



PRELIMINARY ECOLOGICAL ASSESSMENT

PROPOSED CREMATORIUM AT SHANGANAGH CEMETERY,

DUBLIN ROAD, SHANKILL. CO. DUBLIN.

DÚN LAOGHAIRE RATHDOWN COUNTY COUNCIL

PROJECT REFERENCE NO.: 150162

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1. INTRODUCTION

Scott Cawley Ltd. was commissioned by Dún Laoghaire Rathdown County Council (DLRCC) to undertake a Preliminary Ecological Assessment (PEA) of a proposed crematorium development at Shanganagh Cemetery, Shankill, Co. Dublin. The site is located at Irish National Grid Reference: O 2585 2081 on an area of rough grassland, between two existing cemetery plot fields. See Figure 1 below.

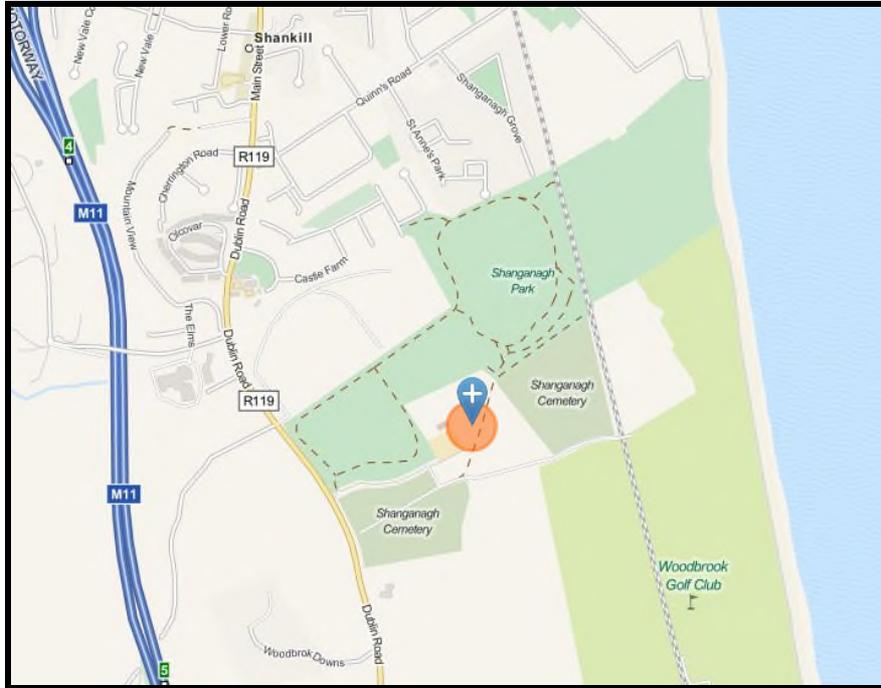


Figure 1. Site Location (dropped pin) Source: Openstreetmap.org

This report identifies potential site constraints present, or likely to be present on the site and to provide an assessment as to whether further ecological investigation would be needed in order to predict the significance of any potential impacts.

1.1 PROJECT DESCRIPTION

The proposed development is the construction of a crematorium at Shanganagh Cemetery in Shankill, Co. Dublin, consisting of an upper and lower hall for conducting memorial ceremonies; an administration building comprising staff facilities and public toilets; a crematorium building; and, a coffee and flower shop. The design also proposed to include additional car parking facilities; a columbarium wall; new burial plots; a meadow; a woodland copse and walk; a future pedestrian route to connect the Woodbrook LAP lands to Shanganagh Park. The works will also include the removal of dry meadows and grassy verges (GS2)¹, an existing treeline (WL2) on the north-eastern boundary of the site, areas of recolonising bare ground (ED3), immature woodland (WS2) and scrub (WS1). However the project will involve extensive replanting within parts of the site, including a new woodland and tree belt, as shown in Appendix C.

¹ Refers to codes used in Fossitt, J. (2000) A Guide to Habitats in Ireland.

2. METHODOLOGY

2.1 RELEVANT LEGISLATION, POLICY & GUIDELINES

This report has been prepared with regard to the following legislation, policy documents, and guidelines as relevant:

National and International Legislation

- *Planning and Development (Amendment) Act 2010, as amended;*
- *Wildlife Act, 1976 and Wildlife (Amendment) Act (2000) (as amended);* hereafter collectively referred to as the Wildlife Acts;
- *European Communities (EC) (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011 (as amended);* hereafter referred to as the ‘Birds and Habitats Regulations’;
- *EU Birds Directive 2009/147/EEC;*
- *EU Habitats Directive 92/43/EEC (as amended);* and,
- *Flora (Protection) Order, 2015.*

Relevant Guidelines

- *Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (EPA, 2003);*
- *Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2002);*
- *Guidelines for Ecological Impact Assessment in the United Kingdom (IEEM, 2006);*
- *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition. (CIEEM 2016);*
- *Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011);*
- *A Guide to Habitats in Ireland (Fossitt, 2000);*
- *Bat Mitigation Guidelines for Ireland (National Parks and Wildlife Service, 2006);*
- *Bat Surveys for Professional Ecologists: Good Practice Guidelines. Third Edition. (Collins, J. (ed.) 2016)*
- *Environmental Planning and Construction Guidelines Series (National Roads Authority, 2005 – 2011);*
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes (National Roads Authority, 2009);*
- *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (National Roads Authority 2004);*
- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006a);* and,
- *Design Manual for Roads and Bridges: Nature Conservation Advice in Relation to Bats (Highways Agency, 2001).*

2.2 DESK STUDY

In addition to those listed in the references section of this chapter, key resources included:

- Data on rare/protected/threatened species held by the National Parks and Wildlife Service (NPWS) for Irish National Grid 10km square O22 accessed online <http://www.npws.ie/mapsanddata> 4th November 2015 and 23rd March 2016;
- Data on designated sites was obtained from the online National Parks and Wildlife Service (NPWS) database <http://www.npws.ie/mapsanddata> accessed 23rd March 2016;
- Data on rare/protected/threatened species held by the online National Biodiversity Data Centre database, available online at <http://www.biodiversityireland.ie> accessed 23rd March 2016;
- Records of bat roosts and activity in close proximity to the site were also queried using the Bat Conservation Ireland database;
- Ordnance Survey Ireland mapping available online at <http://www.osi.ie/Home.aspx>; and,
- Environmental Protection Agency map view <http://gis.epa.ie/Envision>.

Relevant Local Policies and Plans

- *Dún Laoghaire-Rathdown County Development Plan 2010 - 2016;*
- *Woodbrook/Shanganagh Local Area Plan 2006-2016;*
- *Treasuring our Wildlife - Dún Laoghaire-Rathdown Biodiversity Plan 2009 - 2013; and,*
- *Eastern River Basin District, River Basin Management Plan 2009-2015.*

2.3 FIELD SURVEY METHODOLOGY

The proposed development site was visited on the 2nd November 2015 in order to supplement the findings of the desk review in identifying potential ecological constraints relative to the proposed development. This survey provided an indicative assessment of potential ecological value and determined what further detailed surveys are necessary to ascertain whether significant negative impacts are likely to result from the construction or operation of the proposed development.

Fauna were surveyed through the detection of field signs such as tracks, feeding signs and droppings, as well as by direct observation. Habitats were assessed for potential usage, or evidence of confirmed usage by protected fauna.

With regard to bats, trees present on the site were assessed for their suitability to support roosting bats - this includes the presence of visible signs (as above) and/or the presence of potential roost features such as split or damaged boughs, knotholes, rot cavities etc. Trees were categorised according to the criteria described in Table 1 below (Hundt, 2012).

Table 1: Assessing the value of trees to bats (from Hundt, 2012)

Tree Category	Description
Category 1*	Trees with multiple, highly suitable features capable of supporting larger roosts
Category 1	Trees with definite bat potential, supporting fewer suitable features that category 1* trees or with potential for use by single bats
Category 2	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats
Category 3	Trees with no potential to support bats

A list of the 'Potential Tree Roosts' (PTR) found on the subject site, assessed as outlined in the above table, can be found in Section 4.1.

Incidental observations were made regarding bird species heard singing or seen on the site. An assessment of buildings within the proposed development site was made for potential to support breeding birds and bats.

3. RECEIVING ENVIRONMENT

3.1 SITE OVERVIEW AND CONTEXT

The site is located between the existing Shanganagh cemetery off Dublin Road, Shankill (Irish NGR: O 25861 20811). The site is bounded by treelines, hedgerow and fence-line and generally consists of unmanaged rough grassland (GS2) and recolonising bare ground (ED3). The carpark for Shanganagh Cemetery lies immediately adjacent to the site. There are patches of scrub and areas of recolonising spoil heaps scattered around the subject lands. In addition, a small area of mixed broadleaved woodland and immature woodland exists on the site. There is a small open watercourse (unnamed stream) running within a ditch along the north-western boundary of the site. A small local football club house and practice field are located within the proposed site. The subject lands cover an area of *circa* 4.72ha. According to the historic maps² on the subject lands have been continuously grassed/used for agriculture. The 6" maps (1829 – 1841) also indicate that the hedgerow and treeline boundaries are likely to have been *in situ* for a significant amount of time, but that the woodland in the north-western corner, is a newer addition to the site, this is also supported by the findings of the preliminary survey for which the results are given below.

3.2 DESIGNATED AREAS

Special Areas of Conservation (SAC) are designated under the EC Habitats Directive (92/43/EEC) as amended, which is transposed into Irish law through a variety of legislation including the Birds and Habitats Regulations and the Planning and Development Acts. The legislation enables the protection of certain habitats (listed on Annex I of the Directive) and/ or species (listed on Annex II). Special Protection Areas (SPAs) are designated under the Birds Directive (2009/147/EC). This allows for the protection of bird species on Annex I of the Directive, regularly occurring populations of migratory species (such as ducks, geese or waders), and important wetland habitats for birds.

National Heritage Areas (NHAs) are designations under the Wildlife Acts in order to protect habitats, species or geology of national importance. Many of the NHAs in Ireland overlap with European sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed

² <http://maps.osi.ie/publicviewer> (accessed 23rd March 2016)



NHAs' or pNHAs), they are currently offered limited protection under planning legislation which requires that planning authorities give due regard to their protection in planning policies and decisions³.

The proposed development site does not overlap with any internationally or nationally designated sites. Nationally protected sites within 15km of the proposed development are illustrated in Figure 2 below. This assessment considered all pNHA's and NHA's within 15km of the site, however, due to the absence of source-pathway-receptor links, and their significant distance from the site, those sites outside of 5km are not considered further in this report. Table 2 below provides details on the nationally designated sites that lie within 5km of the proposed development.

An Appropriate Assessment Screening Statement prepared by Scott Cawley has concluded there will not be significant effects on any SACs or SPAs, and as such will have no adverse impacts to the integrity of any SACs or SPAs as a result of the proposed development, either alone or in combination with other plans or projects. A full Appropriate Assessment was therefore not deemed to be necessary, although the final decision on this is subject to assessment by the competent authority (in this case, DLRCC). Any potential for impacts on NHAs and/or pNHAs have been addressed in this report (European Sites are addressed in the Information for AA Screening report⁴). European sites within 15km of the proposed site can be seen in Appendix D.

³ Source: NPWS Website. Available online at <http://www.npws.ie/protected-sites/nha> Accessed 23/04/2016

⁴ Scott Cawley (2016) Provision of Information Regarding Appropriate Assessment Screening Proposed New Crematorium and Associated Works at Shanganagh Cemetery Shankill.



Table 2 Nationally designated sites (pNHAs and NHAs) within 15km of the proposed development site (information downloaded from www.npws.ie in March 2016)

Site name and code & Approximate Distance	Reasons for designation	Do any potential source-pathway-receptor links exist between the proposed development and the designated site and are there any likely significant effects?
pNHA's (taken from the Site Synopses documents (where available) http://www.npws.ie/protected-sites).		
Ballyman Glen [713] c.42.8km to the southwest	The Glen contains a small strip of alkaline fen that is associated with petrifying springs and marl formations. Wet woodland, broadleaved woodland and scrub occur at this site. This is one of only two sites in Wicklow that supports Narrow-leaved Marsh-orchid <i>Dactylorhiza traunsteinerioides</i> .	No, the subject lands and this pNHA both lie within High groundwater vulnerability areas. However impacts from this site are deemed to be unlikely due to distance from the pNHA and the fact that the subject site lies downstream of this designated site, within a different river catchment and sub-basin.
Loughlinstown Woods [1211] c.1.7km to north	A natural character woodland (originally planted), located on the north bank of the Shanganagh River at Loughlinstown. A good example of demesne-type woodland, now chiefly used for amenity purposes.	No, due to distance and the absence of any hydrological or habitat connectivity between the pNHA and the proposed development site.
Dingle Glen [1207] c.4.5km to north-east	A dry valley formed by a glacial lake overflow channel. Woodland is regenerating at this site. The importance in this site lies in the variety of habitats within a relatively small area. The site is secluded and not subject to much disturbance.	No, due to distance and the absence of any hydrological or habitat connectivity between the pNHA and the proposed development site.
Dalkey Coastal Zone and Killiney Hill pNHA [1206] c.2km to north	Coastal habitats, marine life, breeding waterbirds and Terns.	Possible. The proposed crematorium site partially shares the same "High vulnerability" groundwater body as Dalkey Coastal Zone and Killiney Hill pNHA (according to the GSI mapping ⁵), however, the subject lands lie on flat ground downstream of the pNHA site. There is no direct surface water linkage to this site. Appropriate management of surface water and foul water at the site (See Scott Cawley 2016) will ensure that no significant impacts occur to this pNHA.

⁵ GSI Groundwater Viewer: <http://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=1b5c74047c1d441dbdc46249520373d7>



Table 2 Nationally designated sites (pNHAs and NHAs) within 15km of the proposed development site (information downloaded from www.npws.ie in March 2016)

Site name and code & Approximate Distance	Reasons for designation	Do any potential source-pathway-receptor links exist between the proposed development and the designated site and are there any likely significant effects?
Bray Head pNHA [714] c.3.8km to south-west	This site is protected as a result of its important habitats Vegetated Sea Cliffs and Dry Heath and its important seabird colony. In addition, Peregrine Falcon <i>Falco peregrinus</i> breeds at the site.	Unlikely. The proposed crematorium site partially shares the same “ <i>High vulnerability</i> ” groundwater body as Bray Head pNHA (according to the GSI mapping), however, there is a significant distance between the two sites and the subject lands lie on flat ground downstream of the pNHA site. There is no direct surface water linkage to this site. Appropriate management of surface water and foul water at the site (See Scott Cawley 2016) will ensure that no significant impacts occur to this SAC.
Dargle River Valley [1754] c.4.8km to south	A section of the River Dargle which has steep wooded banks. A Red Data Book species, Yellow Archangel (<i>Lamiastrum galeobdolon</i>), occurs along the river. This is a localised species confined to eastern Ireland. A fine example of a wooded valley and also of considerable geological importance.	Unlikely. Although the subject lands and this pNHA lie within the same <i>High groundwater vulnerability</i> zone, there is a significant distance between these two sites, the subject lands lie downstream of the pNHA. In addition, there is no direct downstream surface water linkage to the site. Appropriate management of surface water and foul water at the site (See Scott Cawley 2016) will ensure that no significant impacts occur to this SAC.
Knocksink Woods [725] c.4.9km to south-west	Some of the valley slopes are dominated by sessile oak, while other areas are characterised by mixed woodland. There are areas of the Priority Annex I habitat ‘ <i>Alluvial Forests</i> ’ [91E0] and ‘ <i>Petrifying Springs</i> ’ [7220]. The site has one of the most diverse woodland invertebrate faunas in Ireland, incorporating wet woodland organisms threatened internationally within the EU. The site also supports rare or scarce flora such as Blue Fleabane <i>Erigeron acer</i> , Ivy-leaved Bellflower <i>Wahlenbergia hederacea</i> and Yellow Archangel <i>Lamiastrum galeobdolon</i> .	No. Although the subject lands and this pNHA lie within the same <i>High groundwater vulnerability</i> zone, there is a significant distance between these two sites, the subject lands lie downstream of the pNHA. In addition, there is no direct downstream surface water linkage to the site. Appropriate management of surface water and foul water at the site (See Scott Cawley 2016) will ensure that no significant impacts occur to this SAC.



Table 2 Nationally designated sites (pNHAs and NHAs) within 15km of the proposed development site (information downloaded from www.npws.ie in March 2016)

Site name and code & Approximate Distance	Reasons for designation	Do any potential source-pathway-receptor links exist between the proposed development and the designated site and are there any likely significant effects?
Powerscourt Woodland [1768] c.5.7km to south west	Mixed woodland habitat and estate, The fern and moss floras are well developed in places; Powerscourt is also the site of a rare species of Myxomycete fungus, <i>Didymium clavus</i> . The site also supports a rich invertebrate flora.	No. Although the subject lands and this pNHA lie within the same <i>High groundwater vulnerability zone</i> , there is a significant distance between these two sites, the subject lands lie downstream of the pNHA. In addition, there is no direct downstream surface water linkage to the site. Appropriate management of surface water and foul water at the site (See Scott Cawley 2016) will ensure that no significant impacts occur to this SAC.
Great Sugar Loaf [1769] c.6.2km to south	A steep mountain, modified by ice erosion. Important both ecologically and for geological interest.	No. This pNHA site lies upstream of the subject site and is a significant distance away. There is no direct hydrological linkage.
Kilmacanoge Marsh [724] c.6.7km to south	This site is important in having a diversity of species-rich wetland habitats within a relatively small area, and particularly for the presence of some rare invertebrates.	No. The subject site does not share any surface water features or ground water bodies with this site, and lies a significant distance away from the pNHA.
Glencree Valley [1755] c.8.9km to south west	An area of deciduous oak woodland within a glacial valley, even though it is rather fragmented. The site incorporates an upland river and boggy flushes which add to it habitat diversity.	No. The subject site does not share any surface water features or ground water bodies with this site, and lies a significant distance away from the pNHA.
Powerscourt Waterfall [1767] c.9.6km to south west	One of the most impressive waterfalls in Ireland and the schist/granite junction is well exposed here. The area also supports a variety of uncommon Angiosperms, Lichens and Bryophytes in the vicinity of, or on, the waterfall.	No. The subject site does not share any surface water features or ground water bodies with this site, and lies a significant distance away from the pNHA.
Glen of the Downs [719] c.9.3km to south	Oak woodland which offers a breeding ground for Jay and Blackcap which are uncommon on a national scale. The invertebrates are deemed to be representative of a native fauna for such woodland. The coniferous woodland close to the oak woodland is rich in macrofungi. The site is a good example of a glacial overflow channel.	No. The subject site does not share any surface water features or ground water bodies with this site, and lies a significant distance away from the pNHA.



Table 2 Nationally designated sites (pNHAs and NHAs) within 15km of the proposed development site (information downloaded from www.npws.ie in March 2016)

Site name and code & Approximate Distance	Reasons for designation	Do any potential source-pathway-receptor links exist between the proposed development and the designated site and are there any likely significant effects?
South Dublin Bay [210] c.8km to north	Intertidal habitats, coastal habitats including dunes, saltmarsh and a large bed of <i>Zostera noltii</i> Eelgrass. This site is internationally and nationally important for the population of waders and wildfowl that it supports.	No. The ditch along the western boundary of the site flows in a southerly direction. It is likely that at some point this ditch eventually meets the eastern end of the Dargle River, just before it flows into Dublin Bay at Bray. As such significant mixing of water from the site would have occurred before it reaches this river or the bay, and further mixing would occur within the bay leading to an impact upon South Dublin Bay as a result of this development being highly unlikely. Appropriate management of surface water and foul water at the site (See Scott Cawley 2016) will ensure that no significant impacts occur to this SAC.
Boosterstown Marsh [1205] c.10.5km to north west	The only saltmarsh site in south Dublin and a valuable site for many birds using South Dublin Bay. The site supports the protected (FPO) species Borrer's Saltmarsh grass (<i>Puccinellia fasciculata</i>).	No. See above for South Dublin Bay pNHA.
The Murrough [730] c.12.6km to south	An extensive mosaic of reed swamp, fen, marsh and saltmarsh with sandhills, rough grassland, shingle beach and brackish lagoon providing habitats for rare flora and fauna. The site supports a variety of breeding birds, many of which are wetland species.	No. The same theory applies to this site as that for South Dublin Bay and Boosterstown Marsh pNHAs. Significant mixing of any potential contaminants would occur prior to this reaching the Murrough pNHA. In addition the foul and surface water drainage will be managed appropriately prior to any treated discharge reaching the sea (See Scott Cawley 2016).
Carriggower Bog [716] c.13.5km to south	Annex I Transition mires and quaking bog habitat.	No. There are no direct hydrological links with this site and the subject lands.
Dolphins, Dublin Docks [201] c.14.1km to north	A breeding site for Terns which is situated at the entrance to Dublin Port, just off the old sewage works at Ringsend.	No. See above for South Dublin Bay pNHA.



Table 2 Nationally designated sites (pNHAs and NHAs) within 15km of the proposed development site (information downloaded from www.npws.ie in March 2016)

Site name and code & Approximate Distance	Reasons for designation	Do any potential source-pathway-receptor links exist between the proposed development and the designated site and are there any likely significant effects?
North Dublin Bay [206] c.14.6km to north	Mudflats, sandflats, coastal vegetation including saltmarsh, <i>Salicornia</i> beds, dune habitats. This site also supports Petalwort <i>Petalophyllum ralfsii</i> which is a rare liverwort protected under the Flora Protection Order (FPO). It is listed as being 'Vulnerable' in the Red Data Book of European bryophytes.	No. See above for South Dublin Bay pNHA.
Vartry Reservoir [1771] c.15km to south	Although Vartry Reservoir originated as an artificial lake, it has, over time, developed a diversity of habitats, from wetland vegetation to heathland and woodland. The presence of some plant species which are relatively rare in eastern Ireland adds further interest to the site. The site is of national importance for Greylag Geese, and of regional or local importance for several other waterfowl species.	No. There are no direct hydrological links with this site and the subject lands.

3.3 RECORDS OF PROTECTED /RARE FLORA AND FAUNA SPECIES

NPWS & NBDC

The National Parks & Wildlife Service (NPWS) hold records for many protected species in Ireland. The online database was accessed in November 2015 for the study area, which lies within Irish National Grid Squares (2km²) O22K and O22Q. Species records can be seen in Appendix B. There are a number of rare plants that have been historically recorded within 10km of the proposed development site (such as Lesser Snapdragon *Misopates orontium* and Basil Thyme *Acinos arvensis*, however these records do not appear to occur on or near the site (<http://webgis.npws.ie/npwsviewer/>). The National Biodiversity Data Centre (NBDC) was also accessed at the same time during this desk study. Records for protected or notable mammals and invertebrates can also be found in the table in Appendix B. A number of European protected bird species have been recorded within 2km of the site. The majority of these are waders and are not anticipated to regularly frequent this site due to the overgrown nature of the sward and the level of disturbance in the area (dog walkers, pedestrians, workers managing the adjacent graveyard and surrounds). Notable mammal records within 2km of the site include Badger *Meles meles* while Red Squirrel *Sciurus vulgaris*, Otter *Lutra lutra* and Hedgehog *Erinaceus europaeus* have all been recorded within 10km.

Other Data Sources

The *Dún Laoghaire-Rathdown Biodiversity Plan 2009 – 2013* also notes the presence of many legally protected plant and animal species from the Shankill area but none of these records relate specifically to the proposed development site. Red squirrel have been sighted in the Shankill area but their current distribution in Dún Laoghaire is unknown. The Red Data listed (Curtis & McGough, 1988) species *Fluellen Kickxia elatine* has been recorded on the edge of a field, east of Shanganagh Cemetery (1984 and 1991).

According to the Bat Conservation Ireland database, bat records for roosting sites within 10km of the site include the European and nationally-protected species Leisler's bat *Nyctalus leisleri*, Common Pipistrelle bat *Pipistrellus pipistrellus*, Soprano Pipistrelle bat *Pipistrellus pygmaeus* and Brown Long-eared bat *Plecotus auritus*. Other bat species recorded during transect or activity surveys include Unidentified Whiskered/Brandt's bat *Myotis mystacinus/brandtii*, Natterer's bat *Myotis nattereri* and Daubenton's bat *Myotis daubentonii*. There are at least 22 known bat roosts within 10km of this site. There are also records of bat activity (from transect surveys and *ad hoc* records) in nearby areas such as Bray, Clonskeagh, Glencullen and Knocksink for the species outlined above.

4. FIELD RESULTS

4.1 HABITATS

Overall, the site comprised of grassland, treelines, scrub, woodland, freshwater (just offsite), built land, spoil and recolonising bare ground.

Table 3 Habitats within the site boundary

Habitat	Description	Ecological Value (NRA 2009 ⁶)
Amenity Grassland (GA2)	This grassland was present within the F.C. playing field and alongside the public footpaths through the site. These areas were managed and regularly mown. Species included Perennial rye-grass <i>Lolium perenne</i> , Daisy <i>Bellis perennis</i> , Dandelion <i>Taraxacum spp.</i> , Creeping buttercup <i>Ranunculus repens</i> , Ribwort plantain <i>Plantago lanceolata</i> and White clover <i>Trifolium repens</i>	This habitat is valued as being of Local Importance (Lower Value).
Dry meadows and grassy verges (GS2)	The majority of this site supports currently unmanaged, rough grassland. Species included in the sward were Yorkshire Fog <i>Holcus lanatus</i> , False oat-grass <i>Arrhenatherum elatius</i> , Perennial rye-grass, Cock's-foot <i>Dactylis glomerata</i> , Red Clover <i>Trifolium pratense</i> and Bush vetch sp. <i>Vicia sepium</i> . This habitat may support ground-nesting birds during March to September e.g. The red listed ⁷ species Meadow pipit <i>Anthus pratensis</i> was noted on site.	This habitat is valued as being of Local Importance (Lower Value).
Hedgerow (WL1)	A mature hedgerow runs along the eastern boundary of the site. This consisted of English Elm <i>Ulmus minor</i> , Hawthorn and Poplar (Possibly Grey Poplar <i>Poplar canescens</i>). Hedgerows such as this can provide important resting sites and foraging habitat for a variety of protected species including bats, birds and mammals.	This habitat is valued as being of Local Importance (Higher Value). Note: A historic townland boundary lies to the south of the proposed development site (on the opposite side of a track). This will not be affected by the proposed development.

⁶ NRA (2009) *Guidelines for Assessment of Ecological Impacts of National Roads Schemes* – Geographic Frame of Reference.

⁷ Colhoun K. & Cummins S. (2013). *Birds of Conservation Concern in Ireland 2014–2019*. BirdWatch Ireland.

<p>Treelines (WL2)</p>	<p>There were a number of treelines on the site of varying maturity along the site boundary lines. The treelines were dominated by Poplar, English Elm, Sycamore and Ash. Alder <i>Alnus glutinosa</i> was occasionally found.</p> <p>A number of the trees had limited potential to support roosting bats. There were some mature trees within the treelines, particularly on the northern boundary of the site, which had some potential to support roosting bats. The treelines may also provide flight lines for commuting bats. The treelines and shrub layer provide habitat for breeding birds and other species e.g. small mammals such as Hedgehog <i>Erinaceus europaeus</i>.</p>	<p>The treelines are valued at Local Importance (Higher Value) and may provide habitat for bats, other mammals, breeding bird and invertebrates.</p>
<p>(Mixed) Broadleaved Woodland (WD1)</p>	<p>A small patch of mixed deciduous woodland (c.0.56 ha) was located in the north-western corner of the site. Many of the trees within this woodland were becoming etiolated and the woodland was in need of some thinning in parts. Many of the trees were covered in Ivy <i>Hedera helix</i>. Tree species included occasional Lyme <i>Tilia cordata</i>, Rowan <i>Sorbus aucuparia</i>, Oak <i>Quercus sp.</i> and Leyland cypress <i>Cypressus x lelandii</i> was rare within this woodland. The dominant species were Sycamore <i>Acer psuedoplatanus</i> and Ash <i>Fraxinus excelsior</i>. The understory consisted of shrubs such as Hawthorn <i>Crataegus monogyna</i>, Cherry Laurel <i>Prunus laurocerasus</i>, infrequent Snowberry <i>Symphoricarpos albus</i> (the latter two are invasive species), Holly <i>Illex aquifolium</i> and Bramble <i>Rubus fruticosus</i> agg.</p> <p>There were some mature trees that had the potential to support roosting bats. The woodland and shrub layer provide habitat for breeding birds and small mammals. No evidence of badger was found here.</p>	<p>The woodland is valued at Local Importance (Higher Value) and may provide habitat for bats, breeding birds, small mammals and invertebrates.</p>
<p>Immature Woodland (WS2)</p>	<p>A copse of young trees (<5m in height) is present in the south west corner of the site. This is dominated by Alder with occasional Sycamore.</p>	<p>This habitat is valued at Local importance (Lower Value). It may provide some cover for birds and foraging habitat for bats, this should increase overtime, however it is a small patch of woodland (c. 0.05 ha).</p>
<p>Scrub (WS1)</p>	<p>The main area of scrub on this site was located in the south west corner beside the immature woodland habitat. This was dominated by Bramble <i>Rubus fruticosus</i> agg.</p>	<p>This habitat is valued as having Local importance (Lower Value).</p>
<p>Scattered Trees and Parkland (WD5)</p>	<p>There is a line of planted parkland trees located alongside the amenity grassland playing field.</p>	<p>This habitat is valued as having Local importance (Lower Value).</p>

Recolonising Bare ground (ED3)	Areas of recolonising bare ground on the site were dominated by plants such as Creeping Thistle <i>Cirsium arvense</i> and Cleavers <i>Galium aparine</i> . Coltsfoot <i>Tussilago farfara</i> was locally dominant within this disturbed ground.	This habitat is valued as having Local importance (Lower Value).
Freshwater Stream/Ditch (FW2)	<p>A freshwater stream is present within the ditch on the eastern side of the site. This stream borders the woodland habitat and lies on the eastern boundary of the subject site. It flows at a moderate pace and was noted to have a silty substrate.</p> <p>Due to the speed of flow this stream is unlikely to be used by Newts (known to breed within Shanganagh park and Castle grounds). However, due to the close proximity of breeding ponds on the Shanganagh Castle site and the connectivity of habitats between these two sites, Smooth newt <i>Lissotriton vulgaris</i> are likely to be present at the proposed site.</p>	<p>This habitat is valued as having Local Importance (Higher Value).</p> <p>Note: The stream could act as a vector for contaminated substances if a pollution event occurs on site.</p>
Buildings and Artificial Surfaces	The Football club building provides little in the way of habitats. The walls are brick with cement roof tiles. There are no plants on this building. Similarly, the buildings within the depot are brick with a flat cement roof.	The buildings are valued as being of Local Importance (Lower Value).
Spoil and Bare Ground (ED2)	This habitat was occasionally found around the borders of the site. The spoil heaps have become overgrown with ephemeral vegetation and are disturbed by digging and rubble dumping in some locations.	This habitat is valued as having Local Importance (Lower Value). In terms of habitats. Please see importance regarding newts in Table 4 below.

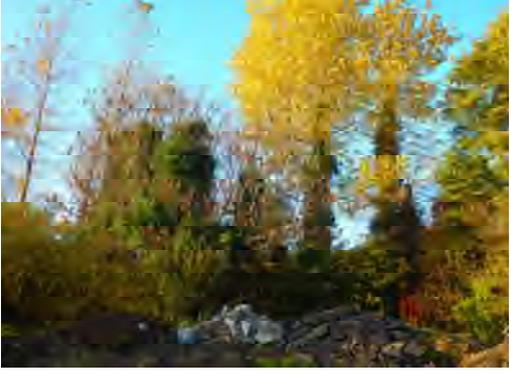
4.2 FAUNA

Confirmed evidence and potentially suitable habitat for protected species are described below.

Table 4 Species recorded and site suitability for protected species

Species	Description
Mammals	
Bats	<p>No evidence of bats was recorded on the site during the site visit (a bat activity survey was not conducted for this PEA). However, some mature trees on site were identified as supporting suitable features for roosting bats. These trees are indicated on the habitat map in Appendix A and can be seen in Table 5 below (Potential Tree Roosts PTRs).</p> <p>Buildings on the site may support roosting bats. However, due to their well-sealed structure the buildings within the site were deemed to have low potential to support roosting bats.</p> <p>Treelines, hedgerows, woodland, rough grassland and the stream/ditch all provide suitable areas for foraging and commuting bats.</p>
Small mammals <i>e.g.</i> Hedgehog <i>Erinaceus europaeus</i> .	None recorded on the site during site visit. However, they could occur within the site, and some of these species have been recorded in the local area (see Appendix B). Red squirrel <i>Sciurus vulgaris</i> unlikely to be present in the area
Smooth Newt <i>Triturus vulgaris</i> and Common Frog <i>Rana temporaria</i> .	There are newts breeding within the adjacent lands (ditches in Shanganagh Park and the pond in Shanganagh Castles; (recorded by Scott Cawley in 2015). As such, there is potential for the woodland, spoil heaps and hedge banks on the site to provide suitable hibernation sites for amphibians. The stream/ditch is considered to be too fast flowing for breeding, however it is likely to provide a means of commuting for amphibians using this site and they are proven to be breeding in the vicinity.
Breeding Birds	
Birds noted on the site/overhead during the survey include Buzzard <i>Buteo buteo</i> (x2); Jackdaw <i>Coloeus monedula</i> , Hooded Crow <i>Corvus cornix</i> and the ground nesting bird Meadow Pipit <i>Anthus pratensis</i> was noted within the rough grassland.	There is suitable habitat on site to support breeding bird populations. Birds are likely to nest during March to September within the woodland, treelines, hedgerows and scrub as well as there being potential for ground-nesting meadow pipit (red listed) within the rough grassland. There is potential for birds of prey such as Buzzard to nest within larger trees on site and in the vicinity.



Table 5 Potential Tree Roosts Groups - PTRs		
	Tree/Tree Group	Photo
Location Ref (on Habitat Map 1)	PTR Categories	
PTR1	PTR 1 (Yellow on Habitat Map 1) This Horse chestnut <i>Aesculus hippocastanum</i> tree is located just outside of the site on the north eastern boundary. Large rot holes were noted within branches on this tree, which is also covered in dense ivy growth.	
PTR2	PTR 1 & 2 (Red on Habitat Map) – A number of the trees within the Broadleaved Woodland provide suitable roosting features for bats e.g. Dense ivy cover – these would require further surveys if tree felling or arboricultural works are required here.	
PTR3	PTR Category 2 (Green on Habitat Map) Some of the trees (e.g. Ash and Poplar) within the northern boundary of the site are covered in dense ivy and may provide roosting locations for bats. As above, further survey work would be required if arboricultural works are necessary along this boundary. Similar trees can be found within the hedgerow on the eastern boundary of the site.	

5 POTENTIAL ECOLOGICAL CONSTRAINTS/IMPACTS & RECOMMENDATIONS

The following are the identified or potential ecological constraints in relation to the proposed crematorium development at Shankill Cemetery given the habitats present, the protected species observations recorded during the walkover survey, and records available for the site and environs collated during the desktop review. The habitat map can be seen in Appendix A, while a preliminary ecological constraints map can be seen in Appendix E of this report. Constraints on the proposed site can be avoided by following the recommendations below.

5.1 DESIGNATED AREAS

As has been detailed in the *Provision of Information for Appropriate Assessment Screening*, there will be no likelihood of significant effects on any European sites and no impacts to European site integrity, either alone or in combination with other plans or projects.

The site lies downstream of all of the nationally designated sites listed in Table 2 in section 3 of this report. As indicated in Table 2, there is some low potential for a pollution event occurring which might impact upon the Dalkey Coastal Zone and Killiney Hill pNHA which lies 2km north of the site. Pollution on site could potentially reach the River Dargle through a stream which runs within the ditch on the western boundary of the site. The design and construction process of the proposed crematorium should aim to mitigate against impacts upon this stream. All foul effluent on the site shall be treated within a packaged waste water treatment system (of a sufficient capacity for the P.E. estimated to be a capacity loading of 90 with a maximum capacity of 1637) and will flow through a sand polishing filter prior to being discharged to ground. This will be maintained as part of an annual maintenance contract. SUDs shall be designed to meet the requirements of DLR Co. Co. and The Greater Dublin Strategic Drainage Study (GSDSDS) As such, potential impacts upon water quality can be mitigated for through best practice and appropriate design.

Should a pollution event occur on the subject site, it is considered unlikely that this would be of a magnitude that it would result in significant effects on designated sites within Dublin Bay, particularly due to their distance from the site (2km or greater) and the potential for dilution, within the surface water system and Dublin Bay itself, prior to reaching these sites. The risk of a pollution event impacting upon the environment as a result of this proposal can be greatly lowered by the preparation of a detailed Construction Method Statement (CMS) in advance of work to ensure that standard practice is followed.

The closest pNHA woodland to this site is the Loughlinstown Woods [1211] which lies c.1.7km to the north. There is sufficient distance between the subject site and this woodland that impacts are deemed unlikely to occur as a result of a slight reduction in air quality at the site should this occur. Reduction in air quality could impact upon woodland habitat in the local area, however, air emissions should comply with Irish Air Quality Standards and also UK DEFRA Guidance on crematoria.

A geotechnical ground investigation (which consisted of boreholes, groundwater monitoring standpipes, trial pits, silt trenches, soakaway tests and laboratory soil testing on soil samples) was undertaken by IGSL Limited on behalf of PUNCH engineers in July 2013 at the proposed site. This study confirmed that the site lies on an area of 'High' groundwater vulnerability. It was found that rock is only encountered at 5m below ground within this site. The soils were found to have a high permeability and a normal pH. Dewatering of excavations would be required at this site during works (Punch 2013). The site is not known to be contaminated (pers. Comm. Dún Laoghaire-Rathdown County Council, November, 2015). A further Site Characterisation Assessment (Heffernan, I. 2016) was carried out to assess the proposed location for the WWT system and sand polishing filter. This assessment found that the proposed location in the centre of the site was suitable, subject to best practice, EPA Cop 2009 and EPA Manual 1999 guidelines being followed.

5.2 HABITATS

A number of habitats of local importance are present on the subject lands, the proposed development footprint should aim to avoid the loss of mature habitats where possible. It is noted that substantial tree planting will occur as part of the proposed landscaping for this site.

Constraints

- Loss of this grassland habitat is not likely to be significant, however the rough grassland habitat may be important for ground nesting birds e.g. Meadow pipit (see Section 5.4 below);
- The stream on site is of local importance;
- The treelines, hedgerow and woodland on the site are of local importance;
- Potential for bats to be present on site. The buildings on site are deemed unlikely to support bats. However, trees on site may support roosts and bats are likely to be foraging in the area during the active season; and,
- Potential for amphibians on site.

Recommendations

- Vegetation clearance (no breaking ground) to be conducted in winter outside of the breeding bird season (which generally occurs during March to September);
- Appropriate mitigation and suitable pollution prevention controls must be put in place so as to avoid contaminating water feature;
- Loss of mature vegetation should be avoided wherever possible;
- A bat survey during the active season (April to October) should be carried out to confirm the presence of bats and their levels of activity, see Section 5.3 *Bats* below. This should include a detailed tree assessment for the potential for bats in trees (Section 5.3) where tree removal is proposed; and,
- Care should be taken if removing dead wood, spoil embankments etc. as these may provide resting sites for amphibians, see Section 5.5 *Amphibians* below. A NPWS licence shall be required prior to site clearance in order to remove habitats on this site due to the known presence of a Newt population in the vicinity.

5.3 BATS

All bat species in Ireland are protected under the Wildlife Acts 1976-2012 and are listed in Annex IV of the EU Habitats Directive 92/43/EEC (as amended). It is an offence under Section 23 of the Wildlife Acts 1976-2012 and under Section 51 of *the European Communities (Birds and Natural Habitats) Regulations, 2011* to kill or to damage or destroy the breeding or resting place of any bat species. Under the Birds and Natural Habitats Regulations it is not necessary that the action should be deliberate for an offence to occur. This places an onus of due diligence on anyone proposing to carry out works that that might result in such damage or destruction.

Constraints

- Bats in trees. There are a number of trees within the proposed development site which provide suitable features to support roosting bats. As previously discussed treelines, woodland, hedgerow, streams/ditches and scrub all provide suitable commuting and foraging habitat for bats;
- Bats and lighting; and,

- Potential for removal of foraging habitat.

Recommendations

- Any lighting proposals would need to be sensitive to the potential presence of bats and should adhere to *Bats & Lighting: Guidance Notes for Planners, engineers, architects and developers* (Bat Conservation Trust, 2010); and,
- As in Section 5.2 - One dusk and two pre-dawn bat activity surveys should be conducted at this site, preferably during May to September. This will provide more detailed information on what bat species are using the site and give an indication of the likely presence/absence of bat roosts within the subject lands. In addition, any trees that require arboricultural works (or felling) should be individually assessed for their potential to support roosting bats. This should be conducted by an experienced Ecologist, using an endoscope and surveys carried out at height, where necessary. All surveys and assessments should adhere to Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition).

5.4 BREEDING BIRDS

Bird species are protected under the Wildlife Acts 1976-2012 and it is an offence to disturb birds while on their nests, or to wilfully take, remove, destroy, injure or mutilate their eggs or nests. The site is considered to be at least of Local Importance (higher value) for breeding birds. It is noted that the proposed planting plan currently intends to plant a substantial area of woodland in the north-western corner of this site. Where a treeline on the north-east of the site requires removal for a new cycleway/walkway, this will be buffered by the planting up of a new tree belt.

Constraints

- The treelines, woodland, scrub and buildings present within the proposed development site boundary offer suitable breeding bird habitat and are likely to support breeding birds during the breeding season (generally considered to be during the 1st March to 31st August inclusive).

Recommendations

- The proposed development should aim to avoid the removal of any existing treelines, woodland or scrub on the site where possible, and should include for landscaping proposals for native, or ecologically valuable, planting;
- All planting should aim to be in keeping within the surrounding environment and include native locally sourced species where possible;
- The proposed planting specification should be reviewed by an experienced ecologist to ensure that it aims to encourage biodiversity on this site and will support the local ecology; and,
- Demolition works and any removal of trees, treelines, woodland or scrub should be limited to the non-breeding bird season (September – February) to limit the potential impact on breeding birds. Where this seasonal restriction cannot be accommodated a qualified ecologist should be employed to carry out a breeding bird survey immediately prior to works.

5.5 AMPHIBIANS

Smooth Newts (protected under the Wildlife Acts 1976-2012) are known to be using the parkland and habitats immediately surrounding this site. Under the legislation a licence is required from the National Parks and Wildlife Service to take these animals from the wild or to disturb their habitat. The Common Frog is also listed in the Red Data Book.

Constraints

- There is a high likelihood that amphibians such as newts and the common frog may also be foraging, resting and hibernating within habitats on the subject site; and,
- Habitats on this site which could support amphibians include the woodland, hedgerow and treeline embankments, rough grassland and the spoil heaps on the site.

Recommendations

- Habitat removal should be conducted in a manner that is sensitive to these species, following advice from an Ecologist;
- It is advised that areas of grassland are cut back during the winter months, when amphibians are more likely to be hibernating within loose soil, underground cracks or crevices, or under dead wood (this will also avoid impacting upon ground nesting birds); and,
- Where necessary, other habitat removal (i.e. embankments/spoil) would ideally occur during the active season from March until October in order to ensure that hibernating amphibians are not disturbed. This would give any uncovered amphibians a chance to move on or be translocated if found. This should be carried out under a NPWS licence during these works under the advice of an Ecologist.

5.6 RECEIVING SURFACE WATER ENVIRONMENT DURING CONSTRUCTION

Constraint

- A stream runs to the west of the proposed site. Construction works could lead to silt/pollutant laden water entering the stream and local water environment. There is limited potential for pollution further downstream given the distance to the River Dargle and Dublin Bay and the potential for dilution prior to entering these watercourses.

Recommendation

- The drainage system proposed for this site will aim to incorporate appropriate Sustainable Urban Drainage Designs (SUDS) according to DLRCC recommendations, the findings of the Greater Dublin Strategic Drainage Study (GSDSDS) and by adhering to the Greater Dublin Regional Code of Practice for Drainage Works⁸; and,
- Best construction practice will be followed and a Construction Method Statement (CMS) detailed in advance of works to minimise the potential for pollution. Location of the site huts and parking in relation to the stream should be considered.

⁸ *The Greater Dublin Regional Code of Practice for Drainage Works. Version 6.0.* Prepared by Wicklow, South Dublin, Meath, Kildare, Fingal and Dún Laoghaire-Rathdown County Councils and Dublin City Council.

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Appendix A – Habitat Map



Legend

- Survey Area
- ★ Building with low Bat roost potential
- ⬡ PTR Tree Category 1
- ⬡ PTR Trees Category 1 & 2
- ⬡ PTR Trees Category 2
- ⬡ Potential for Ground nesting birds
- ⬡ Potential for hibernating Smooth newts in winter
- ⬡ Stream - Protect water quality
- Hedgerow WL1
- Treeline WL2
- Stream FW2
- Fenceline BL3
- Amenity Grassland GA2
- Broad Leaved Woodland WD1
- Buildings and Artificial Surfaces BL3
- Dry Meadows and Grassy Verges GS2
- Immature Woodland WS2
- Recolonising Bareground ED3
- Scattered Trees and Parkland WD5
- Scrub WS1
- Spoil and Bare Ground ED2

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 Project: T M 5 Irish Grid Transverse Mercator.

Drawing No:	150162/A
<div style="font-size: x-small; margin-left: 10px;"> Scott Cawley Ltd. College House, Rock Road, Blackrock, Co. Dublin, Ireland Tel: + 353 1 676 9815 Fax: + 353 1 676 9816 </div>	
Project Title: Shankill Crematorium PEA - Habitats Map	
Client: Dún Laoghaire Rathdown County Council	
Project No.: 150162	Scale: 1:50,000 @ A4
Drawn: RN	Approved: PS
Rev. No.: 00	Date: 07/04/2016

Appendix B – Species Records

Records of Protected, Rare and other Notable Flora and Fauna Species ⁹ within 2km – 10km of the Site (Grid Square O22: O22Q & O22K)				
Common Name	Scientific Name	Protection ¹⁰	Red-Listing Status ¹¹	Nearest Location (Year if known)
Flora				
Lesser Snapdragon	<i>Misopates orontium</i>	FPO	Endangered	Glentanan House O22 (1920) Monkstown O2020 (1872) Dalkey O2020 (1882)
Basil Thyme	<i>Clinopodium acinos (Acinos arvensis)</i>	FPO	Endangered	Tulla Church Yard O2020
Red Hemp Nettle	<i>Galeopsis angustifolia</i>	FPO	Endangered	Ballycorus
Tufted Salt-marsh grass	<i>Puccinellia fasciculata</i>	FPO	Vulnerable	Blackrock O2020 (1889) – has been recorded here in 2014 (Pers. Comm. Friends of Booterstown Marsh.)
Fauna				
Meadow Pipit	<i>Anthus pratensis</i>	WA	Red listed on BoCCI	Within 2km of the Proposed development
Ringed Plover	<i>Charadrius hiaticula</i>	WA	Amber listed on BoCCI	Within 2km of the Proposed development
Eurasian Oystercatcher	<i>Haematopus ostralegus</i>	WA	Amber listed on BoCCI	Within 2km of the Proposed development
Black-headed Gull	<i>Larus ridibundus</i>	WA	Red Listed on BoCCI	Within 2km of the Proposed development
Gannet	<i>Morus bassanus</i>	WA	Amber Listed on BoCCI	
Eurasian Curlew	<i>Numenius arquata</i>	WA II	Red Listed on BoCCI	Within 2km of the Proposed development
Stonechat	<i>Saxicola torquata</i>	WA	Amber Listed on BoCCI	Within 2km of the Proposed development
Redshank	<i>Tringa totanus</i>	WA	Red Listed on BoCCI	Within 2km of the Proposed development
Sparrowhawk	<i>Accipter nisus</i>	WA	Amber Listed on BoCCI	Within 2km of the Proposed development
Bee	<i>Andrena (Andrena) fucata</i>	-	Near Threatened	Within 2km of the Proposed development
Bee	<i>Andrena (Melandrena) nigroaenea</i>	-	Vulnerable	Within 2km of the Proposed development
Great Yellow Bumble Bee	<i>Bombus (Subterraneobombus) distinguendus</i>	-	Endangered	Within 2km of the Proposed development
Bee	<i>Lasioglossum (Lasioglossum) lativentre</i>	-	Critically Endangered	Within 2km of the Proposed development
Bee	<i>Nomada striata</i>	-	Endangered	Within 2km of the Proposed development
Wall Butterfly	<i>Lasiommata megera</i>	-	Endangered	Within 2km of the Proposed development

⁹ Data from a combination of the following sources; NPWS Research Branch Records, www.npws.ie, Bat Conservation Ireland (BCI) and NBDC online maps <http://maps.biodiversityireland.ie>
Data is quoted as obtained from these sources.

¹⁰ HDII/IV/V = Habitats Directive Annexes II/IV/V; FPO = Flora Protection Order; WA = Wildlife Acts; BD I = Birds Directive Annex I.

¹¹ Mammal Red-list from Marnell *et al.*, 2009. Birds from *Birds of Conservation Concern in Ireland 2014–2019* (Colhoun & Cummins, 2013); Vascular Flora from the Irish Red Data Book 1 Vascular Plants (Curtis & McGough 2005); Fish, Amphibians and Reptiles from (King *et al.*, 2011); Bryophytes Red List from Lockhart *et al.* 2012; Cetaceans conservation status from NPWS (2013b).

European Hedgehog	<i>Erinaceus europaeus</i>	WA	-	Within 2km of the Proposed development
Badger	<i>Meles meles</i>	WA	Least Concern	Within 2km of the Proposed development
Leisler's bat	<i>Nyctalus leisleri</i>	WA, HD IV	Vulnerable	Within 10km of the proposed development; at Booterstown, Clonskeagh and Enniskerry
Common Pipistrelle bat	<i>Pipistrellus pipistrellus</i>	WA, HD IV	Least Concern	Within 10km of the proposed development; at Delgany, Cherrywood and Enniskerry
Soprano Pipistrelle bat	<i>Pipistrellus pygmaeus</i>	WA, HD IV	Least Concern	Within 10km of the proposed development; at Bray, Enniskerry and Greystones.
Brown Long-eared bat	<i>Plecotus auritus</i>	WA, HD IV	Least Concern	Within 10km of the proposed development; at Cherrywood, Greystones, Powerscourt and Enniskerry.
Invasive Species				
Brown Rat	<i>Rattus norvegicus</i>	-	-	High Impact Invasive Species; Within 2km
Grey Squirrel	<i>Sciurus carolinensis</i>	-	-	High Impact Invasive Species; Within 2km
Giant Hogweed	<i>Heracleum mantegazzianum</i>	As above	-	Within 2km of the proposed development O22K (2014)



Appendix C – Proposed Planting Plan



- 1. CREMATOR
- 2. CONFERENCE
- 3. STAFF WC + CHANGE
- 4. STAFF WC + CHANGE
- 5. KITCHEN
- 6. URN + GENERAL STORE
- 7. DIRECTORS OFFICE
- 8. RECEPTION
- 9. WC
- 10. WC
- 11. DISABLED WC
- 12. COMFORT ROOM



① PINUS SYLVESTRIS



② PRUNUS SHIROTAE - under planted



③ MISCANTHUS SINENSIS



④ JASMINE



⑤ WHITEBEAM



⑥ SORBUS ACUPARIA



⑦ CRATAEGUS



⑧ TAXUS BACCATA



⑨ BREEDON GRAVEL

Rev.	Date	Drawn	Description

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 Dun Laoghaire-Rathdown County Council.



Job: PROPOSED NEW CREMATORIUM AND ASSOCIATED WORKS AT SHANGANAGH CEMETERY
 Date: 23/02/2016
 Job No: 1785
 Drg: PLANTING PLAN

Scale - 1:500	Status - PART 8
Date - 23/02/2016	CAD Ref -
Job No - 1785	Drawing No -
Drg - Chd.	1785/PP/008
Architects Department County Hall, Marine Road, Dun Laoghaire, Co. Dublin. Phone: (01) 2054700 Fax: (01) 2300391	

Appendix D – European Sites within 15km of the Proposed Site

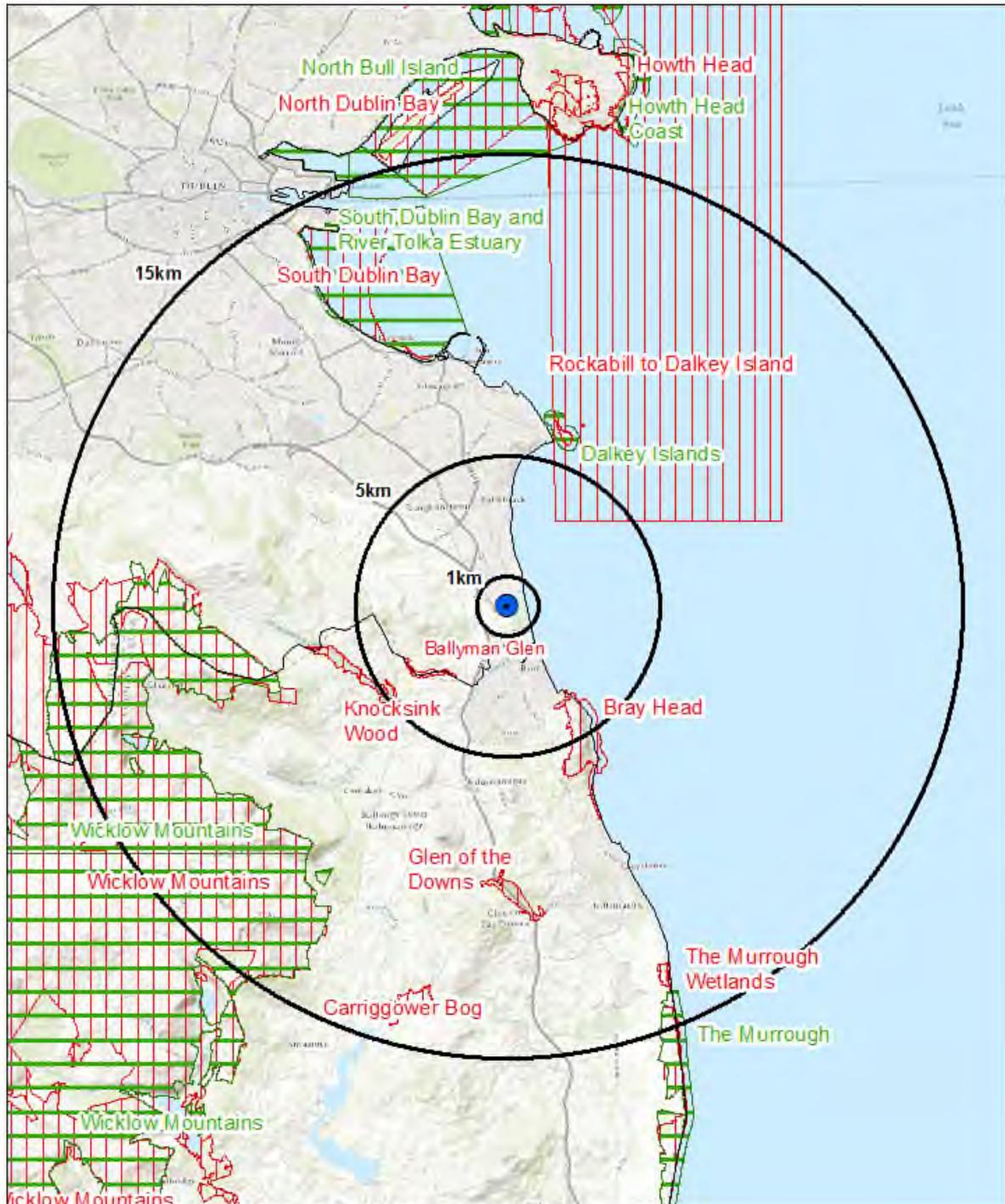


Figure 1: European sites within 15 km.

Project Name: Shankill Crematorium - AA Screening Client: Dún Laoghaire-Rathdown County Council				
Project No:	150162	Date:	1:200,000 @ A4	
Scale:	RN	Coordinate:	PS	Date: 09/11/2015
		Scott Cawley Ltd, College House, Ross Road, Blackrock, Co. Dublin Ireland Tel: +353 1 276 2616 Fax: +353 1 276 2616		

Legend

- Proposed_Development
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)

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Appendix E – Constraints Map



Legend

Constraints Level

- High
- Low
- Moderate

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 Project: TM 5 Irish Grid Transverse Mercator

Drawing No: 150162/B

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Project Title:
Shankill Crematorium PEA - Constraints Map

Client:
Dún Laoghaire Rathdown County Council

Project No.: 150162	Scale: 1:50,000 @ A4
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Drawn: RN	Approved: PS	Rev. No.: 00	Date: 07/04/2016
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