

Ecological Impact Statement for residential development on lands at the former TedCastles site, Old Dunleary Road, Cumberland Street, Dun Leary Hill, Dun Laoghaire, Co. Dublin

Compiled by OPENFIELD Ecological Services

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For Ted Living Limited



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1 INTRODUCTION

This Ecological Impact Statement has been prepared by Pádraic Fogarty of OPENFIELD Ecological Services. Pádraic Fogarty has worked for 25 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EclA) in Ireland. OPENFIELD is a full member of the Institute of Environmental Management and Assessment (IEMA).

2 STUDY METHODOLOGY

The assessment was carried out in accordance with the following best practice methodology: 'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland' by the Institute of Ecology and Environmental Management (IEEM, 2018).

Site visits were carried out on the 19th of June 2019 and the 13th of July 2021 in fair weather. The site was surveyed in accordance with the Heritage Council's Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2010). Habitats were identified in accordance with Fossitt's Guide to Habitats in Ireland (Fossitt, 2000).

The nomenclature for vascular plants is taken from *The New Flora of the British Isles* (Stace, 2010) and for mosses and liverworts *A Checklist and Census Catalogue of British and Irish Bryophytes* (Hill et al., 2009).

Both June and July lie within the optimal survey period for general habitat surveys (Smith et al., 2010) and so it was possible to classify all habitats on the site to Fossitt level 3. June and July lie within the season for surveying breeding birds (although July is sub-optimal), while it is outside the optimal season for surveying amphibians or large mammals. Given the largely artificial nature of the site however there were not obstacles to completing a full assessment.

3 EXISTING RECEIVING ENVIRONMENT

3.1 Zone of Influence

Best practice guidance suggests that an initial zone of influence be set at a radius of 2km for non-linear projects (IEA, 1995). However, some impacts are not limited to this distance and so sensitive receptors further from the project footprint may need to be considered as this assessment progresses. This is shown in figure 1.

There are a number of designations for nature conservation in Ireland including National Park, National Nature Reserve, RAMSAR site, UNESCO Biosphere reserves, Special Protection Areas (SPA – Birds Directive), Special Areas of Conservation (SAC – Habitats Directive); and Natural Heritage Areas. The mechanism for these designations is through national or international legislation. Proposed NHAs (pNHA) are

areas that have yet to gain full legislative protection. They are generally protected through the relevant County Development Plan. There is no system in Ireland for the designation of sites at a local, or county level. The following areas were found to be located within the zone of influence of the application site:



Figure 1 – Site location (red circle) showing local water courses and areas designated for nature conservation (from www.epa.ie).

South Dublin Bay SAC (side code: 0210). It has one qualifying interest (i.e. feature which qualifies the area as being of international importance) which is mudflats and sandflats not covered by seawater at low tide.

South Dublin Bay and Tolka Estuary SPA (side code: 4024) is concentrated on the intertidal area of Sandymount Strand, to the south of the city, as well as the Tolka Estuary. The North Bull Island SPA (site code: 0206) is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. Table 2 lists the features of interest for these SPAs.

Bird counts from BirdWatch Ireland are taken from Dublin Bay as a whole and are not separated between the two SPAs in this area.

Dublin Bay is recognised as an internationally important site for water birds as it supports over 20,000 individuals. Table 1 shows the most recent count data available (Crowe et al., 2011).

Table 1 – Annual count data for Dublin Bay from the Irish Wetland Birds Survey (IWeBS)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	27,931	30,725	30,021	35,878	33,486	31,608

There were also internationally important populations of particular birds recorded in Dublin Bay (i.e. over 1% of the world population): Light-bellied brent geese *Branta bernicula hrota*; Black-tailed godwit *Limosa limosa*; Knot *Calidris canutus* and Bar-tailed godwit *L. lapponica*.

Table 2 – Features of interest for the South Dublin Bay and Tolka Estuary SPAs in Dublin Bay (EU code in square parenthesis)

Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]
Oystercatcher (<i>Haematopus ostralegus</i>) [A130]
Ringed Plover (<i>Charadrius hiaticula</i>) [A137]
Grey Plover (<i>Pluvialis squatarola</i>) [A140]
Knot (<i>Calidris canutus</i>) [A143]
Sanderling (<i>Calidris alba</i>) [A144]
Dunlin (<i>Calidris alpina</i>) [A149]
Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]
Redshank (<i>Tringa totanus</i>) [A162]
Black-headed Gull (<i>Croicocephalus ridibundus</i>) [A179]
Roseate Tern (<i>Sterna dougallii</i>) [A192]
Common Tern (<i>Sterna hirundo</i>) [A193]
Arctic Tern (<i>Sterna paradisaea</i>) [A194]
Wetlands & Waterbirds [A999]

South Dublin Bay pNHA (site code: 0210). This area is coincident with the SAC, indeed the SAC designation would supersede this older designation.

The NPWS web site (www.npws.ie) contains a mapping tool that indicates historic records of legally protected species within a selected Ordnance Survey (OS) 10km grid square. The Ted Castles site is located within the square O22 and six species of protected flowering plant are highlighted. These species are detailed in Table 3. It must be noted that this list cannot be seen as exhaustive as suitable habitat may be available for other important and protected species.

Table 3 – Known records for protected species within the O22 10km square

Species	Habitat ¹	Current status ²
<i>Cinopodium acinos</i> Basil Thyme	Field margins and sandy or gravelly places	Record pre-1970
<i>Galeopsis angustifolia</i> Red Hemp-nettle	Calcareous gravels	
<i>Puccinellia fasciculata</i> Borrer's salt-marsh grass	Muddy inlets on the coast	
<i>Misopates orontium</i> Lesser Snapdragon	Arable fields	
<i>Viola hirta</i> Hairy Violet	Sand dunes, grasslands, limestone rocks	
<i>Cervus nippon</i> Sika Deer	Coniferous woodland and adjacent heaths	Current
<i>Lutra lutra</i> Otter	Rivers, coasts and wetlands	Current
<i>Sciurus vulgaris</i> Red Squirrel	Woodlands	Current

In summary, it can be seen that of the five species none remains current according to the Botanical Society of the British Isles.

Water quality in rivers, canals and estuaries is monitored on an on-going basis by the Environmental Protection Agency (EPA). The Monkstown Stream (also called the Stradbroke Stream) runs in this locality although its exact route is not clear due to culverting and physical alterations. This is a very short stream that runs from a pond at Honeypark in Dun Laoghaire and enters the Irish Sea near the pier. The river is highly modified and is culverted for much of its length. The EPA have no monitoring points and it is not assessed under the Water Framework Directive. These data are taken from the ENVision mapping tool on www.epa.ie.

¹ Parnell et al., 2012

² www.bsbi.com

3.2 Site Survey

Aerial photography from the OSI and historic mapping shows that this area has been within the urban fabric of Dun Laoghaire/Monkstown since historical times. The lands are artificial in nature and are surrounded on all sides by residential built development and roads.

3.2.1 Flora

The development site is predominantly composed of **buildings and artificial surfaces – BL3**. There is a large covered shed to the north-east while a residential home is located along the southern boundary. Vegetation in these areas is minimal and ruderal in nature e.g. Red Valerian *Centranthus ruber*, Butterfly-bush *Buddleja davidii*, Bramble *Rubus fruticosus* agg. and Pineappleweed *Matricaria discoidea*. To the south of the site, and east of the residential home there is a bank with Ivy *Hedera helix*, New Zealand Broadleaf *Grisilinea littoralis*, and a large Sycamore *Acer pseudoplatanus*. These are habitats of very low biodiversity value.

There are no habitats which are examples of those listed in Annex II of the Habitats Directive. There are no plant species which are listed as alien invasive on Schedule 3 of SI No. 477 of 2011. There are no water courses, bodies of open water or habitats which could be considered wetlands.

3.2.2 Fauna

The site survey included incidental sightings or proxy signs (prints, scats etc.) of faunal activity, while the presence of certain species can be concluded where there is suitable habitat within the known range of that species. Table 4 details those mammals that are protected under national or international legislation in Ireland. Cells are greyed out where suitable habitat is not present or species are outside the range of the study area.

Table 4 – Protected mammals in Ireland and their known status within the O22 10km grid square³. Those that are greyed out indicate either that there are no records of the species from the National Biodiversity Data Centre. Since the site is not coastal the two Seal species are greyed out.

Species	Level of Protection	Habitat ⁴
Otter <i>Lutra lutra</i>	Annex II & IV Habitats Directive; Wildlife (Amendment) Act, 2000	Rivers and wetlands
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>		Disused, undisturbed old buildings, caves and mines
Grey seal <i>Halichoerus grypus</i>	Annex II & V Habitats Directive;	Coastal habitats

³ From the National Biodiversity Data Centre, excludes marine cetaceans

⁴ Harris & Yalden, 2008

Common seal <i>Phocaena phocaena</i>	Wildlife (Amendment) Act, 2000	
Whiskered bat <i>Myotis mystacinus</i>	Annex IV Habitats Directive; Wildlife (Amendment) Act, 2000	Gardens, parks and riparian habitats
Natterer's bat <i>Myotis nattereri</i>		Woodland
Leisler's bat <i>Nyctalus leisleri</i>		Open areas roosting in attics
Brown long-eared bat <i>Plecotus auritus</i>		Woodland
Common pipistrelle <i>Pipistrellus pipistrellus</i>		Farmland, woodland and urban areas
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>		Rivers, lakes & riparian woodland
Daubenton's bat <i>Myotis daubentonii</i>		Woodlands and bridges associated with open water
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>		Parkland, mixed and pine forests, riparian habitats
Irish hare <i>Lepus timidus hibernicus</i>	Annex V Habitats Directive; Wildlife (Amendment) Act, 2000	Wide range of habitats
Pine Marten <i>Martes martes</i>		Broad-leaved and coniferous forest
Hedgehog <i>Erinaceus europaeus</i>	Wildlife (Amendment) Act, 2000	Woodlands and hedgerows
Pygmy shrew <i>Sorex minutus</i>		Woodlands, heathland, and wetlands
Red squirrel <i>Sciurus vulgaris</i>		Woodlands
Irish stoat <i>Mustela erminea hibernica</i>		Wide range of habitats
Badger <i>Meles meles</i>		Farmland, woodland and urban areas
Red deer <i>Cervus elaphus</i>		Woodland and open moorland
Fallow deer <i>Dama dama</i>		Mixed woodland but feeding in open habitat
Sika deer <i>Cervus nippon</i>		Coniferous woodland and adjacent heaths

Because of the highly modified nature of the site and the low cover of vegetation there are few resources for large mammals or protected mammal species. There are no Badger setts and the lands are not suitable for Badger.

A Fox *Vulpes vulpes* den is present on the bank under the boundary wall. Fox is not a protected species.

Features on the site may be suitable for roosting bats as buildings could have cracks and crevices (Hundt, 2012). A dedicated bat survey was carried out by Brian Keeley on July 28th and 29th 2019, well within the optimal flight period. This found no evidence of bats roosting in the buildings on the development site. Two species were noted feeding/commuting: Common Pipistrelle and Leisler's Bat.

June lies within the optimal season for surveying breeding birds and the survey attempted to record all species on the site which were displaying breeding/nesting behaviour (holding territory or carrying food items). No birds were noted during the June 2019 survey. A repeat survey was carried out in July 2021 and Dunnock *Prunella modularis* and Blackbird *Turdus merula* were noted. These are both listed as 'low conservation concern'/green list (Gilbert et al., 2021). There is little suitable nesting habitat available for common garden birds due to the low levels of vegetation cover.

There are no suitable wetland habitats for breeding Common Frog *Rana temporaria* or Smooth Newt *Lissotriton vulgaris*. Common Lizard *Zootoca vivipara* is considered widespread. There are no streams or wetland habitats which could support fish.

Most habitats, even highly altered ones, are likely to harbour a wide diversity of invertebrates. In Ireland only one insect is protected by law, the Marsh Fritillary butterfly *Euphydryas aurinia*, and this is not to be found on in this area. Other protected invertebrates are confined to freshwater and wetland habitats and so are not present on this site.

3.5 Overall Evaluation of the Context, Character, Significance and Sensitivity of the Proposed Development Site

In summary, it has been seen that the application site is composed of artificial habitats within a built-up area. There are no examples of habitats listed on Annex I of the Habitats Directive or records of rare or protected plants. There are no species listed as alien invasive as per SI 477 of 2011.

Significance criteria are available from guidance published by the National Roads Authority (NRA, 2009). These are reproduced in table 5. From this an evaluation of the various habitats and ecological features on the site has been made and this is shown in table 6.

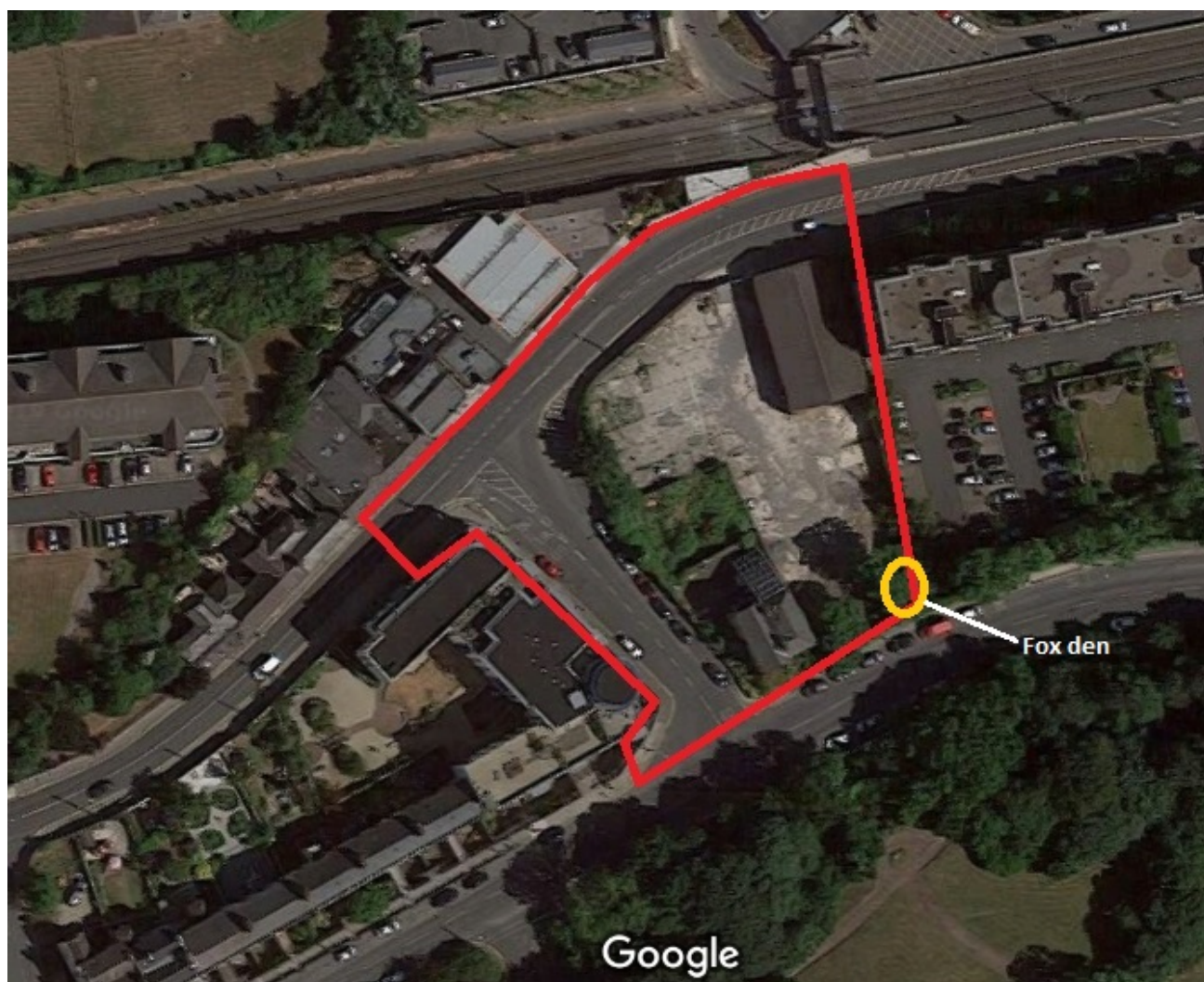


Figure 2 – Aerial view of the subject lands (photo from www.google.com)

Table 5 Site evaluation scheme taken from NRA guidance 2009

Site Rating	Qualifying criteria
A - International importance	<p>SAC, SPA or site qualifying as such. Sites containing 'best examples' of Annex I priority habitats (Habitats Directive).</p> <p>Resident or regularly occurring populations of species listed under Annex II (Habitats Directive); Annex I (Birds Directive); the Bonn or Berne Conventions.</p> <p>RAMSAR site; UNESCO biosphere reserve;</p> <p>Designated Salmonid water</p>
B - National importance	<p>NHA. Statutory Nature Reserves. Refuge for Flora and Fauna. National Park.</p> <p>Resident or regularly occurring populations of species listed in the Wildlife Act or Red Data List</p> <p>'Viable' examples of habitats listed in Annex I of the Habitats Directive</p>

C - County importance	<p>Area of Special Amenity, Tree Protection Orders, high amenity (designated under a County Development Plan)</p> <p>Resident or regularly occurring populations (important at a county level, defined as >1% of the county population) of European, Wildlife Act or Red Data Book species</p> <p>Sites containing semi-natural habitat types with high biodiversity in a county context, and a high degree of naturalness, or populations of species that are uncommon in the county</p>
D - Local importance, higher value	<p>Sites containing semi-natural habitat types with high biodiversity in a county context, and a high degree of naturalness, or populations of species that are uncommon in the locality</p> <p>Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.</p>
E - Local importance, lower value	<p>Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;</p> <p>Sites or features containing non-native species that are of some importance in maintaining habitat links.</p>

Table 6 Evaluation of the importance of habitats and species on the Ted Castles site

Buildings and artificial surfaces – BL3	Negligible ecological value
Large sycamore	Low local ecological value

4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development at the former Ted Castles site and DunLeary House (a proposed Protected Structure), Old Dun Leary Road, Cumberland Street and Dun Leary Hill, Dun Laoghaire will consist of:

- The provision of 146 no. apartment units (Build to Rent) and all associated ancillary facilities (including residential amenities) in a building with an overall height ranging from 6 storeys (with set backs from 4th & 5th storey) addressing Dun Leary Hill, to 5 and 8 storeys (with set back from 7th storey) addressing Old Dun Leary Road and 6-7 storeys (with set backs at 8th storey) addressing Cumberland Street. The proposal provides for private and communal open spaces in the form of balconies and terraces throughout.
- A retail unit (c.290m²) at ground floor level addressing Old Dun Leary Road and Cumberland Street
- The refurbishment, partial removal and adaptation of a 4 storey building on site known as "DunLeary House" (a proposed Protected Structure) to provide co-working office suites (c.247m²) at Levels 01,02 and 03. The works will include partial removal of original walls and floors, removal of non original extensions to DunLeary House, repointing and repair of brickwork and granite fabric, reinstatement of timber sash windows, removal of existing roof, removal; alteration and reinstatement of internal floor layouts, reinstatement of entrance point on DunLeary Hill, removal of non original level 00 and linking the existing building to the new development from level 00 to level 03 with the construction of 3 new floors of development (with set back at roof level) above the existing building. It is proposed to repair, reinstate and improve the existing boundary treatment to DunLeary House.
- Provision of 52 no. car parking spaces in total - 44 no. car parking spaces provided at level 00. At Cumberland Street 11 no. existing on street car parking spaces will be removed and 8 no. on street car parking spaces provided. Provision of 277 bicycle parking spaces (94 no. cycle parking spaces accommodated in bicycle stands and 183 no. long term bicycle parking spaces within a secure storage area) and 4 no. motorbike parking spaces, all at Level 00. A new vehicular entrance/cycle path (off the Old Dun Leary Road), ancillary plant areas, ESB substation and storage areas.
- Extensive hard and soft landscaping throughout, green roof, public lighting, signage, boundary treatments and public realm improvements.
- The demolition of the existing open fronted shed on site and all associated ancillary site services and site development works.

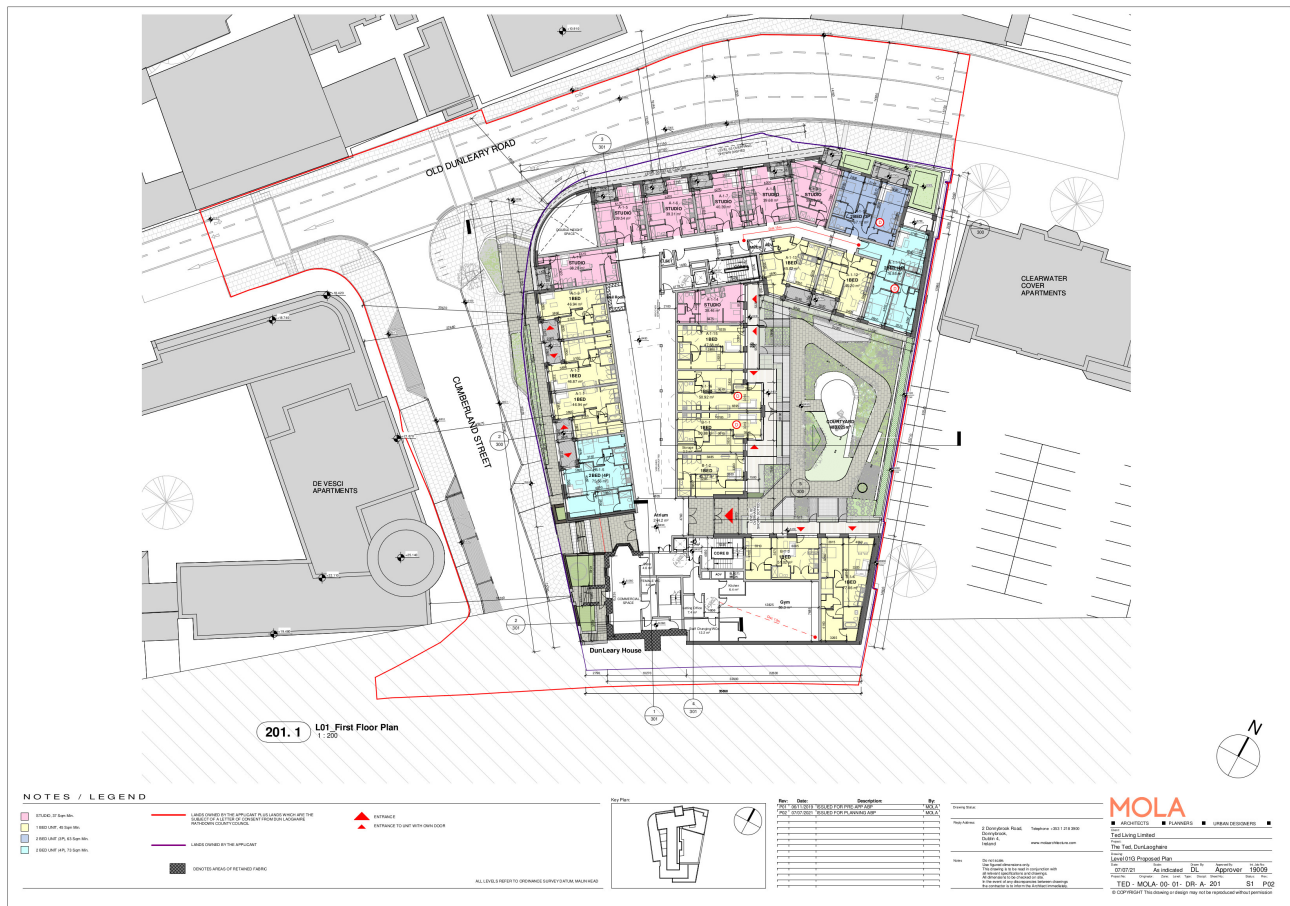


Figure 3 – Development overview.

5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

This section provides a description of the potential impacts that the proposed development may have on biodiversity in the absence of mitigation. Methodology for determining the significance of an impact has been published by the NRA. This is based on the valuation of the ecological feature in question (table 6) and the scale of the predicted impact. In this way, it is possible to assign an impact significance in a transparent and objective way. Table 7 summaries the nature of the predicted impacts.

5.1 Construction Phase

The following potential impacts are likely to occur during the construction phase in the absence of mitigation:

1. The removal of habitats including buildings, ruderal vegetation and individual trees. These are predominantly of negligible or, in the case of the Sycamore tree, low local value. The loss of these habitats is considered to be minor negative. New landscaping post-construction will compensate for this loss of habitat. This includes a green roof as well as planting in the public realm.
2. The direct mortality of species during demolition. This impact is most acute during the bird breeding season which can be assumed to last from March to August inclusive. While there is very little suitable bird nesting habitat on this site, caution nevertheless should be exercised. Similarly, the bat report highlights that the buildings provide roost potential and mitigation will be required during the demolition phase. Fox is not a protected species but nevertheless, the fox den should not be disturbed during the breeding season.
3. Pollution of water courses through the ingress of silt, oils and other toxic substances. There are no significant fisheries river in this locality and so there are no likely effects to biodiversity arising from this phase.

5.2 Operation Phase

The following potential impacts are likely to occur during the operation phase in the absence of mitigation:

4. Pollution of water from foul wastewater arising from the development. Wastewater will be sent to the municipal treatment plant at Ringsend. Upgrade works are needed as the plant is not currently meeting its requirements under the Urban Wastewater Treatment Directive. Pollution effects are most acute in freshwater systems where the capacity for dilution is low and the consequent risk of eutrophication is high. The Ringsend WWTP discharges into Dublin Bay which is currently classified as 'unpolluted' by the EPA despite long-running compliance issues at the plant. A separate screening report for Appropriate Assessment specifically examines the impacts of this project on Natura 2000 areas in Dublin Bay however there is currently no evidence that non-compliance issues at the WWTP are having negative effects to features of high ecological value (e.g. wading birds or intertidal

habitats). It is understood that Irish Water is to undertake upgrading works on a phased basis and that compliance issues will comprehensively addressed by 2022.

5. Pollution of water from surface water run-off. The Greater Dublin Strategic Drainage Study (2005) identified issues of urban expansion leading to an increased risk of flooding in the city and a deterioration of water quality. This arises where soil and natural vegetation, which is permeable to rainwater and slows its flow, is replaced with impermeable hard surfaces. A new surface water drainage system is to be installed and which will be entirely separate from the foul sewer. This has been designed on the basis of SUDS principles and includes a green roof, permeable pavement and green landscaping leading to an attenuation storage tank. The ultimate discharge will be to an existing surface water sewer. Given that the existing development site is predominantly composed of hard surfacing, these measures will result in a net improvement to surface water run-off characteristics.

New surface water attenuation measures are designed so that there will be no net change to the quantity of surface water leaving the site. Surface water will percolate to ground or discharge to a municipal surface water sewer (and so on to Dublin Bay).

6. Artificial lighting. This aspect of the project can affect bat species which are using the site for foraging or roosting nearby. Although different bat species exhibit varying degrees of sensitive to lighting, in a worst case scenario it would result in all bats permanently avoiding this area. Guidelines are available on minimising this effect and these are referred to in the bat report. The bat report states: "Species such as Leisler's bat and common pipistrelles are less affected than almost all other Irish bat species and this would not be a significant impact. At worst a permanently moderately negative impact is predicted."

Impacts to Natura 2000 areas (SACs or SPAs) in Dublin Bay are not predicted to occur, principally due to the separation distance between the site and these areas. A full assessment of potential effects to these areas is contained within a separate Screening Report for Appropriate Assessment. No effects can arise to any other area which is designated for nature conservation.

Table 7: Significance level of likely impacts in the absence of mitigation

Impact		Significance
Construction phase		
1	Loss of buildings and artificial surfaces Removal of the large Sycamore tree	Neutral – no effect Minor negative
2	Mortality to animals during construction, including nesting birds and/or bats	Moderate negative – permanent impacts to species of high local value/or species with legal protection
3	Pollution of water during construction phase	Neutral – no effect

Operation phase		
4	Wastewater pollution	Neutral – no effects
5	Surface water pollution	Neutral – no effect
6	Lighting	Moderate negative

Overall it can be seen that two potential moderate negative impacts are predicted to occur as a result of this project in the absence of mitigation.

5.3 Cumulative impacts

A number of the identified impacts can also act cumulatively with other impacts from similar developments in this area of Dublin. These primarily arise through the additional loading to the Ringsend Wastewater Treatment Plant. It is considered that this effect is not significant due to the planned upgrading works that will bring it in line with the requirement of the Urban Wastewater Treatment Directive.

In this instance, the incorporation of SUDS attenuation measures will result in not negative effect to surface water quality.

Increasing urbanisation of Dublin, and in particular land use change from agricultural to urban uses, is resulting in the loss of habitat for common species of plants and animals. In this case, no high value habitats are found on the site.

6 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

This report has identified two impacts that were assessed as 'moderate negative' and therefore mitigation is needed to reduce the severity of this potential effect.

6.1 Mitigation Measures Proposed

The following mitigation measures are proposed for the development

Construction Phase

- 1: Disturbance of birds' nests and fox den.

Deliberate disturbance of a bird's nest is prohibited unless under licence from the National Parks and Wildlife Service. If possible, site clearance works should proceed outside the nesting season, i.e. from September to

February inclusive. If this is not possible, vegetation must first be inspected by a suitably qualified ecologist. If a nest is encountered then works must stop, until such time as nesting has ceased. Otherwise, a derogation licence must be sought from the NPWS to allow the destruction of the nest.

The fox den should not be disturbed during the breeding season, which can be assumed to last from March to June inclusive. Fox is not a protected species under the Wildlife Act and so no derogation licence is required.

2: Impacts to bats

The bat report recommends that the buildings on the development site be inspected prior to demolition works being undertaken. It also recommends that three bat boxes be installed to provide new roosting habitat post-construction. Measures are also highlighted to avoid impacts to bats from lighting and to enhance feeding opportunities through new planting.

These measures have been fully incorporated into the design proposals, specifically the lighting plan prepared by OCSO Consulting Engineers and the Architectural Design Statement prepared by MOLA.

8 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions which the proposed development may have, assuming all mitigation measures are fully and successfully applied.

After mitigation, no residual effects are likely to arise to biodiversity arising from this project.

Enhancement measures

Post-construction landscaping includes new tree and shrub planting which includes a diverse range of native and non-native species. The installation of bat boxes will provide new roosting habitat for these mammals.

9 MONITORING

Monitoring is required where the success of mitigation measures is uncertain or where residual impacts may in themselves be significant. In this case no significant negative effects are likely to arise, and so additional monitoring is not required.

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