ALTEMAR
Marine & Environmental Consultancy

Ecological Impact Assessment (EcIA) for the proposed SHD development at Dolcain House, Monastery Road, Clondalkin, Dublin 22.

20th January 2022

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Randelswood Holdings Ltd.

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Document Control Sheet			
Client	Randelswood Holdings Ltd.		
Project	Ecological Impact Assessment (EcIA) for the proposed SHD development at Dolcain House, Monastery Road, Clondalkin, Dublin 22.		
Report	Ecological Impact Assessment		
Date	20th January 2022		
Project No:		Document Reference:	
Version	Author	Reviewed	Date
Draft 01	Bryan Deegan	Jack Doyle	19th January 2022
Planning	Bryan Deegan		20th January 2022

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Introduction

Background

Ecological Impact Assessment (EcIA) has been defined as '*the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components*' (Treweek, 1999). "*The purpose of EcIA is to provide decision-makers with clear and concise information about the likely ecological effects associated with a project and their significance both directly and in a wider context. Protecting and enhancing biodiversity and landscapes and maintaining natural processes depends upon input from ecologists and other specialists at all stages in the decision-making and planning process; from the early design of a project through implementation to its decommissioning*" (IEEM, 2010).

An EIA is not required for this project and the following EcIA has been prepared by Altemar Ltd. at the request of Randelswood Holdings Ltd., for the proposed SHD development at Dolcain House, Monastery Road, Clondalkin, Dublin 22.

Study Objectives

The objectives of this EcIA are to:

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

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

- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002);
- Draft Guidelines on the information to be contained in EIARs (2018);
- Guidelines for Ecological Impact Assessment (EcIA) (IEEM, 2019);
- Advice Notes on current practice in the preparation of EIS's (EPA, 2003);
- Institute of Ecology and Environmental Management Guidelines for EIA (IEEM, 2005).

The data gathered as part of the EcIA forms the basis for the species and habitats assessment seen in the accompanying AA Screening. A separate AA screening has been produced by Altemar Ltd. to identify potential impacts of the development on Natura 2000 sites, Annex species and Annex habitats.

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

Project Description

Randelswood Holdings Limited intends to seek planning permission for a proposed Strategic Housing Development (SHD) at Dolcain House, Clondalkin, Dublin 22.

The development will consist of: (i) Demolition of existing single storey shed (15.7sq.m), esb sub-station (29.5sq.m) and oil tank (12.1sq.m) located in the north-eastern section of the subject site; (ii) Change of use of the existing Blocks A, B and C at Dolcain House from office use to residential use which range in height from 4-5 storeys over basement, together with modifications to the existing blocks; (iii) alterations to the existing Blocks A, B and C will include the removal of the existing fourth floor level and replacement with a new fourth floor level at Block A only, the provision of an additional floor level to all blocks with 2 no. setback floors proposed to the atrium to now provide for a height of 4-5-6 storeys to Blocks A, B and C and upgrading of the existing external fabric of the building as well as internal modifications to layouts to accommodate the proposed residential apartments; (iv) alterations to Block A to include a 5 storey extension to northern elevation; (v) alterations to Block B include the demolition of the existing single storey element on the eastern façade (73.2sq.m) which comprises a kitchen area, office and storage space, the demolition of the existing three-storey connection between Blocks B and C (23sq.m) and the relocation of the existing telecommunications mast equipment at roof level; (vi) construction of a new 6-storey Block D to the east of Block B to accommodate 29 no. apartment units. The proposed alterations and modifications to the existing Blocks A, B and C and the proposed Block D will accommodate a total of 130 no. apartment units (comprising 61 no. one-bedroom apartments, 59 no. two-bedroom apartments and 10 no. three-bedroom apartments, as follows:-

- Block A (including atrium) will comprise 50 no. apartments (consisting of 22 no. one-bedroom apartments, 22 no. two-bedroom apartments and 6 no. three-bedroom apartments) and will range in height from 4-5 to 6 storeys over basement level;
- Block B will comprise 22 no. apartments (consisting of 9 no. one-bedroom apartments, 9 no. two-bedroom apartments and 4 no. three-bedroom apartments) and will be 5 storeys in height;
- Block C will comprise 29 no. apartments (consisting of 13 no. one-bedroom apartments, and 16 no. two-bedroom apartments) and will be 6 storeys in height; and,
- Block D will comprise 29 no. apartments (consisting of 17 no. one-bedroom apartments, and 12 no. two-bedroom apartments and will be 6 storeys in height.

The proposed development will be served by communal residential amenities/facilities at surface and basement level, including communal open space and outdoor areas at surface level; 310 no. bicycle parking spaces (254 no. at basement level and 56 no. at surface level); 78 no. car-parking spaces (62 no. at basement level and 16 no. surface level) including 5 no. car-club spaces and 3 no. accessible parking spaces and; 4 no. motorcycle parking spaces at basement level. The basement level also comprises a proposed bin storage area and plant room. The proposed development also includes landscaping, a pedestrian and cyclist access onto the adjacent Monastery Road to the north; and internal pedestrian and shared surfaces. (vii) Vehicular access to the development is proposed through the existing access/entrance to Dolcain House to the east. The application is accompanied by 2 no. site layout options, Option A and B. Option A includes a new public pedestrian footpath along the southern side of Monastery Road which extends east to the north-eastern application site boundary to facilitate a connection to future footpath. Option B provides for the omission of this footpath. (viii) Associated site and infrastructural works are also proposed which include; foul and surface water drainage; plant areas; ESB substation; and all associated site development works necessary to facilitate the proposed development.

The proposed site outline, location, layout (Options A & B), and elevations are demonstrated in Figures 1-5.

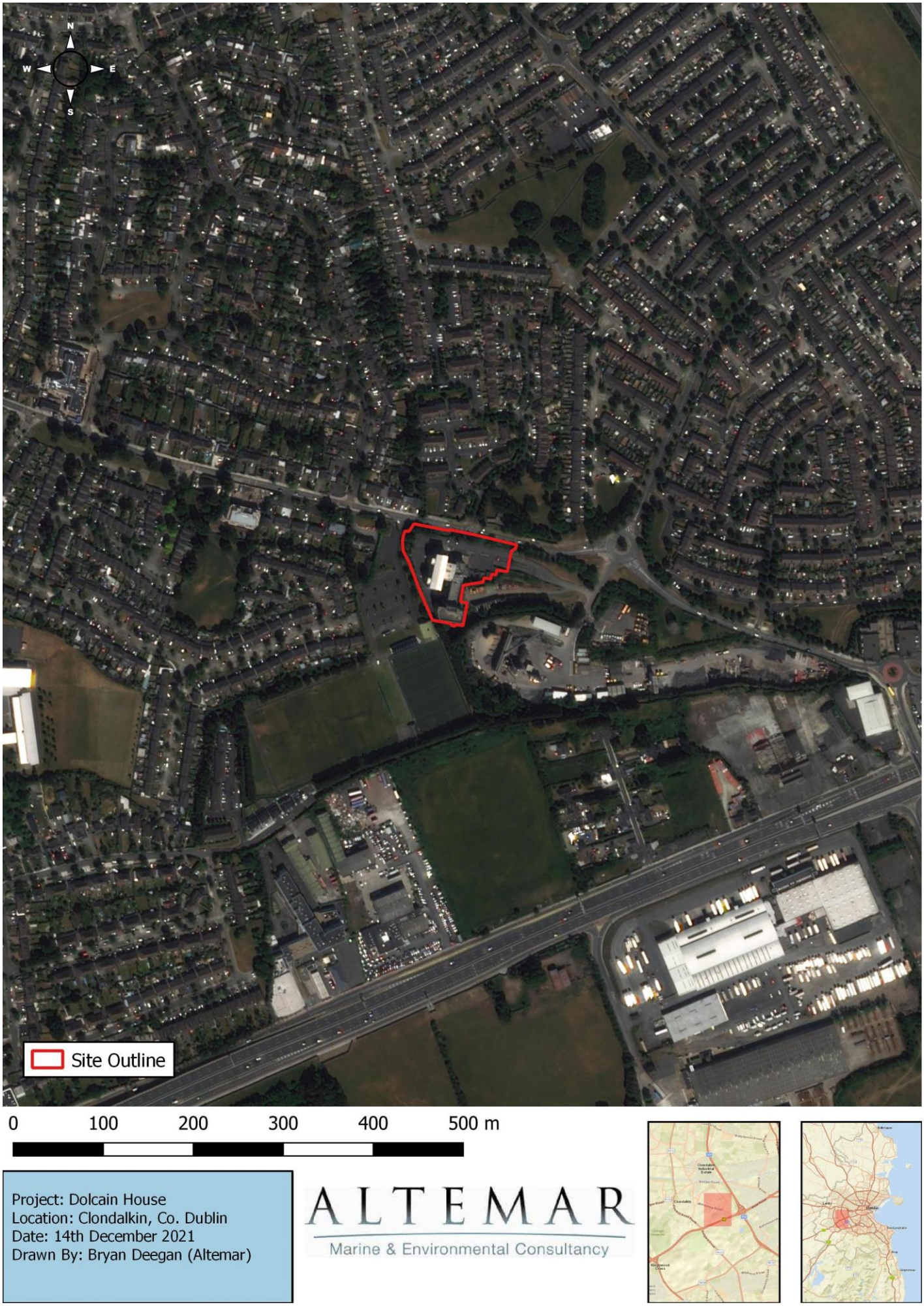


Figure 1. Site outline and location on satellite imagery (ESRI)

Figure 2. Outline of proposed site.

Figure 3. Proposed site layout plan – Option A (incl. footpath)

Figure 4. Proposed site layout plan – Option B (excl. footpath)

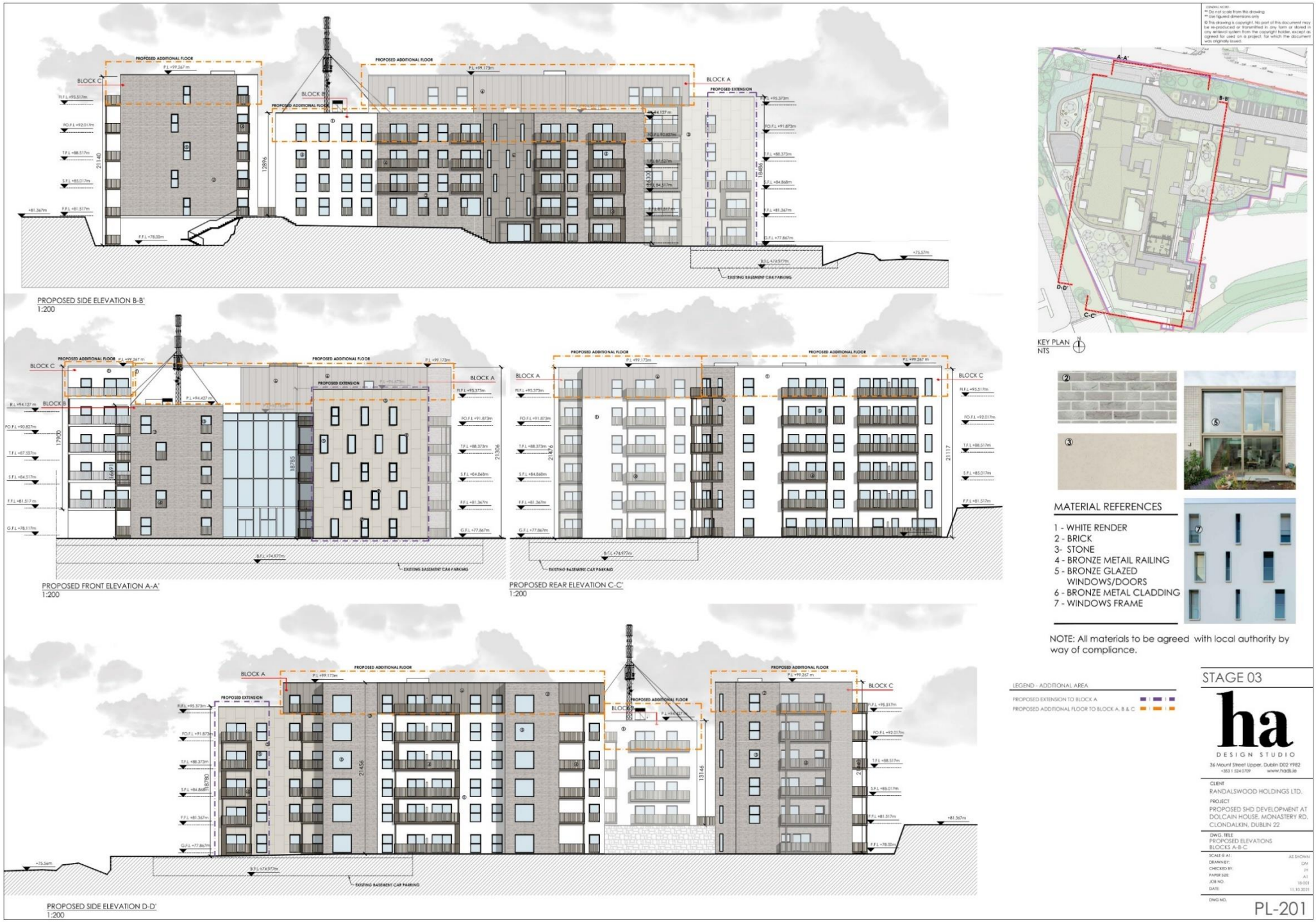


Figure 5. Proposed elevations

Landscape

A Landscape Report has been prepared by Jane McCorkell Landscape Architect to accompany this planning application. This report outlines the following landscape strategy for the proposed development:

'*The submitted proposal aims to provide a multifunctional, durable landscape and public realm which integrates the proposed development within its existing landscape context. In coordination with the design team to integrate civil engineering, ecological considerations and improved circulation and accessibility a diverse mix of usable open spaces has been created to provide a lively landscape for residence to enjoy.*

The landscape is structured to provide a diverse range of spaces and uses, that animate the space and create visual interest at the human scale. These spaces can be organized into 2 separate zones, each with a distinctive character; Zones: A and B.

- *'Zone A' Proposed Open Space - characterized by the entrance landscape, natural play elements, seating, and planting.*
- *'Zone B' Proposed Communal Amenity Space – characterised by the informal playful landscape, communal seating areas, Specimen tree planting and an area tranquillity.*

There is a fire tender route proposed that will run along the North of site down along the west boundary where a turning space has been integrated into the landscape. The fire access route is proposed in a range of surface materials to break up the visually hard edge of the fire access path. The planting strategy for the development site is to maximize tree and vegetation retention, especially along the South and West boundaries where there is a natural rock face present. The principle of the planting strategy is to maintain the overall character of the site while creating a cohesive, usable, and welcoming green space.

There are several components making up the overall landscape strategy:

1. *A diverse range of spaces, lawn, grass moulding, natural play and several smaller spaces with native tree planting and ground flora.*
2. *Integration of the scheme within the wider context.*
3. *Maintain the distinct spatial character of the existing site, while enhancing the identity.*
4. *Provide a safe and accessible environment.*
5. *Provide new opportunities for the protection and establishment of habitat.'*

The proposed landscape masterplan is demonstrated in Figure 6.

Figure 6. Proposed landscape masterplan

Arborist

An Arboricultural Report has been prepared by Charles McCorkell Arboricultural Consultancy to accompany this planning application. This report outlines the following arboricultural assessment in relation to the proposed development of the subject site:

'6 Analysis of the Proposal in Respect of Trees

Arboricultural Impacts

6.1 ***Loss of trees*** *– Two Options for the proposed development have been put forward for assessment. Option A includes a new pedestrian footpath along Monastery Road, adjacent to the northern boundary of the site, while Option B does not include this footpath. All other development works across the two options are the same.*

6.2 The inclusion or omission of this footpath will affect the number of tree removals required to facilitate the development. For Option A, 21 trees, one group of trees, and the part-removal of three shrub groups are required, while for Option B, 19 trees, one group of trees, and the part-removal of two shrub groups are required. The difference between the two options in terms of removals is two trees and the part-removal of one shrub group.

6.3 Of the trees and shrubs proposed to be removed across the two options, one tree is of moderate quality and value (B Category), while the remaining trees are all of low and poor quality and value (C & U Category).

6.4 Details of the proposed removals for both options are specified within the Tree Work Schedule at Appendix A and shown on different Tree Removal Plans at Appendix B. Figure 3 shows a breakdown of the proposed removals in comparison with the number of trees assessed.

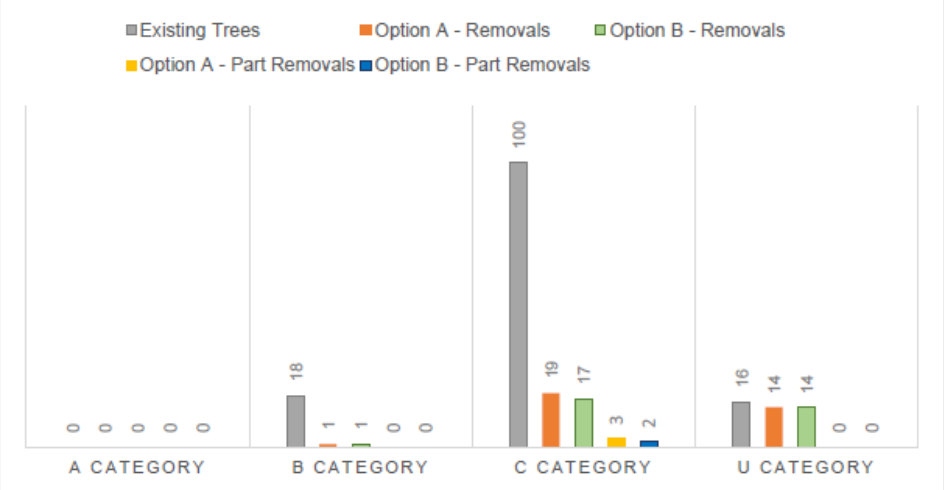


Figure 3: Proposed removals in comparison to the total number of survey entries recorded and their category in accordance with BS5837.

6.5 The loss of trees and shrubs is not considered to be significant and will not have an adverse impact on the character and appearance of the local surrounding landscape as the majority of trees are of low and poor quality and have limited public amenity value. The development proposal has been carefully designed to protect and retain the main boundary tree cover on the site.

6.6 ***Pruning works to facilitate the development*** *– Pruning works are required to crown lift low growing laterals over car parking spaces to achieve a 3m clearance above ground level. The extent of these works is considered to be minor and will not have an adverse impact on their health or visual appearance within the local area. Details of the proposed pruning works are specified within the Tree Work Schedule.*

6.7 ***Site access*** *– The existing site access can be used to facilitate the development without impacting the retained trees.*

6.8 ***Compound area*** *– The proposed site compound area has not yet been designed; however, there is sufficient space within the existing car parking area to avoid impacting retained trees.*

6.9 Prior to works commencing, the site manager must liaise with the arboricultural consultant to locate and agree on the final location of the site compound area to avoid impacting retained trees.

6.10 ***Construction operations –*** *The renovation and construction operations required to the existing buildings will have no impact on retained trees as works are located outside their crown spreads and RPAs.*

6.11 The proposed ESB sub-station is located within the theoretical RPA of retained tree T47. The excavation works required to construct this sub-station are likely to result in some root loss; however, this is not likely to be significant, as the area affected is located within the existing hard standing, where root growth is likely to be somewhat restricted.

6.12 It is necessary that during all construction works, the tree protection measures, as shown on the Tree Protection Plan at Appendix B, will be installed and maintained until works are complete.

6.13 ***Drainage and services*** *– The proposed drainage layout has been reviewed and there are no significant impacts or incursions within the RPAs of retained trees.*

6.14 ***Tree protection measures –*** *Retained trees can be successfully protected during the proposed development works by using robust fencing which comply with the recommendations outlined within BS5837:2012. For details of all tree protection measures required during construction operations, please refer to the Tree Protection Plans located at Appendix B.*

6.15 ***Arboricultural mitigation -*** *A detailed landscape plan has been designed and will form part of the planning application for the development proposal. This design includes new high-quality tree planting that will help to mitigate the loss of trees in the medium to long term and have a positive impact on the amenities of the site and the character and appearance of local surrounding landscape.*

7 Discussion & Conclusion

General Change

7.1 The proposed loss of trees and shrubs required to facilitate the development will not have a significant impact on the character and appearance of the local surrounding landscape as they are mainly of low and poor quality and value.

Proposal in relation to local planning policy

7.2 The proposed development complies with local planning policies as they relate to trees. Although tree removals are required to facilitate the development, these trees are not considered to be important in terms of the character and appearance of the property or surrounding local area.

7.3 The proposal has been assessed in accordance with best practice BS5837:2012 and provided the recommendations, as detailed within this report, are followed, all retained trees can be successfully protected for the duration of construction.

Conclusion

7.4 The proposal has been assessed in accordance with BS 5837:2012 and retained trees can be successfully protected during the course of the development by following the information provided within this report and adhering to industry best practice.

7.5 Provided the recommendations and methods of work, as outlined within this report, are adhered to, the proposed development can be successfully carried out without having a negative impact on the character or appearance of the surrounding landscape and local area.

8 Recommendations

8.1 The proposal should be carried out in accordance with the recommendations outlined within this report.

Tree Protection

8.2 Tree protective barriers should be installed during the development as detailed on the Tree Protection Plan at Appendix B.

8.3 The protective fencing measures to be installed must comply with the recommendations outlined within BS 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'. Refer to fencing detail on the Tree Protection Plan at Appendix B.

8.4 No materials or equipment other than those required to install tree protection will be delivered to the site until all fencing and ground protection is in place.

8.5 Site supervision should be carried out by an arboricultural consultant at key stages of the project to ensure that retained trees can be successfully protected during the development.

Tree Works

8.6 All tree works are required to be carried out in accordance with best working practice BS3998:2010 – Tree Work Recommendations and by a reputable arboricultural contractor.

Arboricultural mitigation

8.7 Any new tree planting should take into consideration the mature growing size of the trees proposed, to ensure that a harmonious relationship between trees and buildings and hard surfaces can be sustained for the long term, without the need for unnecessary pruning works or removals.'

The tree survey and constraints plan is demonstrated in Figure 7. The proposed tree removals plans (Options A & B) are demonstrated in Figures 8 & 9. The proposed tree protection plans (Options A & B) are demonstrated in Figures 10 & 11.

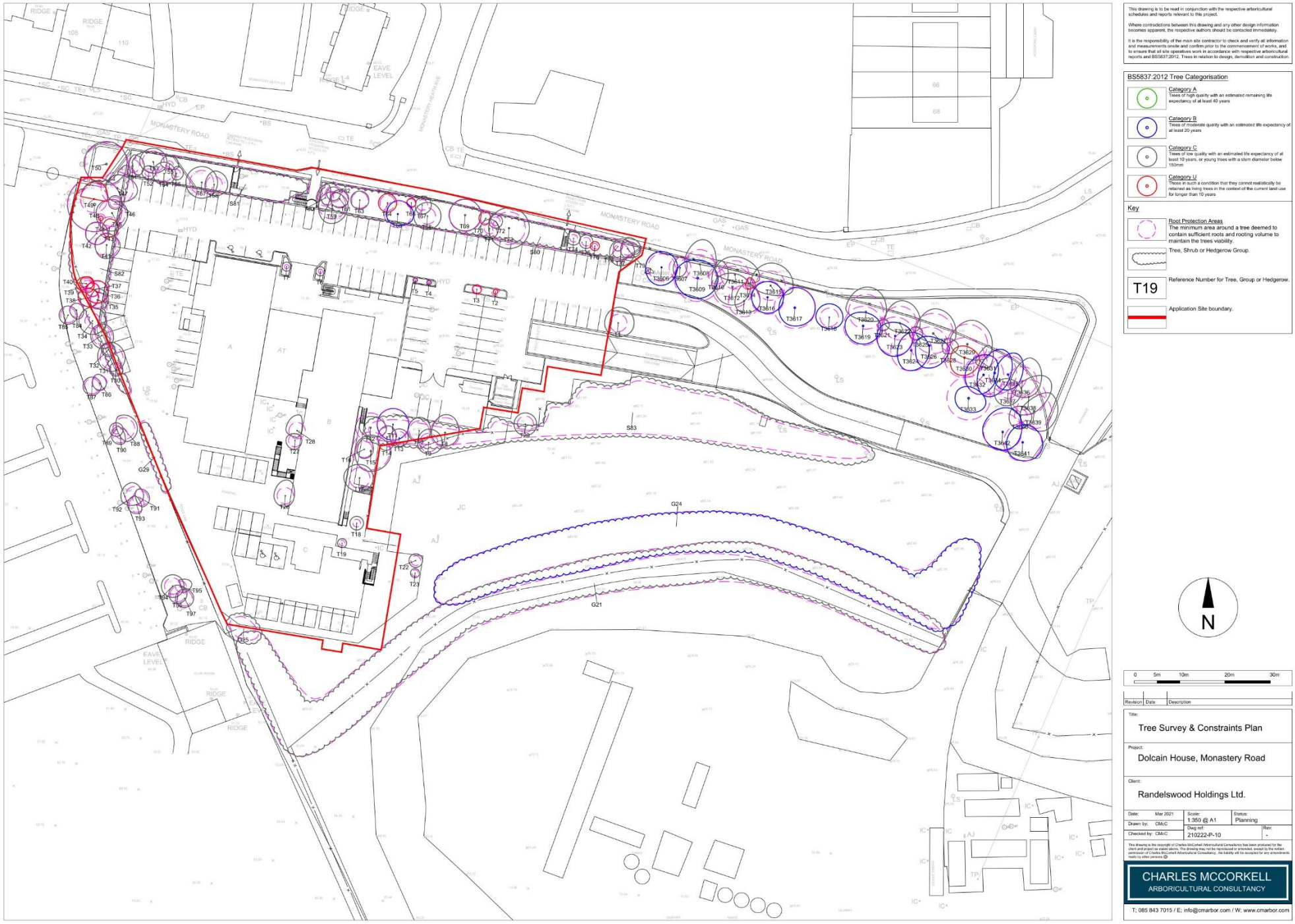


Figure 7. Tree survey and constraints plan

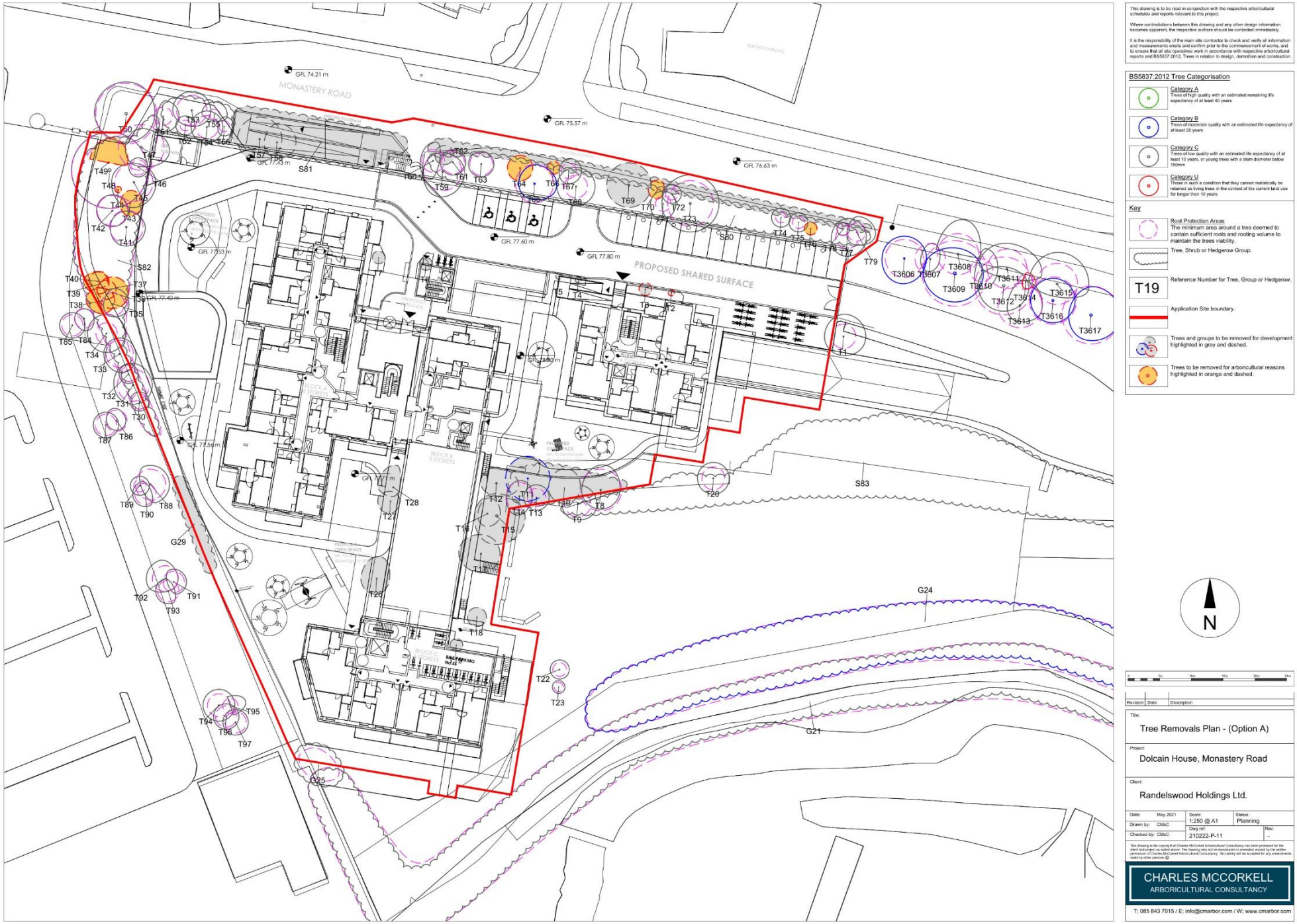


Figure 8. Tree removals plan (Option A)

Figure 9. Tree removals plan (Option B)

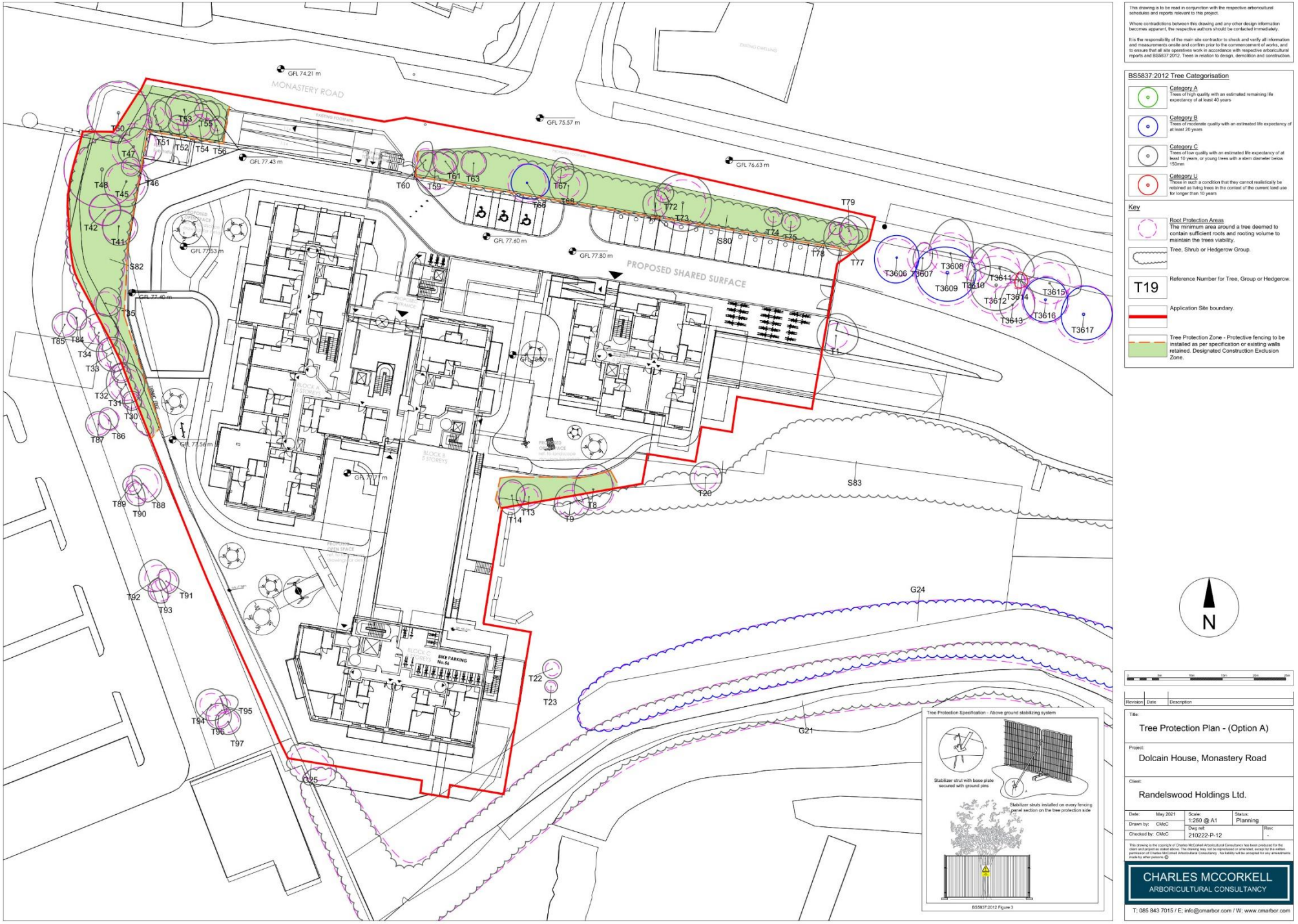


Figure 10. Tree protection plan (Option A)

Figure 11. Tree protection plan (Option B)

Drainage

An Engineering Services Report was prepared by Lohan & Donnelly Consulting Engineers on behalf of Randelswood Holdings Ltd. This report outlines the following drainage strategy for the proposed SHD development at Dolcain House, Clondalkin, Dublin 22.

Foul Drainage

In terms of existing foul water drainage arrangements, the report outlines the following:

'The existing foul water sewer on site drains to the public foul sewer on the north west of the site. The drainage is currently a combination of both underslung and underground drainage.'

In relation to the proposed foul water drainage arrangements, the report details the following:

'*All sewers are designed in accordance with IS 752: 2008 and Building Regulations TGD Part H. All drainage works shall be in accordance with the requirements of Irish Water and SDCC County Council.*

Wastewater generated from the 3 existing blocks shall enter an underground foul sewer system, while the wastewater generated from the new block shall enter an underslung foul sewer system, suspended below ground floor slab and exit the site via gravity flow.'

This report continues:

'*The site is currently served by a 150mm diameter foul sewer water spur which discharges to the existing 225mm diameter public foul water sewer on the near side of the main road via an existing connection to an existing manhole. This outfall manhole will be retained with additional drainage from a new block added to the drainage system on site. It is proposed to keep the existing 150mm diameter foul sewer at a gradient of 1/100 to serve the new development, which provides a flow capacity of 16.5 litres/second exceeding the 6DWF of 3.928 litres/second. The number of units discharging into the sewer would be sufficient for the sewer to achieve self-cleansing velocity at the proposed gradient.*'

Surface Water Drainage

In terms of existing surface water drainage arrangements, the report outlines the following:

'*The existing surface water sewers onsite drain to the public sewer in the north west of the site by gravity flow. The drainage is currently a combination of both underslung & underground drainage. Drainage for block C includes an attenuation system due to its time of design and construction in 2006. Blocks A and B predate the inclusion of stormwater attenuation as part of development requirements and so runoff from these areas currently discharges to sewers without any restriction on flow rate.*

The site is currently served by a 225mm diameter surface water sewer spur which discharges to the existing 225mm diameter public surface water sewer on the south side of the Monastery Road via an existing connection to an existing manhole. There is also an existing oversized pipe system servicing block C which functions as an attenuation holding chamber.'

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

'*L&D propose to discharge surface water to the existing surface water sewer on Monastery Road. A new outfall manhole shall be constructed within the ownership boundary which shall be in compliance with SDCC requirements.*'

Sustainable Urban Drainage Systems (SuDS) Measures Applied

The Engineering Services Report outlines the following in relation to the proposed SuDS measures to be implemented into the surface water drainage strategy:

'*Extensive Green Roof:*

A lightweight extensive green roof has been chosen for each apartment block of the proposed development. It is proposed to include a 20mm dimpled drainage sheet below the level of the drainage outlets on the roof in order to retain the water, achieving interception storage and facilitating evapotranspiration.

Permeable Paving:

It is proposed to incorporate permeable paving and grasscrete surfaces into the upper ground floor level site design. These systems allow for the capturing of surface water and storage of same within the sub-base buildup, promoting interception storage and facilitating evapotranspiration. The filtering process of surface water through the paving and sub-base also improves water quality and filters out hydrocarbons and suspended solids.

Petrol Interceptor:

It is proposed to incorporate a class 1 Klargester petrol interceptor at upper ground floor level, located upstream of the new attenuation tank. This shall facilitate removal of oils and silts prior to their entering the attenuation system and flow control device manhole. It is proposed to incorporate a separate class 1 Klargester petrol interceptor at lower ground floor level which may achieve a concentration of less than 5 mg/l of oil under standard test condition and will also facilitate silt removal.

Surface Water Attenuation:

It is proposed to attenuate surface water on-site through the use of a Stormtech attenuation tank at lower ground floor level. The proposed attenuation tank shall achieve a storage capacity of 285m3 and shall also be positioned to achieve in excess of the minimum 500mm freeboard to the lowest FFL as required by GDSDS. The attenuation system shall incorporate a Stormtech isolator row which is lined internally with a geotextile membrane and through which all incoming surface water must pass through. This allows for the removal of silts and suspended solids, thus improving water quality, and also protects the granular voids stone surrounding the attenuation system from being clogged with silt over time. The isolator row contains a manhole at the start of the run to facilitate jetting and clearing of the isolator row.

Tree Pits:

Tree pit systems will also be incorporated through the use of recessed pockets of granular voids stone beneath the root ball of trees at podium level. The tree pits shall incorporate an overflow drainage system at their base which connects to the surface water drainage system. This permits intercepted rainfall to permeate through the strata of the planter system and being captured for natural irrigation of the tree and facilitating evapotranspiration, but allowing for overflow of surface water into sewers and to the attenuation tank during extreme rainfall event.'

The proposed drainage drainage plan (upper and lower ground floor – Options A & B) and the site SuDS plan (Options A & B) are demonstrated in Figures 12 – 17.

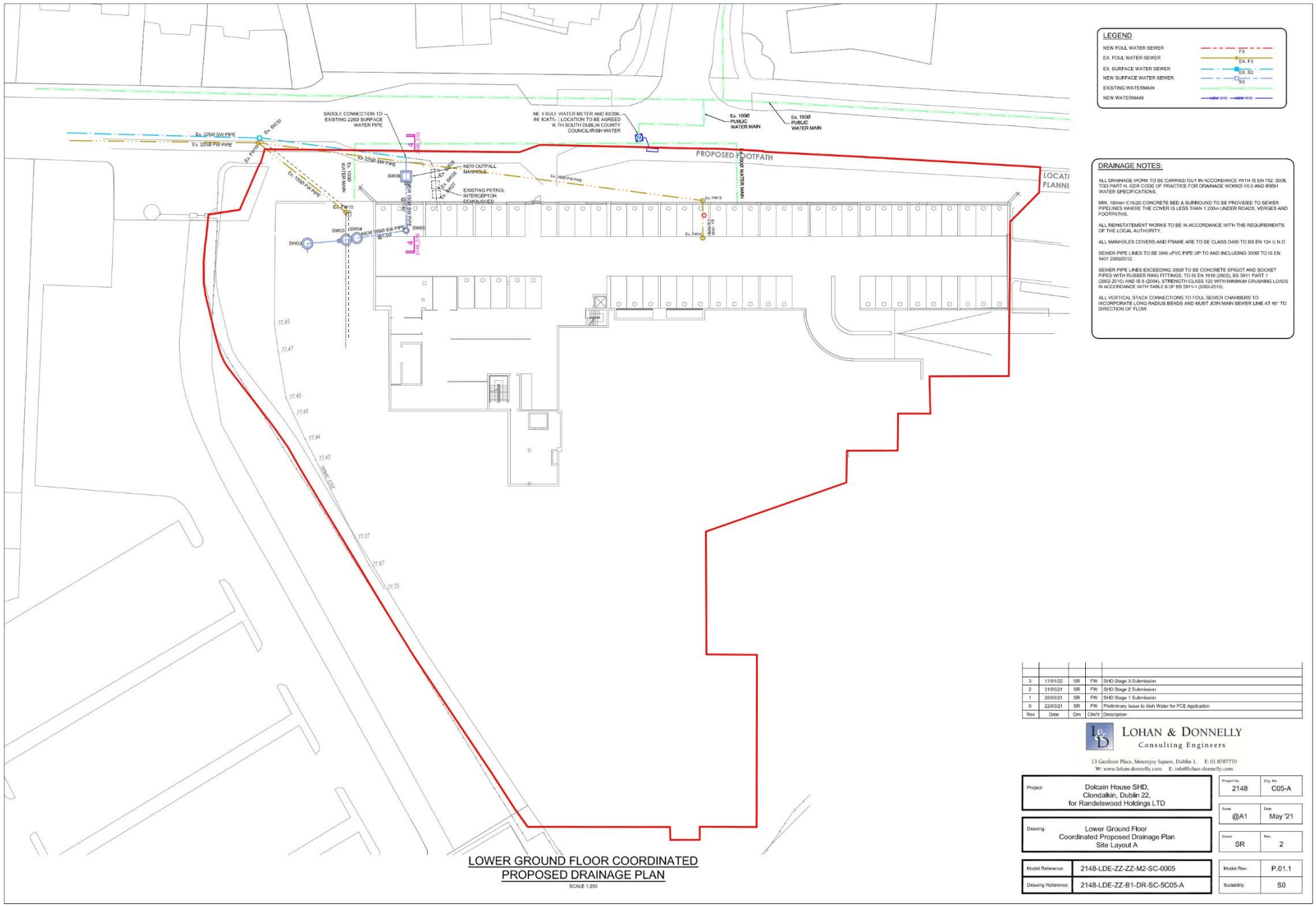


Figure 12. Proposed drainage plan - lower ground floor (co-ordinated) – Option A

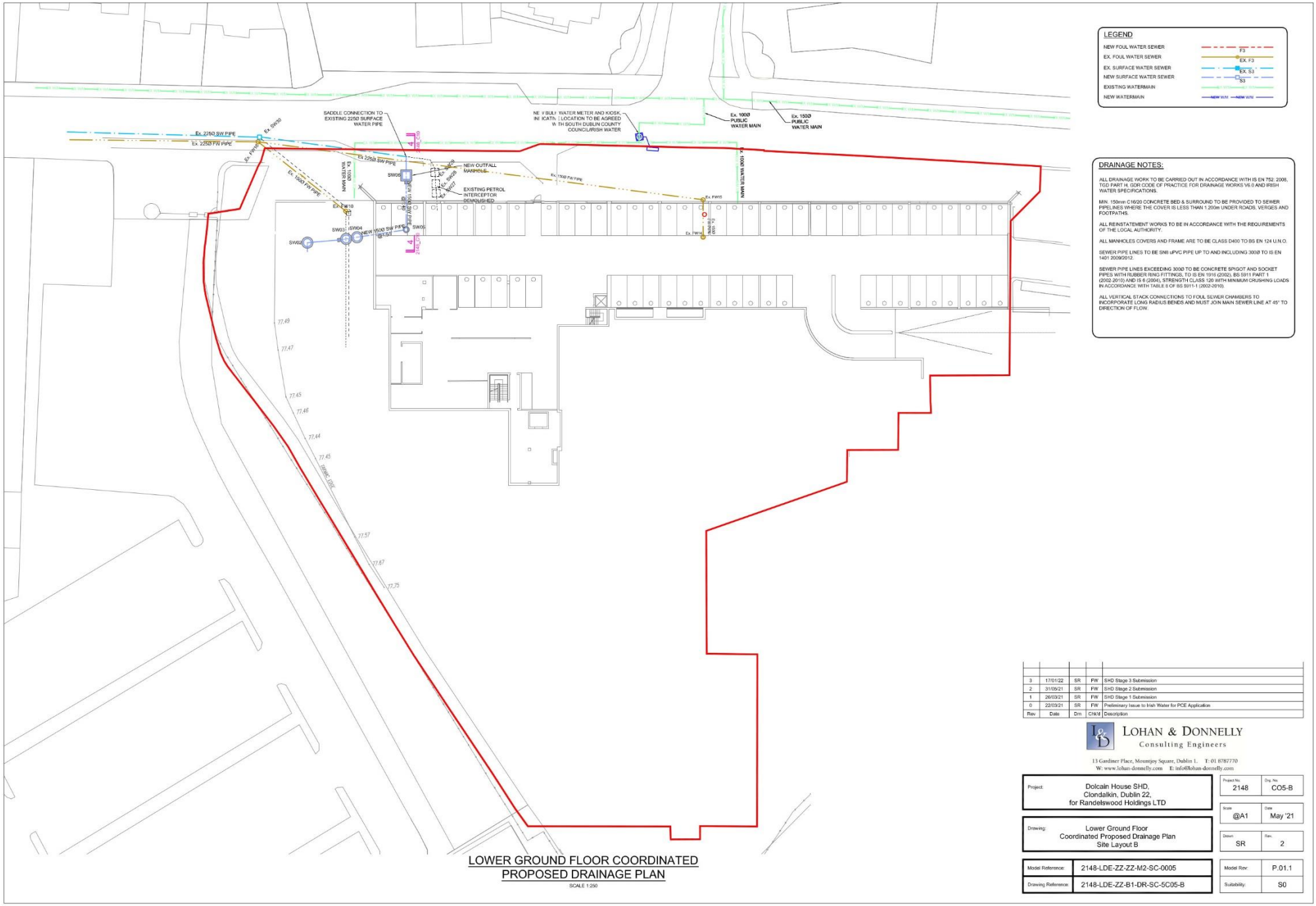


Figure 13. Proposed drainage plan - lower ground floor (co-ordinated) – Option B

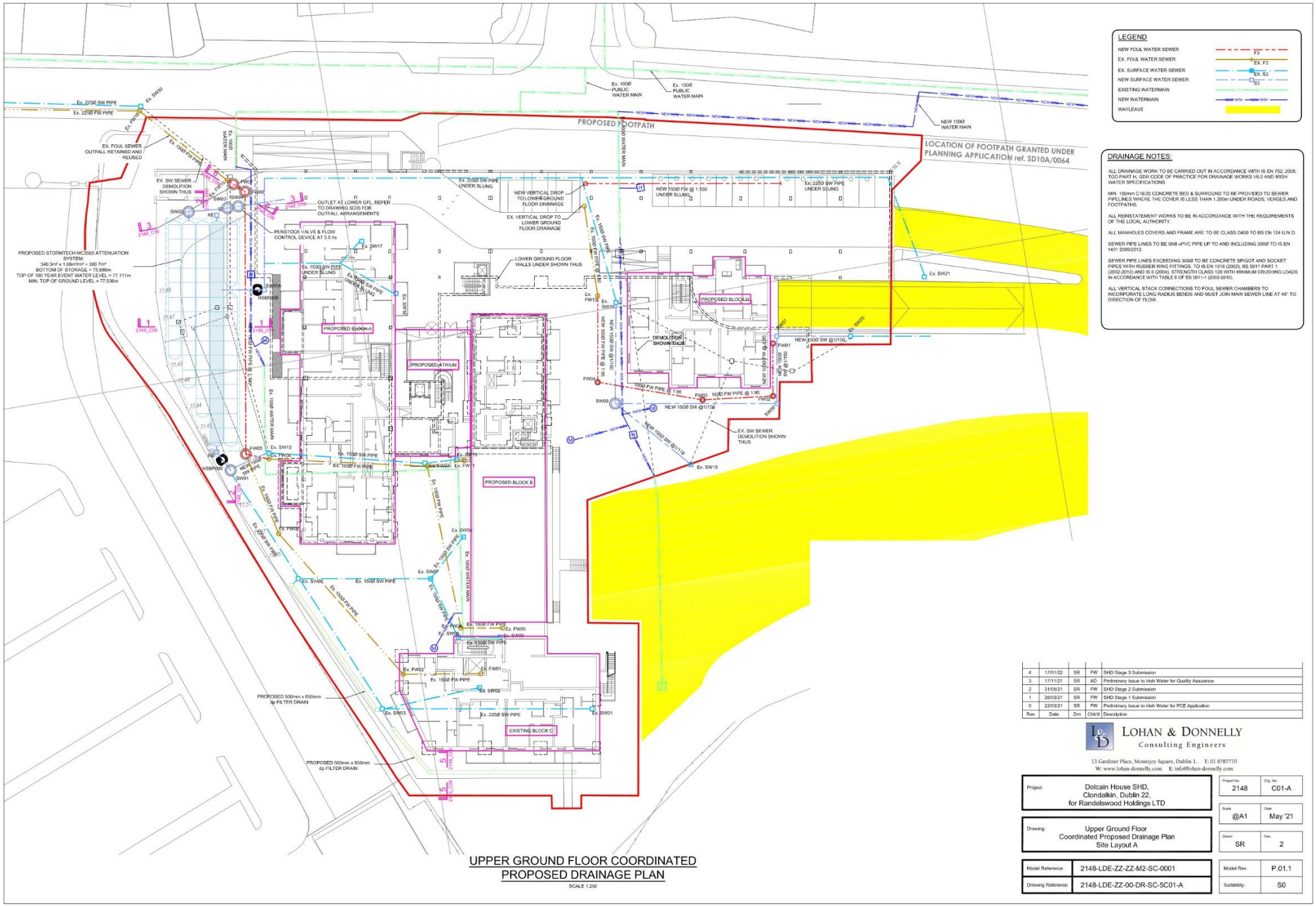


Figure 14. Proposed drainage plan - upper ground floor (co-ordinated) – Option A

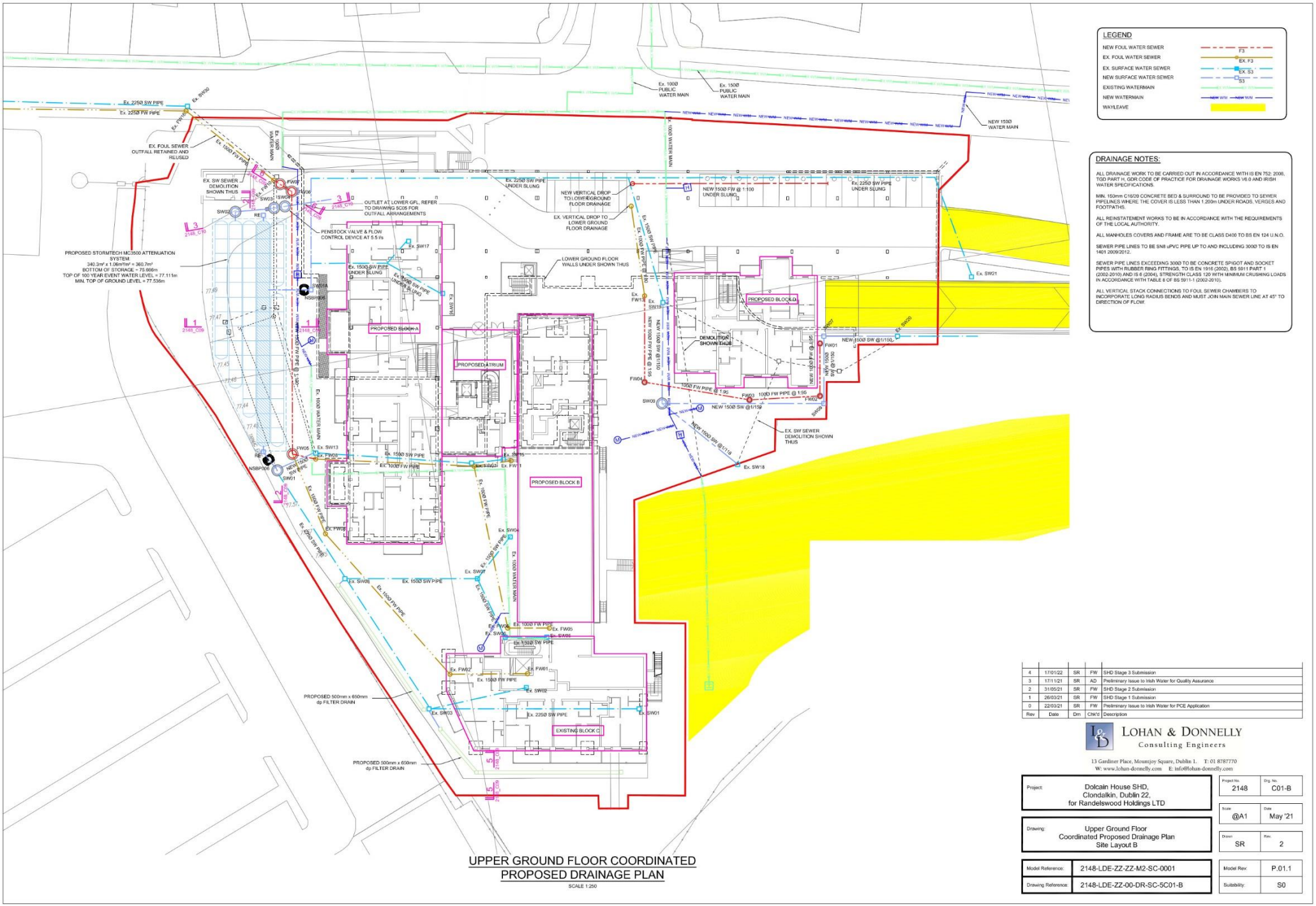


Figure 15. Proposed drainage plan - upper ground floor (co-ordinated) – Option B

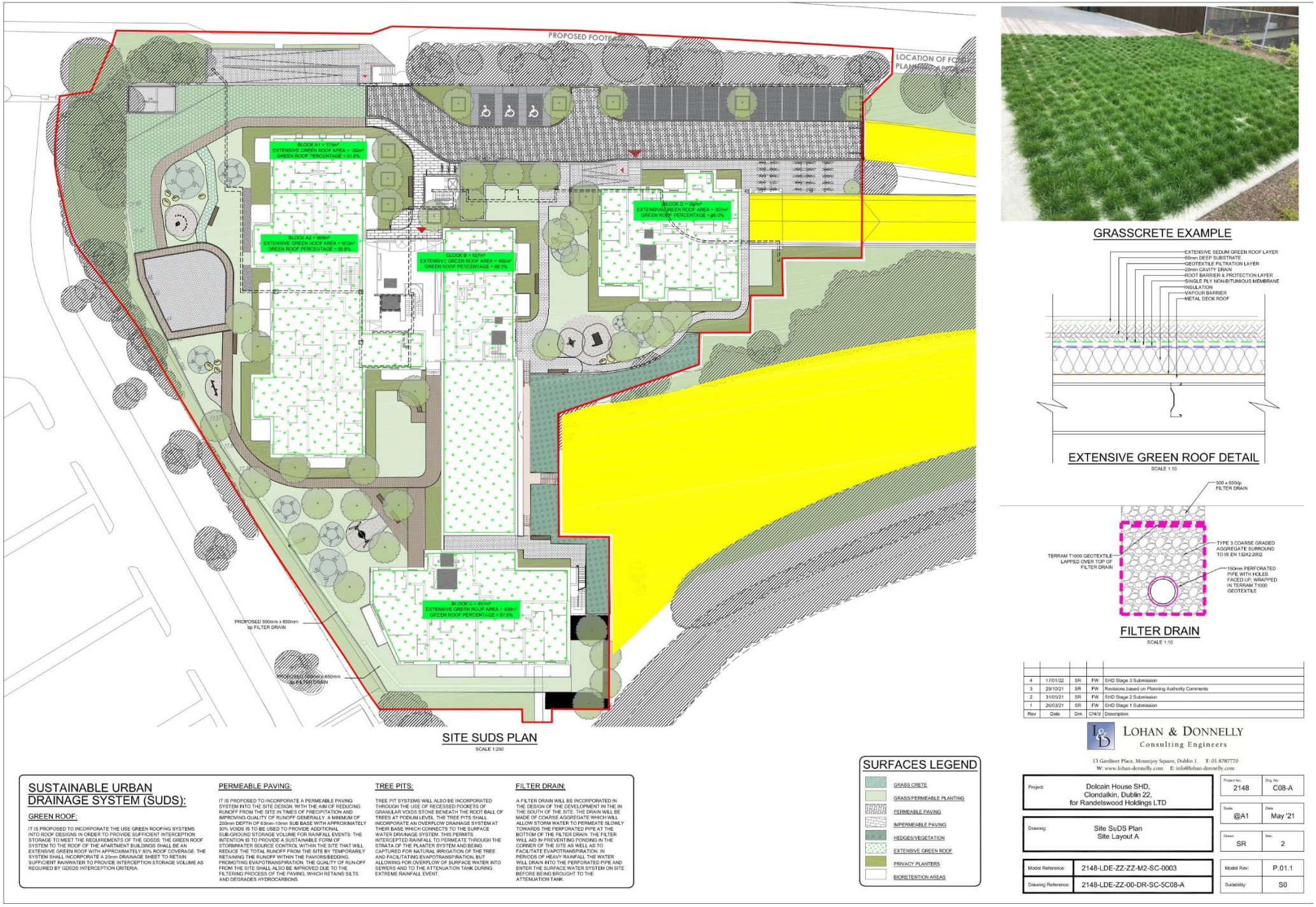
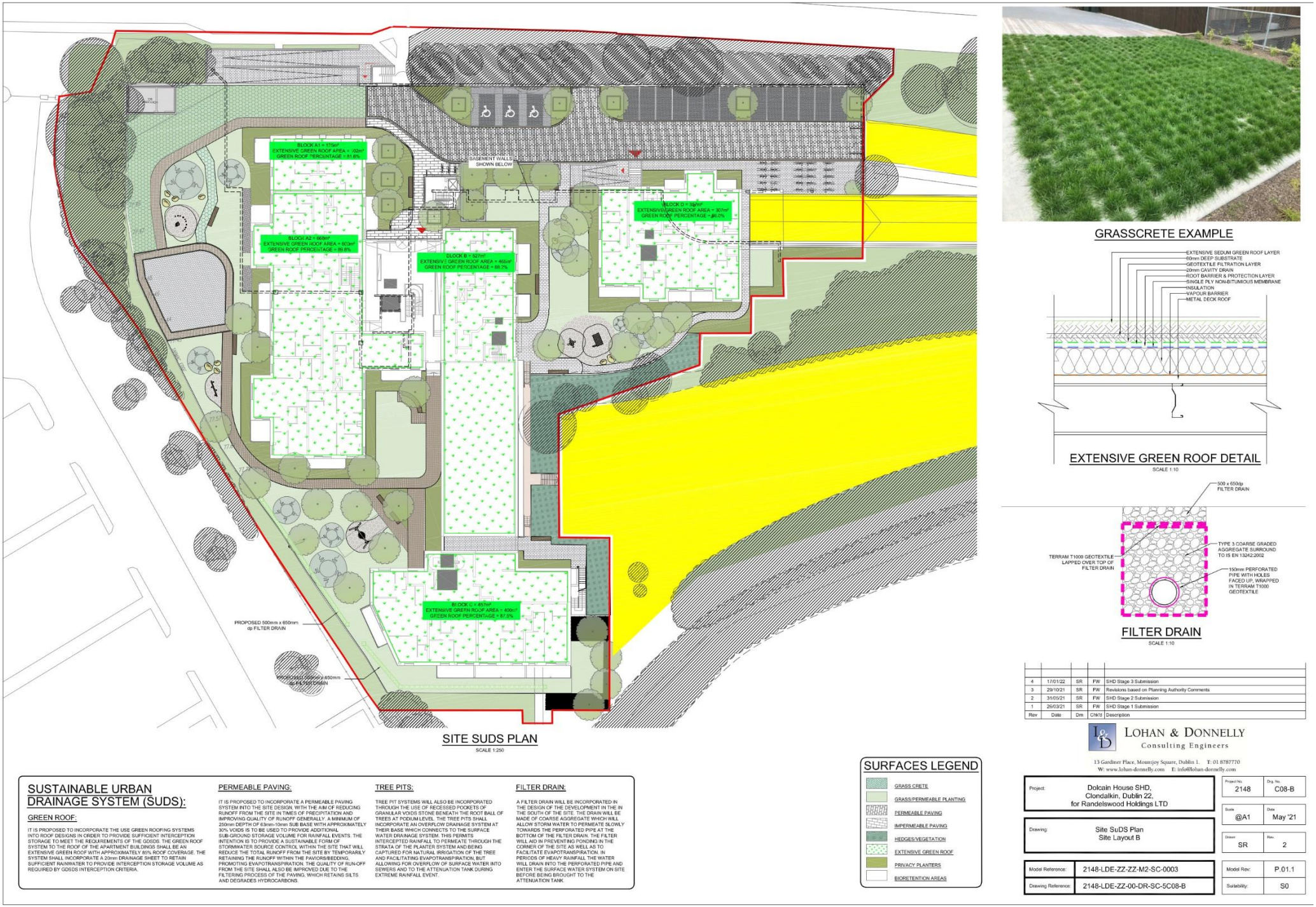


Figure 16. Proposed site SuDS Plan – Option A



SITE SUDS PLAN

SCALE 1:250

GRASSCRETE EXAMPLE

EXTENSIVE GREEN ROOF DETAIL

SCALE 1:10

FILTER DRAIN

SCALE 1:10

SUSTAINABLE URBAN DRAINAGE SYSTEM (SUDS):

GREEN ROOF:

IT IS PROPOSED TO INCORPORATE THE USE GREEN ROOFING SYSTEMS INTO ROOF DESIGNS IN ORDER TO PROVIDE SUFFICIENT INTERCEPTION STORAGE TO MEET THE REQUIREMENTS OF THE GDSDS. THE GREEN ROOF SYSTEM TO THE ROOF OF THE APARTMENT BUILDINGS SHALL BE AN EXTENSIVE GREEN ROOF WITH APPROXIMATELY 85% ROOF COVERAGE. THE SYSTEM SHALL INCORPORATE A 20mm DRAINAGE SHEET TO RETAIN SUFFICIENT RAINWATER TO PROVIDE INTERCEPTION STORAGE VOLUME AS REQUIRED BY GDSDS INTERCEPTION CRITERIA.

PERMEABLE PAVING:

IT IS PROPOSED TO INCORPORATE A PERMEABLE PAVING SYSTEM INTO THE SITE DESIGN, WITH THE AIM OF REDUCING RUNOFF FROM THE SITE IN TIMES OF PRECIPITATION AND IMPROVING QUALITY OF RUNOFF GENERALLY. A MINIMUM OF 250mm DEPTH OF 63mm-10mm SUB BASE WITH APPROXIMATELY 30% VOIDS IS TO BE USED TO PROVIDE ADDITIONAL SUB-GROUND STORAGE VOLUME FOR RAINFALL EVENTS. THE INTENTION IS TO PROVIDE A SUSTAINABLE FORM OF STORMWATER SOURCE CONTROL WITHIN THE SITE THAT WILL REDUCE THE TOTAL RUNOFF FROM THE SITE BY TEMPORARILY RETAINING THE RUNOFF WITHIN THE PAVIORS/BEDDING, PROMOTING EVAPOTRANSPIRATION. THE QUALITY OF RUN-OFF FROM THE SITE SHALL ALSO BE IMPROVED DUE TO THE FILTERING PROCESS OF THE PAVING, WHICH RETAINS SILTS AND DEGRADES HYDROCARBONS.

TREE PITS:

TREE PIT SYSTEMS WILL ALSO BE INCORPORATED THROUGH THE USE OF RECESSED POCKETS OF GRANULAR VOIDS STONE BENEATH THE ROOT BALL OF TREES AT PODIUM LEVEL. THE TREE PITS SHALL INCORPORATE AN OVERFLOW DRAINAGE SYSTEM AT THEIR BASE WHICH CONNECTS TO THE SURFACE WATER DRAINAGE SYSTEM. THIS PERMITS INTERCEPTED RAINFALL TO PERMEATE THROUGH THE STRATA OF THE PLANTER SYSTEM AND BEING CAPTURED FOR NATURAL IRRIGATION OF THE TREE AND FACILITATING EVAPOTRANSPIRATION, BUT ALLOWING FOR OVERFLOW OF SURFACE WATER INTO SEWERS AND TO THE ATTENUATION TANK DURING EXTREME RAINFALL EVENT.

FILTER DRAIN:

A FILTER DRAIN WILL BE INCORPORATED IN THE DESIGN OF THE DEVELOPMENT IN THE IN THE SOUTH OF THE SITE. THE DRAIN WILL BE MADE OF COARSE AGGREGATE WHICH WILL ALLOW STORM WATER TO PERMEATE SLOWLY TOWARDS THE PERFORATED PIPE AT THE BOTTOM OF THE FILTER DRAIN. THE FILTER WILL AID IN PREVENTING PONDING IN THE CORNER OF THE SITE AS WELL AS TO FACILITATE EVAPOTRANSPIRATION. IN PERIODS OF HEAVY RAINFALL THE WATER WILL DRAIN INTO THE PERFORATED PIPE AND ENTER THE SURFACE WATER SYSTEM ON SITE BEFORE BEING BROUGHT TO THE ATTENUATION TANK.

SURFACES LEGEND

- GRASS CRETE
- GRASS/PERMEABLE PLANTING
- PERMEABLE PAVING
- IMPERMEABLE PAVING
- HEDGES/VEGETATION
- EXTENSIVE GREEN ROOF
- PRIVACY PLANTERS
- BIORETENTION AREAS

Rev	Date	Dm	Chk'd	Description
4	17/01/22	SR	FW	SHD Stage 3 Submission
3	29/10/21	SR	FW	Revisions based on Planning Authority Comments
2	31/05/21	SR	FW	SHD Stage 2 Submission
1	26/03/21	SR	FW	SHD Stage 1 Submission

LOHAN & DONNELLY
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Project:	Dolcain House SHD, Clondalkin, Dublin 22, for Randelswood Holdings LTD
Drawing:	Site SuDS Plan Site Layout B
Model Reference:	2148-LDE-ZZ-ZZ-M2-SC-0003
Drawing Reference:	2148-LDE-ZZ-00-DR-SC-5C08-B

Project No.	2148
Dr'g. No.	C08-B
Scale	@A1
Date	May '21
Drawn	SR
Rev.	2
Model Rev:	P.01.1
Suitability:	S0

Figure 17. Proposed site SuDS Plan – Option B

Lighting

A Public Lighting Design report has been prepared by Fallon Design M & E Engineering to accompany this planning application. This report outlines the following detailed lighting design strategy for the subject site:

'4. Detailed Design

The design proposes to use 46 No. Luminaires with 5 No. types mounted with varying height columns and with varying beam widths across the development.

Proposed luminaire design layout as per drawing 1959-BW-04 & 05.

Lighting Dialux Calculations:

Development Lighting - Residential Zone:

- *The Average Horizontal Illuminance is 5.33 Lux (Em ≥ 5 Lux) P4 to be compliant.*

  Average achieved: 5.17

- *The Minimum Horizontal Illuminance is 1.15 Lux (Emin ≥ 1 Lux) P4 to be compliant.*

  Average achieved: 1.0

Luminaire:

Luminaire A Data

Supplier	Urbis Schreder
Type	CITEA NG2 MINI 5304 Flat, Glass Extra Clear, Smooth 20 LH351
Lamp(s)	20 LH351C@300mA WW 730 230V 01-37-043
LampFlux(klm)/Colour	3.13 WW 3000K/70
File Name	CITEA NG2 MINI 5304 20 LH351C 300mA WW 730 19.4W 490612 Flat, Glass Extra C...
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	231.3, 53.5, 0.0
No. in Project	2

Luminaire B Data

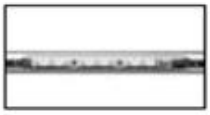
Supplier	Urbis Schreder
Type	CITEA NG2 MINI 5300 Flat, Glass Extra Clear, Smooth Back ligh
Lamp(s)	10 LH351C@300mA WW 730 230V 01-37-041
LampFlux(klm)/Colour	1.57 WW 3000K/70
File Name	CITEA NG2 MINI 5300 10 LH351C 300mA WW 730 10.5W 490502 Flat, Glass Extra C...
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	913.2, 60.5, 0.0
No. in Project	9

Luminaire C Data

Supplier	Urbis Schreder
Type	INDU WALL PACK 1 6550 Integrated lenses 24 LM302D@88mA NW 8
Lamp(s)	24 LM302D@88mA NW 840 230V
LampFlux(klm)/Colour	1.87 NW 4000K/80
File Name	INDU WALL PACK 1 6550 24 LM302D 88mA NW 840 15W 450172 Integrated lenses ...
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	301.4, 52.3, 7.4
No. in Project	1

Luminaire D Data

Supplier	Urbis Schreder
Type	CITEA NG2 MINI 5304 Flat, Glass Extra Clear, Smooth Back ligh
Lamp(s)	20 LH351C@300mA WW 730 230V 01-37-043
LampFlux(klm)/Colour	3.13 WW 3000K/70
File Name	CITEA NG2 MINI 5304 20 LH351C 300mA WW 730 19.4W 490622 Flat, Glass Extra C...
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	241.1, 30.8, 0.0
No. in Project	3



Luminaire E Data

Supplier	Urbis Schreder
Type	ALINEA Handrail 5121 - 3 LED 350mA WW Profiled Poly Clear, 0m
Lamp(s)	3 LEDs WW
Lamp Flux (klm)	0.37
File Name	ALINEA Handrail 5121 3 LED 350mA WW Profiled Poly Clear Smooth WO7314.ldt
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	230.6, 22.2, 4.1
No. in Project	31

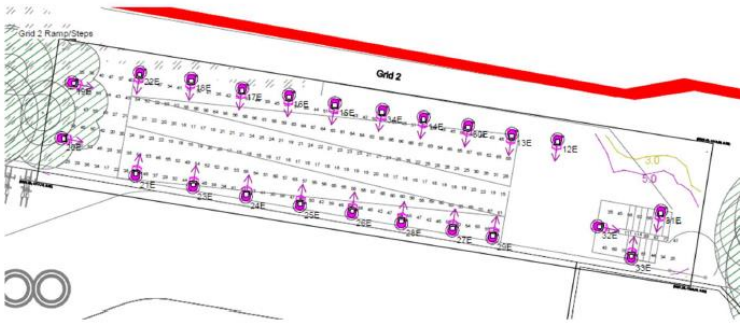
5. Grid Results

5.1 **Horizontal Illuminance (Grid 1 Site)**

Results

Eav	5.33
Emin	1.15
Emax	46.67
Emin/Emax	0.02
Emin/Eav	0.22

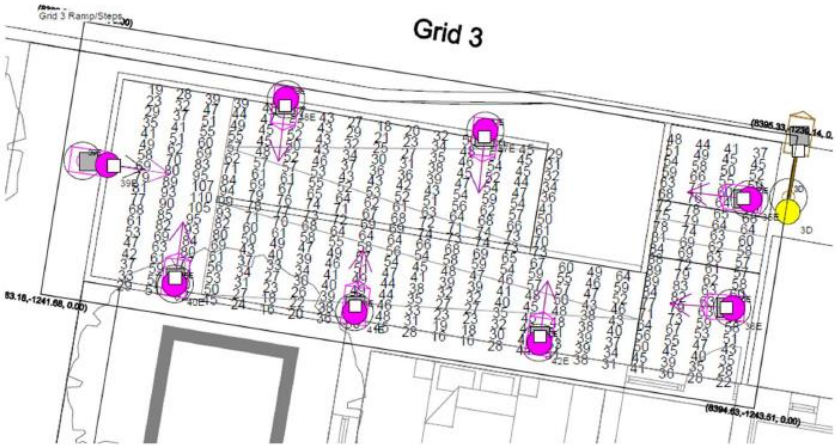
5.2 **Horizontal Illuminance (Grid 2 Ramp/Steps)**



Results

Eav	43.83
Emin	14.57
Emax	113.57
Emin/Emax	0.13
Emin/Eav	0.33

5.3 **Horizontal Illuminance (Grid 3 Ramp/Steps)**



Results

Eav	53.34
Emin	15.87
Emax	110.04
Emin/Emax	0.14
Emin/Eav	0.30

The proposed site services – Public lighting layout for both Option A and Option B are demonstrated in Figures 18 & 19.

Figure 18. Site services – public lighting layout (Option A)

Figure 19. Site services – public lighting layout (Option B)

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 June 2021 and then again in January 2022.

Field Survey

A field survey was carried out by Altemar Ltd. on the 17th June 2021 and on the 16th of January 2022, following completion of the desk based assessment. and a bat fauna survey by Altemar Ltd. (Bryan Deegan) on the 17th June of June 2021 (Appendix I). All surveys were carried out in mild/overcast conditions and covered the lands within the site outline and the land immediately outside the site. The bat survey also included inside the office buildings and the surrounding car park area. 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 initial survey was carried out in June 2021. This is a good period for full species assessments of the floral cover in addition to bat surveys. However, it is a poor time to observe terrestrial mammal activity. A terrestrial mammal survey was carried out within the appropriate mammal survey season.

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

IEEM (2016) defined the zone of influence as "the areas/resources that may be affected by the biophysical changes caused by activities associated with a project". The potential Zone of Influence (ZoI) of the proposed project would be seen to be restricted to the site outline with potential for minor localised noise, dust and light impacts during construction. Drainage from site, both foul and surface water, would be seen as the outputs from the site during construction and operation that could potentially extend the potential ZoI. As a result, further information is provided in relation to the proposed drainage strategy.

Impact Assessment Significance Criteria

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

Magnitude of impact and typical descriptions

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

Criteria for Establishing Receptor Sensitivity/Importance

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

Quality of Potential Impacts on Biodiversity

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

Significance of Impacts

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

Duration of Impact

Duration of Impact	Description
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years.
Medium-term	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration
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.
Extent of Effects	Description
Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.

Proximity to Designated Conservation Sites

It should be noted that the proposed development site is not within a designated conservation area. The closest conservation site is Grand Canal (pNHA) 0.9 km from the proposed development (Figure 22). Internationally designated Natura 2000 sites (SAC and SPA) are located at minimum, 6.7 km from the site (Figures 20 & 21). There are no NHAs located within 15km of the subject site (Figure 22). The closest RAMSAR Site is Sandymount Strand/Tolka Estuary, 11.3 km from the site (Figure 23). Watercourses and designated conservation sites located proximate to the subject site are demonstrated in Figures 24 & 25. Details of international conservation sites within 15km are demonstrated within tables 4 & 5

Table 4. Distances to Natura 2000 sites within 15km of the subject site

NATURA 2000 Site	Distance
Special Areas of Conservation	
Glenasmole Valley SAC	6.7 Km
Rye Water Valley/Carton SAC	8.6 Km
Wicklow Mountains SAC	9.0 Km
South Dublin Bay SAC	11.2 Km
North Dublin Bay SAC	14.0 km
Special Protection Areas	
Wicklow Mountains SPA	10.4 Km
South Dublin Bay and River Tolka Estuary SPA	11 Km
North Bull Island SPA	14 Km

Table 1. Distances to NHAs, pNHAs, and Ramsar conservation sites within 15km of the subject site

Conservation Site Name	Conservation Type	Distance
Grand Canal	pNHA	0.9 km
Liffey Valley	pNHA	3.9 km
Dodder Valley	pNHA	4.4 km
Lugmore Glen	pNHA	5.5 km
Royal Canal	pNHA	6.5 km
Glenasmole Valley	pNHA	6.7 km
Slade of Saggart	pNHA	7.3 km
Rye Water Valley/Carton	pNHA	8.6 km
North Dublin Bay	pNHA	10.7 km
Fitzsimon's Wood	pNHA	11 km
South Dublin Bay	pNHA	11.2 km
Booterstown Marsh	pNHA	12 km
Santry Demesne	pNHA	12.3 km
Dolphins, Dublin Docks	pNHA	12.4 km
Kilteel Wood	pNHA	13.3 km
Sandymount Strand/Tolka Estuary	Ramsar	11.3 km
North Bull Island	Ramsar	14.1 km

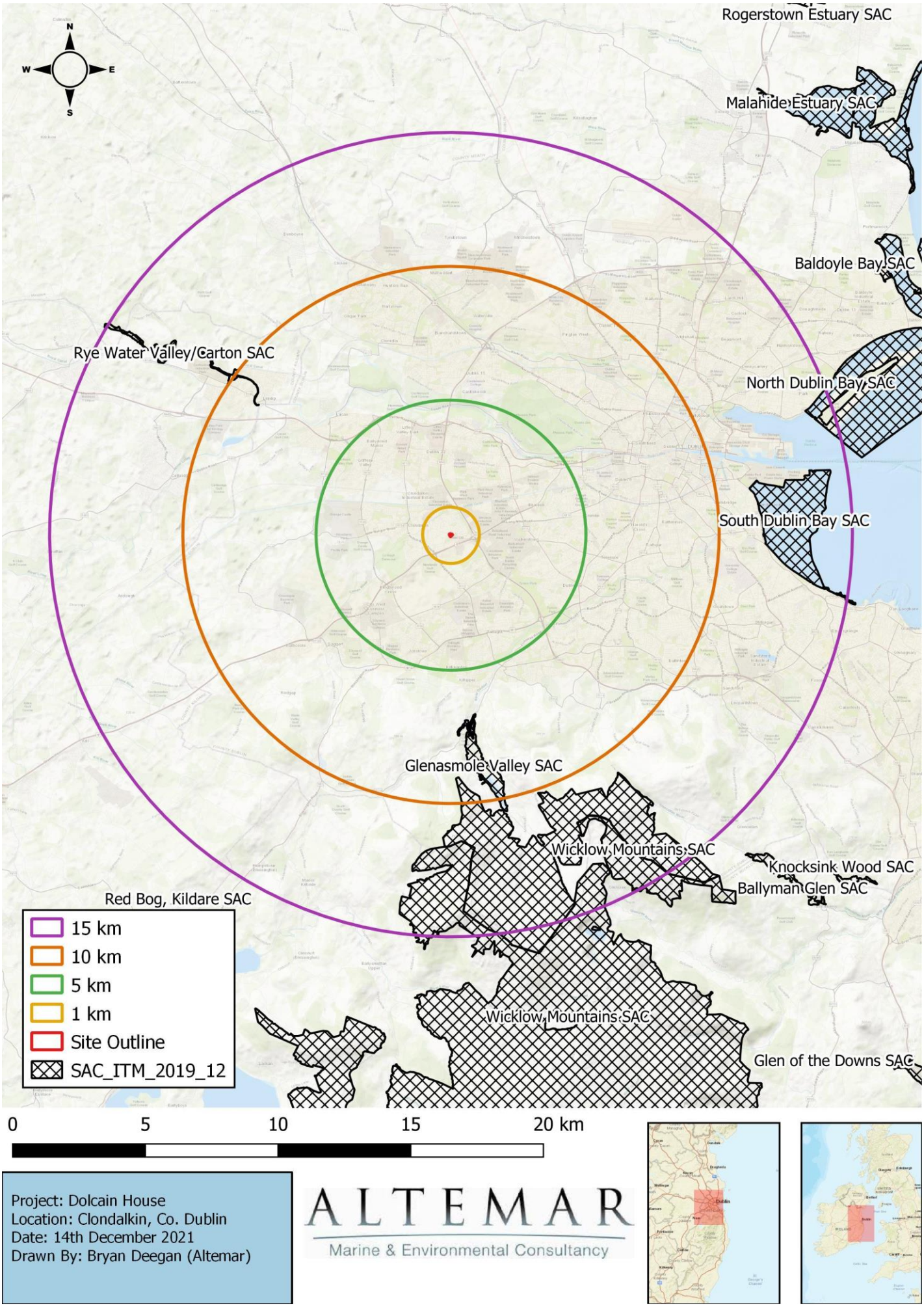


Figure 20. Special Areas of Conservation (SACs) located within 15km of the proposed development

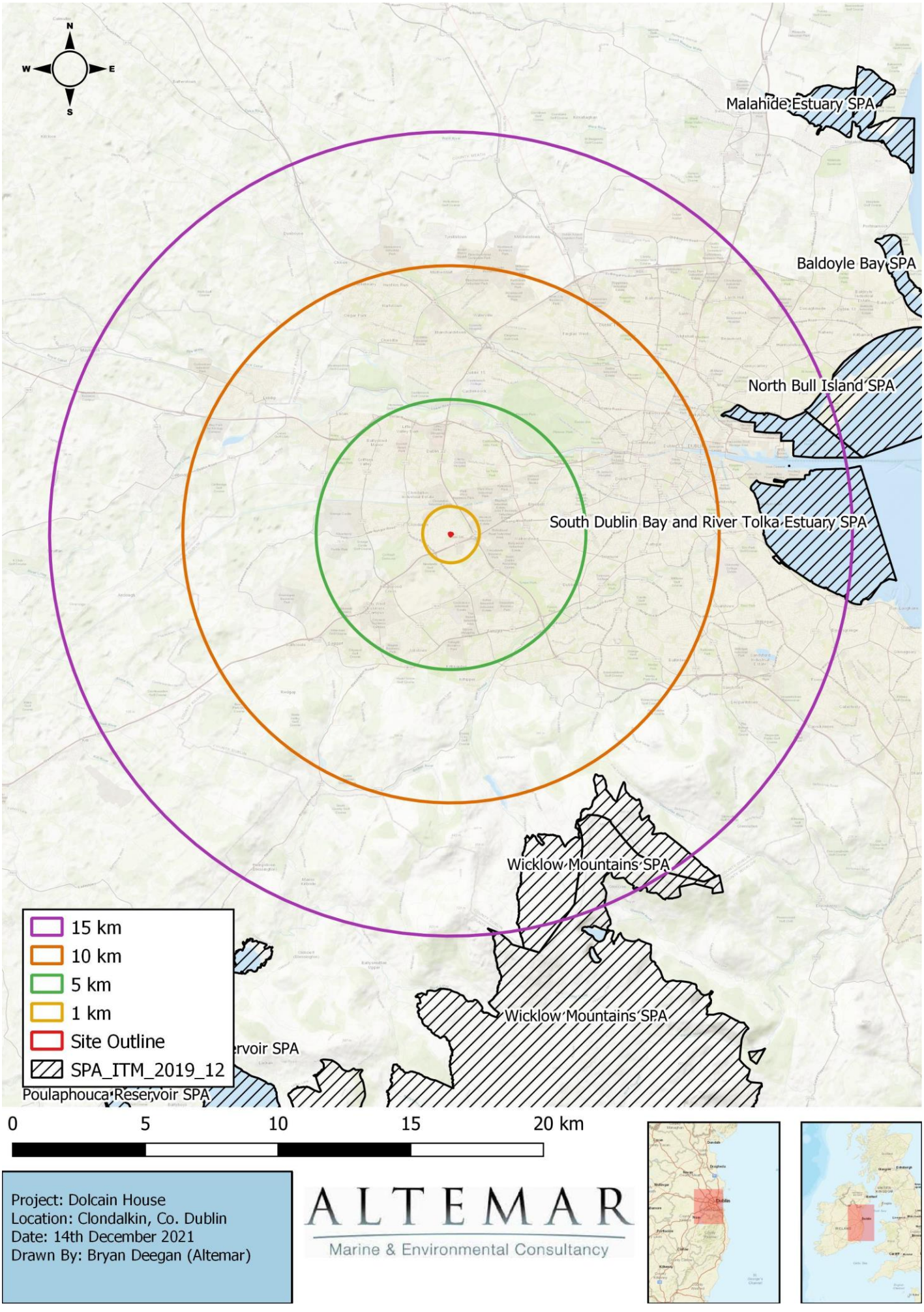


Figure 21. Special Protection Areas (SPAs) within 15km of the proposed development

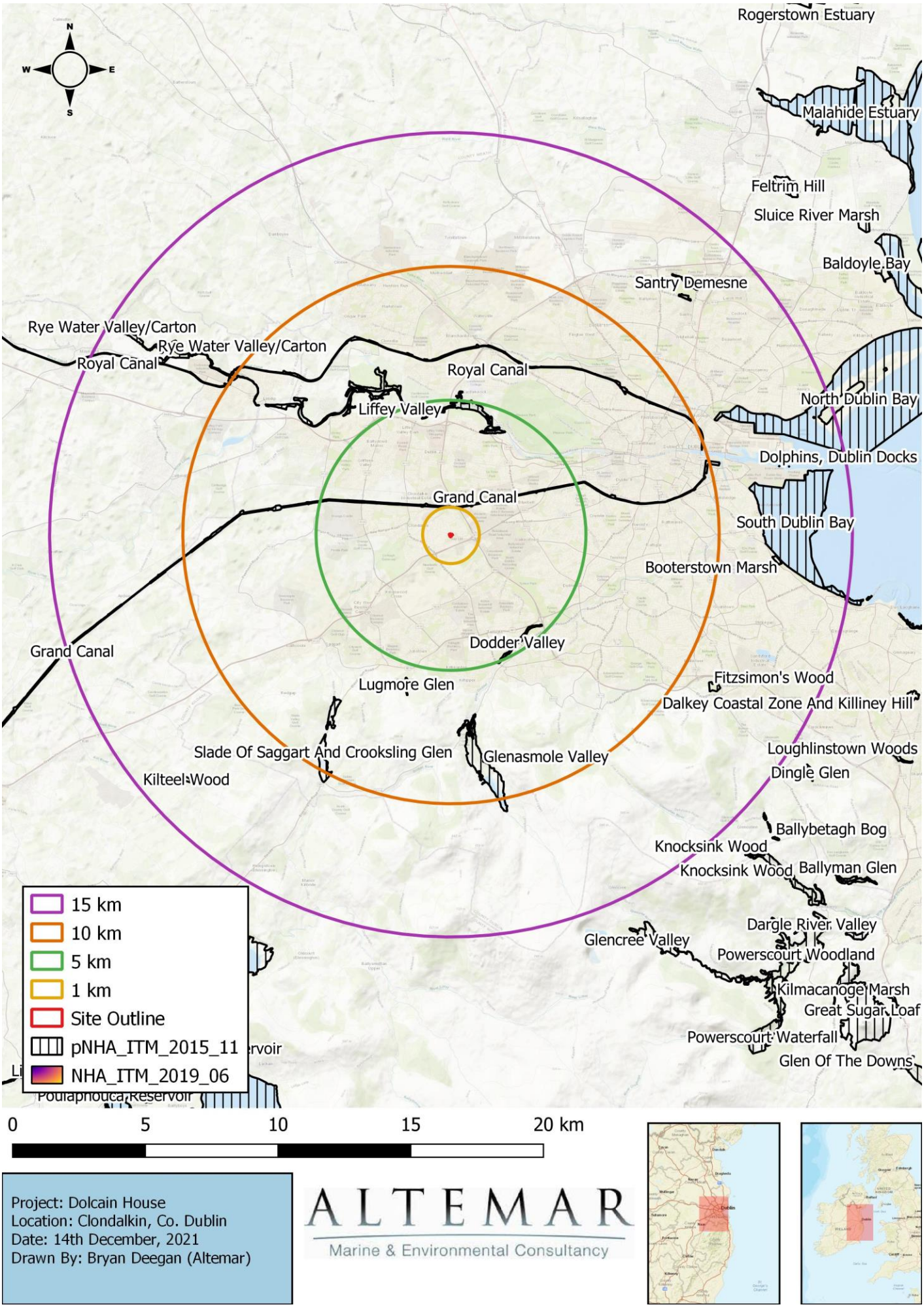


Figure 22. pNHAs and NHAs located within 15km of the proposed development

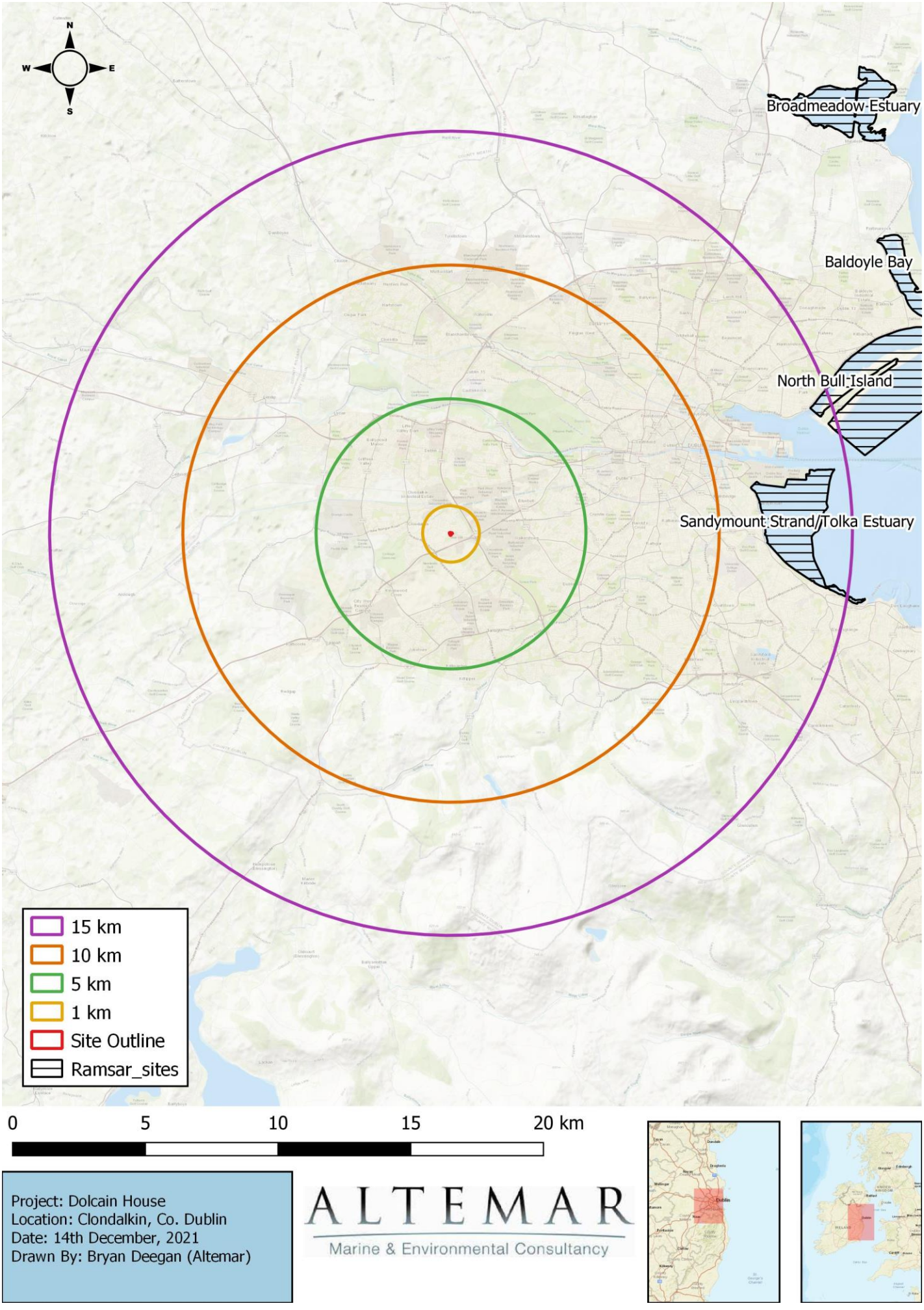


Figure 23. Ramsar sites located within 15km of the proposed development

Figure 24. Waterbodies within 1km of the proposed development (EPA-WFD data)

Figure 25. Waterbodies and pNHAs within 1km of the proposed development (EPA-WFD data)

Habitats and Species

A site assessment was carried out on the 17th June 2021 and the 16th of January 2022. Habitats within the proposed site were classified according to Fossitt (2000) (Figure 26).

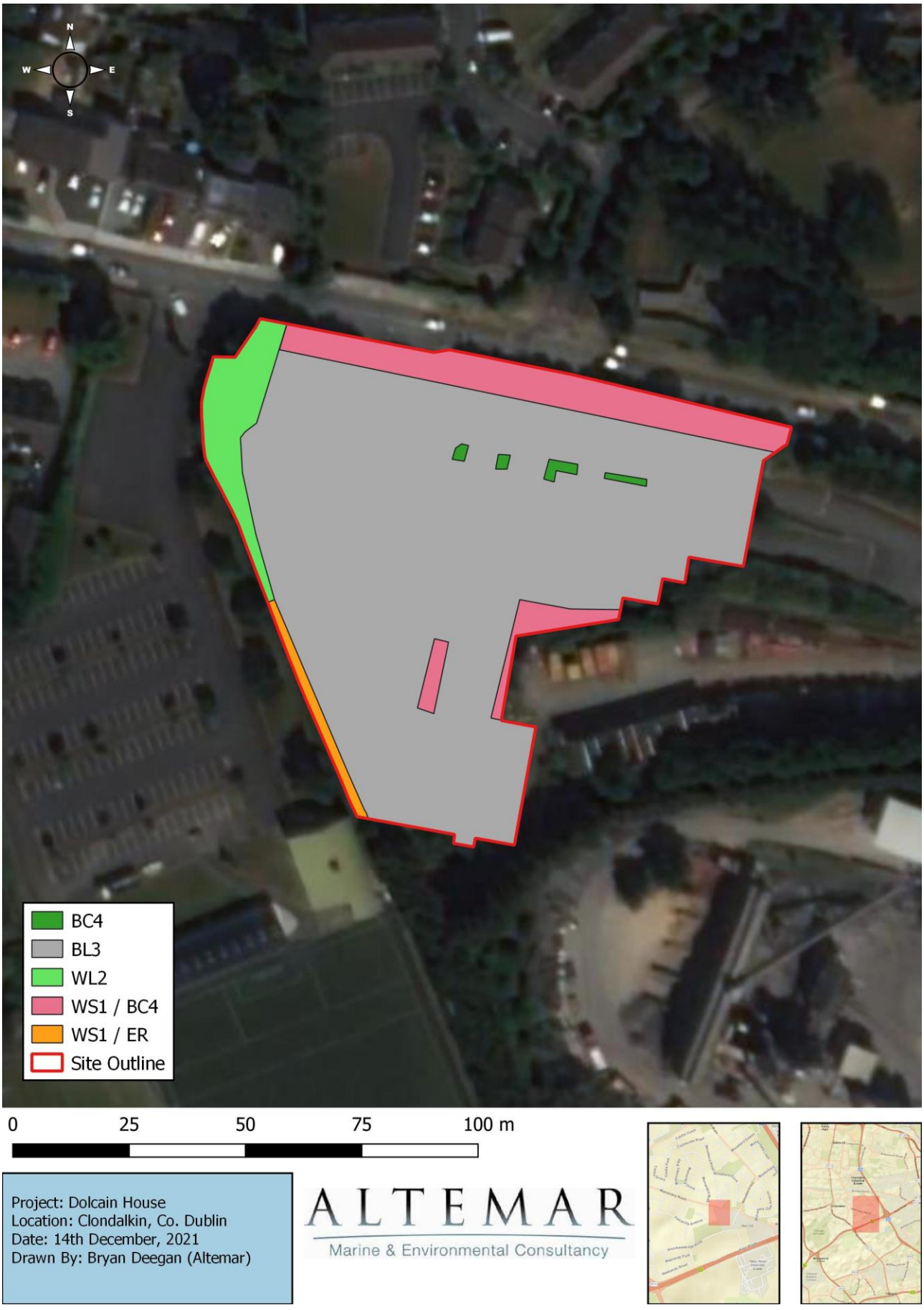


Figure 26. *Habitats within the proposed development site classified according to Fossitt (2000).*

A) BL3- Built Land

Plate 1: Buildings on site (Facing N).

The site is primarily a brownfield site with existing buildings and hard standing. As can be seen from Figure 26 the vast majority of the site is taken up by a Built land. As is seen in Appendix I a bat inspection of the buildings on site was carried out and no evidence of bat activity was noted within the buildings on site. Foraging of bats was noted proximate to the building. No flora or terrestrial mammals birds or habitats of conservation importance were noted in the vicinity of the Buildings and artificial surfaces. Species on site included thistles (*Cirsium arvense, C. vulgare*), pineappleweed (*Matricaria discoidea*), herb-robert (Geranium robertianum), creeping buttercup (*Ranunculus repens*), dandelion (Taraxacum spp.), docks (Rumex spp.), daisy (Bellis perennis), clover (*Trifolium repens*), plantains (Plantago spp.), nettle (Urtica dioica), ivy (Hedera helix), red valerian (*Centranthus ruber*), bramble (*Rubus fruticosus*), butterfly-bush (*Buddleja davidii*) and rosebay willowherb (*Chamaenerion angustifolium*). No species of conservation importance or invasive species were noted.

B) WL2- Treeline

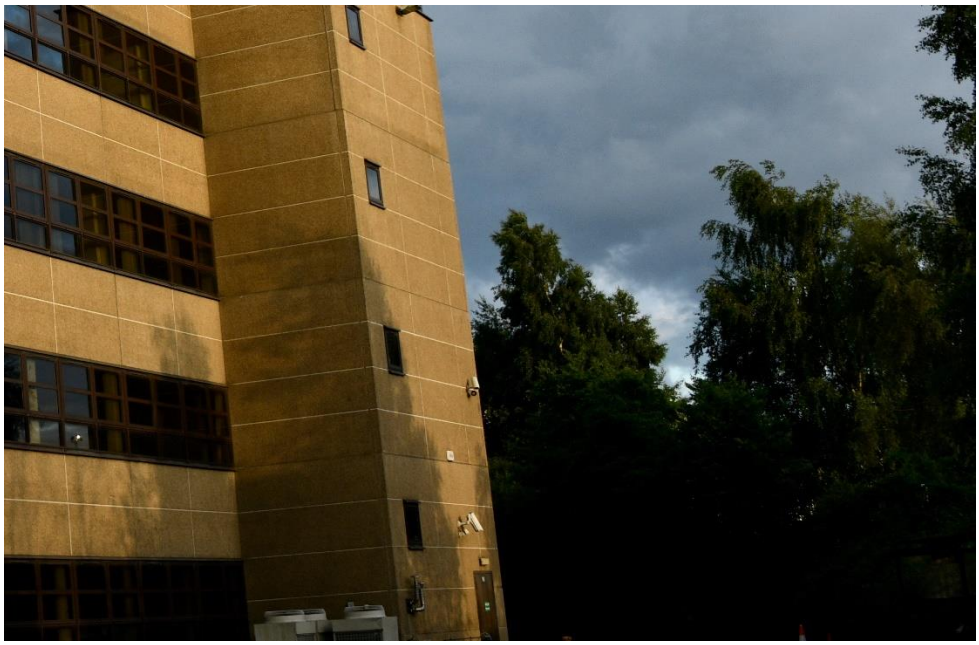


Plate 2: Treeline.

A treeline is located at the north eastern corner of the site. Species noted in this area included birch (Betula sp.), butterfly-bush (Buddleja spp.`), thistles (Cirsium arvense & C. vulgare), docks (Rumex spp.), great willowherb (Epilobium hirsutum), bramble (*Rubus fruticosus agg*.), oak (quercus sp.) clover (*Trifolium spp*.), Leyland Cypress (*X Cupressocyparis leylandii*), elder (*Sambucus nigra*), dog-rose (Rosa canina), beech (*Fagus sylvatica*), sycamore (*Acer pseudoplatanus*), cow parsley (*Anthriscus sylvestris*), nettle (*Urtica dioica*), cherry laurel (*Prunus laurocerasus*), shepherd's-purse (*Capsella bursa-pastoris*), hoary willowherb (*Epilobium parviflorum*) and wild carrot (*Daucus carota*).

C) BC4 Flowerbeds and Borders & WS1 Scrub

In proximity, to the building are formal planters (BC4 Flowerbeds and Borders). In the more open areas of less formal planting are areas of BC4 (Flowerbeds and Borders) and WS1 (Scrub). These areas consist primarily of ornamental planting. Species within the BC4 habitat included New Zealand Flax (Phormium sp.), hypericum (Hypericum Hidcote), butterfly bush (Buddleja sp.), lavender (*Lavandula angustifolia*), birch (*Betula sp*.), wineberry (*Rubus phoenicolasius*), alder (*Alnus glutinosa*), rosebay willowherb (*Chamaenerion angustifolium*), ragwort (*Senecio sp*.), *creeping buttercup* (*Ranunculus repens*), bramble (*Rubus fruticosus agg*.), hedge bindweed (*Calystegia sepium*), sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*), dog-rose (*Rosa canina*) and bamboo (*Fargesia murielae*). In areas of this habitat where it was less manages the habitat was becoming more of a scrub habitat (native and ornamental species) outlined above.

D) WS1 Scrub/ER Exposed Rock

To the west of the site is an area of exposed rock (ER). This area appears to be an area where previous construction has resulted in the excavation of bedrock to the site boundary. A thin area of scrub was noted at the top of the habitat between the rock face and site boundary. Species in this area included ivy (Hedera helix), common nettle (Urtica dioica), docks (Rumex spp.), ragworts (Senecio spp.), hedge bindweed (Calystegia sepium), hawthorn (Crataegus, monogyna), birch (Betula sp), thistles (Cirsium arvense & C. vulgare), Pyracantha (Pyracantha coccinea) bramble (Rubus fruticosus agg.), elder (*Sambucus nigra*), blackthorn (*Prunus spinosa*), beech (Fagus sylvatica), dog-rose (*Rosa canina*), dandelion (*Taraxacum* spp.), plantains (*Plantago* spp.), creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*) and cow parsley (*Anthriscus sylvestris*).

Evaluation of Habitats

The proposed development site is mainly made up of build lant and is of low biodiversity and conservation significance. The treeline on the western perimeter of the site would be seen as the most important habitat on site, not that is of significant ecological importance but mor than the remainder of the site is so poor in biodiversity value. As seen in Figure 8 (Tree removals plan), Figure 9 (Tree protection plan) and Figure 6 (Landscape masterplan) the majority of this habitat will be retained. No habitats of significant local, National or international conservation importance were noted on site.

Species

Plant Species

The plant species encountered at the various locations on site are detailed above. No rare or plant species of conservation value were noted during the field assessment. It should be noted that no invasive plant species, that could hinder removal of soil from the site during groundworks, such as Japanese knotweed (*Fallopia japonica*), giant rhubarb (*Gunnera tinctoria*), Himalayan balsam (*Impatiens glandulifera*) or giant hogweed (*Heracleum mantegazzianum*) were noted on site.

Amphibians

The common frog (*Rana temporaria*) was not observed on site and there are no water features on site. No smooth newts were observed on site.

Bats

As outlined in the Bat Fauna Study "*No evidence of bat activity was noted within the buildings. No trees of bat roosing potential are to be felled as part of the proposal. No bats were noted emerging from the buildings on site. No significant negative impacts on roosting animals are expected to result from the proposed redevelopment.*

However, foraging activity within the area may be lost unless lighting is controlled. A post construction assessment of the light spill on site to ensure compliance with bat lighting guidelines will be carried out, carried to ensure conformity with the "Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers".

Terrestrial Mammals

A faunal survey was carried out in January 2022. No evidence of terrestrial mammals of conservation importance were noted on site. No evidence of large burrows/setts, latrines, mammal trails or footprints of species of conservation value were noted on site.

Birds

During the site visits records were kept of the bird species observed on site (Table 6). No birds of conservation importance were noted on site.

Table 6. Birds and species noted in the vicinity of the development

Common Name	***Scientific Name***
Woodpigeon	*Columba palumbus*
Wren	*Troglodytes troglodytes*
Blackbird	*Turdus merula*
Robin	*Erithacus rubecula*
Blackbird	*Turdus merula*
Blue tit	*Parus caeruleus*
Great tit	*Parus major*
Magpie	*Pica pica*
Jackdaw	*Corvus frugilegus*
Chaffinch	*Fringilla coelebs*

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, the species recorded are shown below in Table 7.

Following this a 2 km^2 grid, reference number O03Q, based on the Ordnance Survey Ireland (OSI) Irish Grid classification system was assessed. Table 8 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. These include marine and coastal species.

Table 7. Table of species, NBDC

Date of Record	Species Name	Designation
03/07/2019	Common Frog (Rana temporaria)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
31/12/2011	Common Kestrel (Falco tinnunculus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
04/06/2017	Common Wood Pigeon (Columba palumbus)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
31/12/2011	House Sparrow (Passer domesticus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Rock Pigeon (Columba livia)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
18/08/2013	Freshwater White-clawed Crayfish (Austropotamobius pallipes)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
01/04/2012	Arthurdendyus triangulatus	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
13/08/2020	Butterfly-bush (Buddleja davidii)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
13/10/1902	Nebrioporus (Nebrioporus) depressus	Threatened Species: Data deficient
31/12/1920	Hill Cuckoo Bee (Bombus (Psithyrus) rupestris)	Threatened Species: Endangered
11/07/2018	Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)	Threatened Species: Near threatened
02/08/2019	Moss Carder-bee (Bombus (Thoracombus) muscorum)	Threatened Species: Near threatened
28/08/2008	Daubenton's Bat (Myotis daubentonii)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
09/04/2010	Eastern Grey Squirrel (Sciurus carolinensis)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
16/02/2013	Eurasian Badger (Meles meles)	Protected Species: Wildlife Acts
15/09/2015	Eurasian Pygmy Shrew (Sorex minutus)	Protected Species: Wildlife Acts

24/01/2015	Eurasian Red Squirrel (Sciurus vulgaris)	Protected Species: Wildlife Acts
05/09/2011	Lesser Noctule (Nyctalus leisleri)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
05/09/2011	Pipistrelle (Pipistrellus pipistrellus sensu lato)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
15/07/2011	Siberian Chipmunk (Tamias sibiricus)	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)
22/04/2011	Soprano Pipistrelle (Pipistrellus pygmaeus)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
22/04/2020	West European Hedgehog (Erinaceus europaeus)	Protected Species: Wildlife Acts

An assessment of files received from the NPWS (Code No. 2020_185) which contain records of rare and protected species and grid references for sightings of these species was carried out as part of this EcIA for the proposed development. There are no recorded sightings within the site itself, however the following table (Table 8) 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 8. Species survey, NPWS

Data ID.	Species	Survey Name	Sample Year
3792	Common Frog (*Rana temporaria*)	Frog IPCC data	2005
4290	Freshwater Crayfish (*Austropotamobius pallipes*)	Crayfish EPA data	1984
21124	Opposite-leaved Pondweed (*Groenlandia densa*)	Herbarium and Literature Database 19/02/2013	1992
2130	Hairy Violet (*Viola hirta*)	Viola Hirta	1993
6719	Otter (*Lutra lutra*)	Otter et al. – incidental sightings via NPWS website	2010

Analysis of the Potential Impacts

The proposed development will involve the removal of the existing terrestrial habitats on site, re-profiling, excavations, and construction works. Foul and surface water systems for the site will be separate and designed in accordance with the Water Pollution Acts. SuDS will be incorporated into the design of the proposed development and will be limited to greenfield runoff rates. The surface water will then discharge to an existing public surface water network, which in turn outfalls to the River Camac, a watercourse that feeds into the River Liffey and ultimately outfalls to the marine environment at Dublin Bay. Foul wastewater will be directed to an existing public foul network, which in turn outfalls to Ringsend Wastewater Treatment Plant (WWTP) for treatment.

Construction Phase

In the absence of mitigation, the construction of the proposed development would impact on the existing ecology of the site and the surrounding area. These construction impacts would include impacts that may arise during the demolition, site clearance, re-profiling of the site and the building phases of the proposed development.

Designated Conservation sites within 15km

Given that it is proposed to outfall surface water drainage to an existing public surface water network, which in turn outfalls to the River Camac, it is considered that there is an indirect hydrological pathway to designated conservation sites located within Dublin Bay. However, given the minimum distance to the nearest designated conservation site along this network (10.7 km to North Dublin Bay pNHA), no significant impacts on designated conservation sites are predicted in the absence of mitigation measures. Any silt or

pollutants will settle, be dispersed or diluted along this network and will not significantly impact on downstream designated conservation sites.

Impacts: Negligible / International/ Neutral Impact/Not significant / short term.

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. However, measures in the form or arborist constraint measures will be in place to protect trees on site.

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 or invasive species were noted on site. Site clearance will remove the flora species on site.

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

Bat Fauna

A single Common Pipistrelle (*Pipistrellus pipistrellus*) and a single Soprano Pipistrelle (*Pipistrellus pygmaeus*) were noted foraging on site. No bats were noted roosting on site. No bats were noted emerging from trees or buildings on site. 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 control of light spill during construction.

Aquatic Biodiversity

Frogs may occur on site on site as they have been located 690m from the site. There are no watercourses, drains or pools on site. Newts are not expected on site. Common lizard is also protected but the site would deemed to be a poor habitat for these species.

Impacts: Low adverse / local / Negative Impact / Slight Effects / short term.

Bird Fauna

No bird fauna of conservation importance were noted on site.

Impacts: Low adverse / site/ Negative Impact / Not significant / long term. Mitigation is needed in the form of the protection of nesting birds and the provision of compensatory measures.

Operational Phase

Following construction all surface water runoff will comply with SUDS. The biodiversity value of the site would be expected to improve as the landscaping matures. Surface water discharge from site will be developed in accordance with the requirements of the Water Pollution Acts. Following the implementation of mitigation measures, all foul and surface water drainage will be clean and uncontaminated prior to reaching the River Camac.

Designated Conservation sites within 15km

The drainage on site will be carried out to modern SuDS standards. The accompanying Appropriate Assessment Screening report prepared by Altemar Ltd. found that, in the absence of mitigation measures, no significant adverse effects on designated Natura 2000 conservation sites are likely.

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. Additional habitat will be created on site.

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

Flora

No protected flora were noted on site.

Impacts: Low Positive / site / Positive Impact / Not significant / long-term

Bat Fauna

The proposed development will change the local environment as new structures are to be erected and some of the existing vegetation will be removed. No bat roosts will be lost due to this development and the species expected to occur onsite should persist.

Impacts: Low adverse / International /Negative Impact / Not significant / long term. Mitigation measures are recommended due to the potential for light-spill impacts on bats.

Aquatic Biodiversity

Petrochemical runoff from the site and road could potentially negatively directly or indirectly impact the aquatic ecology. Runoff from the development and roads will have to comply with County Council requirements and will require petrochemical interception and will be attenuated and discharged at greenfield rates to the public surface water network. Existing hydrocarbon interception is in place downstream of the works.

Impacts: Low beneficial / local / Positive 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. Nesting resource will be lost and will be mitigated. Planting will provide additional nesting resource.

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

Table 8. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation
Biodiversity & Watercourses.	• Habitat Degradation • Dust deposition • Pollution • Silt ingress • Potential downstream impacts.	• 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. • Nearby watercourses (River Camac) will be protected from dust, silt and surface water throughout the works. • Local silt traps established throughout site. • Mitigation measures on site include dust control, stockpiling away from watercourse and drains • Stockpiling of loose materials will be kept to a minimum of 20m from watercourses and drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or the watercourse, 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, including the attenuation tank during construction, that require pumping will not directly discharge to the stream. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Mitigation measures on site include dust control, stockpiling away from watercourses and drains • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. • 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 the stream to prevent sediment entering the watercourse. • 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.

Table 8. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation
		• A project ecologist will be appointed and be consulted in relation to all onsite drainage during construction works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site, and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes. • Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains and drainage ditches. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. **Air & Dust** Dust may enter the River Camac 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 the River Camac. The main activities that may give rise to dust emissions during construction include the following: • Excavation of material; • Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant. • Contaminated surface runoff *Mitigation measures to be in place:* • Consultation will be carried with an ecologist throughout the 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. *Site Management* • Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.

Table 8. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation
		Monitoring • Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary. *Preparing and Maintaining the Site* • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period. • Avoid site runoff of water or mud. • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping. • 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. *Operations* • 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. *Waste*

Table 8. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation
		• Avoid bonfires and burning of waste materials. *Measures Specific to Earthworks* • 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. *Storage/Use of Materials, Plant & Equipment* • 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)	• Removal nesting habitat. • Removal foraging habitat.	• Retain hedgerows, treelines and trees as outlined in the arborist report. • "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. Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent.

Table 8. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation
	• Destruction and/or disturbance to nests (injury/death). • Predation	• 20 Nest boxes are to be placed on site to compensate for resource loss. • Planting will provide suitable cover for nesting birds and encourage insect diversity that would sustain birds. • Create grass margins around arable fields to increase food and nesting habitat for yellowhammers. • Light falling upon any areas of benefit to birds such as hedgerow will not exceed 3 lux to ensure that resting and nesting species are not unnecessarily disrupted.
Bats (international Protection)	• Removal roosting/foraging habitat. • Lighting Impacts	• Pre Construction survey for bats • Ecologist notified if bats found during demolition • Lighting at all stages should be done sensitively on site with no direct lighting of hedgerows and treelines. • Lighting is to be carried as per bat lighting guidelines https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf
Terrestrial Mammals (National importance)	• Injury/death during construction • Removal of resting or breeding places.	• 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.

Relevant Mitigation from Outline Construction Management Plan

The mitigation measures outlined below are relevant mitigation from the Outline Construction Management Plan prepared by Lohan & Donnelly Consulting Engineers:

'4.0 Environmental Issues

4.1 General

In recognition of both the cost and nuisance caused by general environmental pollution and waste it will be the responsibility of those involved in all construction activities to minimised and mitigate as far as is practical all environmental discharges, construction nuisance and waste arisings by appropriate plant selection and planning measures. All construction equipment shall either comply with EU regulations, including "Noise Emission by Equipment for Use Outdoors: Directive 200/14/EC" or else shall be fitted with appropriate noise suppression or acoustic housings. Plant not in use shall be throttled down or switched off to save fuel and to reduce both noise and other environmental discharges. The environmental planning shall encompass all site activities from deliveries to off-site removals and from site establishment to final snagging and site tidy-up processes.

4.2 Advance Neighbour Notifications

Advance notifications will be made to potentially affected neighbours. The site shall display prominently contact details for the Site Manager and/or its Neighbourhood Liaison Officer.

4.3 Control of Off-Site Noise

Adequate Control of noise at all construction phases will be important and good practice in this regard will be adhered to.

The contractor will monitor base noise levels at the site location before commencing the works on site and will thereafter continue to monitor noise levels on site during all construction phases.

During demolition and construction, all contractors and activities on site shall comply with BS 5228-1:2009 "Code of Practice for Noise and Vibration control on Construction and Open Sites – Part 1: Noise" (or any further limits imposed by SDCC's Environmental Health Department).

Where appropriate, contractors will ensure adequate noise monitoring is in place at all appropriate times and that records will be kept and made available for inspection.

In all cases, the most efficient and environmentally sensitive methodologies will be used on the demolition process. Concrete munchers will be used instead of a rock breaker type machine. This is a much quieter piece of equipment and generates significantly less noise.

Where munchers cannot be used i.e., for heavily reinforced in-situ elements, then multi-head concrete breakers will be used.

4.4 Control of Off-Site Dust

Regarding to off-site dust control scheme, the construction and demolition works shall comply with the requirements of the Air Pollution Act 1987 and with BS: 6187: Code of Practice for Demolition.

Adequate control of gaseous and fugitive dust emissions arising from all construction activities and vehicle movements will always be taken to suppress air borne particle pollution, including the use of water sprays and netting in accordance with published guidance. The contractor shall install and maintain on site a gauge instrument to monitor dust levels in vicinity of the site.

No open fires will be permitted on site and the burning of waste on-site will be forbidden.

The use of appropriate water-based dust suppression systems will greatly reduce the amount of dust and windborne particulates as a result of the demolition process. This system will be closely monitored by site management personnel particularly during extended dry periods and in accordance with site management methods as discussed before in this report.

Vehicle and plant exhausts will be monitored to ensure that adverse effects are minimized.

Cover systems will be used on all vehicles removing spoil form the site as to minimize dust arising on surrounding streets.

Trucks leaving the site will pass through a wheel washing system. This will be carried out in a dedicated wash down zone with a dedicated site personnel.

The Construction Site Manager will be given the responsibility to implement further dust monitoring and control measures on site as necessary, including the implementation of any additional dust control measures.

4.5 Control of Vibration

Adequate control of vibration at all construction phases will be important, and good practice in this regard will be adhered to. During demolition and construction, all contractors and activities on site shall comply with BS 5228-1:2009 "Code of Practice for Noise and Vibration Control on Construction and Open sites – Part 2: Vibrations" (Or any further limits imposed by SDCC's Environmental Health Department). The contactor will be required to include a detailed section in their CMP on how they monitor and controls vibrations particularly during demolition, piling and retaining wall construction. A green, amber, red level of warning alarm system will be required with monitors directly linked to the mobile phones of key construction personnel. The contractor will be required to produce a weekly vibration monitoring report with vibration levels directly linked to the construction activities that are taking place.

4.6 Fuel Storage

Fuels for use during construction activities will be regarded as hazardous to the environment as well as potential sources of fire. Therefore, they will be appropriately stored in fully bunded storage containers accessible only to authorised machinery and construction vehicles and convenient for delivery.

4.7 Pre-Commencement Condition Surveys

A Visual Condition Survey (VCS) will be carried out on all surrounding streets and buildings prior to any site works commencing. The contractor may choose to install survey points on adjacent property (subject to adjacent owner agreement) to confirm no building movement occurs during construction. The appointed Main Contractor will have to liaise with SDCC Roads & Traffic Department to agree any changes to load restrictions and construction access routes for the site. Measures will be put in place as required to facilitate construction traffic whist simultaneously protecting the built environment.

4.8 Off-Site Roads

During all construction stages, the contractor will have regard to the effect of construction activities on the public traffic. All deliveries and off-site removals will be conveyed in appropriate vehicles. Where necessary, additional measures will be taken to protect the roads from dust and dirt by, for example, the deployment of a road sweeper if necessary.

4.9 Construction Waste Management

The contractor will plan for and maintain appropriate receptacles for the 'at source' segregation and temporary storage of all construction waste arisings. This is likely to extend to separate skips, wheeled-bins, Euro-Bins, Wheeled Cages, (or other appropriate storage receptacles) for residual (or general) waste, wet waste, missed food waste, food packaging, polystyrene, plastic, metals, hard plastics, contaminated cardboard, paper, etc.

Detailed advice on this will be taken from and agreed with the contractor's chosen Waste Collection Contractor. Where practical, these waste storage receptacles will be temporarily stored in a Central Waste Storage Area (CWSA) where they can be monitored, inspected and from which a licensed Waste Collection Contractor can collect them for off-site recycling and/or disposal.

All waste consignments leaving the site shall be individually documented, signed and recorded using a Waste Collection Permit issued under the Waste Management (Collection Permit) Regulations of 2007, and handled by an appropriately licensed Waste Haulier.

Since 2012, all Waste Collection permits in Ireland are issued by the National Waste Collection permit office at Offaly County Council. The Site Manager will retain a copy of all Waste Collection Permits along with a record of the final destination of waste materials.

It is expected that the contractor will confer with his own in-house or externally appointed Waste Manager on all aspects of best practice on site to maximise recycling and waste recovery as well as to reduce the environmental and other risks arising from inappropriate waste disposal practices. It is also expected that

best practice for on-site waste management will feature frequently in the Contractor's Toolbox Talks as well as being prominent within on-site Staff and Visitor Induction procedures.

4.10 Measures to Protect Groundwater & Watercourse.

Specific measures to protect ground water generally, and specifically the Stradbrook Stream, during the construction works on site will be put in place under the control of the site Environmental Consultant. During bulk excavation stage, it is envisaged runoff from the site shall be controlled via temporary site drainage systems and directed to central catchpits. Runoff shall be pumped to a series of settlement tanks designed to reduce suspended solids to limits deemed acceptable by DLRCC prior to discharge to surface water sewers at a rate agreed with DLRCC. No runoff shall be permitted to enter Stradbrook Stream or any other water body at any point during the proposed works.'

Relevant Mitigation from Outline Construction and Demolition Waste Management Plan

The mitigation measures outlined below are relevant mitigation from the Outline Construction and Demolition Waste Management Plan prepared by Lohan & Donnelly Consulting Engineers:

'4.0 Waste Management

4.1 Demolition Waste Generation

The waste produced from the demolition of the roofs and external fabrics will be segregated by type and estimates have also been made for indicative reuse (onsite and/or offsite), recycling and disposal targets. This breakdown is shown in Table 4.1.

Waste Type	Tonnes	Reuse/Recovery		Recycle		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	154.5	0.0	0.0	0.9	131.3	0.2	23.2
Concrete, Brick, tiles, Ceramics	1067.6	0.2	160.1	0.8	800.7	0.1	106.8
Plasterboard	39.5	0.0	0.0	0.9	33.6	0.2	5.9
Metals	41.5	0.1	4.2	0.9	35.3	0.1	2.1
Timber	2.0	0.1	0.2	0.6	1.2	0.3	0.6
Total	1305.1		164.5		1002.1		138.5

Table 4.1 Predicted on and off-site reuse, recycle and disposal rates for demolition waste

It is estimated that approximately 1305.1 tonnes of waste will be generated from the demolition phase of the project, of which it is targeted to reuse/recover 3164.5 tonnes, recycle 1002.1 tonnes and dispose of no more than 138.5 tonnes. This target is compliant with that specified in the Eastern-Midlands Region Waste Management Plan where recycling/reuse of at least 70% of C&D waste is required.

All waste arisings during the demolition phase will be transported off-site by an approved waste contractor holding a current waste collection permit. All waste arisings requiring reuse, recycling, recovery or disposal off-site will be brought to facilities holding the appropriate COR, licence or permit, as required.

4.2 Construction Waste Generation

Table 4.2 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA National Waste Reports 12.

Waste Types	%
Soil & Stones	83
Concrete, Bricks, Tiles, Ceramics	11
Asphalt, Tar and Tar Products	1
Metals	1
Other	4
Total	**100**

Table 4.2 Waste materials generated on a typical Irish construction site

Table 4.3 shows the predicted construction waste generation for the proposed development based on the information available to date along with the targets for management of the waste streams. The predicted waste amounts are based on an average large scale development waste generation rate per m2, using the waste breakdown rates shown in Table 4.2

Waste Type	Tonnes	Reuse/Recovery		Recycle		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Concrete, Bricks, Tiles, Ceramics and Plasterboard	285.5	40	114.19	50	142.7	10	28.55
Metals	8.8	5	0.44	90	7.9	5	0.44
Other	12.7	10	1.27	40	5.1	50	6.34
Total	285.5	40	114.19	50	142.7	10	28.55

Table 4.3 Predicted on and off-site reuse, recycle and disposal rates for construction waste

It should be noted that until final materials and methods of construction have been decided, it is not possible to predict with a high level of accuracy the construction waste that will be generated. The anticipated reuse/recycle/disposal breakdown of excavated soil and stones is also an estimate and is subject to change pending the outcome of the site investigations.

All waste arisings during the excavation and construction phase will be transported off-site by an approved waste contractor holding a current waste collection permit. All waste arisings requiring reuse, recycling, recovery or disposal off-site will be brought to facilities holding the appropriate COR, licence or permit, as required.

4.3 Proposed Waste Management Options

Waste materials generated will be segregated on site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin Region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off-site will be disposed of at a facility holding the appropriate COR, licence or permit, as required.

Written records will be maintained by the contractor(s) detailing the waste arising throughout the demolition and construction phases, the classification of each waste type, the contact details and waste collection permit number of all waste contactors who collect waste from the site and the end destination details for all waste removed and disposed off-site.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc., if required.

The management of the main waste streams are detailed as follows:

<u>Soil & Made Ground:</u>

It is anticipated that the majority of excavated soil will be removed from the site as there are limited options for it to be reused on-site. Where this material is removed off-site for reuse as a by-product (and not as a waste), it will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011. Article 27 requires that certain conditions are met and that by-product decisions are made to the EPA via their online notification form.

The Waste Management Hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling/recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the bulk excavation phase.

The next option (beneficial reuse) may be appropriate for the excavated material pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non- Hazardous 13 publication. Clean material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end-use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Article 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Article 27.

If the material is deemed to be a waste, then removal and reuse/recycling/ recovery/disposal of the material will be carried out in accordance with the Waste Management Acts 1996 – 2011 as amended, the Waste Management (Collection Permit) Regulations 2007 as amended and the Waste Management (Facility Permit & Registration) Regulations 2007 as amended. The volume of waste removed will dictate whether a COR, permit or licence is required by the receiving facility. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock

The depth of bedrock in known to be less than 1m depth in areas across the site. It is anticipated that intact bedrock will be encountered during the excavation works for the attenuation tank.

Like with soil and made ground, if the material is deemed to be a waste, then removal and reuse/recycling/ recovery/disposal of the material will be carried out in accordance with the Waste Management Acts 1996 – 2011 as amended, the Waste Management (Collection Permit) Regulations 2007 as amended and the Waste Management (Facility Permit & Registration) Regulations 2007 as amended.

Tarmacadam

It is anticipated that the tarmacadam to be excavated at the site contains bitumen based materials and will be non-hazardous, however, historically (typically pre early 1980's) tar was manufactured using coal-tar pitch which is considered hazardous. Waste facilities may accept the waste tarmacadam without testing where the waste producer can confirm the age of the tar.

However, if this is unclear, then coal-tar analysis may be required to confirm the presence/absence of hazardous substances. If the presence of coal-tar is confirmed, then the tarmac will require disposal as a hazardous waste.

Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles and ceramics generated as part of the construction works are expected to be clean, inert material and should be recycled, where possible.

Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues etc., will be disposed of in a separate skip and recycled off-site.

Metal

Metals will be segregated into mixed ferrous, aluminium cladding, high grade stainless steel, low grade stainless steel etc., where practical and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard

There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the construction phase will be stored in a separate skip, pending collection for recycling. The site manager and project engineers will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical and Electronic Equipment (WEEE)

Any WEEE that does not contain hazardous components will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes such as cardboard and soft plastic are generated, these will segregated at source into dedicated skips and removed offsite.

Non-Recyclable Waste

Construction waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip/receptacle will be examined by a member of the waste team (see Section 6.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. Asbestos) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

It should be noted that until a construction contractor is appointed it is not possible to provide information on the specific destinations of each waste stream. Prior to commencement of development and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to SDCC.

4.4 Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the project contractor.

All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Management Acts 1996 - 2008, Waste Management (Collection Permit) Regulations 2007 and Amendments and Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project Waste Manager (see Section 6.0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority COR, waste permit or EPA Waste Licence for that site will be provided to the nominated project Waste Manager.

If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) document will be obtained from Dublin City Council (as the relevant authority on behalf of all local authorities in Ireland) and kept on-site along with details of the final destination (permits, licences etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

All information will be entered in a waste management recording system to be maintained on site.'

Cumulative Impacts

There are several proposed developments that were refused planning permission on the lands of the proposed development site. The following is a list of planning applications as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Map' portal:

***Table 9**. Refused planning applications on lands of the proposed development site*

Planning Ref.	Address	Proposal
SD19A/0328	Dolcain House, Monastery Road, Clondalkin, Dublin 22	Construction of a new building of 71 residential units known as Block D, consisting of 46 one bedroom apartments, 19 two bedroom apartments and 6 three bedroom apartments across ground to 6th floor; relocation of the existing substation and the part removal of the existing podium slab between ground floor level and lower ground floor level; modifications of the existing lower ground floor car park and ground floor car park area to include landscaped areas; public open space areas; surface and lower ground floor level car parking; motorcycle parking; cycle parking and bin storage; all with associated signage, drainage, mechanical plant, roof gardens with associated access and site development works, while maintaining the existing site and basement entrances on completion.
SD19A/0327	Dolcain House, Monastery Road, Clondalkin, Dublin 22	Change of use from office to residential use; extension and modifications of the existing block known as Block B, into 24 residential units consisting of 20 one bedroom apartments and 4 two bedroom apartments with associated gym facility and staff access; Block B across ground to 4th floor including the demolition of the existing single storey extension at ground floor level and external stairs; upgrading of the existing external fabric of the building together with internal removal works and modifications to internal layouts to accommodate proposed residential units throughout; gym facility and staff areas at ground floor level together with the construction of 1 additional floor; modifications of the existing lower ground floor car park and ground floor car park area to include landscaped areas, public open space areas, surface and lower ground floor level car parking, motorcycle parking, cycle parking and bin storage; all with associated signage, drainage, mechanical plant, roof gardens with associated access, relocation of existing telecommunications aerials and site development works while maintaining the existing site and basement entrances on completion.
SD19A/0324	Dolcain House, Monastery Road, Clondalkin, Dublin 22	Change of use from office use to residential use, together with extensions and modifications of the existing blocks known as Block A and Block C and associated atrium, into 86 residential units consisting of 69 one bedroom apartments and 17 two bedroom apartments with associated staff areas; Block A across ground to 4th floor including the removal of the existing 4th floor; part removal of the existing podium slab between ground floor level and lower ground floor level; upgrading of the existing external fabric of the building together with internal removal works and modifications to internal layouts to accommodate the proposed residential units; construction of a replacement 4th floor and a 5 storey extension of the block to the north; Atrium across ground to 4th floor including the upgrading of the existing external

Planning Ref.	Address	Proposal
		fabric of the building; modifications to the structure to include the construction on 1 additional floor, together with modifications to internal layouts to accommodate the proposed residential units; Block C across ground to 5th floor including the upgrading of the existing external fabric of the building together with internal removal works and modifications to internal layouts to accommodate the proposed residential units, together with the construction of 1 additional floor; modifications of the existing lower ground floor car park and ground floor car park area to include landscaped areas; public open space areas; surface and lower ground floor level car parking; motorcycle parking; cycle parking and bin storage; all with associated signage, drainage, mechanical plant, roof gardens with associated access and site development works, while maintaining the existing site and basement entrances on completion.

As identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Map' portal, planning permission for an extension of duration of permission was granted for a proposal located on the grounds of the proposed development site. Details of this application are identified below.

***Table 10**. Approved extension of duration*

Planning Ref.	Address	Proposal
SD08A/0616/EP	SIAC HQ, Monastery Road, Clondalkin, Dublin 22	Construction of 258sq.m. of additional office accommodation at fifth floor level set back from the existing parapet and an additional enclosed escape staircore to the south elevation (gross floor area of proposed development 292sq.m.) of the existing extension to SIAC HQ (planning ref. SD06A/1072) and the omission of 1 no. car parking space at basement level to facilitate the staircore construction; vehicular access to proposed penthouse storey extension to be via the existing access to SIAC HQ off the roundabout on Monastery Road. All of the aforementioned development to take place on a site of c3532sq.m. on lands that are bounded generally to the north by the headquaters of Siac, to the south and west by the existing quarry and industrial complex of SIAC and to the east by Round Towers GAA grounds, all at Monastery Road, Clondalkin, D22.

Furthermore, there are several development proposals located within close proximity to the proposed site that have either been granted planning permission or have been requested for further information. The following is a planning history as identified in the Department of Housing, Local Government and Heritage's 'National Planning Application Map' portal[1]:

***Table 11**. Approved planning applications located proximate to the subject site*

Planning Ref.	Address	Proposal
SD20A/0262	Townland of Bushelloaf, Clondalkin, Dublin 22	Construction of a 242 bedroom hotel in a building ranging in height from 7 to 10 storeys over ground and lower ground floor levels; the development will include the lower ground floor accommodating 202 car parking spaces; 54 bicycle parking spaces, plant, stores and ESB substation;

[1] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de

		ground floor accommodating hotel entrance and reception area; restaurant and bar; outdoor terrace and patio with canopies; function room; meeting rooms; kitchen, staff facilities; stores, toilets and plant; ground floor mezzanine accommodating meeting rooms; admin office; store and laundry facilities; 1st to 9th floor accommodating 242 hotel bedrooms including 17 suites; 10th floor accommodating gym/yoga studio; plant, storage and a roof terrace; vehicular access from both the N7 slip road and Knockmeenagh lane with link street across the site; upgrade works to Knockmeenagh lane; landscaping; boundary treatment; wastewater pumping station; associated signage and all site development works and services; the site is located between Knockmeenagh Lane to the north, St. Brigids cottages to the east, the Nass Road (N7) to the south and the Nass Road Business Park to the west.
SD18A/0328	Presentation Convent, Convent Road, Clondalkin, Dublin 22	Nursing home building comprising 155 bedrooms and all associated ancillary accommodation (7741sq.m gross floor area) in a part three, part four storey building located on the lands to the south and west of the convent building; Retirement home building comprising 14 bedrooms and all associated ancillary accommodation (916sq.m gross floor area) in a two storey wing to the south east of the convent and internally connected to the nursing home; Internal alterations and improvements to part of the existing convent building (Protected Structure) at ground, first and second floor levels which is to be used for nursing home staff accommodation (1203.3sq.m); The internal reconfiguration and works proposed as part of this application to the remainder of the convent building include the following: (a) subdivision of convent chapel to provide quiet room (accessed from the adjacent church only) and a new kitchen dining area with the chapel; (b) adjustment, removal and addition of partitions, services and fittings to create ensuite bathroom facilities in 25 proposed bedrooms at ground, first and second floor levels; (c) internal works to facilitate use of rooms as communal living rooms and other ancillary uses; (d) sundry internal modifications, refurbishment and improvements to rooms and circulation areas, upgrading of flooring, walls and internal doors to meet fire regulations, draught proofing windows and improving window safety; (e) sundry refurbishment works to allow for conservation and repair of building fabric, roof finishes, structure and retained fixtures; The existing parish offices and meeting rooms within the convent building are to be retained in their current use and no works are proposed to these rooms which are excluded from the current application; The development will be accessed via a vehicular and pedestrian entrances from New Road and will provide a total of 42 car parking spaces and 60 bicycle spaces; Existing vehicular entrances from New Road and Convent Road serving the church will be retained; Permission is also sought for the construction of a single storey detached substation and switch room (20.5sq.m) and 2 single storey

		detached store building (89.5sq.m), hard and soft landscaping, boundary treatment and all ancillary and associated site and development works; The development will also involve the demolition of existing substation and detached single storey ancillary store buildings (192.2sq.m).
SD14A/0037	Round Tower GAA Grounds, Monastery Road, Clondalkin, Dublin 22	New two storey club house with a total gross floor area of 740sq.m. to provide a sports hall and associated changing rooms, showers, toilets and storage at lower ground level fronting existing car park and a gym, meeting rooms, refreshment area, kitchenette, associated toilets, storage and external deck area at upper ground level fronting the existing all weather pitch and ancillary site works; access/egress from the proposed development is via the existing club entrance.
SD10A/0064	SIAC HQ, Monastery Road, Clondalkin, Dublin 22.	There is an existing 10-year permission immediately south and east of the site which was granted by An Bord Pleanala in 2012 under Reg. Ref. SD10A/0064 and ABP. Ref. PL.06S.237700. for a mixed-use scheme comprising commercial and residential uses

No significant projects are proposed or currently under construction that could potentially cause in combination effects on designated conservation sites.

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

No significant effects are likely from in combination effects

Residual Impacts and Conclusion

No significant negative ecological impacts would be likely outside the immediate vicinity of the proposed development site following the implementation of mitigation measures on site. The majority of the western treeline will be retained. Due to the fact that the site is poor in species diversity and no habitats and terrestrial or avian species of conservation importance were found, impacts would be limited, localised and reversible depending on the planting regime. In relation to the bat species foraging on site, a sensitive lighting regime and additional roosting areas are proposed due to the loss of potential roosting areas on site. Foraging would be expected to continue on site. No significant negative long term impacts on biodiversity would be expected.

No significant environmental impacts are likely in relation to the construction or operation of the proposed development.

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Appendix I – Bat Fauna Survey

Bat Fauna Survey for a proposed Strategic Housing Development (SHD) at Dolcain House, Monastery Road, Clondalkin, Co. Dublin.

14th December 2021

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Randelswood Holdings Ltd.

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

SUMMARY

Structure:	Current building is a series of office blocks, some of which are disused.
Location:	Dolcain House, Monastery Road, Clondalkin, Co. Dublin
Bat species present:	None Roosting. Soprano pipistrelle and common pipistrelle noted foraging on site.
Proposed work:	Permission is sought for a proposed Strategic Housing Development at Dolcain House, Monastery Road, Clondalkin, Co. Dublin. This includes a change of use of the Blocks A, B and C at Dolcain House from office use to residential use which range in height from 4-5 storeys.
Impact on bats:	Increased lighting may impact on foraging.
Survey by:	Bryan Deegan MCIEEM
Survey date:	17th June 2021

Receiving Environment

Background

Randelswood Holdings Limited intends to seek planning permission for a proposed Strategic Housing Development (SHD) at Dolcain House, Clondalkin, Dublin 22.

The development will consist of:

(i) Demolition of existing shed (15.7sq.m), sub-station (29.5sq.m) and oil tank (12.1sq.m) located in the north-eastern section of the subject site; (ii) Change of use of the existing Blocks A, B and C at Dolcain House from office use to residential use which range in height from 4-5 storeys over basement, together with modifications to the existing blocks; (iii) alterations to the existing Blocks A, B and C will include the provision of an additional floor level to now provide for a height of 5/6 storeys to Blocks A, B and C and upgrading of the existing external fabric of the building as well as internal modifications to layouts to accommodate the proposed residential apartments; (iv) alterations to Block A to include a 5 storey extension to northern elevation; (v) alterations to Block B include the demolition of the existing single storey element on the eastern façade (73.2sq.m) which comprises a kitchen area, office and storage space, the demolition of the existing three-storey connection between Blocks B and C (23sq.m) and the relocation of the existing telecommunications mast equipment at roof level; (vi) construction of a new 6-storey Block D to the east of Block B to accommodate 29 no. apartment units. The proposed alterations and modifications to the existing Blocks A, B and C and the proposed Block D will accommodate a total of 130 no. apartment units (comprising 61 no. one-bedroom apartments, 59 no. two-bedroom apartments and 10 no. three-bedroom apartments, as follows:-

- Block A will comprise 50 no. apartments (consisting of 22 no. one-bedroom apartments, 22 no. two-bedroom apartments and 6 no. three-bedroom apartments) and will range in height from 5 to 6 storeys over basement level;
- Block B will comprise 22 no. apartments (consisting of 9 no. one-bedroom apartments, 9 no. two-bedroom apartments and 4 no. three-bedroom apartments) and will range in height from 4 to 5 storeys over basement level;
- Block C will comprise 29 no. apartments (consisting of 13 no. one-bedroom apartments, and 16 no. two-bedroom apartments) and will be 6 storeys in height; and
- Block D will comprise 29 no. apartments (consisting of 17 no. one-bedroom apartments, and 12 no. two-bedroom apartments and will be 6 storeys in height.

The proposed development will be served by communal residential amenities/facilities at surface and basement level, including communal open space and outdoor areas at surface level; 310 no. bicycle parking spaces (254 no. at basement level and 56 no. at surface level); 78 no. car-parking spaces (62 no. at basement level and 16 no. surface level) including 5 no. car-club spaces and 3 no. accessible parking spaces and; 4 no. motorcycle parking spaces at basement level. The basement level also comprises a proposed bin storage area and plant room. The proposed development also includes landscaping, a pedestrian and cyclist access onto the adjacent Monastery Road to the north; and internal pedestrian and shared surfaces. (vii) Vehicular access to the development is proposed through the existing access/entrance to Dolcain House to the east. The application is accompanied by 2 no. site layout options, Option A and B. Option A includes a new public pedestrian footpath along the southern side of Monastery Road which extends east to the north-eastern application site boundary to facilitate a connection to future footpath. Option B provides for the omission of this footpath. (viii) Associated site and infrastructural works are also proposed which include; foul and surface water drainage; plant areas; ESB substation; and all associated site development works necessary to facilitate the proposed development.

The proposed site outline, location, layout (Options A & B), and elevations are demonstrated in Figures 1-4.

Figure 1. Outline of proposed site.

LEGEND

BLOCK A - 6 Storeys	TOTAL 50 No. UNITS
1 BED APARTMENTS	22 No. UNITS
2 BED APARTMENTS (3 PERSON)	02 No. UNITS
2 BED APARTMENTS (4 PERSON)	20 No. UNITS
3 BED APARTMENTS	06 No. UNITS
BLOCK B - 4/5 Storeys	TOTAL 22 No. UNITS
1 BED APARTMENTS	09 No. UNITS
2 BED APARTMENTS (3 PERSON)	00 No. UNITS
2 BED APARTMENTS (4 PERSON)	09 No. UNITS
3 BED APARTMENTS	04 No. UNITS
BLOCK C - 6 Storeys	TOTAL 29 No. UNITS
1 BED APARTMENTS	13 No. UNITS
2 BED APARTMENTS (3 PERSON)	00 No. UNITS
2 BED APARTMENTS (4 PERSON)	16 No. UNITS
3 BED APARTMENTS	00 No. UNITS
BLOCK D - 6 Storeys	TOTAL 29 No. UNITS
1 BED APARTMENTS	17 No. UNITS
2 BED APARTMENTS (3 PERSON)	01 No. UNITS
2 BED APARTMENTS (4 PERSON)	11 No. UNITS
3 BED APARTMENTS	00 No. UNITS
TOTAL No. APARTMENTS	130 No. UNITS
1 BED APARTMENTS	61 No. UNITS (47%)
2 BED APARTMENTS (3 PERSON)	03 No. UNITS (2%)
2 BED APARTMENTS (4 PERSON)	56 No. UNITS (43%)
3 BED APARTMENTS	10 No. UNITS (8%)
DUAL ASPECT:	61 %

PARKING SPACES

BASEMENT	62 No. CAR PARKING SPACES
SURFACE	16 No. CAR PARKING SPACES

Including:

- No. 08 electric vehicle charging point
- No. 03 disabled spaces
- No. 05 car club spaces

All capable of accommodating future electric charging point

TOTAL	78 No. CAR PARKING SPACES

BIKE PARKING SPACES

BASEMENT	254 No. BIKE PARKING SPACES
SURFACE	56 No. BIKE PARKING SPACES
TOTAL	310 No. BIKE PARKING SPACES

SITE OUTLINE RED (0.81 HECTARES)

PROPOSED EXTENSION TO BLOCK A

OUTLINE EXISTING BASEMENT

DENSITY : 160 Units per Hectare

STAGE 03

ha DESIGN STUDIO

36 Mount Street Upper, Dublin D02 Y982
+353 1 524 0709 www.hads.ie

CLIENT
RANDELSWOOD HOLDINGS LTD.

PROJECT
PROPOSED SHD DEVELOPMENT AT DOLCAIN HOUSE, MONASTERY RD, CLONDALKIN, DUBLIN 22

DWG. TITLE
PROPOSED SITE LAYOUT PLAN

SCALE @ A1:	1:500
DRAWN BY:	DM
CHECKED BY:	JH
PAPER SIZE:	A1
JOB NO:	18-021
DATE:	02.12.2021

DWG NO. PL-003

Figure 2. Proposed site layout plan – Option A (incl. footpath)

Figure 3. Proposed site layout plan – Option B (excl. footpath)

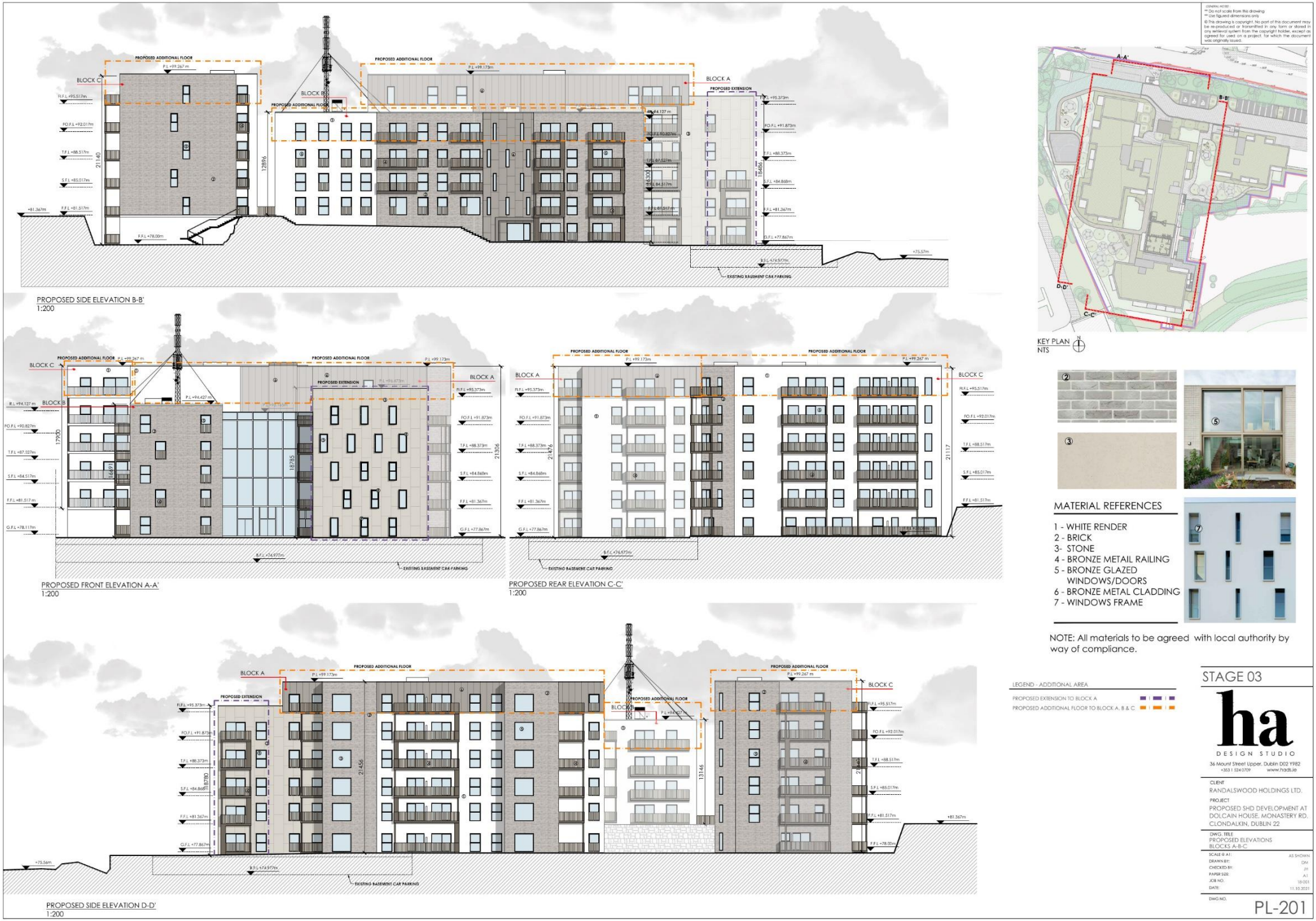

Figure 4. Proposed elevations

Landscape

A Landscape Report has been prepared by Jane McCorkell Landscape Architect to accompany this planning application. This report outlines the following landscape strategy for the proposed development:

'*The submitted proposal aims to provide a multifunctional, durable landscape and public realm which integrates the proposed development within its existing landscape context. In coordination with the design team to integrate civil engineering, ecological considerations and improved circulation and accessibility a diverse mix of usable open spaces has been created to provide a lively landscape for residence to enjoy.*

The landscape is structured to provide a diverse range of spaces and uses, that animate the space and create visual interest at the human scale. These spaces can be organized into 2 separate zones, each with a distinctive character; Zones: A and B.

- *'Zone A' Proposed Open Space - characterized by the entrance landscape, natural play elements, seating, and planting.*
- *'Zone B' Proposed Communal Amenity Space – characterised by the informal playful landscape, communal seating areas, Specimen tree planting and an area tranquillity.*

There is a fire tender route proposed that will run along the North of site down along the west boundary where a turning space has been integrated into the landscape. The fire access route is proposed in a range of surface materials to break up the visually hard edge of the fire access path. The planting strategy for the development site is to maximize tree and vegetation retention, especially along the South and West boundaries where there is a natural rock face present. The principle of the planting strategy is to maintain the overall character of the site while creating a cohesive, usable, and welcoming green space.

There are several components making up the overall landscape strategy:

6. *A diverse range of spaces, lawn, grass moulding, natural play and several smaller spaces with native tree planting and ground flora.*
7. *Integration of the scheme within the wider context.*
8. *Maintain the distinct spatial character of the existing site, while enhancing the identity.*
9. *Provide a safe and accessible environment.*
10. *Provide new opportunities for the protection and establishment of habitat.*'

The proposed landscape masterplan is demonstrated in Figure 5.

Figure 5. Proposed landscape masterplan

Bat survey

This report presents the results of two site visits by Bryan Deegan (MCIEEM) on the 17th June 2021 (building inspection and emergent survey) during which all on site treelines were assessed for bat roosting potential. The exterior or all buildings was inspected. Bat detector surveys were carried out onsite using an *Echo Meter Touch 2* bat detector to determine bat activity.

Competency of Assessor

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 26 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2007)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Kelleher and Marnell (2007), Bat Mitigation Guidelines for Ireland.

Legislative Context

Wildlife (Amendment) Act 2000.

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

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora transposed into Irish Law i.e. European Communities (Natural Habitats) Regulations, 1997 (SI No. 64/1997).

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

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

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

Tree Roosting Potential Survey

The survey on the 17th June also assessed if trees of bat roosting potential were present on site. In relation to bat roosting potential, the site comprised several office blocks with tall treelines of Cypress leylandii to the south. No trees of bat roosting potential were noted on site therefore no further assessment of trees for bats is required at felling stage. These trees however to have the potential to form a dark foraging area where insects would potentially swarm.

Survey constraints

The detector survey was undertaken during the optimal bat season under optimal conditions. Weather conditions were good with mild temperatures of 15°C. Winds were light and there was no rainfall during the survey.

Review of local bat records

The review of existing bat records (sourced from *Bat Conservation Ireland's* National Bat Records Database) within 2 km^2 of the study area (O03Q) reveals that four of the nine known Irish species have been observed locally, with no recent observations (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 4-6. The following species were noted in the wider area: Brown Long-eared Bat (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Daubenton's Bat (*Myotis daubentonii),* and Pipistrelle (*Pipistrellus pipstrellus sensu lato*) (Figures 4-7).

Table 1: Status of bat species within a 2km^2 grid which incorporates the study location

Species name	**Record count**	**Date of last record**
Lesser Noctule (*Nyctalus leisleri*)	3	05/09/2011
Daubenton's Bat (*Myotis daubentonii*)	1	28/08/2008
Pipistrelle (*Pipistrellus pipistrellus sensu lato*)	3	05/09/2011
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	4	22/04/2011

Figure 6. 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 7. Lesser Noctule (*Nyctalus leisleri*) (purple) (Source NBDC) (Site – red circle)

Figure 8. Pipistrelle (*Pipistrellus pipistrellus sensu lato*) (purple) (Species aggregate), Soprano Pipistrelle (*Pipistrellus pygmaeus*) (yellow), and both Pipistrelle and Soprano Pipistrelle (orange) (Source NBDC) (Site – red circle)

Specifically, NBDC records show sightings of bat species in locations that are in close proximity to the subject site:

1. Soprano Pipistrelle (*Pipistrellus pygmaeus*) in grid reference O0731. Recorded on 27/06/2008 and within a grid that encompasses the subject site (see Figure 8).
2. Soprano Pipistrelle (*Pipistrellus pygmaeus*) in grid reference O077311. Recorded on 09/06/2010 and approximately 40m West of the subject site.
3. Lesser Noctule (*Nyctalus leisleri*) in grid reference O077311. Recorded on 09/06/2010 and approximately 40m West of the subject site.

Detector survey

The site is relatively brightly lit within an urban setting. There are flood lit GAA pitches (Round Tower GAA Pitches) and immediately adjoining the site to the south west. Light spill from these lights is significant and poorly controlled. Monastery Road to the north is also brightly lit. The treeline to the south east is not brightly lit. No bats were detected emerging from any of the onsite trees or buildings. However, foraging activity was noted on site by a single Soprano Pipistrelle (*Pipistrellus pygmaeus*) and a single Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*) (Figure 8).

Plate 1. Floodlit GAA pitch (Image taken from the roof of Dolcain House)

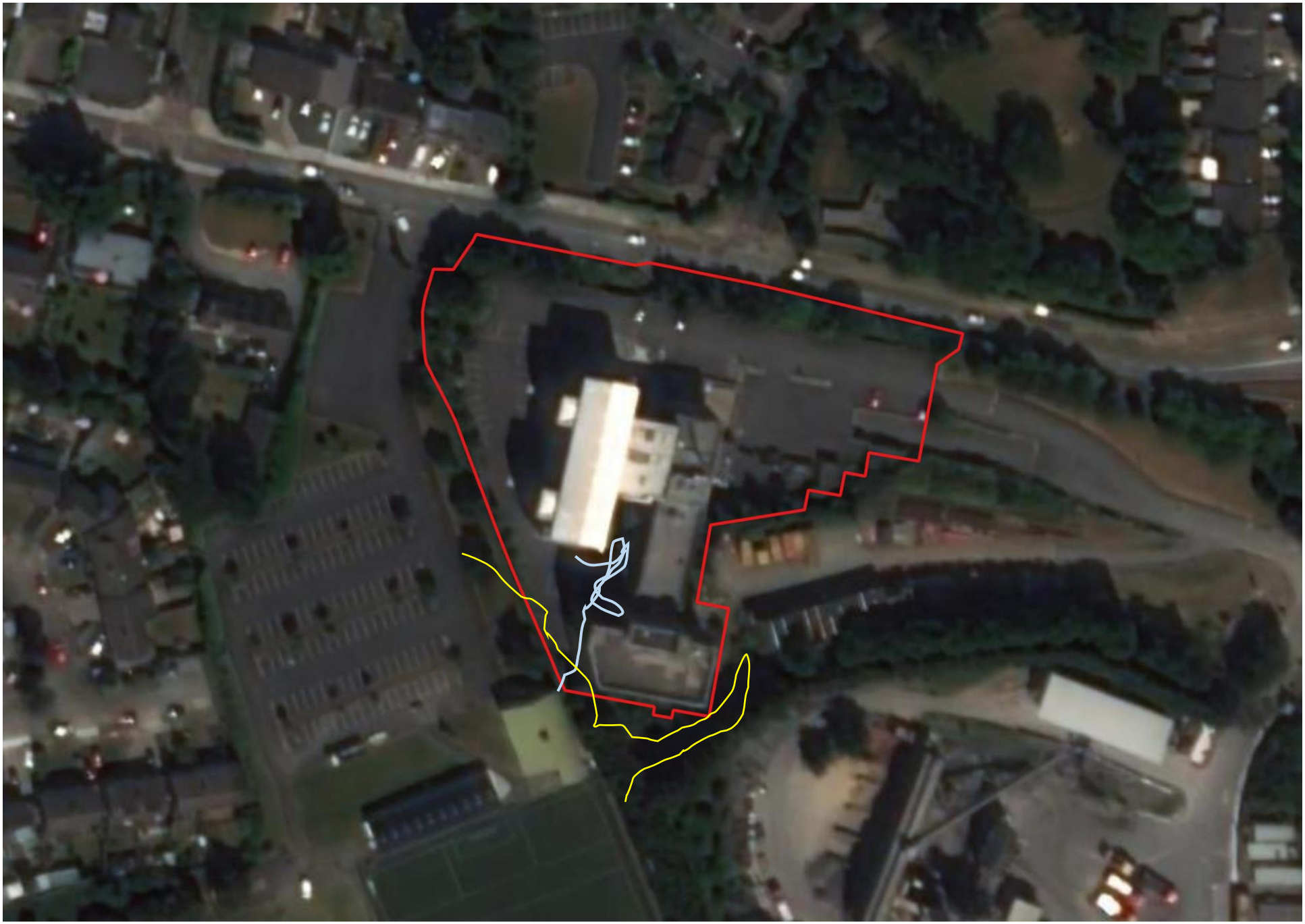

Figure 8. Soprano pipistrelle (blue) and Common pipistrelle (yellow) feeding activity.

Building survey

No evidence of bat activity was noted within the buildings on site. The buildings are well maintained with no obvious potential entry or exit points for bats were noted. No signs of potential bat activity were noted externally or internally.

Plate 2. Interior of Dolcain House.

Plate 3. Exterior of Dolcain House.

Potential impacts of proposed redevelopment on bats

No bats were noted emerging from onsite buildings or trees. The site is brightly lit. However, foraging was noted on site. The proposed redevelopment will result in increased activity and lighting on site which may reduce foraging activity.

Mitigation measures

Light spill from the dwellings and public lighting should follow the Bat Conservation Ireland "Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers December 2010". A derogation licence is not required for the proposed redevelopment.

Predicted and residual impact of the proposal

No evidence of bat activity was noted within the buildings. No trees of bat roosing potential are to be felled as part of the proposal. No bats were noted emerging from the buildings on site. No significant negative impacts on roosting animals are expected to result from the proposed redevelopment.

However, foraging activity within the area may be lost unless lighting is controlled. A post construction assessment of the light spill on site to ensure compliance with bat lighting guidelines will be carried out, carried to ensure conformity with the "Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers".

References

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.ISBN-13 978-1-872745-96-1

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

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

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

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

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

Marnell, F., Kingston, N. and Looney, D. 2009 *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin

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

Legal status and conservation issues – bats

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

All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat is further listed under Annex II. The current status and legal protection of the known bat species occurring in Ireland is given in the following table.

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

Also, under existing legislation, the destruction, alteration or evacuation of a known bat roost is a notifiable action and a derogation licence has to be obtained from the *National Parks and Wildlife Service* before works can commence. It should also be noted that any works interfering with bats and especially their roosts, including for instance, the installation of lighting in the vicinity of the latter, may only be carried out under a licence to derogate from Regulation 23 of the Habitats Regulations 1997, (which transposed the EU Habitats Directive into Irish law) issued by NPWS. The details with regards to appropriate assessments, the strict parameters within which derogation licences may be issued and the procedures by which and the order in relation to the planning and development regulations such licences should be obtained, are set out in Circular Letter NPWS 2/07 "*Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 - strict protection of certain species/applications for derogation licences*" issued on behalf of the Minister of the Environment, Heritage and Local Government on the 16th of May 2007.

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