# APPENDICES: CHAPTER 9 – FLORA AND FAUNA

# **APPENDIX 9.1: LEGISLATION, POLICY AND GUIDELINES**

### National and International Legislation

- Planning and Development Act 2000, as amended
- Wildlife Act 1976, as amended
- European Communities (EC) (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011 (as amended); hereafter the 'Birds and Habitats Regulations'.
- EU Birds Directive 2009/147/EEC;
- EU Habitats Directive 92/43/EEC (as amended);
- EU EIA Directive (2014/52/EU);
- Flora (Protection) Order, 2015.

### Relevant Policies and Plans

- National Biodiversity Plan 2011 2016; and,
- Dublin City Development Plan 2016-2022.

## 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);
- Revised Guidelines on the Information to be contained in Environmental Impact Statements Draft (EPA, September 2015)
- Revised Guidelines on the Information to be contained in Environmental Impact Statements Draft (EPA, September 2015)
- Guidelines for Ecological Impact Assessment in the United Kingdom (IEEM, 2006).
- 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: Good Practice Guidelines, Third Edition (Bat Conservation Trust, 2016)
- Bat Surveys: Good Practice Guidelines (Hundt et al., 2012).
- Environmental Planning and Construction Guidelines Series (National Roads Authority, 2005 2011).
- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006a).
- Design Manual for Roads and Bridges: Nature Conservation Advice in Relation to Bats (Highways Agency, 2001).
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Union, 2013).

# **APPENDIX 9.2: CRITERIA FOR ECOLOGICAL EVALUATION**

#### **Ecological Valuation Criteria**

#### International Importance:

- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA), candidate Special Area of Conservation (cSAC) or proposed Special Protection Area (pSPA).
- Proposed Special Protection Area (pSPA).
- Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).
- Features essential to maintaining the coherence of the Natura 2000 Network.9
- Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.
- Resident or regularly occurring populations (assessed to be important at the national level)<sup>10</sup> of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and / or
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive.
- Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).
- World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).
- Biosphere Reserve (UNESCO Man & The Biosphere Programme).
- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).
- Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).
- Biogenetic Reserve under the Council of Europe.
- European Diploma Site under the Council of Europe.
- Irish Regulations implementing the Water Framework Directive

#### National Importance:

- Site designated or proposed as a Natural Heritage Area (NHA).
- Statutory Nature Reserve.
- Refuge for Fauna and Flora protected under the Wildlife Acts.
- National Park.
- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.
- Resident or regularly occurring populations (assessed to be important at the national level)<sup>11</sup> of the following:
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Site containing 'viable areas'<sup>12</sup> of the habitat types listed in Annex I of the Habitats Directive.

<sup>&</sup>lt;sup>9</sup> See Articles 3 and 10 of the Habitats Directive.

<sup>&</sup>lt;sup>10</sup> It is suggested that, in general, 1% of the national population of such species qualifies as an internationally important population. However, a smaller population may qualify as internationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

<sup>&</sup>lt;sup>11</sup> It is suggested that, in general, 1% of the national population of such species qualifies as a nationally important population. However, a smaller population may qualify as nationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

<sup>&</sup>lt;sup>12</sup> A 'viable area' is defined as an area of a habitat that, given the particular characteristics of that habitat, was of a sufficient size and shape, such that its integrity (in terms of species composition, and ecological processes and function) would be maintained in the face of stochastic change (for example, as a result of climatic variation).

#### **Ecological Valuation Criteria**

#### County Importance:

- Area of Special Amenity.<sup>13</sup>
- Area subject to a Tree Preservation Order.
- Area of High Amenity, or equivalent, designated under the City Development Plan.
- Resident or regularly occurring populations (assessed to be important at the County level)<sup>14</sup> of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
- County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP) if this has been prepared.
- 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 within the county.
- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

#### Local Importance (higher value):

- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;
- Resident or regularly occurring populations (assessed to be important at the Local level)<sup>15</sup> of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
- 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.

#### Local Importance (lower value):

- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;
- Sites or features containing non-native species that are of some importance in maintaining habitat links.

<sup>&</sup>lt;sup>13</sup> It should be noted that whilst areas such as Areas of Special Amenity, areas subject to a Tree Preservation Order and Areas of High Amenity are often designated on the basis of their ecological value, they may also be designated for other reasons, such as their amenity or recreational value. Therefore, it should not be automatically assumed that such sites are of County importance from an ecological perspective.

<sup>&</sup>lt;sup>14</sup> It is suggested that, in general, 1% of the County population of such species qualifies as a County important population. However, a smaller population may qualify as County importance where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

<sup>&</sup>lt;sup>15</sup> It is suggested that, in general, 1% of the local population of such species qualifies as a locally important population. However, a smaller population may qualify as locally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

APPENDIX 9.3: PROTECTED AREAS LOCATED WITHIN 15KM OF PROPOSED DEVELOPMENT SITE AND PROPOSED NATURAL HERITAGE AREA SITES WITHIN 5KM OF PROPOSED DEVELOPMENT SITE.

Information in relation to European sites is being provided so as to enable the Board, as competent authority, to conduct a comprehensive environmental assessment of all potential impacts on biodiversity, and without prejudice to the separate and distinct assessments which the Board is required to conduct under the Habitats Directive and Part XAB of the Planning and Development Act 2000, as amended (the information in respect of which assessments is provided in the Natura Impact Statement submitted with this application for permission).

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
Candidate Specia	Areas of Conservati	ion (cSAC)		
North Dublin Bay cSAC [000206]	Located c. 4.9km north-east of proposed development site	<ul> <li>Detailed Conservation Objectives Version 1.0 (06/11/13)</li> <li>Annex I Habitats: <ul> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Annual vegetation of drift lines [1210]</li> <li>Salicornia and other annuals colonizing mud and sand [1310]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria ("white dun es") [2120]</li> <li>*Fixed coastal dunes with herbaceous vegetation ("grey dunes") [2130]</li> <li>Humid dune slacks [2190]</li> </ul> </li> <li>Annex II Species: <ul> <li>Petalophyllum ralfsii [1395]</li> </ul> </li> </ul>	<ol> <li>Surface waters generated during construction could potentially carry silt, oils or other contaminants into either the local combined sewer network which discharges to Dublin Bay via Ringsend WWTW or the local surface water sewer network which ultimately discharges to Dublin Bay. There is a potential risk that surface waters may be contaminated as a consequence of groundwater dewatering into the surface water body at the proposed site during construction, as some localised contaminated land may be encountered. Significant effects on European sites cannot be ruled out in view of the relevant conservation objectives.</li> <li>There is no possibility that surface waters generated during operation will result in any significant effects on the European site due to the employment of attenuation tanks and green roofs) and treatment measures (e.g. interceptors) through the implementation of SUDS measures which will remove silt and hydrocarbons and limit flows to equivalent greenfield runoff rates as required by the Greater Dublin Strategic Drainage Study and Dublin City Council.</li> <li>There is no possibility that foul water generated during construction will result in any significant effects on the implementation of such as suitable welfare facilities will be</li> </ol>	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
			<ul> <li>provided and properly maintained and disposed of.</li> <li>Foul water generated during operation will be treated at Ringsend WWTW and following treatment will be discharged into Dublin Bay. In 2013 the plant was non-compliant with several parameters as set under the EPA discharge licence. Any existing or proposed projects discharging to the plant have the potential to act cumulatively to reduce water quality in Dublin Bay. Despite Ringsend WWTW historically operating at or above capacity, however, there is no possibility that significant effects on the European site will arise from discharge arising from the proposed development due to the following:</li> <li>There was no link found between WWTP discharges and nutrient enrichment of sediments in Dublin Bay based on analyses of dissolved and particulate Nitrogen signatures (Wilson and Jackson, 2011);</li> <li>In any event, enriched water entering Dublin Bay has been shown to rapidly mix and become diluted such that the plume is often indistinguishable from the rest of bay water (O'Higgins and Wilson, 2005); and,</li> <li>Marine modelling for Ringsend WWTP indicates that discharged effluent is rapidly mixed and dispersed to low levels via tidal mixing within a short distance of the outfall pipe (Dowly &amp; Bedri, 2007).</li> </ul>	
			plant materials, seeds or seedlings during operation of the proposed development from new planting introduced through proposed SUDS features or landscaping, into the receiving downstream water environment. However, there is no possibility of significant effects as no invasive plant species (i.e.	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
			those species listed on Schedule 3 of the Birds and Habitats Regulations, 2011) will be planted or imported to the proposed site.	
South Dublin Bay cSAC [000210]	Located c. 370m east of proposed development site	Detailed Conservation Objectives Version 1.0 (22/08/13)         Annex I Habitats:         • Mudflats and sandflats not covered by seawater at low tide [1140]         • Annual vegetation of drift lines [1210]         • Salicornia and other annuals colonising mud and sand [1310]         • Embryonic shifting dunes [2110]	<ol> <li>Surface waters generated during construction could potentially carry silt, oils or other contaminants into either the local combined sewer network which discharges to Dublin Bay via Ringsend WWTW or the local surface water sewer network which ultimately discharges to Dublin Bay. There is a potential risk that surface waters may be contaminated as a consequence of groundwater dewatering into the surface water body at the proposed site during construction, as some localised contaminated land may be encountered. Significant effects on European sites cannot be ruled out in view of the relevant conservation objectives.</li> <li>Surface waters generated during operation will not result in any significant effects on the European site due to the employment of attenuation tanks and green roofs) and treatment measures (e.g. interceptors) through the implementation of SUDS measures which will remove silt and hydrocarbons and limit flows to equivalent greenfield runoff rates as required by the Greater Dublin Strategic Drainage Study and Dublin City Council.</li> <li>There is no possibility that foul water generated during construction will result in any significant effects on the European site as suitable welfare facilities will be provided and properly maintained and disposed of.</li> <li>Foul water generated during operation will be treated at Ringsend WWTW and following treatment will be discharged into Dublin Bay. In 2013 the plant was non- compliant with several parameters as set under the EPA discharge licence. Any existing or proposed projects discharging to the plant have the potential to act cumulatively to reduce water quality in Dublin Bay.</li> </ol>	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).			
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?
			<ul> <li>Despite Ringsend WWTW historically operating at or above capacity, however, there is no possibility that significant effects on the European site will arise from discharge arising from the proposed development due to the following:</li> <li>There was no proven link between WWTP discharges and nutrient enrichment of sediments in Dublin Bay based on analyses of dissolved and particulate Nitrogen signatures (Wilson and Jackson, 2011);</li> </ul>
			<ul> <li>Enriched water entering Dublin Bay has been shown to rapidly mix and become diluted such that the plume is often indistinguishable from the rest of bay water (O'Higgins and Wilson, 2005); and,</li> </ul>
			<ul> <li>Marine modelling for Ringsend WWTP indicates that discharged effluent is rapidly mixed and dispersed to low levels via tidal mixing within a short distance of the outfall pipe (Dowly &amp; Bedri, 2007).</li> </ul>
			5. There is the potential for escape of non-native invasive plant materials, seeds or seedlings during operation of the proposed development from new planting introduced through proposed SUDS features or landscaping, into the receiving downstream water environment. However, there is no possibility of significant effects as no invasive plant species (i.e. those species listed on Schedule 3 of the Birds and Habitats Regulations, 2011) will be planted or imported to the proposed site.
Baldoyle Bay cSAC [000199]	Located c. 10.5km north- east of proposed development site	Conservation Objectives Version 1.0 (19/11/12) Annex I Habitats: Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonizing mud and sand [1310]	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site.

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015)					
Site name and	(Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists). Site name and Distance from Reasons for designation (*= Priority Habitat)				
code	Proposed Development (approximate)		development on the European site or proposed Natural Heritage Area?		
		<ul> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> </ul>			
Howth Head cSAC [000202]	Located c. 9.7km north-east of proposed development site	<ul> <li>Conservation Objectives Generic Version 1.0 (06/12/16)</li> <li>Annex I Habitats:</li> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>European dry heaths [4030]</li> </ul>	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. In the case of European dry heaths this habitat is located above the shoreline and therefore there is no hydrological or any impact pathway to it.		
Malahide Estuary cSAC [000205]	Located c. 14.2km north- east of proposed development site	<ul> <li>Conservation Objectives Version 1.0 (27/05/13)</li> <li>Annex I Habitats: <ul> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Salicornia and other annuals colonising mud and sand [1310]</li> <li>Spartina swards (Spartinion maritimae) [1320]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>* Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> </ul> </li> </ul>	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site.		
Rockabill to Dalkey Island CSAC [003000]	Located c. 8km east of proposed development site	Conservation Objectives Version 1.0 (07/05/13) Annex I Habitats: • Reefs [1170] Annex II Species: • Harbour porpoise Phocoena phocaena [1351]	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. There is no risk of noise or other disturbance impacts to Harbour Porpoise given the absence of any proposed works within the marine or foreshore environment.		
Glenasmole Valley cSAC [001209]	Located c. 12.3km south- west of	Conservation Objectives Version 5.0 (15/08/16) Annex I Habitats: • Semi-natural dry grasslands and scrubland facies on calcareous	No possibility of significant effects, due to distance and absence of a hydrological or any other pathway between the proposed development and the European site.		

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).					
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?		
	proposed	substrates (Festuco Brometalia) (* important orchid sites) [6210]			
	site	<ul> <li>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> </ul>			
		* Petrifying springs with tufa formation (Cratoneurion) [7220]			
Wicklow Mountains cSAC 10021221	Located c. 10.3km south- west of	Conservation Objectives Generic Version 5.0 (15/08/16) Annex I Habitats:	No possibility of significant effects, due to distance and absence of a hydrological or any other pathway between the proposed development and the European site.		
[002122]	west of proposed development	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the lsoëto-Nanojuncetea [3130]			
	site	Natural dystrophic lakes and ponds [3160]			
		Northern Atlantic wet heaths with Erica tetralix [4010]			
		• European dry heaths [4030]			
		Alpine and Boreal heaths [4060]			
		• Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe) [6230]			
		Blanket bogs (* if active only) [7130]			
		• Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110]			
		Calcareous rocky slopes with chasmophytic vegetation [8210]			
		Siliceous rocky slopes with chasmophytic vegetation [8220]			
		Old sessile oak woods with <i>llex</i> and <i>Blechnum</i> in the British Isles [91A0]			
		Annex II Species:			
		Otter - Lutra lutra [1355]			
Knocksink Wood cSAC (0725)	Located c. 11.4km south of	Conservation Objectives Generic Version 5.0 (15/08/16) Annex I Habitats:	No possibility of significant effects, due to distance and absence of a hydrological or any other pathway between the proposed development and the European site.		
	development	* Petrifying springs with tufa formation (Cratoneurion) [7220]			
	site	• * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno -			

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
		Padion, Alnion incanae, Salicion albae) [91E0]		
Ballyman Glen cSAC (000713)	Located c. 12.1km south of proposed development site	Conservation Objectives Generic Version 5.0 (15/08/16) Annex I Habitats: Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230]	No possibility of significant effects, due to distance and absence of a hydrological or any other pathway between the proposed development and the European site.	
Ireland's Eye cSAC (002193)	Located c. 13.5km north- east of proposed development site	<ul> <li>Conservation Objectives Generic Version 5.0 (15/08/16)</li> <li>Annex I Habitats:</li> <li>Perennial vegetation of stony banks [1220]</li> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> </ul>	No possibility of significant effects, due to distance and absence of a hydrological or any other pathway between the proposed development and the European site.	
Special Protection	Areas (SPA)			
South Dublin Bay and River Tolka Estuary SPA [004024]	Located c. 360m east of the proposed development site	<ul> <li>Conservation Objectives Version 1.0 (09/03/15)</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046] [wintering]</li> <li>Oystercatcher (Haematopus ostralegus) [A130] [wintering]</li> <li>Ringed Plover (Charadrius hiaticula) [A137] [wintering]</li> <li>Grey Plover (Pluvialis squatarola) [A140] [wintering]</li> <li>Knot (Calidris canutus) [A143] [wintering]</li> <li>Sanderling (Calidris alba) [A144] [wintering]</li> <li>Dunlin (Calidris alpina) [A149] [wintering]</li> <li>Bar-tailed Godwit (Limosa lapponica) [A157] [wintering]</li> <li>Redshank (Tringa totanus) [A162] [wintering]</li> <li>Black-headed Gull (Croicocephalus ridibundus) [A179] [wintering]</li> <li>Roseate Tern (Sterna dougallii) [A193] [breeding]</li> <li>Arctic Tern (Sterna paradisaea) [A194] [passage]</li> </ul>	<ol> <li>Surface waters generated during construction could carry silt, oils or other contaminants into either the local combined sewer network which discharges to Dublin Bay via Ringsend WWTW or the local surface water sewer network which ultimately discharges to South Dublin Bay. There is a potential risk that surface waters may be contaminated as a consequence of groundwater dewatering into the surface water body at the proposed site during construction, as contaminated land may be encountered. Significant effects on European sites cannot be ruled out in view of the relevant conservation objectives.</li> <li>Surface waters generated during operation will not result in any significant effects on the European site due to the employment of attenuation within the development design (e.g. attenuation tanks, permeable paving and green roofs) and treatment measures (e.g. interceptors) through the implementation of SUDS measures which will remove silt and hydrocarbons and limit flows to equivalent greenfield runoff rates as required by the Greater</li> </ol>	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
		Wetlands & Waterbirds [A999]	<ul> <li>Dublin Strategic Drainage Study and Dublin City Council.</li> <li>There is no possibility that foul water generated during construction will result in any significant effects on the European site as suitable welfare facilities will be provided and properly maintained and disposed of.</li> <li>Foul waters generated during operation will be treated at Ringsend WWTW and following treatment will be discharged into Dublin Bay. Despite Ringsend WWTW historically operating at or above capacity, however, there is no possibility that significant effects on the European site will arise from discharge arising from the proposed development due to the following: <ul> <li>There was no proven link between WWTP discharges and nutrient enrichment of sediments in Dublin Bay based on analyses of dissolved and particulate Nitrogen signatures (Wilson and Jackson, 2011);</li> <li>Enriched water entering Dublin Bay has been shown to rapidly mix and become diluted such that the plume is often indistinguishable from the rest of bay water (O'Higgins and Wilson, 2005); and,</li> <li>Marine modelling for Ringsend WWTP indicates that discharged effluent is rapidly mixed and dispersed to low levels via tidal mixing within a short distance of the outfall pipe (Dowly &amp; Bedri, 2007).</li> </ul> </li> <li>There is the potential for escape of non-native invasive plant materials, seeds or seedlings during operation of the proposed development from new planting introduced through proposed SUDS features or landscaping, into the receiving downstream water environment. However, there is no possibility of significant effects as no invasive plant species (i.e. those species listed on Schedule 3 of the Birds and Habitats Regulations, 2011) will be planted or imported</li> </ul>	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
			<ul> <li>to the proposed site.</li> <li>6. There is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the marine or foreshore environment.</li> </ul>	
North Bull Island SPA [004006]	Located c. 3.5km north-east of proposed development site	<ul> <li>Conservation Objectives Generic Version 1.0 (09/03/15)</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046] [wintering</li> <li>Shelduck (Tadorna tadorna) [A048] [wintering]</li> <li>Teal (Anas crecca) [A052] [wintering]</li> <li>Pintail (Anas acuta) [A054] [wintering]</li> <li>Shoveler (Anas clypeata) [A056] [wintering]</li> <li>Oystercatcher (Haematopus ostralegus) [A130] [wintering]</li> <li>Golden Plover (Pluvialis apricaria) [A140] [wintering]</li> <li>Grey Plover (Pluvialis squatarola) [A141] [wintering]</li> <li>Knot (Calidris canutus) [A143] [wintering]</li> <li>Sanderling (Calidris alba) [A144] [wintering]</li> <li>Dunlin (Calidris alpina) [A149] [wintering]</li> <li>Black-tailed Godwit (Limosa lapponica) [A157] [wintering]</li> <li>Curlew (Numenius arquata) [A162] [wintering]</li> <li>Redshank (Tringa totanus) [A162] [wintering]</li> <li>Black-headed Gull (Croicocephalus ridibundus) [A179] [wintering]</li> <li>Wetlands &amp; Waterbirds [A999]</li> </ul>	<ol> <li>Surface waters generated during construction could carry silt, oils or other contaminants into either the local combined sewer network which discharges to Dublin Bay via Ringsend WWTW or the local surface water sewer network which ultimately discharges to South Dublin Bay. There is a potential risk that surface waters may be contaminated as a consequence of groundwater dewatering into the surface water body at the proposed site during construction, as contaminated land may be encountered. Significant effects on European sites cannot be ruled out in view of the relevant conservation objectives.</li> <li>Surface waters generated during operation will not result in any significant effects on the European site due to the employment of attenuation tanks, permeable paving and green roofs) and treatment measures (e.g. interceptors) through the implementation of SUDS measures which will remove silt and hydrocarbons and limit flows to equivalent greenfield runoff rates as required by the Greater Dublin Strategic Drainage Study and Dublin City Council.</li> <li>There is no possibility that foul water generated during construction will result in any significant effects on the European site as suitable welfare facilities will be provided and properly maintained and disposed of.</li> </ol>	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
			<ul> <li>WWTW historically operating at or above capacity, however, there is no possibility that significant effects on the European site will arise from discharge arising from the proposed development due to the following:</li> <li>There was no proven link between WWTP discharges and nutrient enrichment of sediments in Dublin Bay based on analyses of dissolved and particulate Nitrogen signatures (Wilson and Jackson, 2011);</li> </ul>	
			<ul> <li>Enriched water entering Dublin Bay has been shown to rapidly mix and become diluted such that the plume is often indistinguishable from the rest of bay water (O'Higgins and Wilson, 2005); and,</li> </ul>	
			<ul> <li>Marine modelling for Ringsend WWTP indicates that discharged effluent is rapidly mixed and dispersed to low levels via tidal mixing within a short distance of the outfall pipe (Dowly &amp; Bedri, 2007).</li> </ul>	
			<ol> <li>There is the potential for escape of non-native invasive plant materials, seeds or seedlings during operation of the proposed development from new planting introduced through proposed SUDS features or landscaping, into the receiving downstream water environment. However, there is no possibility of significant effects as no invasive plant species (i.e. those species listed on Schedule 3 of the Birds and Habitats Regulations, 2011) will be planted or imported to the proposed site.</li> <li>There is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the marine environment.</li> </ol>	
Baldoyle Bay	Located c.	Conservation Objectives Version 1 (27/02/13)	Whilst there is a potential pathway between the proposed	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015)				
(Relevant Europea	n sites are indicated	in grey rows; relevant European sites are those where a relevant source-pathw	vay-receptor link exists).	
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
SPA [004016]	10.5km north- east of proposed development site	<ul> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046] [wintering]</li> <li>Shelduck (Tadorna tadorna) [A048] [wintering]</li> <li>Ringed Plover (Charadrius hiaticula) [A137] [wintering]</li> <li>Golden Plover (Pluvialis apricaria) [A140] [wintering]</li> <li>Grey Plover (Pluvialis squatarola) [A141] [wintering]</li> <li>Bar-tailed Godwit (Limosa lapponica) [A157] [wintering]</li> <li>Wetlands &amp; Waterbirds [A999]</li> </ul>	development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. In addition there is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the marine or foreshore environment.	
Malahide Estuary SPA [004025]	Located c. 15km north-east of proposed development site	<ul> <li>Conservation Objectives Version 1.0 (16/08/13)</li> <li>Great Crested Grebe (Podiceps cristatus) [A005] [wintering]</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046] [wintering]</li> <li>Shelduck (Tadorna tadorna) [A048] [wintering]</li> <li>Pintail (Anas acuta) [A054] [wintering]</li> <li>Goldeneye (Bucephala clangula) [A067] [wintering]</li> <li>Red-breasted Merganser (Mergus serrator) [A069] [wintering]</li> <li>Oystercatcher (Haematopus ostralegus) [A130] [wintering]</li> <li>Golden Plover (Pluvialis apricaria) [A140] [wintering]</li> <li>Grey Plover (Pluvialis squatarola) [A141] [wintering]</li> <li>Knot (Calidris canutus) [A143] [wintering]</li> <li>Dunlin (Calidris alpina) [A149] [wintering]</li> <li>Black-tailed Godwit (Limosa limosa) [A156] [wintering]</li> <li>Bar-tailed Godwit (Limosa lapponica) [A157] [wintering]</li> <li>Wetlands &amp; Waterbirds [A999] [wintering]</li> </ul>	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. In addition there is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the marine or foreshore environment.	
Dalkey Islands SPA [004172]	Located c. 6.7km south-east	Conservation Objectives Version 5.0 (15/08/16)	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility	

Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).				
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?	
	of proposed development site	<ul> <li>Roseate Tern (Sterna dougallii) [A192] [passage]</li> <li>Common Tern (Sterna hirundo) [A193] [passage]</li> <li>Arctic Tern (Sterna paradisaea) [A194] [passage]</li> </ul>	of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. In addition there is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the marine or foreshore environment.	
Wicklow Mountains SPA [004040]	Located c. 10.1km south of proposed development site	<ul> <li>Conservation Objectives Generic Version 5.0 (15/08/16)</li> <li>Merlin (Falco columbarius) [A098] [breeding]</li> <li>Peregrine (Falco peregrinus) [A103] [breeding]</li> </ul>	No possibility of significant effects due to distance and absence of a hydrological or any other pathway between the proposed development and the European site. There is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the upland environs of this European site.	
Howth Head Coast SPA [004113]	Located c. 11.5km south- east of proposed development site	Conservation Objectives Generic Version 5.0 (15/08/16) <ul> <li>Kittiwake (Rissa tridactyla) [A188]</li> </ul>	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. In addition there is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites and the European site and the absence of any proposed works within the marine or foreshore environment.	
Ireland's Eye SPA [004117]	Located c. 13.3km north- east of proposed development site	Conservation Objectives Generic Version 5.0 (15/08/1) <ul> <li>Cormorant (Phalacrocorax carbo) [A017]</li> <li>Herring Gull (Larus argentatus) [A184]</li> <li>Kittiwake (Rissa tridactyla) [A188]</li> <li>Guillemot (Uria aalge) [A199]</li> <li>Razorbill (Alca torda) [A200]</li> </ul>	Whilst there is a potential pathway between the proposed development and the European site, there is no possibility of significant effects arising due to the assimilative capacity and substantial marine water buffer between the WWTW outfall pipe at Ringsend and this European site. In addition there is no risk of noise or other disturbance impacts to Special Conservation Interest bird species given the distance between the proposed development sites	

Analysis of Europea (Relevant Europea	Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).						
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?				
			and the European site and the absence of any proposed works within the marine or foreshore environment.				
proposed Natural H	Heritage Area (pNHA	N)					
South Dublin Bay pNHA [000210]	Located c. 360m east of the proposed development site.	See above for South Dublin Bay SAC (000210)	Yes, for the same reasons outlined above in South Dublin Bay SAC [000210]; however the adherence to the proposed mitigation measures, as outlined in the Section 9.6.1.1 of this Report, will ensure no potential impacts on this proposed Natural Heritage Area.				
Booterstown Marsh pNHA [001205]	Located c. 800m south-east of the proposed development site.	It is the only saltmarsh in south Dublin. It remains a valuable habitat for many birds as well as containing a diverse flora including the protected plant Borrer's Saltmarsh-grass ( <i>Puccinellia fasciculata</i> ).	Yes, for the same reasons outlined above in South Dublin Bay SAC [000210]; however the adherence to the proposed mitigation measures, as outlined in the Section 9.6.1.1 of this Report, will ensure no potential impacts on this proposed Natural Heritage Area.				
Grand Canal pNHA [002104]	Located c. 2.9km north-west of the proposed development site	Canal and associated aquatic habitats and species.	Yes, for the same reasons outlined above in South Dublin Bay SAC [000210]; however the adherence to the proposed mitigation measures, as outlined in the Section 9.6.1.1 of this Report, will ensure no potential impacts on this proposed Natural Heritage Area.				
Royal Canal pNHA [002103]	Located c. 3.9km north-west of the proposed development site	Canal and associated aquatic habitats and species.	Yes, for the same reasons outlined above in South Dublin Bay SAC [000210]; however the adherence to the proposed mitigation measures, as outlined in the Section 9.6.1.1 of this Report, will ensure no potential impacts on this proposed Natural Heritage Area.				
Dolphins, Dublin Docks pNHA [000201]	Located c. 2.9km north of the proposed development site	Breeding Tern colonies.	Yes, for the same reasons outlined above in South Dublin Bay SAC [000210].				
North Dublin Bay pNHA [000206]	Located c. 4.9km north-east of proposed development	See above for North Dublin Bay SAC (000206)	Yes, for the same reasons outlined above in South Dublin Bay SAC [000210]; however the adherence to the proposed mitigation measures, as outlined in the Section 9.6.1.1 of this Report, will ensure no potential impacts on				

Analysis of Europea (Relevant Europea	Analysis of European sites within 15km of the Proposed Development (information downloaded from www.npws.ie in November 2015) (Relevant European sites are indicated in grey rows; relevant European sites are those where a relevant source-pathway-receptor link exists).						
Site name and code	Distance fro Proposed Development (approximate)	Reasons for designation (*= Priority Habitat)	Potential for significant impacts from the proposed development on the European site or proposed Natural Heritage Area?				
	site		this proposed Natural Heritage Area.				

# APPENDIX 9.4: RECORDS OF PROTECTED AND RED DATA BOOK FLORA

Common Name	Scientific Name	Protection <sup>16</sup>	Irish Red Data Book Status <sup>17</sup>	Number of Records, Approximate location and Date
Tufted Salt- marsh Grass	Puccinellia fasciculata	FPO	Rare	2, c. 1.4km north of the proposed development site in Sandymount (1840) and c. 1.2km south-east of the proposed development site in Booterstown (1991)

 <sup>&</sup>lt;sup>16</sup> FPO = Flora (Protection) Order, 1999.
 <sup>17</sup> From the *Irish Red Data Book 1* Vascular Plants (Wyse Jackson et al., 2016).

# APPENDIX 9.5: RECORDS OF PROTECTED, RARE AND OTHER NOTABLE FAUNA

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
Flora – Flowering Plants				
Great Burnet	Sanguisorba officinalis	FPO	Vulnerable	1, c. 920m south-west of the proposed development site in UCD (2016).
Meadow Barley	Hordeum secalinum	FPO	Vulnerable	1, c. 740m south-east of the proposed development site near Merrion Strand (1904).
Purple Spurge	Euphorbia peplis	-	Regionally Extinct	1, c. 920m south-west of the proposed development site in UCD (2016).
Small Cudweed	Filago minima	FPO	Rare	1, c. 1.7km north of the proposed development site near Irishtown (2012).
Amphibians				
Common Frog	Rana temporaria	WA	Least concern	3, c. 540m north-west of the proposed development site in Donnybrook (1997), c. 1km south-east of the proposed development site (2011) and c. 1.6km south-west of the proposed development site in Dundrum (2006).
Smooth Newt	Triturus vulgaris	WA	Least concern	1, c. 920m south-west of the proposed development site in UCD (2016).
Birds				
Arctic Tern	Sterna paradisaea	BDI, WA	Amber	Numerous records, c. 710m-1.4km east of the proposed development site on Sandymount Strand (2007 - 2010).

<sup>&</sup>lt;sup>18</sup> HDII/IV/V = Habitats Directive Annexes II/IV/V; WA = Wildlife Acts; BD I = Birds Directive Annex I, OSPAR = Convention for the Protection of the Marine Environment.

<sup>&</sup>lt;sup>19</sup> Mammal Red-list from Marnell et al., 2009. Birds from Birds of Conservation Concern in Ireland (Colhoun & Cummings 2013); Fish and Amphibians from King et al., 2011; Non-Marine Molluscs from Byrne etal., 2009.

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
Barn Shallow	Hirundo rustica	WA	Amber	Numerous records, c. 870m-1.4km south- east of the proposed development site in Booterstown and Sandymount Strand (2009 - 2011) and c. 1.2km south in UCD (2001).
Bar-tailed Godwit	Limosa lapponica	WA	Amber	Numerous records, c. 700m-1.4km east of the proposed development site on Sandymount Strand (2007 - 2011).
Black Guillemot	Cepphus grylle	WA	Amber	1, c. 1.8km north-west of the proposed development site (2007).
Black-headed Gull	Chroicocephalus ridibundus	WA	Red	Numerous records, c. 515m-1.5km east of the proposed development site on Sandymount Strand (2002 - 2012).
Black-tailed Godwit	Limosa limosa	WA	Amber	Numerous records, c. 515m-1.5km east of the proposed development site on Sandymount Strand (2009 - 2012).
Common Sandpiper	Actitis hypoleucos	WA	Amber	1, c. 770m south-east of the proposed development site in Booterstown (2010).
Common Scoter	Melanitta nigra	WA	Red	1, c. 1.2km south-east of the proposed development site (2006).
Common Tern	Sterna hirundo	BDI, WA	Amber	Numerous records, c. 700m-1.4km east of the proposed development site on Sandymount Strand (2009 - 2012).
Cormorant	Phalacrocorax carbo	WA	Amber	2, c. 1.1km south-east of the proposed development site (2011) and c. 1.4km east of the proposed development site (2012).

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
Curlew	Numenius arquata	WA	Red	Numerous records, c. 490m-1.4km east of the proposed development site on Sandymount Strand (2009 - 2012).
Dunlin	Calidris alpina	WA	Red	Numerous records, c. 700m-1.4km east of the proposed development site on Sandymount Strand (2009 - 2012).
Gannet	Morus bassanus	WA	Amber	Numerous records, c. 690m-1.4km east of the proposed development site at Sandymount (2010 - 2011).
Goldcrest	Regulus regulus	WA	Amber	3, c. 1.3km south-west of the proposed development site (2012 and 2001).
Great Black-backed Gull	Larus marinus	WA	Amber	Numerous records, c. 700m-1.4km east of the proposed development site on Sandymount Strand (2009 - 2012).
Great Crested Grebe	Podiceps cristatus	WA	Amber	Numerous records, c. 700m-1.4km east of the proposed development site on Sandymount Strand (2009 - 2012).
Greenfinch	Chloris chloris	WA	Amber	4, c. 770-990m south-east of proposed development site (2010) and c. 1.3km south-west of the proposed development site (2001).
Grey Plover	Pluvialis squatarola	WA	Amber	1, c. 700m east of the proposed development site (2010).
Grey Wagtail	Motacilla cinerea	WA	Amber	2, c. 990m south-east of the proposed development site (2009 and 2010).
Herring Gull	Larus argentatus	WA	Red	Numerous records, c. 510m-1.4km east of

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
				the proposed development site on
				Sandymount Strand (2009 - 2012).
				3, c. 1.1km south-east of the proposed
House Martin	Delichon urbicum	WA	Amber	development site (2011) and c. 1.3km
				south-west of the proposed development
			Red-Listing Status1*Number of Records, Approximate loc and DateStatus1*The proposed development site Sandymount Strand (2009 - 2012).Amber3, c. 1.1km south-east of the proposed development site (2011) and c. 1 south-west of the proposed develop site (2001).AmberNumerous records, c. 335m north-east 	site (2001).
				Numerous records, c. 335m north-east of
				the proposed development site (2011) and
House Sparrow	Passer domesticus	WA	Amber	c. 780m-1.4km east of the proposed
				development site on Sandymount Strand
				(2010 - 2012).
Kostrol			Ambor	2, c. 1.4km south-west of the proposed
Kealler		***	Amber	development site in UCD (2012).
				3, c. 960m-1.2km south-east of the
Kingfisher	Alcedo atthis	WA	Amber	proposed development site in Booterstown
			Red-Listing Status**Number of Records, Approximate location and DateStatus**the proposed development site on Sandymount Strand (2009 - 2012).Amber3, c. 1.1km south-east of the proposed development site (2011) and c. 1.3km south-west of the proposed development site (2001).AmberNumerous records, c. 335m north-east of the proposed development site (2011) and c. 780m-1.4km east of the proposed development site (2011) and c. 780m-1.4km east of the proposed development site on Sandymount Strand (2010 - 2012).Amber2, c. 1.4km south-west of the proposed development site in UCD (2012).Amber3, c. 960m-1.2km south-east of the proposed development site in Booterstown Marsh (2002-2012).AmberNumerous records, c. 780m-1.4km east of the proposed development site in Booterstown Marsh (2002-2012).AmberC. 300m east of the proposed development site in Booterstown (2013), c. 785m north of the proposed development site (2015) and c. 1.2km south-east of the proposed development site in Booterstown (2013), c.Amber. 300m east of the proposed development site in Booterstown (2013), c.Amber. 300m east of the proposed development site in Booterstown (2013), c.Amber. 300m east of the proposed development site in Booterstown (2013), c.Amber. 300m east of the proposed development site in Booterstown (2014).Amber. 2011, c.Amber. 2850m south-east of the proposed development site in Booterstown (2014).	
				Numerous records, c. 780m-1.4km east of
Lesser Black-Backed Gull	Larus fuscus	WA	Amber	the proposed development site on
				Sandymount Strand (2010 - 2012).
				c. 300m east of the proposed
				development site in Booterstown (2013), c.
Light hellied Brent Goose	Branta bernicla		Amber	785m north of the proposed development
	Branta bernicia		Amber	site (2015) and c. 1.2km south-east of the
				proposed development site in Booterstown
				(2014).
Linnet	Carduelis cannabina	WA	Amber	1, c. 850m south-east of the proposed

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
				development site (2009).
	5 11 11			Numerous records, c. 500m-1.4km east of
	Egretta garzetta	BDI, WA	Green	Sandymount (2009 - 2015).
Little Grebe	Tachybaptus ruficollis	WA	Amber	1, c. 1.1km south-east of the proposed
				development sile (2002).
Manx Shearwater	Puffinus puffinus	WA	Amber	the proposed development site in Dublin
		WA     Amber     the proposed developmen Bay (2010 - 2012).       bhalus     BDI, WA     Amber		Bay (2010 - 2012).
Mediterranean Gull	l arus melanocephalus	BDI, WA	Amber	3, c. 860m-1.4km east of the proposed
	Laros merano copitalos			development site (2009-2012).
Mistle Thrush	Turdus viscivorus	WA	Amber	1, c. 1.2km south-west of the proposed
				development site at UCD (2001).
				4, c. 800m-1.1km south-east of the
Mute Swan	Cygnus olor	WA	Amber	proposed development site in
				Number of Records, Approximate locationand Datedevelopment site (2009).Numerous records, c. 500m-1.4km eastthe proposed development siteSandymount (2009 - 2015).1, c. 1.1km south-east of the proposeddevelopment site (2002).Numerous records, c. 940m-1.4km eastthe proposed development site in DubBay (2010 - 2012).3, c. 860m-1.4km east of the proposeddevelopment site (2009-2012).1, c. 1.2km south-west of the proposeddevelopment site at UCD (2001).4, c. 800m-1.1km south-east of the proposed development siteBooterstown.Numerous records, c. 700m-1.4km east the proposed development site of Sandymount Strand (2009 - 2012).3, c. 860m-1.4km east of the proposed development site in Dublin Bay (200 2012).3, c. 860m-1.4km east of the proposed development site in Dublin Bay (200 
				Numerous records, c. 700m-1.4km east of
Oystercatcher	Haematopus ostralegus	WA	Amber	the proposed development site on
				Sandymount Strand (2009 - 2012).
				3, c. 860m-1.4km east of the proposed
Peregrine Falcon	Falco peregrinus	BDI, WA	Green	development site in Dublin Bay (2009-
				2012).
				Numerous records, c. 690m-1.4km east of
Red Knot	Calidris canutus	WA	Amber	the proposed development site at
				Sandymount (2010 - 2012).
Redshank	Tringa totanus	WA	Red	Numerous records, c. 500m-1.5km east of

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
				the proposed development site on
				Sandymount Strand (2002 - 2012).
				4, c. 1-1.2km south of the proposed
Robin	Frithacus rubecula	WA	Amber	development site (2001 and 2014) and c.
		,,,,,		1.2km south-east of the proposed
				Number of Records, Approximate locationand Datethe proposed development siteSandymount Strand (2002 - 2012).4, c. 1-1.2km south of the proposeddevelopment site (2001 and 2014) and1.2km south-east of the proposeddevelopment site (2010).Numerous records, c. 700m-1.4km eastthe proposed development site in DubBay (2009 - 2012).1, c. 1.1km south-east of the proposeddevelopment site at Booterstown (2011).Numerous records, c. 700m-1.4km eastthe proposed development site in DubBay (2009 - 2012).4, c. 950m-1.1km south-east of the proposeddevelopment site (2006 and2010).2, c. 840m south-east of the proposeddevelopment site (2010).2, c. 1km south-east of the proposeddevelopment site in Booterstown (2010).2, c. 760m south-east of the proposeddevelopment site in Booterstown (2010).1, c. 1.3km south-east of the proposeddevelopment site in Booterstown (2010).1, c. 1.3km south-east of the proposeddevelopment site in Booterstown (2010).1, c. 1.3km south-west of the proposeddevelopment site in UCD (2001).Numerous records, c. 700m-1.4km east
				Numerous records, c. 700m-1.4km east of
Roseate Tern	Sterna dougallii	BDI, WA	Amber	the proposed development site in Dublin
				Bay (2009 - 2012).
Sand Martin	Diparia riparia		Amphor	1, c. 1.1km south-east of the proposed
Sana Mahim	Kipuna ripuna		Ambei	development site at Booterstown (2011).
				Numerous records, c. 700m-1.4km east of
Sandwich Tern	Sterna sandvicensis	BDI, WA	Amber	the proposed development site in Dublin
				Bay (2009 - 2012).
				4, c. 950m-1.1km south-east of the
Shelduck	Tadorna tadorna	WA	Amber	proposed development site (2006 and
				and Date         the proposed development site or Sandymount Strand (2002 - 2012).         4, c. 1-1.2km south of the proposed development site (2001 and 2014) and c         1.2km south-east of the proposed development site (2010).         Numerous records, c. 700m-1.4km east o         the proposed development site in Dublin Bay (2009 - 2012).         1, c. 1.1km south-east of the proposed development site at Booterstown (2011).         Numerous records, c. 700m-1.4km east o         the proposed development site in Dublin Bay (2009 - 2012).         1, c. 1.1km south-east of the proposed development site in Dublin Bay (2009 - 2012).         4, c. 950m-1.1km south-east of the proposed development site (2006 and 2010).         2, c. 840m south-east of the proposed development site (2006 and 2010).         2, c. 1km south-east of the proposed development site (2010).         2, c. 760m south-east of the proposed development site (2010).         2, c. 760m south-east of the proposed development site in Booterstown (2010).         2, c. 760m south-east of the proposed development site (2010).         1, c. 1.3km south-west of the proposed development site in Booterstown (2010).         1, c. 1.3km south-west of the proposed development site in UCD (2001).         1, c. 1.3km south-west of the proposed development site in UCD (2001).
Saina		14/4	A mala a r	2, c. 840m south-east of the proposed
Snipe	Gallinago gallinago	WA	Amber	development site (2010).
Spattad Dadebank	Tringer on throny		Ambor	2, c. 1km south-east of the proposed
sponed Kedshank	ninga erynnopos	WA	Amber	development site in Booterstown (2010).
Starling	Sturpus vulgaris		Ambor	2, c. 760m south-east of the proposed
Sidning	STUTTUS VUIGUIIS	WA	Amber	development site (2010 and 2011).
Suuitt			Ambor	1, c. 1.3km south-west of the proposed
Swiii	Apus apus	WA	Amper	development site in UCD (2001).
Teal	Anas crecca	WA	Amber	Numerous records, c. 700m-1.4km east of

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
				the proposed development site on Sandymount Strand (2009 - 2012).
Tufted Duck	Aythya fuligula	WA	Amber	1, c. 880m south of the proposed development in UCD (2012).
Turtle Dove	Streptopelia turtur	WA	Amber	1, c. 400m east of the proposed development site (2003).
Wheatear	Oenanthe oenanthe	WA	Amber	1, c. 1km south-east of proposed development site in Booterstown (2009).
Marine Mammals				
Common Porpoise	Phocoena phocoena	WA, HD II, HD IV, OSPAR	-	2, c. 645m east of the proposed development site in Dublin Bay (2013) and c. 1.3km north of the proposed development site in Dublin Bay (2012)
Common Dolphin	Delphinus delphis	WA, HD IV	-	1, c. 1.9km north-east of the proposed development site in Dublin Bay (2012)
Terrestrial Mammals				
Badger	Meles meles	WA	Least Concern	1, c. 1.1km west of the proposed development site in UCD (2011).
Common Pipistrelle	Pipistrellus pipistrellus sensu lato	WA, HD IV	Least Concern	3, directly south of the proposed development site (2001), c. 1-1.2km west of the proposed development site (2007).
Daubenton's Bat	Myotis daubentoni	WA, HD IV	Least concern	2, c. 1-1.1km west of the proposed development site along the River Dodder (2007 and 2008).
Leisler's Bat	Nyctalus leisleri	WA, HD IV	Near Threatened	3, within the vicinity of the proposed development site (2005 and 2001), c. 1-

Common Name	Scientific Name	Protection <sup>18</sup>	Red-Listing Status <sup>19</sup>	Number of Records, Approximate location and Date
				1.2km west of the proposed development
				site (2007).
Myotis Bat Species	_	WA, HD IV	_	2, c. 1-1.2km west of the proposed
				development site (2007).
Natterer's Bat	Myotis nattereri	WA HDIV	Least Concern	1, c. 900m south-west of the proposed
	wyons nancien	, no n		development site (2016).
				1, c. 1.3km west of the proposed
Otter	Lutra lutra		Near Threatened	development site near the River Dodder
				(1980).
				1, c. 1.3km west of the proposed
Otter	Lutra lutra		Near Threatened	development site near the River Dodder
		1.		(1980).
Pinistrelle hat species	Pinistrellus so		Least Concern	2, c. 1-1.2km west of the proposed
		чи <b>д</b> , по ге	Least concern	development site (2007).
				1, c. 320m south-west of the proposed
Red Squirrel	Sciurus vulgaris	WA	Near Threatened	development site in Elm Park Golf Club
				(2015).
				2, c. 900m south-west of the proposed
Soprano Pipistrelle	Pipistrellus pygmaeus	WA, HD IV	Least Concern	development site (2016), c. 1-1.2km west of
				the proposed development site (2007).

Appendix 9.6 Developments located in close proximity to the proposed development, examined as part of the Cumulative Assessment

Reg. Reference	Location	Development Description	Final Grant
3034/13	Bethany House, Junction of Park Avenue & Gilford Road, Dublin 4	The Development will consist of the demolition of the existing 38 no. unit sheltered housing development and associated buildings on the site: the construction of a new part single, part two and part three storey sheltered housing facility of 38. no single person sheltered accommodation units. 1 no. care managers unit (1 no. bedroom) 1 no. guest bedroom (1 no. bedroom) management office, multi purpose space, kitchen and store and laundry; 12 no. surface car parking spaces (including 1 no. disabled space); and bin storage area; the construction of 8 no. houses comprising 1 no. 3 bedroom and two storey detached house and 7 no. 3 bedroom two storey townhouses with attic bedrooms and formation of 2 no. vehicle access points onto Park Avenue; wall and railing boundary along the Park Avenue frontage and all other site development works above and below ground required to facilitate the development including a landscaped internal courtyard to the sheltered housing development.	06/05/2014
3704/14	Saint Johns House, 202, Merrion Road, Dublin 4	Permission for development comprising: alterations, refurbishment and part demolition of existing accommodation together with a new extension to the Nursing Home, consisting of demolition of the existing Glanindare structure above ground (c. 619 sq.m gfa) and ancillary floor space at lower ground level (c. 187 sq.m gfa) located at the rear of the site and retention of the ground floor deck for use as new secure garden space with car parking and plant located below at lower ground level; demolition of the existing two storey return to the north east (rear) of St John's House (c.404 sq.m gfa); demolition of existing single storey sunroom located on the southern elevation and porch located on the western elevation (c. 55 sq.m gfa in total) of St John's House; construction of a new three storey extension (c.3,338 sq.m gfa) to the rear of St John's House to now provide for 56 no. beds spaces overall; plant is located at second floor roof level and lower ground level; internal refurbishment, reconfiguration and fit out of the existing two storey St John's House building fronting Merrion Road (c. 737 sq.m gfa), which will accommodate ancillary nursing home facilities including office and cafe/dining facilities at ground floor level and dining rooms at first floor level; provision of new entrance canopy to the north western corner of the existing St John's House building. There are terraces located at first and second floor levels of the development; located at the south-western corner and northern elevation of the buildings and also addressing the internal courtyard. Widening of both western and eastern vehicular accesses from Merrion Road to approx. 6m wide each so as to allow 2-way traffic flows is also proposed; New service yard located to the east side of St. Johns House and service vehicle access via existing eastern gate; provision for 22 no. car parking spaces; all associated site development works and landscaping; The resultant Nursing Home will be c.3,883.5 sq. m in area on an overall site area of c. 4,413 sq	24/04/2015
4057/09	RTE	PROTECTED STRUCTURE: Application for a ten year permission to provide a new broadcasting facility at the RTE Campus, N11 Stillorgan Road, Donnybrook, Dublin 4. The proposal measures 103,553 sq.m including basements and 63,554 sq.m excluding basements and has a height from 10.7 metres to 36 metres over double basement. The new Broadcasting Facility provides television and radio studio accommodation; multi-purpose space; news rooms; orchestra accommodation; staff office accommodation and associated facilities; creche; sound stages; set storage; plant areas; broadcasting technology suites; work shops; television production outdoor sets; permanent and temporary internal campus roads; cycle and pedestrian facilities; 800 no. car parking spaces all at basement level; 3 no. coach parking spaces at ground level; 272 no.	24/10/2010 (10 year permission)

Reg.	Location	Development Description	Final Grant
Reference			
		bicycle parking spaces at ground level; 98 no. motorcycle parking spaces; extensive landscape works, including a new plaza	
		and upgrading of the linear park along the N11 Stillorgan Road; the alteration to the existing 3 arm N11 / Airfield junction to	
		a 4 arm signal controlled junction to provide new vehicular and pedestrian access off the N11 Stillorgan Road to the site;	
		additional pedestrian an access points off the N11 Stillorgan Road and all associated site development works. There area	
		two protected structures on the RTE campus, Montrose House and Mount Errol House (but not included in the application	
		site). The application site measures 6.98ha and the RTE Campus as a whole measures 13.0ha. The proposal is to be built in	
		three interconnected Blocks over five phases. Block 1 comprises the southern most or front element to the N11 Stillorgan	
		Road and is arranged around a centralised atrium and generally accommodates TV news and day time studios, news desk,	
		orchestra studio, general offices, canteen, reception rooms, multi-purpose performance space, a coffee shop, RTE shop, RTE	
		archive portal and the RTE credit union. A number of satellite dishes with maximum diameter 2.4m will be located at roof	
		level. It ranges in height from 28.5m to 36m (at the sloping atrium roof) ; Block 2 is located to the north-east of Block 1 and	
		accommodates five large TV studios with adjoining audience assembly rooms (with cloakroom, WC and bar facilities) two of	
		which are capable of amalgamation, 3 smaller TV studios, 9 radio broadcast studios, actor and presenter accommodation	
		and control room suites. Block 2 has a height generally of 19.5m but with a high point of 28.5m where a vertical sliding	
		studio door is accommodated in structure at roof level. Block 2 is separated from Block 1 by an internal audience street	
		(25.5m high); Block 3 is the northern most (rear) element. It accommodates offices, set storage, work shops, data storage	
		and equipment rooms, server room, broadcasting technology suite, library/archive space, loading bay and service yard.	
		Block 3 is separated from Block 2 by an internal street (21m high) and generally ranges in height from 10.7m to 19.5m. The	
		proposal involves the demolition of the remaining wall of a walled garden formally associated with Mount Errol (Protected	
		Structure), two storey Radio building (5,900 sq.m) a multi-storey car park (2,395sq.m) with 216 no. car parking spaces, a	
		single storey creche (597sq.m) a two storey sound stage/library building (2900 sq.m) a two storey set storage building (1848	
		sq.m) and an external production set. The proposal is to be built in five phases as follows; Phase One comprising 3 television	
		production studios and young people's studio with all associated set management, production and audience facilities,	
		service yard, radio studios, plant and technical support facilities all part of Blocks 2 and 3. Phase two comprising 1 television	
		production studio with all associated set management, production and audience facilities, radio studios, technical support	
		facilities and plant, all part of Blocks 2 and 3. Phase three comprising an orchestra studio, daytime studio, news studio with	
		all associated set management production and visitor facilities, radio studios, edit and dubbing suites and administrative	
		office facilities all part of Block 1. Phase four comprising entrance foyer, visitor facilities, staff canteen, visitor's basement	
		parking, public archive, coffee shop and credit union, all part of Block 1. Phase five comprising 2 television production	
		studios/sound stages with all associated set management, production and audience facilities, service yard, administrative	
		and technical support facilities and plant all part of blocks 2 and 3. The application is accompanied by an Environmental	
		Impact Statement (EIS). The EIS will be available for inspection or purchase for a fee not exceeding the reasonable cost of	
		making a copy at the offices of the Planning Authority during its public opening hours.	

Reg. Reference	Location	Development Description	Final Grant
2876/15	RDS lands, Ballsbridge, Dublin 4	PROTECTED STRUCTURE: The specific site of the proposed development comprises 0.68 hectares and is bounded by the Intercontinental Hotel to the north, Simmonscourt Road to the south and east and the RDS Jumping enclosure / Jumping ring No.1 to the west. There are a number of protected structures within the RDS complex. The development will consist of revisions to the permitted development under Dublin City Council planning reg. ref. 2617/03/x1) specifically relating to the permitted 5 and 6 storey [with plant at 7 storey level (32.2mODJ) Office Blocks (Blocks C & D) and comprise;- A) Reorientation of Block D and its incorporation into Block C to form a single L shaped 5 and 6 storey office block (with plant at 7 storey level] (overall height 32.2mOD); B) Associated internal reconfiguration of all floor areas to include for revised core arrangement/locations; C) Alterations to permitted glazing and cladding finish on all elevations including reduction in roof canopy and inclusion of brise-soliel/roof canopy over proposed relocated entrance area; D) reconfiguration of terrace areas;- to include removal of terraced area on the southern facade at fourth floor level as well as the relocation of the roof terrace area fronting onto Simmonscourt Road to teh Westeren Elevation at 5th Floor level and the reconfiguration of permitted terraced area adjacent to the rear of the Intercontinental Hotel; E) Reduction in footprint of basement area from 5,029sq. m to 2,815sq.m resulting in a reduction in car parking spaces from 114 no. to 50 no. car parking spaces and provision of 113 no. cycle spaces, shower areas and reconfigured plant areas, all at basement level; F) Revised access adjacent to retained veiticular access to basement from the southern end of site adjacent to retained existing wylie gate to provide for appropriate segregation of vehicular, pedestrian and equine accesses at the Wylie gate adjacent to new landscaped area located to the front frevised office block [C neconfigured access s adjacent to retained under D	02/09/2015
2221/16	Former AIB	Development at a site of 1.513 hectares. The development will consist of the demolition of the existing four no. office	ABP
	Bank Centre	blocks with a total gross floor area of 9,789 sq.m on the site and the construction of 2 no. 6 storey office buildings (with	04/10/2016
	lands,	setbacks at 4th and 5th floor) over three levels of basement, with office accommodation at upper basement level, parking	

Reg. Reference	Location	Development Description	Final Grant
	Junction of Merrion Road and Serpentine Avenue, Ballsbridge, Dublin 4	and ancillary facilities at lower basement level and a sub-basement area to accommodate a gym, ancillary to the proposed office use and plant room areas. The total gross floor area of the offices, including basement levels is 52,247 sq.m. The gross floor area of the proposed office accommodation is 40,321 sq.m. Development includes 2 no. single storey café/ restaurant/ retail units of 36 sq.m and 104 sq.m located at upper basement level in the proposed central plaza. Both blocks include terraces at fourth and fifth floor level. Vehicular and cycle access to the basement car park is proposed from the existing vehicular access off Merrion Road on the southern boundary of the site. The development includes the provision of 164 no. car parking spaces, 405 no. bicycle parking spaces (in the lower basement) and 58 additional visitor spaces (at surface level), 7 no. motorcycle spaces, showers, changing and locker space at lower basement level. Pedestrian access via the existing central plaza is retained. Works to the plaza include its lowering to upper basement level, new access steps, planting, water features and hard and soft landscaping. The development includes plant areas and internal switch rooms, all associated site development works, hard and soft landscaping and all other ancillary works. The development includes the construction of a two storey substation/ switch room building located to the west of the site with an area of 57.5 sq.m. Existing site boundary railings to be retained and refurbished.	
3467/16	RDS Lands (approx. 16.2 hectares), Ballsbridge Dublin 4	PROTECTED STRUCTURE: The specific area of the proposed development comprises c. 0.89 hectares and relates to the replacement and redevelopment of the Anglesea stand and associated Anglesea terrace with a new 3 level 6,481 person capacity grand stand with a connected 2 level (storey) hospitality / service building ("Pocket Building") and is bounded generally by Judging ring Nos. 1 and 2 to the North, the RDS main arena to the south, Simmonscourt Road to the east and the existing RDS offices and Anglesea Road to the west. There are a number of Protected Structures within the RDS complex. The development will consist of :- A) Revisions to the permitted refurbishment Anglesea stand under Dublin City Council Planning Reg. Ref. 2617/03/X1) and revised under Planning Reg. Ref. 295.205688 & extended under Dublin City Council Planning Reg. Ref. 2617/03/X1) and revised under Planning Reg. Ref. 2876/15 relating to the Anglesea stand and associated structures to provide a new 3 level grandstand (6,481 person capacity) with a connected 2 level (storey) hospitality / services building ("Pocket Building") with basement level -01 (107 sq.m) including a club shop and substation (overall 8,604 sq. m [ enclosed areas 2,805.3 sq. m, concourse areas 2,721.7 sq.m with views facing onto Judging rings, external upper and lower tier of stand 3,077 sq.m) with concrete, painted steel, metal panels render and glass finishes to structures in place of previously permitted refurbished stand and comprises:- B) Demolition of: Existing Anglesea stand and Anglesea terrace structure (approx. 7,716 sq. m) ever 3 levels - 21.3M [26.8M OD] in height (with associated floodlighting and acoustic pa within roof of new stand) with a connected (via a glazed bridge link at level 01) "Pocket Building" of (1,204.3 sq. m) and removal of modern terrace (Approx. 44sq.m) area surrounding the clock tower (a Protected Structure); C) Provision of a new grandstand (7,332.2 sq. m) over 3 levels - 21.3M [26.8M OD] in height (with associat	08/11/2016

Reg.	Location	Development Description	Final Grant
Reference			
		13.3M); media, players and officials facilities (c. 356.7 sq.m [ 217.8 sq.m in Horseshow mode]); corridor / circulation areas (c. 74.7 sq.m 30.7sqm in Horseshow mode]); bar / servery areas (c. 994.2 sq.m [1,185.8 sq.m in Horseshow mode]); WC facilities [including disabled & staff facilities] (c. 719.7 sq.m); stores / cold rooms (c. 217.7 sq.m); Season ticket / VIP hospitality areas (c. 56.1 sq.m); Ancillary plant / electric areas (c. 109.5 sq.m); The internal arrangement of the pocket building (and ancillary areas) will be flexible to accommodate rugby and horseshow requirements / events; D) Single storey substation (c. 18.4 sq.m) 3.6M in height [9.92M OD] located to the east of existing south stand; and a single storey double height club shop (c. 49.1 sq.m) 6.7M in height [12.2M OD] located adjacent to existing RDS office building; E) Terrace areas level 00 (396 sq.m) and level 01 (92 sq.m) with Pocket Building on southern facade as well as views from all levels towards parade rings from grandstand and Pocket Building; F) Provision of signage zones (overall 135.5 sq.m) to north (16 sq.m) and south (115 sq.m) elevations of proposed angleasea stand north (2 sq.m) and east (2.5 sq.m) elevations of proposed club shop; G) Revised landscaping to north of anglesea stand and external areas; H) Revisions to permitted surface water / drainage / attenuations / storage arrangements including all associated site development and landscaping works; I) Access arrangements and parking provision as per the established layout and operation of the RDS complex.	
2220/16	St. Mary's Centre Nursing Home, 185- 201, Merrion Road, Dublin 4	Permission is sought for the construction of a 12 bedroom, single-storey extension (560 sq. metres) to existing single-storey, high dependency residential unit (St. Oliver's) together with ancillary site works	12/05/2016
3304/16	Block A, Elm Park, Merrion Road, Dublin 4	The proposed development comprises internal alterations (including the removal of the partial mezzanine level (232 sq.m), some internal walls and stair core) and the reconfiguration of the internal layout and floor levels of the permitted Restaurant unit under DCC Planning Ref. 1539/02, as granted by An Bord Pleanala under ABP Planning Ref. PL29S.201622 (as subsequently extended in duration under DCC Ref. 1539/02/X1) together with a change of use from Restaurant to office use (926 sq.m of floor space). External alterations include the removal of a water feature and the provision of infill extensions to the under croft areas at the eastern and western end of the subject unit to provide an additional 302sq.m of new office floor space and the provision of additional glazing. Other external alterations include the raising of sections of the existing flat roof by approximately 0.6m and the provision of sedum roof covering on top together with the provision of a new revolving entrance door to the ground floor southern elevation, the removal of the existing entrance and the provision of two new emergency exits to the eastern elevation and the relocation of an emergency exit to the western elevation. In the interest of clarity the proposed development will provide a total of 1,228 sq.m of office floor space (GFA) arranged over two floors at ground and first floor level.	11/10/2016

Reg. Reference	Location	Development Description	Final Grant
3094/16	RTE Campus, Stillorgan Road, and Nutley Lane, Donnybrook, Dublin 4	PROTECTED STRUCTURE: RTÉ intend to apply for planning permission for development at a 2.52 hectare site at the RTE Campus. The application site is located partly within the curtilage of Montrose House, a Protected Structure. The proposed development comprises the following: A new access/egress to the lands from the R138 (Stillorgan Road). The proposed access/egress junction comprises of a two lane road with footpaths, pedestrian crossings and landscaping, and amendments to existing internal road network at the RTE lands, and will create a new public plaza entrance to the RTE lands; The closure of the existing main (south-easterly) access/egress to the RTE lands from Nutley Lane, except for emergency access, and associated new boundary treatment; Reconfiguration of existing surface car parking area on the RTE lands at the access/egress junction, provision of surface car parking area opposite the existing (proposed to be closed off) Nutley Lane entrance, resulting in the net loss of 25 no. car parking spaces to accommodate the proposed new access/egress; Works to Stillorgan Road, including new westbound right turn lane to RTE lands, new eastbound left turn lane to RTE lands, provision of a new central median, pedestrian crossings, realignment of road markings, new footpaths and cycle lanes, and other associated and ancillary works; All associated and ancillary works, including hard and soft landscaping, new boundary treatment, surface water drainage works, relocation of existing security barriers, and relocation of existing flagpoles from Nutley Lane entrance to new access/egress iunction.	25/11/2016
2210/16	Greenfield, Lands off Greenfield Park, Donnybrook, Dublin 4 (on lands measuring approx.1.35 hectares)	The development will consist of the demolition of the existing single storey sheds (670 sq.m) and the construction of 5 no. buildings accommodating 71 no. residential apartments in total comprising of: - Block 1. Residential building (4 storeys with semi-basement car parking c.2360 sq.m gfa) accommodating 6 no. 2 bed apartments, 6 no. 3 bed apartments and 1 no. 4 bed apartment, with associated balconies/ terrace for each apartment from ground to fourth floor levels. Security/ Concierge office (46 sq.m) at ground floor Block 2. Residential building (4 storeys with semi-basement car parking c. 2192 sq.m gfa) accommodating 12 no. 2 bed apartments and 2 no. 3 bed apartments, with associated balconies/ terrace for each apartment from ground to fourth floor levels Block 3. Residential building (4 storeys with semi-basement car parking c. 2192 sq.m gfa) accommodating 12 no. 2 bed apartments and 2 no. 3 bed apartments, with associated balconies/ terrace for each apartment from ground to fourth floor levels Block 4. Residential building (4 storeys with semi-basement car parking c. 2192 sq.m gfa) accommodating 13 no. 2 bed apartments and 2 no. 3 bed apartments, with associated balconies/ terrace for each apartment from ground to fourth floor levels Block 4. Residential building (4 storeys with semi-basement car parking c. 2192 sq.m gfa) accommodating 13 no. 2 bed apartments and 2 no. 3 bed apartments, with associated balconies/ terrace for each apartment from ground to fourth floor levels Block 5. Residential building (4 storeys with semi-basement car parking c. 2192 sq.m gfa) accommodating 13 no. 2 bed apartments and 2 no. 3 bed apartments, with associated balconies/ terrace for each apartment from ground to fourth floor levels Energy Centre. Construction of single storey flat roof 82 sq.m plant room incorporating 1 no. ESB substation and switch room (c. 27 sq.m). Construction of semi-basement car parking (c. 2170 sq.m) accommodating 75 no. residential car parking spaces which includes 5 no. universal	ABP Grant 06/12/2016

Reg. Reference	Location	Development Description	Final Grant
		widened and improved and will serve the entire development (including integrated signage); Provision of internal routes for vehicular and pedestrians and cyclists; hard and soft landscape works, including changes in level and lighting; provision of amenity open space and children's play space; provision of boundary treatments; All other site excavation and development works above and below ground.	

Appendix 9.7 A Bat Assessment of the Lands and Buildings at St. Vincent's University Hospital, Dublin 4 and Potential Impacts of the Proposed Development on the Bat Fauna (Keely, 2014)

# A Bat Assessment of the Lands and Buildings At St. Vincent's University Hospital, Dublin 4 And Potential Impacts of The Proposed Development On the Bat Fauna



# Brian Keeley B.Sc. (Hons) in Zool. MCIEEM

September 2014

# Introduction

Bats are a widespread element of the Irish fauna. They are known to occur from much of the rural landscape but they are also present within the urban environment and here they occupy buildings and occasionally trees for short or long periods. Houses are a vital element of the annual cycle of all Irish bat species and at no time more so than the period May to August but many bats may also avail of buildings as hibernation sites but the presence of bats may be impossible to determine at this time.

Changes to a site may reduce the lands available to bats as a feeding site and in some cases may even destroy their dwelling place through or during the partial or total demolition, restoration and renovation of buildings, clearance activities and the subsequent construction.

Bats are protected by Irish and EU law and to prevent unlawful injury or death, it is essential that a full understanding of the site is available in advance to protect the resident bats from unintentional and to create a pathway by which a legal derogation and exemption may be designed in consultation with the National Parks and Wildlife Service of the Department of Environment, Heritage and Local Government.

This assessment focuses on the potential impacts of demolition and future construction within the campus of St. Vincent's University Hospital; relatively recent buildings as well as very modern buildings. The site will undergo a clearance of buildings and vegetation including a row of tall broadleaves planted along the perimeter between the golf course and the hospital.

Dublin is a modern city with many historic elements and where vegetation is generally absent from the commercial sections of the town, including the adjoining major streets of this development area. However, there are also green areas such as the neighbouring golf course and this could easily be an area of high value to bats. The site under examination lies in an overall well-populated area. Surveys by the author in the surrounding areas previously have provided evidence of feeding and commuting and feeding common and soprano pipistrelles and a roost of Leisler's bats in the built-up area (Stillorgan Road area and Clonskeagh) and Leisler's bats are known to feed on Sandymount Strand. A Leisler's bat was discovered on the pavement in Donnybrook village c. 1990.

Prior to the demolition of buildings, particularly of buildings close to a river or canal or green space, it is essential to ensure that there will be no impact upon protected species, such as all of Ireland's bats. Bats may be present within a building unbeknownst to owners and even residents and there is a requirement to undertake a survey by suitably qualified ecologists with the appropriate equipment to determine if bats are present, if so, which species and in what abundance are they present and the consequences of the modifications of the site and measures to alleviate the negative effects of these changes.

Surveying for bats in September is a suitable time to address the feeding activity and autumnal usage of a building and in many cases to identify large maternity roosts that may linger into September. Most maternity roosts have dispersed by this time but there may still be ample evidence in enclosed spaces of former usage.

# Methodology

The following optical equipment and bat detectors were used:

Pettersson D240X time expansion/ heterodyne detector, Anabat SD2 frequency division detector

Echo Meter 3 (EM3) broadband detector (time expansion, frequency division and heterodyne)

Explorer Premium Digital Endoscope Camera and Canon EOS 1100D

Software employed: Kaleidoscope Pro, Batsound and AnalookW

The proposed development site at SVUH was examined on September 10<sup>th</sup> 2014, firstly in daylight from 5.00 pm onwards and later from prior to sunset to the period prior to dawn. The site was visually inspected for the presence of bats with the aid of a high powered beam and an Explorer Premium Digital Endoscope Camera. A bat detector assessment commenced prior to dusk and continued for two hours before a pause in surveying and recommencement one hour before dawn.

The bat detector survey of the site commenced at 7.30 pm within the central area of the buildings proposed for removal. An Anabat SD2 was placed within the centre of the buildings complex prior to dusk and was moved at 9.10 pm to a point alongside the trees proposed for removal as part of this development to assess for feeding and returning bats and remained in place to cover any dawn activity indicating bats returning to a roost. This is additional information to the data gathered during the active survey and it allows for observations that may occasionally be too brief for a surveyor to avail of while engaged in moving through the site or concentrating on one location over another.

The grounds were walked repeatedly from dusk onwards up to 10.00 pm and again from 5.30 am to 7.00 am on the following morning. Surveying concentrated on the buildings proposed for removal, in particular upon the boiler house (a site where bats commonly congregate due to the heat given off by machinery and pipes). The trees were assessed from after emergence time for any returning bats and again prior to dawn for the same reason.

The eaves of all buildings were examined for any evidence of emerging bats (e.g. staining, droppings on the wall or on windows). All open buildings were entered and checked internally. Access to all areas of the buildings was not possible due to health considerations; the buildings are a part of an active hospital and it was deemed unnecessary to create difficulties for staff and patients given the highly unlikely nature (of roost provision) of the roof structures of the buildings.

The trees proposed for removal were examined visually for likely roost points in daylight and any spots with roost potential areas served as a focal point for the bat detector assessment prior to dawn.

A desktop survey of all records for bats within the immediate Dublin area was undertaken and the records of the National Biodiversity Data Centre in Waterford were checked for each of the bat species. Any observations by the author in surrounding areas were also included in this report.

Weather conditions were mild and dry with  $\frac{1}{2}$  sky cloud cover and very suitable for bat activity. Sunset was at 7.53 pm and sunrise was at 6.51 am.

# **Existing Environment**

## Bat fauna at SVUH

No bat roosts were encountered roosting within the site in September 2014.

There are few suitable roosting points for bats. There are no attics. There are few areas with the exception of the boiler house with high temperature and suitable humidity. Many of the buildings (for example, Unit D in the hospital plan) where there are high levels of ultrasonic emission that would be disturbing to bats.

## Common pipistrelle Pipistrellus pipistrellus

Bat activity was noted within the hospital grounds in one area only; around the trees proposed for removal and along the hospital grounds boundary in this surrounding area. Common pipistrelles (a maximum of two bats was likely) were encountered feeding around these trees. While surveying with detectors commenced at 7.30 pm, no bats were heard until 9.12 pm when a common pipistrelle was noted close to the trees.

Common pipistrelle activity was noted in the vicinity of the trees and along this boundary on 11 occasions during the night (on a total of twenty passes at 9.13, 9.17, 9.18, 9.24, 9.25, 9.28, 9.29, 9.30, 9.31, 9.35 and 9.42 pm). Prior to dawn, a common pipistrelle was noted once at 5.58 am.

In essence, there was no evidence of roosting bats within any of the buildings examined that would be removed for the proposed development. No bat activity was in evidence around these buildings.

The trees that would be cleared for the proposal are predominantly sycamore with some elder and young pedunculate oak. There is some potential in the sycamore but a roost is very unlikely but not impossible.

# Modifications or Features introduced by the proposed development

## • Demolition of the existing buildings

There will be a need to demolish the existing hospital wards, boiler house, stores, service yard and refuse collection point and other buildings to progress with any new development of this site.

# Vegetation alterations

There will be a requirement to remove vegetation from the site. This will include a small green area and trees as well as a line of semi-mature and immature broadleaved trees. These trees serve as a feeding area early in the night and prior to return to the roost for bats.

There will be a loss of greenery that may reduce available plant and animal prey for mammals and other species.

## • Lighting

There may be an increased level of lighting overall but lighting levels are high in a number of areas as it stands. This may lead to the disturbance of light intolerant or shy species while the more urban-adapted species will be affected only over a short-term period. As common pipistrelles were the only bats noted, the impact from lighting is likely to be minimal.

# **Impacts Of The Proposed Development**

# **Potential roost loss**

Demolition creates a risk of roost loss. However, there is no evidence of bat usage of the buildings and major roost loss is ruled out entirely. Individual usage or even use by small numbers of bats cannot be ruled out in an annual cycle beyond the scope of a standard bat survey. However, this would appear to be unlikely.

# **Disturbance from lighting**

Lighting may be increased for two different functions:

1) Access and safety and 2) Security and policing

The former is to allow ease of use for residents at night. The latter is to ensure that staff and patients feel a higher level of security.

This may affect bat species in particular light-intolerant bat species during foraging and if directed at emergence points would affect all bat species, even those that will feed in illuminated areas. However, there are no roosts on site and therefore illumination would only affect commuting rather than roosting, Species such as pipistrelle and Leisler's bat (likely to feed at some point within the hospital gounds) are less affected than all other Irish bat species and this would not be a significant impact overall in the current situation. At worst, it would be a permanent negligible to slightly negative impact.

# **Reduced Feeding**

Reduced vegetation including the removal of a small number of mature trees may lead to reduced insect abundance. This will be a permanent slight negative impact. There are still a bank of trees without the golf course of benefit to bats and thus the feeding may be slightly reduced but not entirely removed.

# Disturbance from increased proximity and number of humans

While most vertebrate fauna are negatively affected by the physical presence of humans, bats are generally oblivious to human presence once it is not accompanied by increased lighting or ultrasonic noise. The increased human presence is unlikely to be of significance given the low number of bats present and the absence of a bat roost on site.

# **Proposed Mitigation**

# Examination of trees for roosting bats prior to felling

While it is unlikely that the trees serve as roost sites, it is impossible to rule out their usage. To ensure that bats are not injured or killed during felling, it is recommended that a bat specialist shall inspect the sycamores for roosting bats prior to felling. This may be carried out visually with a fibrescope from height (e.g. ladder, teleporter, hoist) or by bat detector survey.

# Lighting should be designed with controlled directionality and timing

While bats are not directly affected at the hospital, overall light pollution of the area would ensue from untargeted lighting. Therefore it is recommended that bollard lighting is employed where essential unless there is an equivalent means by which light overspill can be controlled.

The source of light should be Light Emitting Diodes (LEDs) as this is a narrow beam highly directional highly energy efficient light source. The lighting should allow for a light level of 3 lux at ground level. This low lighting is thus easier to control both the direction but also the actual light level because it is so close to the target area.

Lighting should preferably respond to a trigger (motion sensor on approach of vehicles or pedestrians) and be capable of dimming.

In relation to security, it is recommended that infra-red lighting and infra-red cameras are employed to record anti-social activity to assist in crime solving and prevention. This would not raise the visible light levels that would affect mammals and birds to a much greater extent. It is still entirely adequate for monitoring and identification.

In summary, the following would address the main lighting concerns:

(1)No floodlighting should be used – this causes a large amount of light spillage into the sky. The spread of light should be kept below the horizontal.

(2) Hoods, louvres, shields or cowls should be fitted on the lights to reduce light spillage.

(3) Lights should be of low intensity. It is better to use several low intensity lights than one strong light spilling light across the entire area.

(5) Lights should be on a timer system to switch off relatively quickly in the absence of sustained movement.

(6)Narrow spectrum lighting should be used with a low UV component. Glass also helps reduce the UV component emitted by lights.

# **Planting of tree lines**

The trees to be removed should be matched in number and age (or if possible increased). Broadleaved trees are generally more beneficial to bats. Tree lines are of far greater benefit to bats than single, free-standing trees or shrubs as these form corridors for movement and avoidance of light, a better shelter belt for the clustering of insects and they provide greater substrate for insect breeding and feeding.

Native and local plant species should be employed including typical plants such as oak (the greatest value for most wildlife), ash, hawthorn, blackthorn, elder, gorse, bramble, in addition to other species such as dog rose with an encouragement of species such as *Clematis* and other species attractive to moths.

# **IMPACTS OF THE DEVELOPMENT AFTER MITIGATION**

It is predicted that there will be no overall effects upon the bat fauna discussed in this report from the proposal development in the long term. Lighting, if following the guidelines proposed, will not interfere with feeding or commuting bat species.



Area where all bat activity was noted on the campus



Area where trees will be removed



Buildings for removal as part of the proposal



Boiler house, service yard, vents and typical prefabicated stucture on site



Bat activity recorded at the trees proposed for removal as part of the construction project While there was relatively sustained activity in the hour from 9 pm to 10 pm, there was little activity throughout the night and the very low activity prior to dawn rules out the likelihood of any of the trees being used as a roost at the time of survey