity value of the site will improve as landscaping matures.

Terrestrial mammalian species

No protected terrestrial mammals were noted 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 structures are to be erected and some of the existing vegetation will be removed. Species expected to occur onsite should persist. Sensitive lighting and landscape strategies have been prepared in consultation with Altamar, to incorporate bat foraging on site.

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

Aquatic Biodiversity

Standard measures will be in place in relation to surface water discharges. No additional mitigation is required.

Potential Impacts in the absence of mitigation: Low adverse / local / Negative Impact / Not significant / long term

Bird Fauna

The proposed development will change the local environment as new structures are to be erected. The buildings are comprised of solid materials consisting of a solid material on the exterior which includes sections of concrete and glass. These buildings would be clearly visible to bird species and would not pose a significant collision risk. However, the presence of buildings on site and landscaping may provide additional nesting and foraging potential for garden bird species.

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), biodiversity, and local biodiversity within / proximate to the subject site are outlined in Table 5.

Table 5. Sensitive Receptors/Impacts and mitigation measures.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Biodiversity	<ul style="list-style-type: none"> • Habitat Degradation • Dust deposition • Pollution • Silt ingress • Potential downstream impacts. 	<ul style="list-style-type: none"> • A project ecologist will be appointed to oversee works from prior to commencement of works on site to the completion of all landscape and lighting elements. • Local silt traps established throughout site. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiling of loose materials will be kept to a minimum of 20m from drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations that require pumping will not directly discharge to the public network. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels to prevent sediment entering the public network. • Petrochemical interception and bunds in refuelling area • Maintenance of any drainage structures (e.g. de-silting operations) will not result in the release of contaminated water to the surface water network. • No entry of solids to the associated stream or drainage network during the connection of pipework to the public water system • Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks. • The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area. • A project ecologist will be appointed and be consulted in relation to all onsite clearance and drainage works during construction. • 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.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		<ul style="list-style-type: none"> • 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. <p>Air & Dust</p> <p>Dust may enter the surface water network via air or surface water with potential downstream impacts. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on downstream biodiversity. The main activities that may give rise to dust emissions during construction include the following:</p> <ul style="list-style-type: none"> • Excavation of material; • Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant. • Contaminated surface runoff <p><i>Mitigation measures to be in place:</i></p> <ul style="list-style-type: none"> • Consultation will be carried with an ecologist throughout the demolition and construction phases; • Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes. • Speed limits on site (15kmh) to reduce dust generation and mobilisation. • The stream is to be protected from dust on site. This may require additional measures in the vicinity of the building during demolition e.g. placing of terram/protective material over the stream. <p><i>Site Management</i></p> <ul style="list-style-type: none"> • 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. <p><i>Monitoring</i></p> <ul style="list-style-type: none"> • 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. <p><i>Preparing and Maintaining the Site</i></p> <ul style="list-style-type: none"> • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		<ul style="list-style-type: none"> • 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. • Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. • Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. <p><i>Operations</i></p> <ul style="list-style-type: none"> • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. <p><i>Waste</i></p> <ul style="list-style-type: none"> • Avoid bonfires and burning of waste materials. <p><i>Measures Specific to Earthworks</i></p> <ul style="list-style-type: none"> • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once. • 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. • 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. <p><i>Storage/Use of Materials, Plant & Equipment</i></p>

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		<ul style="list-style-type: none"> • Materials, plant and equipment shall be stored in the proposed site compound location; • All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater; • Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages; • Smaller quantities of fuel may be carried/stored in clearly labelled metal Jeri cans. Green for diesel and red for petrol and mixes. The Jeri cans shall be in good condition and have secure lockable lids. The Jeri cans shall be stored in a drip tray when not in use. • Drip trays will be turned upside down if not in use to prevent the collection of rainwater; • Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips; • No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction;
Birds (National Protection)	<ul style="list-style-type: none"> • Removal nesting habitat. • Removal foraging habitat. • Destruction and/or disturbance to nests (injury/death). • Predation . 	<ul style="list-style-type: none"> • Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. This would include nesting gulls on buildings if present. • 20 Nest boxes are to be placed on the grounds of site to compensate for resource loss. • Planting will provide suitable cover for nesting birds and encourage insect diversity that would sustain birds.
Bats (International Protection)	<ul style="list-style-type: none"> • Removal roosting/foraging habitat. • Lighting Impacts 	<ul style="list-style-type: none"> • Lighting at all construction stages should be done sensitively on site with no direct lighting of hedgerows and treelines. • A post construction bat survey and light spill assessment will be carried out to ensure compliance with the lighting plan. • A pre construction bat roosting inspection will be carried out on all trees listed in Table 1 and all buildings on site, prior to the commencement of works. A derogation license will be applied for from NPWS if bats are found during the future inspection. All works will be carried out in compliance with NPWS conditions if bats or bat roosts are found during pre-commencement inspections.
Mammals	<ul style="list-style-type: none"> • Death/injury • Disturbance 	<ul style="list-style-type: none"> • A pre-construction survey will be carried out for terrestrial mammals of conservation importance. If terrestrial mammals of conservation importance are noted on site NPWS will be consulted in relation to removal and the appropriate permissions obtained.

Cumulative Impacts

There are several proposed developments located in the area immediately surrounding the subject site. The following is a list of planning applications as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal¹:

Table 1. Planning application details and reference numbers of sites proximate to the proposed development

Ref. No.	Address	Proposal
SD22A/0128	Site at Scholarstown Road, Rathfarnham, Dublin 16	Amendment to Block D2, located towards the south-eastern corner of the site located north of Scholarstown Road called 'Two Oaks', formally incorporating dwellings known as 'Beech Park' and 'Maryfield' (657sq.m) of the scheme granted under ABP Ref: 305878-19 and the non-material amendments permitted under ABP Ref: 311752-21; Block D2 as granted provided two retail units at ground floor level measuring 135sq.m and 112sq.m and a restaurant/cafe at first floor level measuring 271.5sq.m; The amendment proposes the provision of a single retail unit in Block D2 comprising the amalgamation of the two permitted ground floor units and the change of use of the first-floor unit from restaurant/cafe to ancillary retail floor area principally providing storage/back-of-house/office space for the retail unit at ground floor level; and all associated works. Retention permission is sought for minor elevational changes to Block D2.
SHD3ABP-305878-19	'Beechpark' and 'Maryfield', Scholarstown Road, Dublin 16	Demolition of all existing structures on site which include a single storey dwelling known as 'Beechpark' (172sq.m), a 2 storey dwelling known as 'Maryfield' (182sq.m), with associated garage/shed (33.5sq.m) and associated outbuildings (47.1sq.m); and the construction of 590 residential units (480 Build-to-Rent apartment units and 110 Build-to-Sell duplex units and apartments), ancillary residential support facilities and commercial floorspace. The total gross floor space of the development is 51,252sq.m over a partial basement of 5,888sq.m (which principally provides car and bicycle parking, plant and bin stores). The 480 'Build-to-Rent' units will be provided in 8 blocks as follows: 7 blocks ranging in height from part 5 to part 6 storeys (Blocks B1-B5, C1 and C3) and 1 block ranging in height from part 4 to part 6 storeys (Block C2) and will comprise 246 one bed units and 234 two bed units. The 110 'Build-to-Sell' units will be provided in 9 duplex blocks which will be 3 storeys in height (Blocks A1-A9) and will comprise 55 two bed units and 55 three bed units. The development will also consist of the provision of a part 1 to part 2 storey ancillary amenity block (Block D1) (414sq.m) within the central open space which comprises a gymnasium, lobby, kitchenette and lounge at ground floor level and lounge at first floor level in addition to a roof terrace (facing north, south and west) to serve the 'Build-to-Rent' residents; a 2 storey retail/café/restaurant building (Block D2 - 657sq.m) comprising 2 retail units at ground floor level (328.5sq.m) and a café/restaurant unit at first floor level (328.5sq.m); a creche (438sq.m) within Block C2 at ground floor level; and a Management Suite (261sq.m) and café/restaurant (288sq.m) within Block C3 at ground floor level all at a 5.35 hectare site located north of Scholarstown Road incorporating dwellings known as 'Beechpark' and 'Maryfield', Scholarstown Road, Dublin 16, D16 X3X8 and D16 N6V6. Works are also proposed to Scholarstown Road and Woodfield junction including new traffic signals, the elimination of the left-turn slip-lane into Woodfield off Scholarstown Road, upgraded public lighting and upgraded cycle and pedestrian facilities on an area measuring 0.7 hectares, providing a total application site area of 6.05 hectares.
SD19A/0088	Site at Scholarstown Road, Rathfarnham, Dublin 16	Demolition and enabling works on a 5.2 hectare site located north of Scholarstown Road incorporating a dwelling known as 'Beechpark'; demolition of the 172sq.m, single storey dwelling located towards the western portion of the site (known as 'Beechpark'); diversion of existing private foul drainage network within the boundary of the subject site (maintaining services to existing third party connections)
SD18A/0297	St Colmcilles Community School, Scholarstown Road, Knocklyon, Dublin 16	Three storey split level extension to side of existing sports hall to consist of changing and toilet facilities at lower ground floor, performance space at upper ground floor and multi-function space at first floor. Works will also include all associated demolition, landscaping, drainage and site works.

¹ <https://housinggov.ie/maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>

The projects outlined were reviewed. It is considered that cumulative effects on biodiversity, with other existing and proposed developments in proximity to the application area, would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on biodiversity will be seen as a result of the proposed development alone or in combination with other projects.

No significant cumulative impacts are likely in relation to the proposed development.

Residual Impacts and Conclusion

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

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19. NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
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21. NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
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27. NPWS (2022) Conservation objectives for Wicklow Mountains SPA [004040]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
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29. NPWS (2022) Conservation objectives for Ireland's Eye SPA [004117]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

Appendix 1 – Bat Fauna Survey

ALTEMAR

Marine & Environmental Consultancy

Bat Fauna Impact Assessment for a development at Scholarstown House,
Scholarstown Road, Dublin 16, D16 E2H9.



19th October 2022

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Emmaville Limited.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

Document Control Sheet			
Client	Emmaville Limited		
Project	Bat Fauna Impact Assessment for a development at Scholarstown House, Scholarstown Road, Dublin 16, D16 E2H9.		
Report	Bat Fauna Impact Assessment		
Date	19 th October 2022		
Version	Author	Reviewed	Date
Draft 01	Bryan Deegan	Jack Doyle	11 th October 2022
Planning	Bryan Deegan		19 th October 2022

SUMMARY

Structure:	The site consists of the existing Scholarstown House dwelling, disused metal barns and associated outbuildings.
Location:	Scholarstown House, Scholarstown Road, Dublin 16, D16 E2H9
Bat species present:	Foraging activity was relatively low. Lesser Noctule (<i>Nyctalus leisleri</i>) and Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) bats noted foraging within the subject site. No roosts were present on site.
Proposed work:	Proposed development of apartments.
Impact on bats:	No confirmed bat roosts will be lost. The proposed development will change the local environment as outbuildings and barns are to be demolished, trees are to be felled and new structures are to be erected. The development is likely to displace bats from foraging at the site during construction and operation. Based on the small number of common species found using the site, the displacement from this site will not have any significant effect on local bat populations. It should be noted that the St. Colmcille's Community School is located to the south of the site and has significant floodlighting. It is also currently undergoing development just outside the site boundary. The proposed development is not in proximity to sensitive bat areas. The potential for collision risk and impact on flight paths in relation to bats is considered low due to the low level of bat activity on site and the buildings would be deemed to be clearly visible to bats.
Survey by:	Bryan Deegan (MCIEEM)
Survey dates:	8 th and 21 st September 2022. Internal inspections of the barns and outbuildings were carried out on the 8 th September while internal inspections of the house were carried out on the 21 st September 2022.

Receiving Environment

Background

Emmaville Limited intend to apply for: Permission for development at this site: Scholarstown House, Scholarstown Road, Dublin 16, D16 E2H9.

The development will consist of:

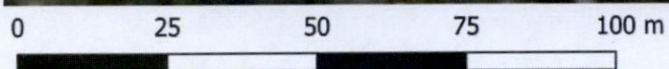
- g) The demolition of the 4 no. existing shed structures on site within the curtilage of the protected structure;
- h) The retention and conversion of Scholarstown House (Protected Structure) into two no. units comprised of 1 no. 2-bed and 1 no. 3-bed units served by private open space in the form of ground floor terraces. The proposed works to Scholarstown House include but are not limited to internal re-configuration; the re-location of the staircase to its original location within the house; the removal of non-original features including the closing up of non-original openings; and the creation of a new door opening within the existing alcove, and the blocking up of a window opening both located on the northern elevation.
- i) The construction of a 5-storey apartment block containing 74 no. apartment units comprised of 32 no. 1-bed apartments, 33 no. 2-bed apartments, and 9 no. 3-bed apartments all served by private open space in the form of balconies and/or ground floor terraces.
- j) The proposed development also includes 100 sq.m of residential amenities and facilities consisting of but not limited to a reception, communal amenity room and parcel room.
- k) The development will be served by a total of 40 no. car parking spaces including 8 no. EV parking spaces and 183 no. cycle parking spaces accessed via a new pedestrian and vehicular access off Orlagh Grove with the existing entrances on Scholarstown Road and Orlagh Grove being re-configured to provide for pedestrian and cycle access.
- l) The development will also consist of all ancillary development works required to facilitate the development including but not limited to, plant rooms, a substation, bin stores, landscaping, boundary treatments and lighting.

The development to be applied for includes a building on the South Dublin County Council Record of Protected Structures: Scholarstown House (RPS Ref: 322).

The proposed site outline, location, and layout plan are demonstrated in Figures 1 & 2.

Landscape

The landscape strategy for the proposed development has been prepared by Cunnane Stratton Reynolds to accompany this planning application. The proposed overall landscape plan is demonstrated in Figure 3.



Project: Scholarstown House
Location: Scholarstown Road, D16
Date: 12th October 2022
Drawn By: Bryan Deegan (Altamar)

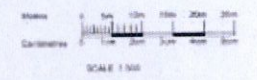
ALTEMAR
Marine & Environmental Consultancy



Figure 1. Outline of proposed site.



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LEGEND

- SITE BOUNDARY OUTLINED IN RED (0.79 HEC, 1.93 ACRES)
- ✗ POSITION OF SITE NOTICES
- OWNERSHIP AREA (0.67 HEC, 1.66 ACRES)
- EXISTING BOUNDARY WALLS
- BOUNDARY WALLS TO BE DEMOLISHED
- PROPOSED NEW WALL TO MATCH EXISTING BOUNDARY WALL
- ➔ ENTRANCE
- ⊠ ACCESSIBLE CAR PARKING SPACES
- CAR PARKING SPACES
- PROPOSED SEDUM GREEN ROOF

LEVELS

- GROUND FLOOR LEVELS
- PROPOSED GROUND LEVELS
- EXISTING GROUND LEVELS
- ⊕ PROPOSED FIRE HYDRANT

NOTES

Read in conjunction with Latest Available:

- CA Plans, Sections & Elevations
- All Relevant Landscape's, Structural Engineer's and M&E Consultant Drawings And Specifications
- Refer to Landscape Architect's Drawings for detailed landscape information

P01 17/10/2022 ISSUED FOR PLANNING AM
 Rev. Date Issue Issue

PLANNING

Client: EMMAVILLE LTD

Project: SCHOLARSTOWN HOUSE D16

Drawing Title: PROPOSED SITE LAYOUT PLAN

Drawn	Checked	Rev. No.	Scale	Date
CS	AM	A1	1:500	03/08/2022

Project No: PE21023
 Drawing No: 0030

Drawing Name: PE21023-CWO-ZZ-DR-A-0030

Client: P01

C+W O'BRIEN
 ARCHITECTS
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 Dublin | London | Warwick | Manchester
 www.cwoarchitects.ie

1 PROPOSED SITE LAYOUT PLAN
 1:500

Figure 2. Site layout plan



LEGEND

SOFT LANDSCAPE

- Existing Trees to be retained
- Existing Trees to be removed
- Proposed Standard Street Tree, RB, 18-20cm girth, 4.25-6 m ht.
Species:
T1 - Acer campestre 'Eisrijk'
T2 - Quercus robur
T3 - Tilia cordata 'Greenspire'
- Proposed Open Space Tree, br., 14-16cm girth, 4.25-6 m ht.
Species:
A1 - Acer palmatum
A2 - Acer rubrum 'Scanlon'
A3 - Anus cordata
B - Betula pendula
C - Crataegus monogyna
F - Fagus sylvatica
I - Ilex argentea (RB, 60-80cm ht., 6m)
M - Magnolia x soulangeana (RB, 1-1.25m ht.)
P1 - Pinus Sibirica (RB, 1.5-1.75m ht.)
P2 - Prunus avium 'Pena'
S - Sorbus aucuparia
- Proposed Formal Hedging
Species:
H1 - Ilex crenata, 5 ft pot, at 3m
H2 - Crataegus monogyna, br., 1-1.60-90cm ht., at 6m
- Shrub-Boundary Screen, 1-1.60-120cm ht., 2m2
Species: Corylus avellana, Cornus sanguinea, Eucotyles micropanis, Ligustrum vulgare, Sambucus nigra, Viburnum opulus
- Shrub-Low Screen and Specimen Shrub
Low shrub and perennials (2ft pots, at 4ft2): Buxus sempervirens, Calluna vulgaris, White Lilies, Carex monensis, Dryopteris affinis, Crataegus, Erythronium 'Alba', Geranium 'Isis', Hebe abietina, Lavandula angustifolia, Lavandula stoechas, Linum catharticum, Libertia grandifolia, Pinus mugo 'Mops', Santolina chamaecyparissus, Stipa gigantea, Vinca major, Viburnum davidii, Hyacinthoides & Galanthus
Specimen shrub species (7.5ft pots): Acer japonicum, Amelanchier lanceolata, Syringa vulgaris 'Charles Joly'
- Wildflower and Bulb Planting
Wild flower seed mixes (Annual/Perennial mix & insect mix - typical species see report) with Bulb planting species: Anemone nemorosa, Galanthus nivalis, Hyacinthoides non-scripta, Narcissus Thalia, Nerine 'afterglow'
- Amenity Grass mix
- Reinforced Grass
- Swale planting
Planted in composed drifts of 5-15m
Species: Calla palustris, Carex pendula, Deschampsia cespitosa, Eupatorium cannabinum, Filipendula vulgaris, Iris pseudacorus, Lythrum salicaria, Maircaia discolorata, Succisa pratensis, Prunella veris, Hyacinthoides non-scripta
- Climber Planting
Pyracantha orange 'chamber', parthenocarpus henryana

HARD LANDSCAPE

- Proposed Concrete Permeable Paver to Paths, beige colour
- Play Area, engineered wood chips
- Pavement to Entrances, reconstituted stone finish to concrete slabs, silver grey colour
- Private Garden Paving, permeable paver, rustic colour
- Self Binding Gravel to Bike Parking
- Tarmac to school parking
- Existing Granite Steps retained
- 1.2m high estate style railing, light grey
- Existing wall lowered to 600mm high Concrete Wall capped with 1200mm high railing added on top
- Existing Boundary Wall Retained (existing height)
- New Boundary Wall to match existing
- Retaining wall (300mm wide, height varies)
- Benches & Seating, timber and steel

C	11/10/22	Additional Carparking Spaces
B	10/10/22	existing trees revised
A	4/10/22	design coordinated
REV	DATE	AMENDMENT

CUNNANE STRATTON REYNOLDS
LAND PLANNING & DESIGN

DUBLIN OFFICE
3 MOLESWORTH PLACE DUBLIN 2
TEL 01 661 0419 FAX 01 661 0431
EMAIL info@csrknolan.ie

PROJECT: SCHOLARSTOWN HOUSE, D16	DATE: SEP 2022
DRAWING: LANDSCAPE MASTERPLAN	SCALE: 1:250@A1 / 1:500@A3
	DRAWN: FDL
	CHECKED: LC
	DRAWING NO: 22159-2-100

Figure 3. Proposed overall landscape plan.



The drawing is to be read in conjunction with the respective Arboricultural Statements and Reports prepared by this project.

Where appropriate, the respective Arborists should be consulted immediately.

It is the responsibility of the client and contractor to check and verify all information at the site prior to any work commencing. The Arboricultural Statements and Reports are for information only and do not constitute a contract. The Arboricultural Statements and Reports are for information only and do not constitute a contract. The Arboricultural Statements and Reports are for information only and do not constitute a contract.

B55837 2012 Tree Categorisation

- Category A** Trees of high quality with an estimated remaining life expectancy of over 100 years.
- Category B** Trees of moderate quality with an estimated remaining life expectancy of 50-100 years.
- Category C** Trees of low quality with an estimated remaining life expectancy of 10-50 years or young trees with a stem diameter below 100mm.
- Category D** Trees or shrubs of a category that they cannot realistically be retained as living trees in the context of the current site use for longer than 10 years.

Key

- World Protection Areas** The minimum area around a tree deemed to contain sufficient roots and standing volume to maintain the tree's stability.
- Tree Protection Zone** Tree Group or Hedgehog Group.
- Reference Point for Tree Group or Hedgehog** T2.
- Trees to be removed to facilitate the development shown shaded grey.**
- Trees to be removed for agricultural reasons shown shaded orange.**
- B55837 Tree T18 to be removed to facilitate the proposed site entrance.**
- Site boundary.**

Revision	Date	Description
Title		
Tree Removals Plan		
Project		
Scholarstown House		
Client		
Emmaville Ltd		
Date	10th April 2018	Drawn
Drawn by	CSB	1:250 @ A1
Checked by	CSB	Planning
Client Ref	210505.P.11	
<p>CHARLES MCCORKELL ARBORICULTURAL CONSULTANCY</p> <p>T: 0845 440 1070 E: charles@charlesmccorkell.com www.charlesmccorkell.com</p>		

Figure 4. Tree removals plan (Grey, orange and blue- to be removed)

Lighting

An External Lighting Study has been prepared by Marson Consulting Engineers to accompany this planning application. This report details the following lighting strategy for the subject site:



DESCRIPTION

Product name	ITEM 500
Housing	Die cast aluminium
Plates	SMOOTH, HONEYCOMB or TRAUD plate
Bowl	Thermally tempered and screen printed flat glass (VPC) Deep clear polycarbonate bowl (PHC), optional internal diffuser
Finish	Polyester powder coating, any colour available
Mechanical impact protection code	IK 10
Ingress Protection	IP66 Extruded silicone gasket Cable gland with anchoring device Breathing system with activated carbon filter
Mounting	LTO 60: Directional covering lateral top for Ø 60 mm, SM: Suspended with a threaded Nipple Ø 27 pdg (G3/4") and Ø 34 pdg, SR: Suspended with swivel joint.
Electrical class	I or II
Ambient temperature	- 40°C to + 55°C

MAINTENANCE

Maintenance	The luminaire cover can be opened without tools using the 2 flaps. The luminaire is held in the open position by a safety stay. Quick electrical disconnection without tools. Circuit board removable onsite without tools. Access to the LED sources after removal of the bowl.
-------------	--

LED SOURCES

Sources	BLS Strips (8 to 72 LED)
Colour temperature (K)	BLS Strips: 2700 K (others upon request)
CRI	> 70 (others upon request)
Luminaire SDCM	<4
LED lifetime	L90 > 100 000 h

Optics and light distribution options

Photobiology RG1 (3000 K)

MAXIMUM PERFORMANCES (SEE ANNEX FOR ALL LED MODULES OPTIONS)

ITEM 500 - BLS (36 LED)			
	Flux ^(A) at 700 mA (lm)	Power ^(B) (W)	Efficiency (lm/W)
2700 K	9061	75	121

(A) Output flux from the luminaire at commissioning (including thermal and optical yields compared to the Flux from sources) for given optics, maximal current and ambient temperature 25°C, as per IEC 62717 and IEC 62722 standards
(B) Total power absorbed by the luminaire including all electrical equipment, as per IEC 62717 and IEC 62722 standards.

DRIVER

Power	230 V / 240 V - 50 Hz / 60 Hz / pSurge protection 10Kv
Brand	Philips Xitanium Full Prog or OSRAM 4 DIM - D4i option (SR and DEXAL)
Power factor	90% minimum
Total harmonic distortion	15% max
Current	Dimmable current up to 1000 mA
Lifetime	10% failure at 100 000 hours
Control	DALI or 1-10V

SMARTLIGHTING (OPTIONS)

Smart-ready®	Pre-configuration, to connect communicating systems with Sensor Ready drivers, to a base in compliance with ZHAGA Book 18.
Standalone solutions	Dimming calculator from 2 to 5 slots (Dimming 5, POLEDRIIVE or POLEDRIIVE Bluetooth) Motion sensor (Motion, Motion P, Motion DALI, MD) Motion sensor combined with dimming calculator (Motion P, Motion 5, MD) Constant Light Output (CLO) Adjustable driver (POLEDRIIVE)
Local Network	Luminaires group: detection through ZIGBEE 3.0 communication protocol or pilot wires.
Telemangement	WIZARD - ECLATEC

STANDARDS / MARKING / CERTIFICATIONS

Compliance	CE marking requirements: - Directive 2014/35/EU, Low voltage Directive - Directive 2014/130/EU Electromagnetic Compatibility - Directive 2011/65/EU Restriction of Hazardous substances (RoHS) - Directive 2009/125/EC Ecodesign requirements	
	NF EN 13201	In accordance with the lighting calculations issued.
	REACH	Products conformity regulatory management of chemicals
	WEEE	(Waste Electrical and Electronic Equipment) Manufacturer involvement

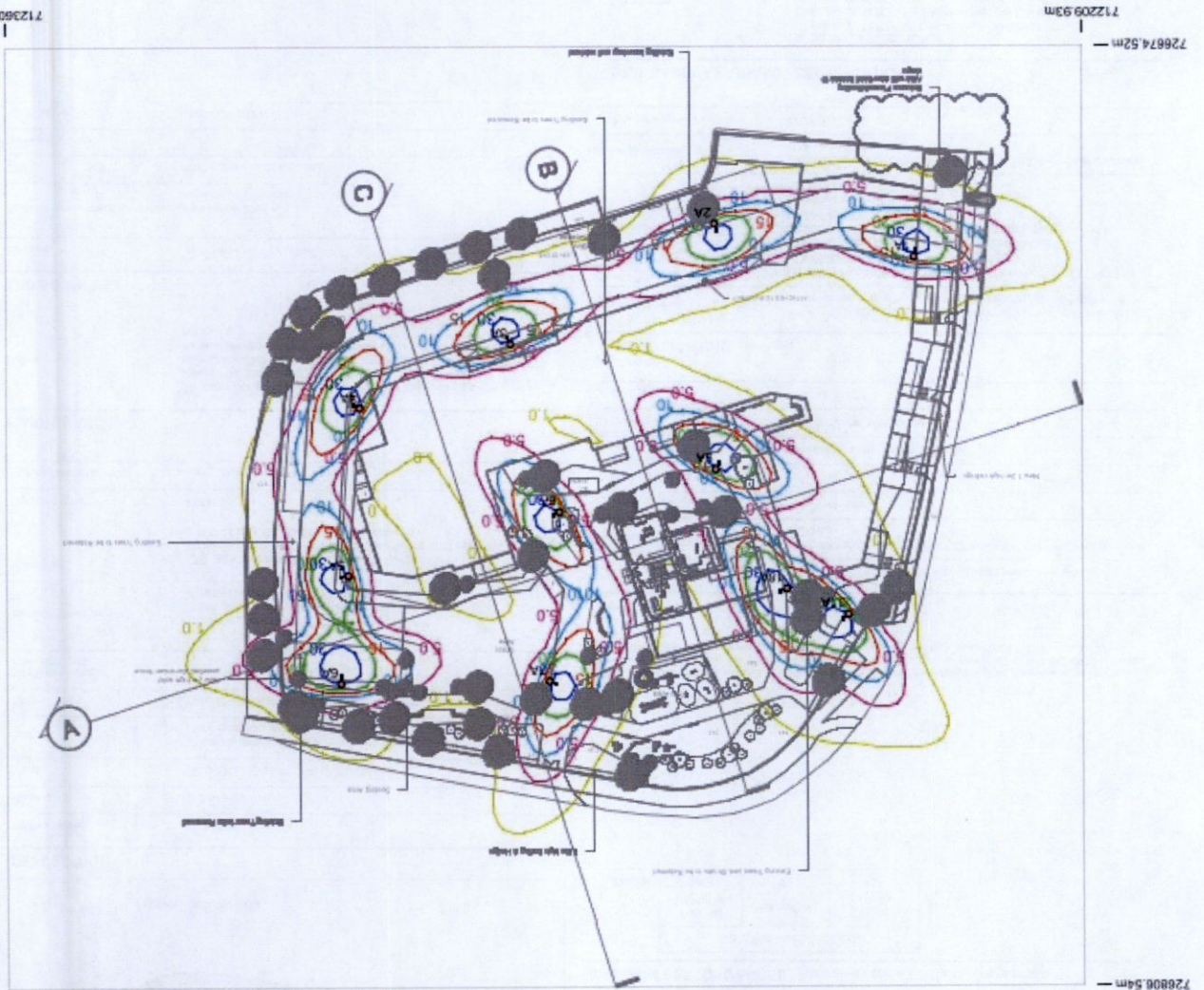
WARRANTY

According to our general sales conditions

Altamar had input into the lighting design. Further, this report details that the columns will be 6m in height. Lighting will be warm at 2700°K in order to comply with bat lighting guidelines. The proposed Horizontal Illuminance (lux) grid for the subject site is demonstrated in Figure 5. As seen in Figure 4 a central portion of the site will be lit less than 1 Lux. It should be noted that spill in the vicinity of the perimeter treelines is also low. It would be expected that bat foraging would continue on site.

Horizontal Illuminance (lux)

Grid 1



Results

Eav	11.70
Emin	0.21
E _{max}	44.51
Emin/E _{max}	0.00
Emin/Eav	0.02

Figure 5. Proposed Horizontal Illuminance (lux) Grid

Competency of Assessor

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 27 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2022)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Marnell, Kelleher and Mullen (2022), Bat Mitigation Guidelines for Ireland V2 (which update and replace the Bat Mitigation Guidelines for Ireland published in 2006).

Legislative Context

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

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

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

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

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

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

Bat survey

This report presents the results of site visits by Bryan Deegan (MCIEEM) on the 8th and 21st September 2022. Bat emergent and detector surveys were carried out on both dates. The internal and external inspection of outbuildings and sheds was carried out on the 8th September 2022 and the internal and external inspection of house was carried out on the 21st September 2022. Trees on site were examined for bat roosting potential.

Survey methodology

As outlined in Marnell et al. 2022 *‘The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited*

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

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

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

Survey Results

Trees as potential bat roosts.

A ground level roost assessment was carried and used to examine the trees on site for features that could form bat roosts. Potential roosting features include heavy ivy growth, broken limbs, areas of decay, vertical or horizontal cracks, cracks in bark etc. All trees on site were assessed for bat roosting potential. No evidence of bats or bat roost were identified in any of the onsite trees. A derogation license is therefore not required for the removal of trees on site. However, the several mature trees of bat roosting potential are noted on site (Table 1). These include trees heavily clad in ivy and trees with features such as cracks and hollows that could be used by bats as roost habitats. Prior to felling/works on the trees these trees will need to be inspected for bats/bat roosts.

Table 1. Trees of bat roosting potential.

Tree No.	Species	Feature	Status
T29	<i>Cupressus macrocarpa</i> (Monterey cypress)	Broken branches and dead wood. Areas of bark	Low to medium potential. To be removed.
T42	<i>Acer pseudoplatanus</i> (Sycamore)	Broken/dead wood and hollow. Ivy	Low to medium potential. To be retained but works proposed.
T54-T59	<i>Populus nigra 'Italica'</i> (Lomardy Poplar)	Dense Ivy	Low to medium potential. To be removed.
T62-T63	<i>Acer pseudoplatanus</i> (Sycamore)	Dense Ivy	Low to medium potential. To be removed.

Buildings as potential bat roosts.

An internal and external assessment was carried out of all buildings on site. No evidence of bat roosting was noted within or external to the buildings. No bats, evidence of bats or a bat roost were identified in any of the onsite buildings. A derogation license is therefore not required for the removal of buildings on site.

Emergent/detector surveys.

Emergent/detector surveys were carried out by Bryan Deegan on the 8th September 2022 and 21st September 2022.

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

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

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

A single Lesser Noctule (*Nyctalus leisleri*) bat was noted on both nights foraging briefly over the grassland area to the south east of Scholarstown house in the vicinity of the treeline. A single Soprano Pipistrelle (*Pipistrellus pygmaeus*) was observed briefly to the west of Scholarstown house on the 21st of September 2022. No bats were observed emerging from onsite trees or structures on or proximate to the subject site.

It should be noted that the site is brightly lit from the north and west from street lights on Scholarstown Road and Orlagh Grove respectively and from the south from the community school which includes works from a development that is currently being built.

Bat Assessment Findings

Review of local bat records

The review of existing bat records (sourced from Bat Conservation Ireland's National Bat Records Database) within a 2km² grid (Reference grid O12I) encompassing the study area reveals that two 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 5 - 8. The following species were noted in the wider area: Daubenton's Bat (*Myotis daubentonii*), Brown Long-eared Bat (*Plecotus auritus*), Natterer's Bat (*Myotis nattereri*), Whiskered Bat (*Myotis mystacinus*), Lesser Noctule (*Nyctalus leisleri*), Nathusius' Pipistrelle (*Pipistrellus nathusii*), and Soprano Pipistrelle (*Pipistrellus pygmaeus*) (Figures 5 - 8).

Table 1: Status of bat species within a 2km² grid encompassing the subject site (Reference no. O12I)

Species name	Record count	Date of last record
Lesser Noctule (<i>Nyctalus leisleri</i>)	1	24/05/2007
Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	2	21/10/2010



Figure 5. Brown Long-eared Bat (*Plecotus auritus*) (yellow), Daubenton's Bat (*Myotis daubentonii*) (purple), and both Brown Long-eared Bat and Daubenton's Bat (orange) (Source: NBDC) (Site – red circle)



Figure 6. Whiskered Bat (*Myotis mystacinus*) (yellow), Natterer's Bat (*Myotis nattereri*) (purple), and both Whiskered Bat and Natterer's Bat (orange) (Source: NBDC) (Site – red circle)



Figure 7. Lesser Noctule (*Nyctalus leisleri*) (purple), Nathusius' Pipistrelle (*Pipistrellus nathusii*) (yellow), and both Lesser Noctule and Nathusius' Pipistrelle (orange) (Source: NBDC) (Site – red circle)



Figure 8. Soprano Pipistrelle (*Pipistrellus pygmaeus*) (purple) (Source: NBDC) (Site – red circle)

Evaluation of Results

The bat surveys comply with bat survey guidance documentation including Marnell et al (2022) and Collins (2016). No bats were observed emerging from trees or buildings on site. No evidence of bats roosting in buildings was noted. Minor bat activity was noted on site by Soprano Pipistrelle and Lesser Noctule bats. The site is of relatively low importance to the local bat population.

Potential Impact of the development on Bats

No confirmed bat roosts will be lost. The proposed development will change the local environment as outbuildings and barns are to be demolished, trees are to be felled and new structures are to be erected. The development is likely to displace bats from foraging at the site during construction and operation. Based on the small number of common species found using the site, the displacement from this site will not have any significant effect on local bat populations. It should be noted that the St. Colmcille's Community School is located to the south of the site and has significant floodlighting. It is also currently undergoing development just outside the site boundary. The proposed development is not in proximity to sensitive bat areas. The potential for collision risk and impact on flight paths in relation to bats is considered low due to the low level of bat activity on site and the buildings would be deemed to be clearly visible to bats. Bat foraging would be expected to continue on site albeit at a lower level until landscaping matures.

Mitigation Measures

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

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

However, no bats were noted roosting on site. The level of activity on site is low with common bat species transiting through the site. As a result, the following mitigation will be implemented:

- Lighting at all construction stages should be done sensitively on site with no direct lighting of hedgerows and treelines.
- A post construction bat survey and light spill assessment will be carried out to ensure compliance with the lighting plan.
- A pre construction bat roosting inspection will be carried out on all trees listed in Table 1 and all buildings on site, prior to the commencement of works. A derogation license will be applied for from NPWS if bats are to be found during the future inspection. All works will be carried out in compliance with NPWS conditions if bats or bat roosts are found during pre-commencement inspections.

Predicted Residual Impact of Planned Development on Bats

The present survey found no evidence of roosting bats in any onsite tree or structures, therefore the proposed development will not result in the loss of any bat roost as no bats are roosting onsite. The proposed development will change the local environment as existing buildings are to be demolished and vegetation removed. There would be expected to be a short to medium term reduction in foraging until the landscaping and in particular the trees within the landscaping proposal mature. Based on the small number of common species found using the site the displacement from this site it will not have any significant effect on local bat populations, and that any such effect will be only significant at the local level. The external lighting for this development has been designed to achieve the performance requirements as set out in the Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010) and Bats and Lighting in the UK – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2018). All lighting is set at 2700°K in compliance with bat lighting guidelines. In the medium-long term bat foraging would be expected to continue on site and no significant effect on bats would be foreseen.

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