

Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for proposed amendments to a permitted SHD Development at Baldoyle-Stapolin Growth Area 1, Baldoyle, Dublin 13.



3rd April 2023

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

On behalf of: The Shoreline Partnership

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie

Directors: Bryan Deegan and Sara Corcoran

Company No.427560 VAT No. 9649832U

www.altemar.ie

Document Control Sheet			
Project	Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for proposed amendments to a granted planning permission at Stapolin Growth Area 1, Baldoyle, Dublin 13.		
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Introduction

The following Appropriate Assessment (AA) (Screening Stage) and Natura Impact Statement has been prepared by **Altamar Ltd.** at the request of The Shoreline Partnership. The project relates to an application for proposed amendments to a permitted SHD Development (ABP Ref. 310418) at Baldoyle-Stapolin Growth Area 1, Baldoyle, Dublin 13. An Appropriate Assessment is an assessment of the potential effects of a proposed project or plan, on its own, or in combination with other plans or projects, on one or more European sites. European sites are those sites designated as Special Areas of Conservation (SAC) or Special Protection Areas (SPA).

The AA Screening stage examines the likely significant effects of a plan or project, either on its own, or in combination with other plans and projects, upon a European site and considers whether, on the basis of objective scientific evidence, it can be concluded that there are no likely significant effects on any European site, in view of best scientific knowledge and the conservation objectives of the relevant European sites.

The Natura Impact Statement examines whether the plan or project, either alone, or in combination with other plans and projects, in the view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European sites.

Altamar Ltd.

Since its inception in 2001, Altamar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments. Bryan Deegan is the managing director of Altamar. Bryan is an environmental scientist and marine biologist with 28 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan Deegan carried out all elements of this Appropriate Assessment Screening and Natura Impact Statement.

Background to the Appropriate Assessment

The Habitats Directive 92/43/EEC (together with the Birds Directive (2009/147/EC)) forms the cornerstone of Europe's nature conservation policy. The Directive protects over 1000 animals and plant species and over 200 "habitat types" which are of European importance. In the Habitats Directive, Articles 3 to 9 provide the legislative means to protect habitats and species of European Community interest through the establishment and conservation of an EU-wide network of conservation sites (NATURA, 2000). These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive). Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the [NATURA 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the component national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

As outlined in "Managing European sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" (European Commission, 21 November 2018) *"The purpose of the appropriate assessment is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in combination with other plans or projects. The conclusions should enable the competent authorities to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus of the appropriate assessment is therefore specifically on the species and/or the habitats for which the European site is designated."*

As outlined in the EC guidance document on Article 6(4) (January 2007)¹:

“Appropriate assessments of the implications of the plan or project for the site concerned must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives. This implies that all aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field.

Assessment procedures of plans or projects likely to affect European sites should guarantee full consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts. These determine what has to be compensated, both in quality and quantity. Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impact assessment procedures or other specific methods, it must be ensured that:

- *Article 6(3) assessment results allow full traceability of the decisions eventually made, including the selection of alternatives and any imperative reasons of overriding public interest.*
- *The assessment should include all elements contributing to the site's integrity and to the overall coherence of the network as defined in the site's conservation objectives and Standard Data Form, and be based on best available scientific knowledge in the field. The information required should be updated and could include the following issues:*
 - *Structure and function, and the respective role of the site's ecological assets;*
 - *Area, representativity and conservation status of the priority and nonpriority habitats in the site;*
 - *Population size, degree of isolation, ecotype, genetic pool, age class structure, and conservation status of species under Annex II of the Habitats Directive or Annex I of the Birds Directive present in the site;*
 - *Role of the site within the biographical region and in the coherence of the European network; and,*
 - *Any other ecological assets and functions identified in the site.*
- *It should include a comprehensive identification of all the potential impacts of the plan or project likely to be significant on the site, taking into account cumulative impacts and other impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.*
- *The assessment under Article 6(3) applies the best available techniques and methods, to estimate the extent of the effects of the plan or project on the biological integrity of the site(s) likely to be damaged.*
- *The assessment provides for the incorporation of the most effective mitigation measures into the plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.*
- *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the European assets which must also be useful to monitor the plan or project implementation.”*

¹ European Commission. (2007).Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;

Stages of the Appropriate Assessment

This Appropriate Assessment screening was undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (EC, 2001), Part XAB of the Planning and Development Act 2000, as amended, in addition to the December 2009 publication from the Department of Environment, Heritage and Local Government; 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities' and the European Communities (Birds and Natural Habitats) Regulations 2011. In order to comply with the above Guidelines and legislation, the Appropriate Assessment process must be structured as follows:

1) Screening stage:

- Description of plan or project, and local site or plan area characteristics;
- Identification of relevant European sites, and compilation of information on their qualifying interests and conservation objectives
- Identification and description of individual in combination effects likely to result from the proposed project;
- Assessment of the likely significance of the effects identified above. Exclusion of sites where it can be objectively concluded that there will be no likely significant effects; and,

Conclusions

2) Appropriate Assessment (Natura Impact Statement):

- Description of the European sites that will be considered further;
- Identification and description of potential adverse impacts on the conservation objectives of these sites likely to occur from the project or plan; and,
- Mitigation Measures that will be implemented to avoid, reduce or remedy any such potential adverse impacts
- Assessment as to whether, following the implementation of the proposed mitigation measures, it can be concluded, beyond all reasonable scientific doubt, that there will be no adverse impact on the integrity of the relevant European Site in light of its conservation objectives"
- Conclusions.

If it can be demonstrated during the AA screening phase (Stage 1), that the proposed project will not have a significant effect, whether alone or in combination with other plans or projects, on the conservation objectives of a Natura 2000 site, then no further AA (Stage 2) will be required. It is important to note that there is a requirement to apply a precautionary approach to AA screening. Therefore, where effects are possible, certain or unknown at the screening stage, AA will be required.

In addition, it should be noted that Article 6(3) of the Habitats Directive must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an AA of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.

Stage 1 Screening Assessment

Management of the Site

The plan or project is not directly connected with, or necessary to the management of NATURA 2000 sites.

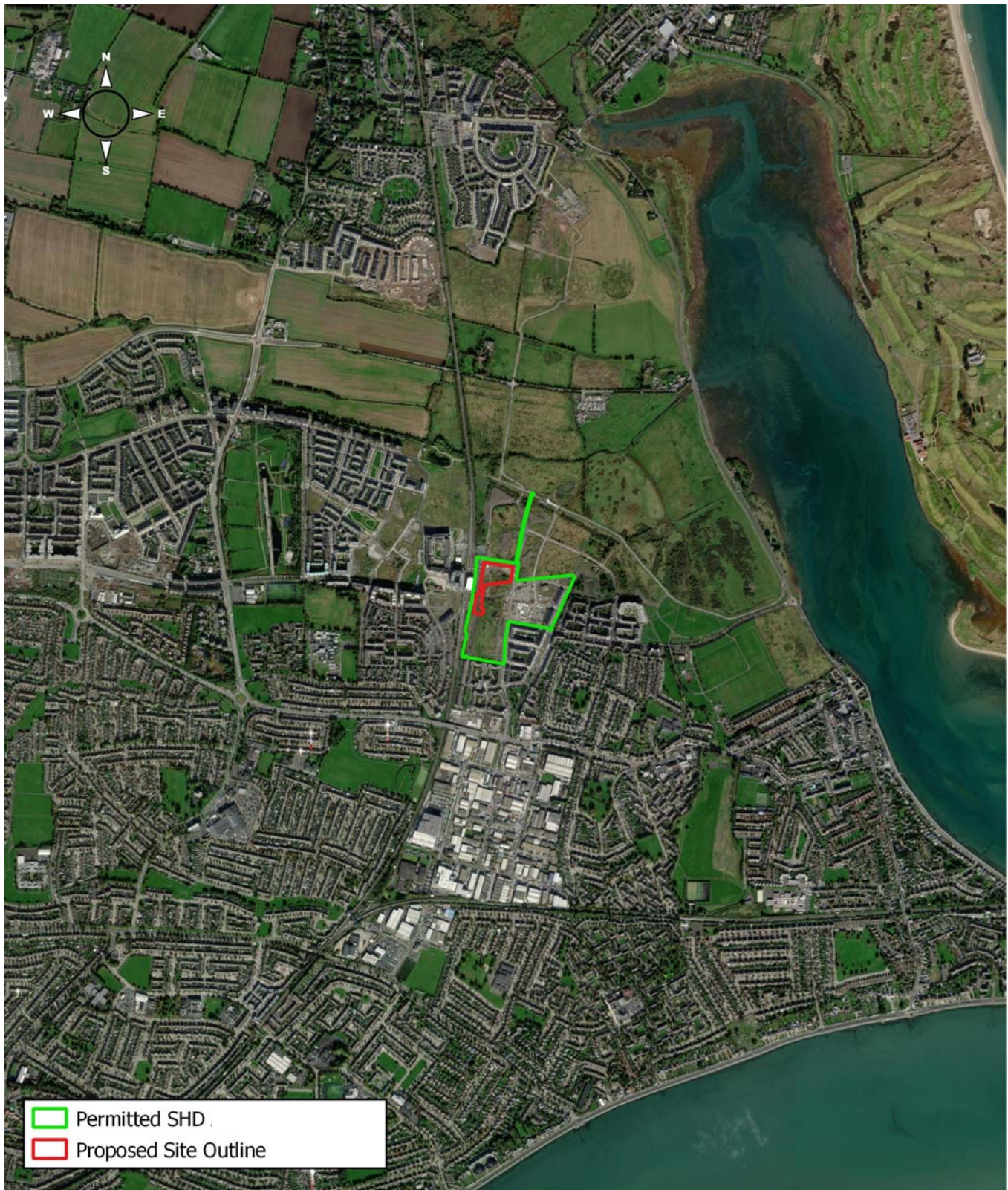
Description of the Proposed Project

The proposed development consists of amendments to a permitted SHD on GA1 lands (ABP 310418) with an overall site area of 9.10ha. The proposed amendments subject to this LRD application comprises a site area of 1.02ha within the wider permitted landbank and consists of:

- Reduction in building height of Block A1 from an 8-6 no. storey building to a 7-6 no. storey building, façade enhancements and amendments to the building form;
- Reduction in building height of Block D1 from an 9-6 no. storey building to a 7-6 no. storey building, façade enhancements and amendments to the building form;
- Reduction in building height of Block D2 from an 8-6 no. storey building to a 7-6 no. storey building, façade enhancements and amendments to the building form;
- Reduction in building height of Block D3 from an 15-5 no. storey building to a 10-5 no. storey building, façade enhancements and amendments to the building form;

All other elements of the development remain as permitted under ABP 310418 with proposed amendments resulting in a reduction of 55 no. units from 882 no. units to 827 no. units.

The proposed site outline, location, permitted site masterplan, proposed site plan, and elevations are demonstrated in Figures 1-6.



0 0.5 1 1.5 2 km

Project: Stapolin GA1
 Location: Baldoye, Co. Dublin
 Date: 29th March 2023
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 1. Site outline and location

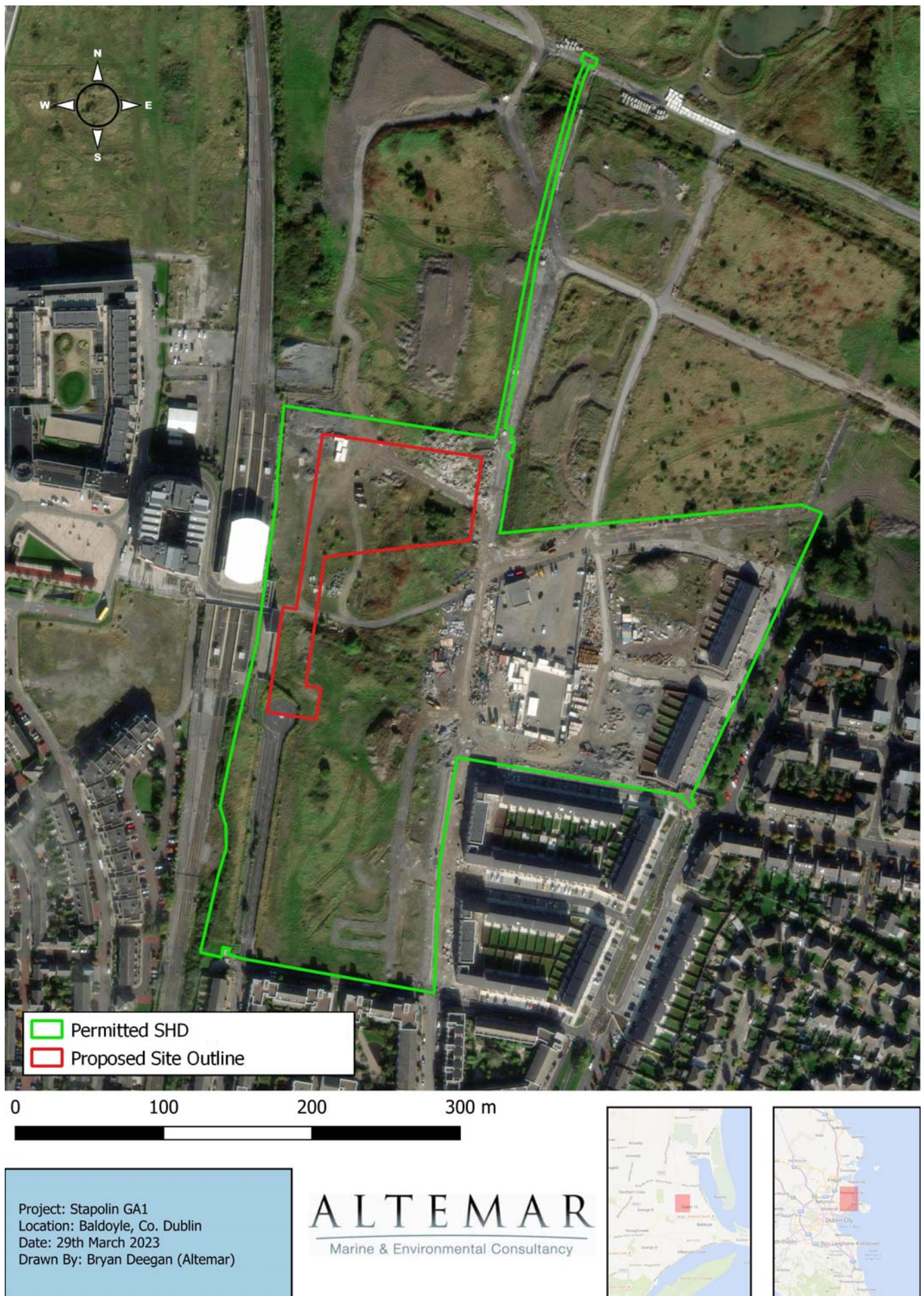


Figure 2. Site outline







Figure 5. Proposed Site Layout Plan

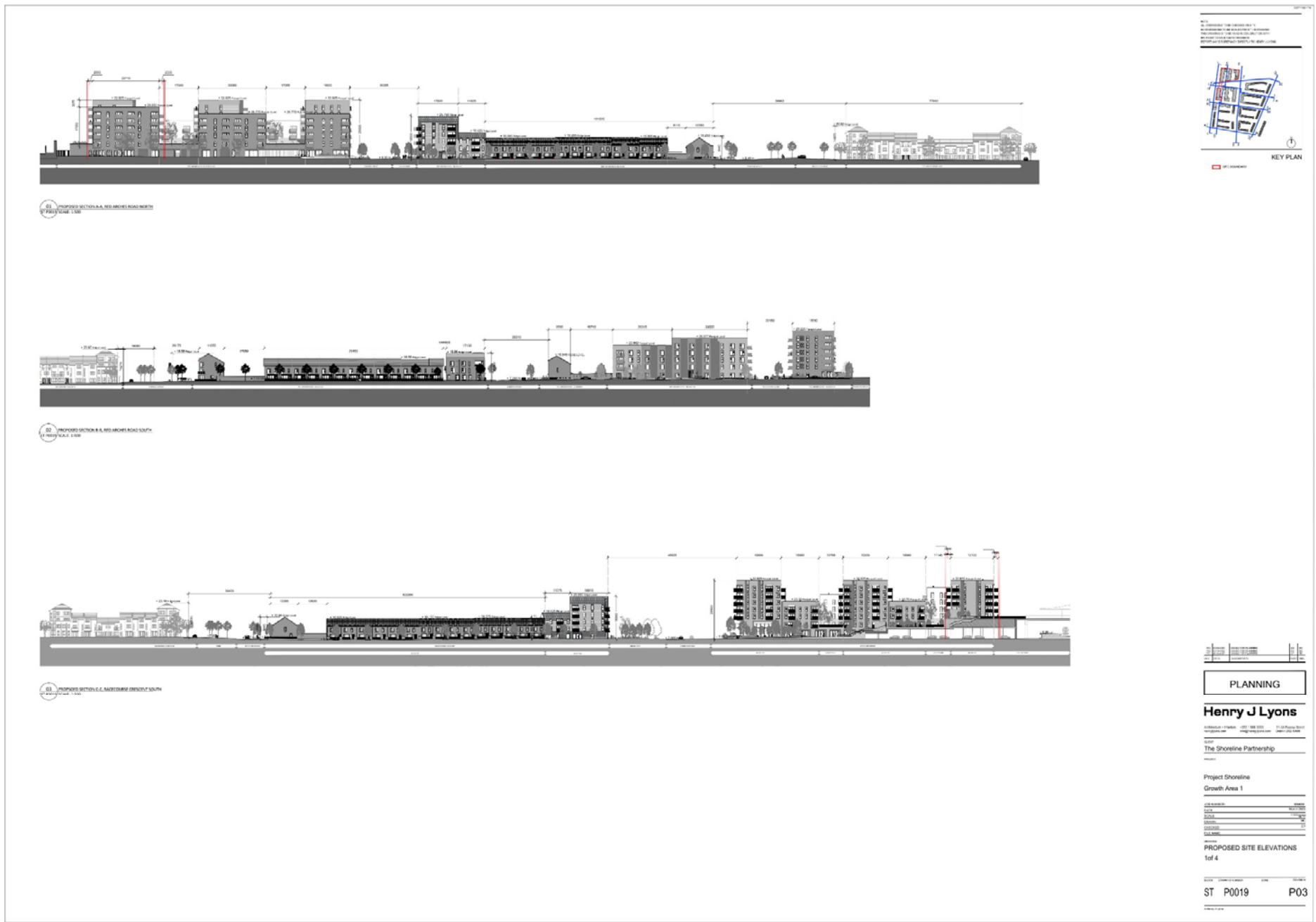


Figure 6. Proposed Elevations

Drainage

An Engineering Services Report has been prepared by CS Consulting Engineers to accompany this planning application. The proposed drainage strategy for this development site is outlined below:

Permitted Strategic Housing Development

'The development site benefits from an extant planning permission for a Strategic Housing Development (SHD), granted by An Bord Pleanála on the 22nd of September 2021 (ABP ref. 310418). The permitted SHD comprises the following elements:

- 247no. 1-bedroom apartments (including studios)*
- 439no. 2-bedroom apartments*
- 61no. 3-bedroom apartments*
- 7no. 2-bedroom townhouses*
- 96no. 3-bedroom townhouses*
- 32no. 4-bedroom townhouses*
- convenience retail units with a total gross floor area of 1,027m²*
- a medical centre with a gross floor area of 462m²*
- a pharmacy with a gross floor area of 268m²*
- a crèche with a gross floor area of 539m²*
- a restaurant/café with a gross floor area of 485m²*
- a gym with a gross floor area of 411m²*

The permitted development has a total car parking provision of 818no. spaces and also includes 1,542no. bicycle parking spaces.'

Proposed Amendments to Permitted SHD

'The proposed development consists of alterations to Blocks A1, D1, D2, and D3 of the permitted SHD development (ABP ref. 310418). The proposed development results in a reduction of 55no. units in the permitted overall scheme, from 882no. units to 827no. units, resulting in a total of 341no. units within Blocks A1, D1, D2, and D3.'

Storm Water Infrastructure

Existing Storm Water Infrastructure

An existing 1050mm diameter surface water sewer, constructed as permitted under reg. ref. F16A/0412, runs from south to north in Longfield Road, in proximity to the application site's eastern boundary. This discharges to a constructed wetland (also as permitted under reg. ref. F16A/0412) located to the north of the application site.

It is noted that there is some existing stormwater drainage infrastructure within the permitted SHD site. Due to its condition and levels, it is however not intended to make use of this existing infrastructure; this shall instead be removed and a new network constructed in its place as part of the permitted SHD development (ABP ref. 310418). These proposed works are unaffected by the present amendment application.

Storm Water Drainage Arrangements of Permitted SHD

The storm water drainage arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP ref. 310418. Briefly summarised, these involve:

- Discharge of all storm water to the constructed wetland located to the north of the application site, which provides attenuation storage, sediment settlement, and water treatment through organic processes.*
- Bioretention areas and swales within the landscaping, to provide attenuation storage and initial storm water treatment.*
- Green roofs atop Blocks A and D, to reduce stormwater runoff and provide initial treatment.*
- Permeable paving at car parking spaces, to reduce stormwater runoff, provide attenuation storage and infiltration, and provide initial treatment.*

Effect of Proposed Amendments on Permitted Storm Water Drainage

The proposed amendments to the permitted SHD (ABP ref. 310418) are confined to Blocks A1, D1, D2, and D3. These amendments shall not entail any significant change to building footprints or roof areas, and shall not require any change to the Sustainable Drainage Systems incorporated into the landscape design. In particular, it is noted that the proposed amendments shall not affect the green roofs to be implemented at the 6no. buildings within Blocks A and D as permitted under the SHD scheme.

It is consequently not necessary to revise the permitted storm water drainage design as part of this application.'

Foul Water Infrastructure

'Existing Foul Infrastructure

There is an existing 375mm diameter foul sewer that runs in a northern direction along the eastern boundary of the site (Stapolin Avenue). This infrastructure was installed by previous developers to serve the entire LAP lands and extends upstream in a southerly direction serving the Myrtle development.

Downstream, this existing 375mm foul sewer discharges to an existing foul pump station located on the north side of Stapolin Haggard. The foul pumping station discharges via a 300mm rising main to the North Fringe Foul Sewer, which runs around the northern/north-eastern boundary of the site, approximately 150m from the pump station. The pump station currently serves the existing Myrtle and Red Arches Developments, as well as serving the adjacent developments permitted under FCC ref. 16A/0412 and ABP ref. ABP-248970 (as amended by subsequent permissions under FCC refs. F20A/0258, F21A/0046, F22A/0017, and LRD0007).

Following a meeting on site with Irish Water and Fingal County Council earlier in 2022, the applicant has undertaken internal and external maintenance works to the existing foul pumping station at Stapolin Haggard, as requested by Fingal Co. Co. and Irish Water. The requested upgrade works have been completed, with some minor works yet to be undertaken. In addition, at the request of Irish Water, the applicant and appointed design consultants have engaged with Irish Water to agree appropriate further design upgrade works to the existing pumping station. The design fundamentals of the provision of emergency storage have been agreed in principle with Irish Water. A separate planning application for works to accommodate this emergency storage is being finalised and will be lodged with the Planning Authority in 2023.

In addition to the 375mm foul sewer referred to above, there is already an existing foul drainage network located within the development lands. Due to its poor condition, it is however not intended to make use of this existing infrastructure; this shall instead be removed and a new network constructed in its place as part of the permitted SHD development (ABP ref. 310418). These proposed works are unaffected by the present amendment application.

Foul Drainage Arrangements of Permitted SHD

The foul drainage arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP ref. 310418. All foul effluent generated from the permitted development is collected in separate foul pipes and flows under gravity to the existing 375mm diameter foul sewer in the north-east corner of the development, via a new connection.'

Effect of Proposed Amendments on Permitted Foul Drainage Arrangements

The proposed amendments to the permitted SHD shall therefore result in:

- A reduction of 0.282 l/s in the development's average effluent outflow rate.*
- A reduction of 0.846 l/s in the development's peak effluent outflow rate.*

It is consequently not necessary to revise the permitted foul water drainage design as part of this application.'

The surface and foul water layouts are seen in Figure 7 (a & b). No amendments to the granted SHD scheme are required in relation to the drainage infrastructure.





Identification of Relevant Natura 2000 Sites

The proposed works are not located within a NATURA 2000 site. The NATURA 2000 sites within 15 kilometres of the subject site and those with a direct/indirect pathway beyond 15km (none) are detailed in Table 1 and Figures 8 and 9. Their qualifying interests and the potential impact of the works on these qualifying interests are found in Tables 2 & 3. There is no direct or indirect pathway to Natura 2000 sites beyond 15km. No European Sites outside of the 15km zone of influence could be impacted by the proposed development

The proposed development site is located within a densely populated and developed area. There is a direct hydrological pathway to Baldoyle Bay SAC and SPA via the proposed surface water drainage strategy. Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. This wetland and its corresponding upstream surface water network were granted planning permission under Planning Ref. F16A/0412 (as amended), and is currently under construction. Surface water will then discharge to Mayne River floodplain over a spillway/weir. The River Mayne ultimately outfalls to Baldoyle Bay (Figure 10). Given the close proximity of the proposed development site to the River Mayne (375m) and the proposed discharge of surface water drainage to the Mayne River floodplain, it is considered that there is the potential for downstream impacts on the qualifying interests of Baldoyle Bay SAC and SPA. There is also an indirect hydrological pathway to marine-based Natura 2000 sites via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul wastewater network. Foul wastewater will then be treated within the Irish Water network. As outlined previously, it is proposed to discharge surface water into the River Mayne after attenuation within a wetland installed into the floodplain of the River Mayne. As the River Mayne outfalls to Baldoyle Bay, there is a direct hydrological connection to Natura 2000 sites located within the Irish Sea. However, given the minimum distance to Natura 2000 sites (1.8km, excluding Baldoyle Bay SAC & SPA) across an expansive marine environment within the Irish Sea, any pollutants or silt will settle, be dispersed or diluted. It should be noted the proposed amendment is to an existing granted SHD development, which included a Natura Impact Statement and mitigation measures.

Further, there is a risk of heightened noise disturbance levels that could impact on the protected bird species located in Baldoyle Bay SPA. The proposed works are located 870m from the Baldoyle Bay SPA. McCarthy Keville O'Sullivan (MKO) was appointed to carry out wintering bird survey works at Baldoyle (2019-2022). These surveys are outlined in Appendices I and II. Following the precautionary principle, screening of all Natura 2000 sites within 15km and those with a direct/indirect pathway beyond 15km is carried out.

Table 1. Proximity to designated sites of conservation importance

NATURA 2000 Site	Code	Distance	Direct Hydrological / Biodiversity Connection
<i>Special Areas of Conservation</i>			
Baldoyle Bay SAC	IE0000199	490 m	Yes
North Dublin Bay SAC	IE0000206	1.8 km	No
Malahide Estuary SAC	IE0000205	3.7 km	No
Howth Head SAC	IE0000202	4.6 km	No
Ireland's Eye SAC	IE0002193	5 km	No
Rockabill to Dalkey Island SAC	IE0003000	5.1 km	No
South Dublin Bay SAC	IE0000210	6.8 km	No
Rogerstown Estuary SAC	IE0000208	10.3 km	No
Lambay Island SAC	IE0000204	11.9 km	No
<i>Special Protection Areas</i>			
Baldoyle Bay SPA	IE0004016	870 m	Yes
North Bull Island SPA	IE0004006	1.8 km	No
Malahide Estuary SPA	IE0004025	4.4 km	No
Ireland's Eye SPA	IE0004117	4.8 km	No
South Dublin Bay and River Tolka Estuary SPA	IE0004024	5.1 km	No
Howth Head Coast SPA	IE0004113	6.1 km	No
Rogerstown Estuary SPA	IE0004015	10 km	No
Lambay Island SPA	IE0004069	11.7 km	No
Dalkey Islands SPA	IE0004172	14 km	No

Table 2 provides an overview of the initial screening of Natura 2000 sites within 15km of the proposed development that have been screened 'IN'.

Table 3 provides an overview of the initial screening of NATURA 2000 sites within 15km of the subject site and those with a direct/indirect pathway that have been screened out.

Table 2. Initial screening of NATURA 2000 sites within 15km and NATURA 2000 sites with potential of hydrological connection to the proposed development – Screened IN (NIS Required)

NATURA Code	Name	Screened IN/OUT	Details/Reason
Special Areas of Conservation			
IE0000199	Baldoyle Bay SAC	IN	<p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Potential Impact</p> <p>The proposed development is 490m from this SAC. There is a direct hydrological pathway to Baldoyle Bay SAC via the Mayne River and the SAC is in proximate to the development. There is potential for pollutants to enter the Mayne River which is directly linked to the SAC. Mitigation measures are required to protect the Features of Interest of the SAC. These mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project.</p> <p>Stage 2 AA is Required.</p>
Special Protection Areas			
IE0004016	Baldoyle Bay SPA	IN	<p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Wetland and Waterbirds [A999]</p> <p>Potential Impact</p> <p>The proposed development site is 870m from this SPA. McCarthy Keville O'Sullivan (MKO) was appointed to carry out bird survey works at Baldoyle, during the period from December 2019 to March 2020 and January to March 2022 inclusive. The Wintering Bird Survey are seen in Appendix I and Appendix II. As outlined in Appendix I</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p><i>'the proposed development area is not within the Baldoyle Bay SPA, however given the proximity of the SPA to the development, there is potential for impacts to result during construction and operational phases of the proposed development. These potential impacts could include:</i></p> <ul style="list-style-type: none"> <i>• Loss of roosting habitat within/along the boundary of the redline at the mouth of the Mayne River. (This line is the ownership line not the project red line).</i> <i>• Disturbance during construction works and the operational phase to Special Conservation Interest of the SPA including through movement of machinery, personnel, noise, vibration and/or noise associated with domestic dwellings.</i> <i>• Pollution of surface water through accidental spillage or discharge of polluting substances, or via elevated suspended solids and siltation through run-off to watercourses.</i> <p><i>The maximum likely distance at which disturbance will impact SCIs from the Baldoyle Bay SPA is 300m (Cutts et al., 2013). The magnitude of this impact and its potential significance will require further consideration at the assessment stage of any future planning application.</i></p> <p><i>The proposed housing scheme may result in disturbance of SCI's of the adjacent SPA. However, it is likely that habituation will occur to this new source of disturbance given that the SCIs of the SPA are already accustomed to the disturbance associated with Baldoyle village and existing surrounding housing developments. This should be considered in further detail at the assessment stage of any future planning application.'</i></p> <p><i>As outlined in Appendix II 'No target species were recorded within the planning application boundary during surveys and this area does not offer suitable habitat for overwintering waterbirds. There is therefore no potential for direct habitat loss from development within the planning application boundary...Target species recorded within the wider study area comprised small numbers of curlew, herring gull, mallard, moorhen, shelduck and snipe. These species were broadly associated with the Mayne River, which flows within the north-eastern section of the study area.</i></p> <p><i>The closest recorded foraging /roosting habitat for these species within the study area is situated over 320m from the planning application site boundary. The important foraging areas noted within Baldoyle Bay SPA are situated over 750m distant from the planning application site boundary. The maximum likely distance at which disturbance can impact overwintering waterbirds species (including SCIs from the Baldoyle Bay SPA) is 300m (Cutts et al., 2013). Therefore, given the separation distance between the planning application site boundary and recorded roosting/foraging areas, and the existing noise levels in such an urban environment, the potential for disturbance/displacement effects to the above target species as a result of the proposed development are limited.'</i></p> <p><i>However, given the proximity of the site, it is considered that there is a direct hydrological pathway to Baldoyle Bay SPA via the surface</i></p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>water drainage system. The surface water from the site will be discharged into a new permitted wetland. The wetland discharges to the Mayne River and ultimately to Baldoyle Estuary and Baldoyle Bay SPA through a series of flap valves. There is potential for pollutants to enter the Mayne River which is directly linked to the SPA via the surface water outfall (Figure 12).</p> <p>Mitigation measures are required to protect the qualifying interests of the SPA. As outlined in the MKO Wintering Bird Survey (Summary in Appendix I) <i>“Disturbance during construction works and the operational phase to Special Conservation Interest of the SPA including through movement of machinery, personnel, noise, vibration and/or noise associated with domestic dwellings.”</i> As outlined in Appendix II <i>‘given the separation distance between the planning application site boundary and recorded roosting/foraging areas, and the existing noise levels in such an urban environment, the potential for disturbance/displacement effects to the above target species as a result of the proposed development are limited’.</i></p> <p>There is potential for pollutants to enter the Mayne River which is directly linked to the SAC. Mitigation measures are required to protect the Features of Interest of the SPA. These mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project.</p> <p>Stage 2 AA is Required.</p>

Table 3. Initial screening of NATURA 2000 sites within 15km and NATURA 2000 sites beyond 15km with potential of hydrological connection to the proposed development – Screened OUT

NATURA Code	Name	Screened IN/OUT	Details/Reason
Special Areas of Conservation			
IE0000206	North Dublin Bay SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interest</p> <p>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] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Petalwort (<i>Petalophyllum ralfsii</i>) [1395]</p> <p>Potential Impact</p> <p>The proposed development is located over 1.8 km from the SAC. There is no direct hydrological pathway to the SAC.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (1.8km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0000205	Malahide Estuary SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interests</p> <p>Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</p> <p>Potential Impact</p> <p>The proposed development is located 3.7 km from the SAC. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (3.7km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0000202	Howth Head SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interests</p> <p>(1230) Vegetated sea cliffs of the Atlantic and Baltic coasts (4030) European dry heaths</p> <p>Potential Impact</p> <p>The proposed development is over 4.6 km from the SAC. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (4.6 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0002193	Ireland's Eye SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interest</p> <p>1220 Perennial vegetation of stony banks. 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>Potential Impact</p> <p>The proposed development is located 5 km from the SAC. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (5 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0003000	Rockabill to Dalkey Island SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interests</p> <p>1170 Reefs</p> <p>1351 Harbour porpoise <i>Phocoena phocoena</i></p> <p>Potential Impact</p> <p>The proposed development is located 5.1 km from the SAC. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (5.1 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0000210	South Dublin Bay SAC	OUT	<p>Conservation Objectives</p> <p>To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC, which is defined by the following list of targets:</p> <ul style="list-style-type: none"> • The permanent habitat area is stable or increasing, subject to natural processes. • Maintain the extent of the <i>Zostera</i> –dominated community, subject to natural processes. • Conserve the high quality of the <i>Zostera</i> –dominated community, subject to natural processes • Conserve the following community type in a natural condition: Fine sands with <i>Angulus tenuis</i> community complex. <p>Qualifying Interest</p> <p>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]</p> <p>Potential Impact</p> <p>The proposed development is located over 6.8 km from the SAC. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (6.8km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
IE0000208	Rogerstown Estuary SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interests</p> <p>Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</p> <p>Potential Impact</p> <p>The proposed development is located 10.3 km from the SAC. No potential impact is foreseen. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (10.3 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0000204	Lambay Island SAC	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>Qualifying Interests</p> <p>1170 Reefs 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1364 Grey seal (<i>Halichoerus grypus</i>) 1365 Harbour seal (<i>Phoca vitulina</i>)</p> <p>Potential Impact</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>The proposed development is 11.9 km from the Ireland's Eye SAC. There is no direct hydrological pathway to the SAC.</p> <p>There is an indirect hydrological pathway to this SAC via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SAC. However, given the distance along this pathway to the SAC (11.9 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SAC.</p> <p>Impacts caused by the proposed development, in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
Special Protection Areas			
IE0004006	North Bull Island SPA	OUT	<p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999]</p> <p>Potential Impact</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>The proposed development is 1.8 km from the North Bull Island SPA. There is no direct hydrological connection from the site to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (1.8km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 1.8 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0004025	Malahide Estuary SPA	OUT	<p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Pintail (<i>Anas acuta</i>) [A054] Goldeneye (<i>Bucephala clangula</i>) [A067] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Wetland and Waterbirds [A999]</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>Potential Impact</p> <p>The proposed development is 4.4 km from the Malahide Estuary SPA. There is no direct hydrological connection from the site to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (4.4 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 4.4 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0004117	Ireland's Eye SPA	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <p>Qualifying Interests</p> <p>A017 Cormorant (<i>Phalacrocorax carbo</i>) A184 Herring Gull (<i>Larus argentatus</i>) A188 Kittiwake (<i>Rissa tridactyla</i>) A199 Guillemot (<i>Uria aalge</i>) A200 Razorbill (<i>Alca torda</i>)</p> <p>Potential Impact</p> <p>The proposed development is 4.8 km from the Ireland's Eye SPA. This SPA for coastal species, is surrounded by the marine environment and there is no direct hydrological connection from the proposed development to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (4.8 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 4.8 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely</p>
IE0004024	South Dublin Bay and River Tolka Estuary SPA	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p> <p>Qualifying Interests</p> <p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Wetland and Waterbirds [A999]</p> <p>Potential Impact</p> <p>The proposed development is located 5.1 km from this SPA. There is no direct hydrological connection from the site to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>minimum distance along this pathway to the SPA (5.1km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 5.1 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0004113	Howth Head Coast SPA	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p> <p>Qualifying Interests</p> <p>A188 Kittiwake (<i>Rissa tridactyla</i>)</p> <p>Potential Impact</p> <p>The proposed development is 6.1 km from the Howth Head Coast SPA. This SPA is for Kittiwake and there is no direct hydrological connection from the proposed development to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (6.1 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 6.1 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site. Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
IE0004015	Rogerstown Estuary SPA	OUT	<p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Wetland and Waterbirds [A999]</p> <p>Potential Impact</p> <p>The proposed development is 10 km from the Rogerstown Estuary SPA. There is no direct hydrological connection from the site to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (10 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 10 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>
IE0004069	Lambay Island SPA	OUT	<p>Conservation Objectives</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
			<p>Qualifying Interests</p> <p>A009 Fulmar (<i>Fulmarus glacialis</i>) A017 Cormorant (<i>Phalacrocorax carbo</i>) A018 Shag (<i>Phalacrocorax aristotelis</i>) A043 Greylag Goose (<i>Anser anser</i>) A183 Lesser Black-backed Gull (<i>Larus fuscus</i>) A184 Herring Gull (<i>Larus argentatus</i>) A188 Kittiwake (<i>Rissa tridactyla</i>) A199 Guillemot (<i>Uria aalge</i>) A200 Razorbill (<i>Alca torda</i>) A204 Puffin (<i>Fratercula arctica</i>)</p> <p>Potential Impact</p> <p>The proposed development is 11.7 km from the Lambay Island SPA. No impact on the qualifying interests of this SPA is foreseen. This SPA is for coastal birds and there is no direct hydrological connection from the proposed development to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (11.7 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 11.7 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>

NATURA Code	Name	Screened IN/OUT	Details/Reason
IE0004172	Dalkey Islands SPA	OUT	<p>Conservation Objectives To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p> <p>Qualifying Interests Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]</p> <p>Potential Impact The proposed development is 14 km from the Dalkey Islands SPA. No impact on the qualifying interests of this SPA is foreseen. This SPA is for coastal birds and there is no direct hydrological connection from the proposed development to this SPA.</p> <p>There is an indirect hydrological pathway to this SPA via the proposed foul and surface water drainage networks. Foul wastewater will discharge to an existing public foul network. Foul wastewater will then be treated along the public network.</p> <p>Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. Surface water will then discharge to Mayne River floodplain over a spillway/weir after attenuation. As the Mayne River ultimately outfalls to Baldoyle Bay, there is an indirect hydrological pathway to this SPA. However, given the minimum distance along this pathway to the SPA (14 km), any pollutants or silt within the surface water will settle, be dispersed, or diluted within the marine environment. The indirect hydrological pathway of surface water will not impact on the conservation objectives of this SPA.</p> <p>Given that this SPA is located 14 km from the proposed development site, it is unlikely that heightened noise levels during construction and operation will impact on the designated qualifying interests of this site.</p> <p>Impacts caused by the proposed development in the absence of any mitigation measures, would be expected to be localised to the immediate environs of the site, Mayne River and Baldoyle Bay. No impacts on the qualifying interests of this Natura 2000 site are foreseen.</p> <p>No significant effects are likely.</p>

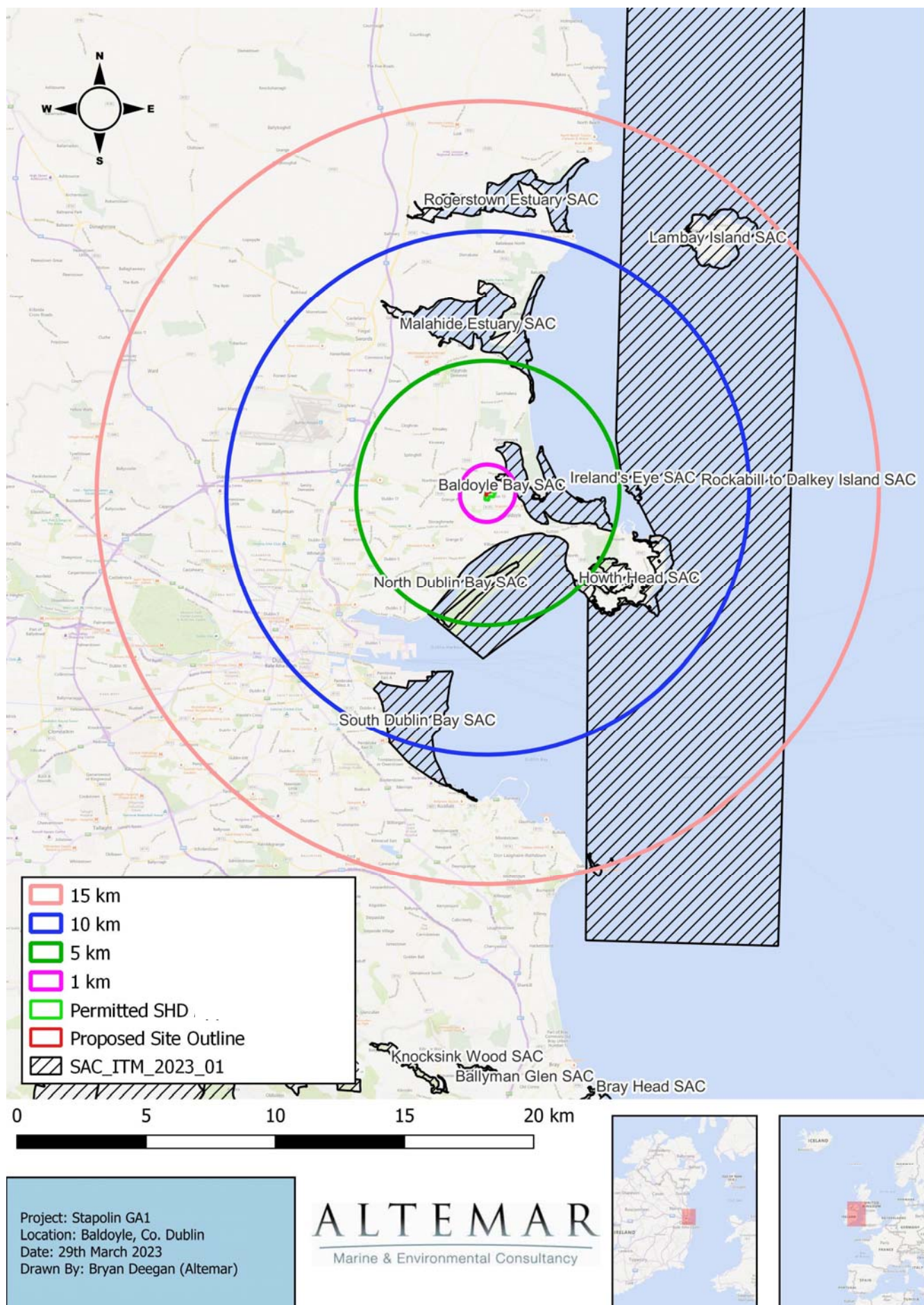


Figure 8. Special Areas of Conservation located within 15km of the proposed development

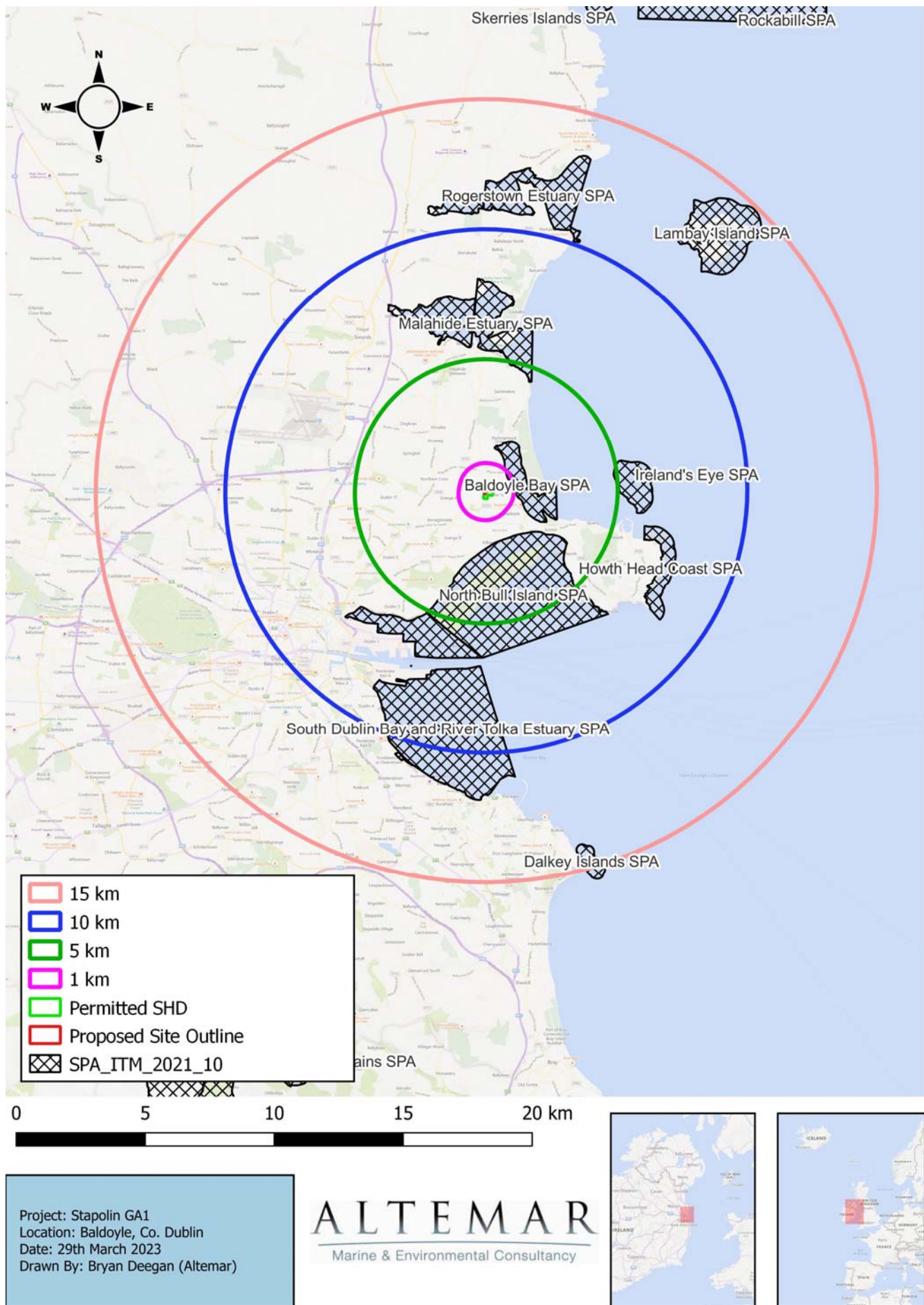
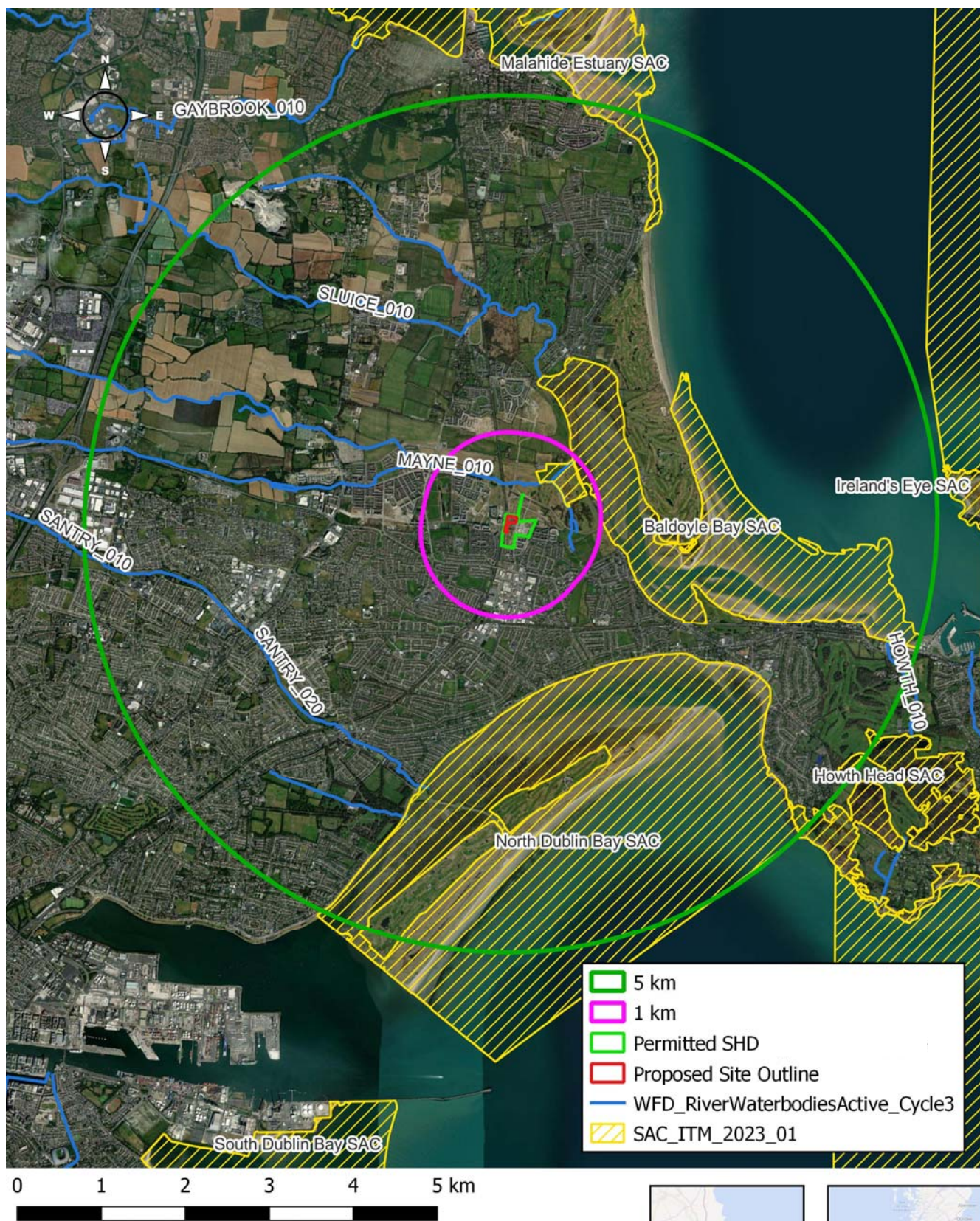


Figure 9. Special Protected Areas located within 15km of the proposed development

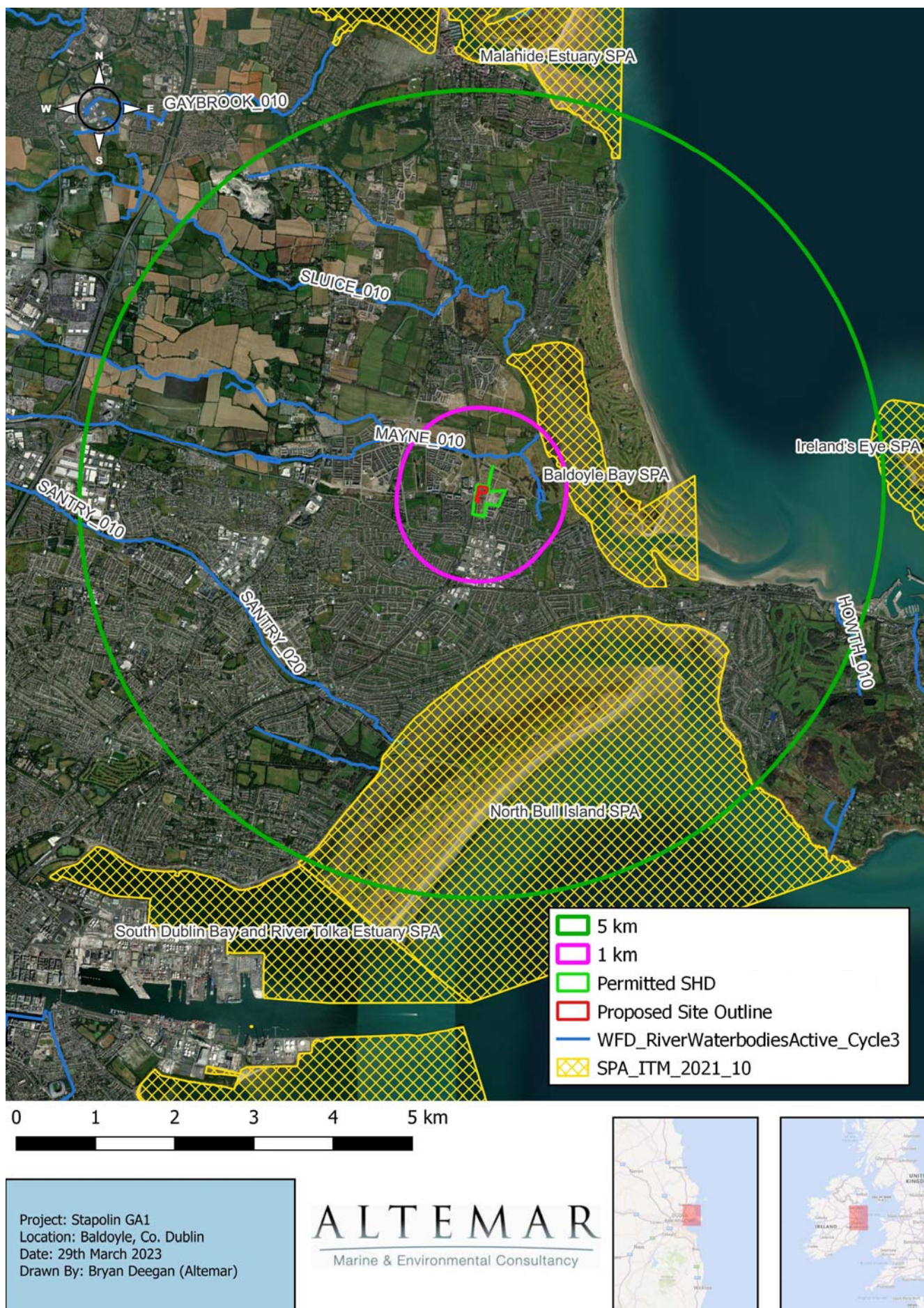


Project: Stapolin GA1
 Location: Baldoye, Co. Dublin
 Date: 29th March 2023
 Drawn By: Bryan Deegan (Altemar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 10. Watercourses & SACs within 5 km of the proposed development







In-Combination Effects

The following is a list of planning applications as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal²:

Table 4. In combination effects evaluated.

Ref. No.	Address	Proposal
LRD 0007 - amendment s to Block B Stapolin Growth Area 3, Baldoyle, Co. Dublin. GA3.	Lands at Baldoyle- Stapolin Growth Area 3, Baldoyle, Dublin 13.	<p>The proposed development consists of amendments to a SHD residential development previously permitted under ABP Reg Ref.: 311016 on GA3 lands at Baldoyle (formerly known as The Coast), Dublin 13. The site is bound by Racecourse Park to the north, by lands referred to as Growth Area 2 (GA2) to the east, by lands referred to as Growth Area 1 (GA1) to the south, with the Dublin-Belfast railway line to the west and Clongriffin Train Station to the south-west.</p> <p>The proposed amendments, which relate to a site area of c.3.23 hectares within the wider permitted 6.89 hectares of the permitted SHD, consists of:</p> <ul style="list-style-type: none"> • Reduction in building height of Block E1 from an 8 - 5 no. storey building to a 7 - 5 no. storey building; • Reduction in building height of Block G1 from 10 – 4 no. storey building to a 7 – 4 no. storey building, façade enhancements, additional vertical fenestration from 2nd – 6th floor and amendments to the building form; • Reduction in building height of Block G2 from 10 – 4 no. storey building to a 7 – 4 no. storey building, façade enhancements, additional vertical fenestration from 2nd – 6th floor and amendments to the building form; • Reduction in building height of Block G3 from 15 – 7 no. storey building to a 10 – 6 no. storey building, façade enhancements and amendments to the building form; and • Reduction in building height of Block G5 from 10 – 4 no. storey building to a 7 – 4 no. storey building, façade enhancements, additional vertical fenestration from 2nd – 6th floor and amendments to the building form. <p>Block E2 and Block G4 remain unaltered and all other elements of the development and all other elements of the development remain as permitted under ABP 311016 resulting in a reduction of 97 no. units from 1,221 no. units to 1,124 no. units.</p>
F22A/0434	Lands at Baldoyle (Formerly known as the Coast, Dublin 13	<p>The development will consist of amendments to Block C1 permitted under FCC Reg. Ref. F16A/0412 (ABO Reg. Ref. PL06F.248970) and amended under FCC Reg. Ref. F20A/0258, F21A/0046 and F22A/0017. The proposed amendments will consist of:</p> <p>The reconfiguration of units to omit 34 no. permitted units, comprising 28 no. 2-bed duplex apartment units over 2-bed apartments (3 storey), and 6 no. 2-bed apartment units over 2x2 bed duplex units (3 storey), and the construction of 21 no. 4-bed terrace houses (2-3 no. storeys), resulting in a reduction of 13 no. units;</p> <p>Amendments to landscaping to include for the removal of communal open space and play space to the west of the permitted units and the addition of private gardens to the rear and front of the houses, and a 2.4m boundary wall between the rear gardens and lands to the west for future track expansion identified by Iarnród Éireann;</p> <p>The provision of 24 no. cycle parking spaces provide in 4 no. secure bicycle storage sheds; and</p>

² <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>

Ref. No.	Address	Proposal
		<p>- Reduction in the width of Racecourse Close carriageway to a minimum width of 5.5m.</p> <p>The proposed development will also include for all associated landscaping works and site development works above and below ground.</p> <p>All at Lands at Baldoyle (Formerly known as the Coast, Dublin 13. The site is bounded to the north by undeveloped lands, to the south by existing residential development on Myrtle Avenue, to the east by Longfield Road, residential development of Red arches and Racecourse Park, and to the west by the Dublin-Belfast railway line</p>
F22A/0017	Lands at Baldoyle Formerly known as the Coast, Dublin 13	<p>The site is bounded to north by undeveloped lands, to the south by the residential development of Myrtle, to the east by residential development of Red Arches, and to the west by undeveloped lands and the Dublin - Belfast railway line. The development consists of minor alterations to permitted residential development, as permitted under F16A/0412, ABP Ref: PL06F.248970 as amended under F20A/0258 and F21A/0046. The proposed alterations relate to Blocks C2, and C3 only and primarily relate to the alteration of external finishes and material of permitted housing units including the:</p> <p>Omission of permitted fireplaces and chimneys;</p> <p>Alterations to permitted fenestration including vertical frame sections, transoms and mullions, of windows and doors to front and rear of houses;</p> <p>Alteration of permitted rear flat roof to pitched roof on Building Types A & D;</p> <p>Removal of permitted decorative balustrades;</p> <p>Alteration of the permitted brickwork finish to the rear and side elevations of the houses with a render finish;</p> <p>Alteration of permitted bin stores to include brick finishes;</p> <p>Removal of permitted solar panels from Building Types A, B, D, E, G and M;</p> <p>Conversion of Unit Type G from 3 bedroom to 4 bedroom;</p> <p>Minor amendments to the unit type areas as a result of the above amendments.</p> <p>Proposed alterations to the permitted floor areas of each building typology with either a minor increase or decrease in floor areas from 0.5 sq.m. to 5 sq.m. varying across permitted typologies.</p>
F21A/0046	Lands at Baldoyle (Formerly known as the Coast, Dublin 13)	<p>The site is bounded to north by undeveloped lands, to the south by the residential development of Myrtle, to the east by residential development of Red Arches, and to the west by undeveloped lands and the Dublin - Belfast railway line. The development consists of minor alterations to permitted residential development, as permitted under F16A/0412, ABP Ref: PL06F.248970 as amended under F20A/0258. The proposed alterations relate to Blocks B3, B4, C3, C4 and C5 only and relate to either: Proposed alterations to some of the permitted Unit Types in respect of their external design which relates primarily to roof and porch design as well as external finishes, minor internal reconfiguration and removal or alteration of permitted solar panels. The introduction of new Unit Types in place of permitted units. This is set out in respect of each block as follows : Block B3 - To the east of the Block, the replacement of the permitted 1 no Unit Type G, 7 no. Unit Type D and 1 no. Unit Type E with 9 no. Unit Type P. Block B4- to the east side of the Block, replacement of the permitted 1 no. Unit Type G, 7 No. Unit Type D and 1 no. Unit Type E, 1 no. Unit Type A and 1 no. Unit Type B with 9 no. Unit Type P. Block C3 to the west and centre of the block replacement and alteration of the permitted 2 no. Unit Type M, 8 no. Unit Type A and 6 no. Unit Type D with 18 no. revised unit Type B. To the east of the block the replacement of 2 no. Unit Type E with 2 no. revised unit Type D and the alteration of the 5 no. Unit Type E to revised unit Type E Block C4- To the west of the block the alteration of the permitted 2 no. Unit Type N and 4 no. Unit Type K to 2 no. revised unit Type N and 4 no. Revised Unit Type K. Block C5- to the west of the block the alteration of the permitted 2 no. Unit Type N and 4 no. revised Unit Type K. In total 38 permitted units are being altered with external changes and 33 no. units are replacing Type 38 no. permitted units. This proposed replacement and alteration of permitted unit types results in a reduction in permitted units by 5. Permission</p>

Ref. No.	Address	Proposal
		is also sought for the resultant increase in car-parking from 98 permitted spaces to 122 spaces relating to the subject units and for the alterations to permitted landscaping as a result of the proposed development.
F20A/0258	Lands at Baldoyle (Formerly known as the Coast, Dublin 13)	Minor alterations to permitted residential development, as permitted under F16A/0412, ABP Re. Ref; PL06F.248970. The proposed alterations relate to Blocks C4, C5 and D1 only and primarily relate to the alteration of external finishes and material of permitted housing units including the: Omission of permitted fireplaces and chimneys; Alterations to permitted fenestration including vertical frame sections, transoms and mullions, of windows and doors to front and rear of houses; Alteration of permitted rear flat roof to pitched roof on Building Types A & D; removal of permitted decorative balustrades; Alterations of the permitted brickwork finish to the rear and side elevations of the houses with a render finish; Alteration of permitted bin stores to include brick finishes; Removal of permitted solar panels from Building Types A,B,D,E,F G and alterations of permitted solar panels on Building Types K & N.
F19A/0461	Myrtle Grange Road Baldoyle	Primary School: Three storey 16 classroom Primary School building in Baldoyle (Roll Number 20519G), including a two classroom SEN base. The design also includes a general-purpose hall, support teaching spaces and ancillary accommodation, external junior play areas, secure SEN hard and soft play area and a sensory garden. The proposed project also incorporates associated car parking, access road, pedestrian access, bicycle lane, construction of 2 no. external ball courts, landscaping, connection to public services and all associated site works
F16A/0412 ABP Reg. Ref. 248970	The Coast, Baldoyle, Dublin 13.	<p>550 no. residential units (379 no. apartments and 171 no. houses) and a village centre comprising C.1,585sq. m. of commercial floor space laid out in 13 no. blocks (Blocks A1, A2, A3, B1, B2, B3, B4, C1, C2, C3, C4, C5 and D1) ranging in height from two storeys to six storeys as follows:</p> <p>Blocks A1, A2 and A3 will consist of 3 no. six storey buildings (c. 30.05m OD to roof level with an overall height of c. 33.90 OD to include lift overrun) comprising 195 no. residential units (5 no. 1-bed apartment, 162 no. 2-bed apartments, and 28 no. 3-bed apartments) at first to fifth floor level, c.1,585 sq.m. of commercial floor area at ground floor level comprising a convenience outlet (c. 493sq.m.), cafe (c. 200sq.m.), 4 no. retail units (c. 88sq.m., 99sq.m., 99 sq.m. and 90sq.m.), a crèche (c. 516sq.m.) with outdoor play area (c. 183sq.m.) and shared car park also at ground floor level with two associated communal courtyard areas at first floor level above a podium.</p> <p>Block B1 will consist of a four storey building over basement car park (c. 21.6m OD to roof level with an overall height of c. 25m OD to include lift overrun) comprising 82 no. residential units (3 no. 1-bed apartments, 75 no. 2-bed apartments, and 4 no. 3-bed apartments); Blocks B1 and B2 include a shared central communal courtyard area over a shared basement car park and a community room (c. 78sq.m.) in the entrance pavilion to the basement.</p> <p>Block B2 will consist of 3 no. three storey terraces over basement car park comprising 24 no. residential units (12 no. own door 2-bed apartments and 12 no. own door 2-bed duplex apartments).</p> <p>Block B3 will consist of 1 no. two storey terrace and 3 no. three storey terraces comprising 32 no. residential units (11 no. 3-bed terraced houses and 21 no. 4-bed terraced houses).</p> <p>Block B4 will consist of 2 no. two storey terraces and 1 no. three storey terrace comprising 25 no. residential units (16 no. 3-bed terraced houses and 9 no. 4-bed terraced houses).</p> <p>Block C1 will consist of 3 no. three storey terraces comprising 32 no. residential units (16 no. 2-bed own door apartments and 16 no. 2-bed own door duplex apartments).</p>

Ref. No.	Address	Proposal
		<p>Block C2 will consist of 1 no. two storey terrace and 2 no. three storey terraces comprising 35 no. residential units (9 no. 2-bed own door apartments, 9 no. 2-bed own door duplex apartments, 10 no. 3-bed terraced houses and 7 no. 4-bed terraced houses).</p> <p>Block C3 will consist of 1 no. two storey terrace and 2 no. three storey terraces comprising 29 no. residential units (11 no. 3-bed houses and 18 no. 4-bed houses).</p> <p>Block C4 will consist of 2 no. two storey terraces and 2 no. three storey terraces comprising 47 no. residential units (5 no. 1-bed own door apartments, 2 no. 2-bed own door apartments, 5 no. 2-bed own door duplex apartments, 2 no. 3-bed own door duplex apartments, 24 no. 3-bed terraced houses and 9 no. 4-bed terraced houses).</p> <p>Block C5 will consist of 2 no. two storey terraces and 2 no. three storey terraces comprising 37 no. residential units (5 no. 1-bed own door apartments, 2 no. 2-bed own door apartments, 5 no. 2-bed own door duplex apartments, 2 no. 3-bed own door duplex apartments, 14 no. 3-bed terraced houses, and 9 no. 4-bed terraced houses).</p> <p>Block D1 will consist of 12 no. two storey 3-bed semi-detached houses.</p> <p>All apartments and duplex apartments have private terraces or balconies and private communal amenity areas. The proposed development will also include 896 no. residential (including visitor) car parking spaces, 62 no. commercial car parking spaces, 551 no. residential bicycle spaces and 13 no. commercial bicycle spaces; pedestrian, vehicular and bicycle access will be via the existing Longfield Road and Red Arches Road and the proposed internal road network comprising Stapolin Avenue, Ireland's Eye Avenue and smaller access roads; construction access will be via existing haul road from the Coast Road; landscaping works including Stapolin Square (c. 0.4ha) which will provide access to Clongriffin Train Station via a series of terraces, steps and slopes, a range of public open spaces including pocket parks and amenity spaces, the largest of which will be Stapolin Haggard (c. 1.57ha); public lighting; a wetland area (c. 0.4ha.) for water quality treatment associated with the proposed development; all associated ancillary facilities including 8 no. ESB substations, switch rooms, refuse storage, water storage tanks and plant; and all associated site development works including the removal of existing roads and infrastructure where required and demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station. The subject site of C 15.89ha comprised Growth Area 1 of the Baldoyle-Stapolin Local Area Plan 2013-2019. This application is accompanied by an Environmental Impact Statement (E.I.S.)</p>
Stapolin Growth Area 1, Baldoyle, ABP Ref. 310418	GA1, Baldoyle, Co. Dublin	<p>Granted Parent Permission. The Shoreline Partnership have applied for planning permission for a residential development at Stapolin Growth Area 1, Baldoyle, Co. Dublin. The proposed development will consist of alterations to the development permitted within Growth Area No. 1 (GA1) of the Baldoyle - Stapolin Local Area Plan 2013-2019, under FCC Reg. Ref. F16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046).</p> <p>The existing permission provides for 544 no. residential units (385 no. apartments and 159 no. houses), residential tenant amenities, village centre and crèche laid out in 13 no. blocks (identified as A1, A2, A3, B1, B2, B3, B4, C1, C2, C3, C4, C5, D1) ranging in height from two-storeys to six-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, landscape works and open spaces, including Stapolin Square and Stapolin Haggard, pocket parks, communal courtyards; surface water attenuation wetland; and associated ancillary services and works on an overall site of 15.89 hectares (ha). A number of elements of the existing permitted development have been constructed / will be constructed in accordance with the current grant of permission (as previously amended), including:</p>

Ref. No.	Address	Proposal
		<ul style="list-style-type: none"> • Surface water attenuation wetlands and associated upstream surface water network; • Ninety-nine units in permitted Blocks C4, C5 and D1 (identified as Block C6 under amendments F20A/0258 and F21A/0046); • The open space referred to as the Haggard Park ('Stapolin Haggard'); • Demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station; • Road infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project); and • Utilities infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project). <p>Given that they are already constructed or are under construction, the area of the surface water wetlands and associated upstream surface water network, and the area of Blocks C4, C5, C6 (latter formerly D1) are excluded from the subject planning application. The Haggard Open Space will be provided in accordance with the current grant of permission and as such is also exclusion from the planning area.</p> <p>The proposed Project will provide for 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenities, village centre, and crèche, laid out in 15 no. blocks (identified as: A1, A2, A3, B1, B2, B3, B4, C1, C1A, C2, C2A, C3, D1, D2, D3) ranging in height from two-storeys to 15-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, public realm and open space, including an enlarged Stapolin Square, landscape and associated ancillary services and works over a total Site area of c. 9.1ha, of which the development area is c. 8.89ha. As well as excluding some previously permitted areas (as above), the red line boundary for this application extends beyond the red line of the previously permitted development to provide for the full extent of Stapolin Square, new access to Clongriffin Station through the Square, new apartment blocks D1, D2, D3 to the north of Stapolin Square, and a bus ramp to Clongriffin Station. The red line boundary of this application also extends north to provide for a 300mm watermain connection to the existing watermain in the parklands to the north.</p> <p>A Natura Impact Statement has been prepared by Altamar Ltd. to accompany the planning application outlined above. Following the implementation of mitigation measures, this report concludes the following:</p> <p><i>'On the basis of the content of this report, the competent authority is enabled to conduct an assessment for Appropriate Assessment and consider whether, in view of best scientific knowledge and in view of the conservation objectives of the relevant European sites, the Proposed Development, individually or in combination with other plans or projects is likely to have a significant effect on any European site.</i></p> <p><i>No significant effects are likely on European sites, their features of interest or conservation objectives. The proposed project will not will adversely affect the integrity of European sites.'</i></p>
Stapolin Growth Area 3, Baldoyle, Co. Dublin. ABP Ref. 311016	GA3, Baldoyle, Co. Dublin	<p>The Shoreline Partnership intend to apply to An Bord Pleanála for a 10 year planning permission for a strategic housing development at a site of c. 6.89 ha at lands at Baldoyle/Stapolin, referred to as GA03 Lands in the Baldoyle-Stapolin Local Area Plan 2013 (as extended) and which from part of the wider landholding of lands formerly known as the Coast, Baldoyle, Dublin 13. The lands are bound by the Dublin-Belfast / DART train line to the west, existing and proposed residential areas to the south and east, and future Racecourse Park to the north. The proposed development will consist of the development of 1,221 no. residential apartment/duplex dwellings in 11 no. blocks ranging in height from 2 to 15 storeys and including for residential tenant amenity, restaurant/cafe, crèche, car and bicycle parking and public realm, over a site area of c. 6.89 ha.</p> <p>1. The proposed residential development will consist of 1,221 no residential apartment/duplex dwellings (1 no. Studio, 503 No. 1-Bed, 636 No. 2-Bed, 80 No. 3-Bed) set out as follows:</p>

Ref. No.	Address	Proposal
		<ul style="list-style-type: none"> • Blocks E1, ranging in height from 6 to 8 storeys, providing 157 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks E2, at 6 storeys, providing 68 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks E3, at 6 storeys, providing 45 no. apartment units with proposed balconies, and external roof terrace and solar panels at roof level. • Blocks E4, at 5 storeys, providing 36 no. apartment units with proposed balconies, and external roof terrace and solar panels at roof level. • Blocks F1, ranging in height from 2 to 5 storeys providing 91 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks F2, ranging in height from 2 to 6 storeys providing 122 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G1, ranging in height from 5 to 10 storeys providing 169 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G2, ranging in height from 5 to 10 storeys providing 175 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G3, at 15 storeys, providing 124 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G4, at 7 storeys, providing 60 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G5, ranging in height from 5 to 10 storeys providing 173 no. apartment units with proposed balconies, and solar panels at roof level. • Residential Tenant Amenity Facilities of c.2,301.m located in Blocks E3, E4, G3, G4 & G5 and external communal amenity space of c.10,793 sq.m provided at ground, podium and terrace levels throughout the scheme. <p>2. A crèche of c.452 sq.m in addition to outdoor play space of c.123 sq.m. is proposed in the ground floor of Block G4 and 1 no. restaurant/cafe units of c.205 sq.m is proposed on the ground floor of Block E3. Total non-residential uses is c.785 sq.m</p> <p>3. Car Parking is provided in a mix of undercroft for Blocks E1-E2, F1 and F2 and at basement level for Blocks G1-G3 and G4-G5 with a total parking of 632 spaces for residential units with 33 spaces at surface level for residential use and 8 spaces (4 staff in G4/G5 and 4 drop off) associated with the proposed crèche. 2016 cycle parking spaces are provided for residents and 312 for visitor and commercial uses, in secure locations and within the public realm throughout the scheme.</p> <p>4. A new central public space between Blocks E1-E2 and E3 and E4 and a new linear space between Blocks G2-G3 and G4-G5 provides pedestrian and cycle connectivity from Longfield Road to the proposed future Racecourse Park to the north is provided.</p> <p>5. Proposed new bus, cycle, pedestrian and taxi ramp to the south of the site and north of Stapolin Square providing access from Longfield Road to Clongriffin Train Station.</p> <p>6. The development will also provide for all associated ancillary site development infrastructure including: ESB sub-stations, bin stores, plant rooms, public lighting, new watermain connection to the north and foul and surface water drainage; internal roads & footpaths; site landscaping, including boundary treatments; associated scheme signage, and all associated engineering and site works necessary to facilitate the development.</p>
ABP Reg. Ref. JP06F.3113 15	Baldoye, Co. Dublin	<p>Fingal County Council was granted approval from An Bord Pleanála under Section 177AE of the Planning and Development Act 2000 (as amended) to carry out a park development project at the Racecourse Park located between Baldoye and Portmarnock, Co. Dublin.</p> <p>The proposed development consists of:</p> <ul style="list-style-type: none"> 4.5km of new walking and cycling routes including a bridge over the Mayne river and the repair to the railway underpass; Public lighting along key walking and cycling routes Expanding the existing car park to cater for up to 161 car parking spaces; Upgrading and expanding the existing playground; A Skate park and Teenage Adventure Playground; A Multi use games area;

Ref. No.	Address	Proposal
		<p>A dog run; A Bowls green; Four grass football pitches A viewing platform Tracing of circular archaeological feature through soft landscaping and removal of existing fence; Extension of existing reedbed south of Mayne river and creation of new brackish grassland north of Mayne river; All landscaping works in the park. https://consult.fingal.ie/ga/consultation/section-177ae-application-bord-plean%C3%A1la-racecourse-park-development-project</p>

The area in which the proposed development is proposed is within an area that is undergoing significant development proximate to Natura 2000 sites. Public open space is being provided within each development and a significant amenity area (Racecourse Park) was granted planning, which would be seen to limit wider in combination effects during operation. Given this, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on European sites will be seen as a result of the proposed development alone or combination with other projects.

No projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.

Appropriate Assessment Screening Conclusions

An initial screening of the proposed works, using the precautionary principle (without the use of any standard construction phase controls or mitigation measures) and the Source/Pathway/Receptor links between the proposed works and Natura 2000 sites with the potential to result in significant effects on the conservation objectives and features of interest of the Natura 2000 sites was carried out in Tables 2 and 3. Based on best scientific knowledge and objective information and assessment, the possibility of significant effects caused by the proposed project was excluded for the following Natura 2000 sites within 15km in addition to sites beyond 15km with a direct/indirect pathway:

Special Areas of Conservation

- IE0000206 North Dublin Bay SAC
- IE0000205 Malahide Estuary SAC
- IE0000202 Howth Head SAC
- IE0002193 Ireland's Eye SAC
- IE0003000 Rockabill to Dalkey Island SAC
- IE0000210 South Dublin Bay SAC
- IE0000208 Rogerstown Estuary SAC
- IE0000204 Lambay Island SAC

Special Protection Areas

- IE0004006 North Bull Island SPA
- IE0004025 Malahide Estuary SPA
- IE0004117 Ireland's Eye SPA
- IE0004024 South Dublin Bay and River Tolka Estuary SPA
- IE0004113 Howth Head Coast SPA
- IE0004015 Rogerstown Estuary SPA
- IE0004069 Lambay Island SPA
- IE0004172 Dalkey Islands SPA

The project is limited in scale and extent and the potential zone of influence is restricted to the immediate vicinity of the proposed development. However, in the absence of mitigation measures there is potential for silt laden material to enter the watercourse and impact on local biodiversity and Natura 2000 sites immediately downstream from the works.

Acting on a strictly precautionary basis, an NIS is required in respect of the effects of the project on the Baldoyle Bay SAC and Baldoyle Bay SPA because it cannot be excluded on the basis of best objective scientific information following screening, in the absence of control or mitigation measures that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s. Mitigation measures are required to protect the Natura 2000 sites in Baldoyle Bay. These mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project.

An NIS or Stage 2 Appropriate Assessment is not required for the effects of the project on all other listed Natura sites above because it can be excluded on the basis of the best objective scientific information following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the European Site/s.

A Natura Impact Statement is required for the proposed development.

Stage 2: Natura Impact Statement

A Natura Impact Statement (NIS) is Stage 2 of the Appropriate Assessment process. In the case of the proposed amended development at Stapolin Growth Area 1, Baldoyle, Dublin 13, acting on a strictly precautionary basis, an NIS is required in respect of the effects of the project on the Baldoyle Bay SAC and Baldoyle Bay SPA (due to the potential for downstream impacts during construction and operation), because it cannot be excluded on the basis of best objective scientific information, in the absence of control or mitigation measures, following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s. Mitigation measures are required to protect Natura 2000 sites downstream of the proposed work. These mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project.

A Stage 2 Appropriate Assessment or NIS is not required for the effects of the project on all other listed Natura sites within, and sites beyond, 15km because, it can be excluded, on the basis of the best objective scientific information following screening, that the plan or project, individually and/or in combination with other plans or projects, will have not a significant effect on the European Site/s.

The NIS evaluates the potential for direct, indirect effects, alone or in combination with other plans and projects having taken into account the use of mitigation measures. The NIS is informed by the parent permission including the EIAR and CEMP including the proposed mitigation measures that are outlined to reduce the potential effects of the proposed project on species/habitats of conservation importance and the surrounding environment.

A further review of the Conservation Objectives and features of interest is necessary to determine if significant effects are likely to impact the Baldoyle Bay SAC and Baldoyle Bay SPA.

Baldoyle Bay SAC (Site code: 000199)

Baldoyle Bay SAC is located 490m from the planning boundary. The proposed development is directly hydrologically connected to Baldoyle Bay SAC via the proposed surface water drainage strategy. Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. This wetland and its corresponding upstream surface water network were granted planning permission under Planning Ref. F16A/0412 and is currently under construction. Surface water will then discharge to the River Mayne after attenuation in the wetland. The River Mayne ultimately outfalls to Baldoyle Bay (Figure 11).

Site-specific data

As outlined in the Baldoyle Bay SAC Site Synopsis (NPWS, Version date 12.08.2013):

'Baldoyle Bay SAC extends from just below Portmarnock village to the west pier at Howth in Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sand-dune system. Two small rivers, the Mayne and the Sluice, flow into the bay.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (= priority; numbers in brackets are Natura 2000 codes):*

[1140] Tidal Mudflats and Sandflats; [1310] Salicornia Mud; [1330] Atlantic Salt Meadows and; [1410] Mediterranean Salt Meadows.

*Large areas of intertidal flats are exposed at low tide at this site. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Enteromorpha* spp. and *Ulva lactuca*).*

*The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. The tubeworm *Lanice conchilega* is present in high densities at the low tide mark and the small gastropod *Hydrobia ulvae* occurs in the muddy areas, along with the crustacean *Corophium volutator*.*

Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips along other parts of the estuary. Species such as glassworts (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here. Portmarnock Spit formerly had a welldeveloped sand dune system but this has been largely replaced by golf courses and is mostly excluded from the site. A few dune hills are still intact at Portmarnock Point, and there are small dune hills east of Cush Point and below the Claremont Hotel. These are mostly dominated by Marram (*Ammophila arenaria*), though Lymegrass (*Leymus arenarius*) is also found.

The site includes a brackish marsh along the Mayne River. Soils here have a high organic content and are poorly drained, and some pools occur. Rushes (*Juncus* spp.) and salt tolerant species such as Common Scurvygrass (*Cochleria officinalis*) and Greater Sea-spurrey (*Spergularia media*) are typical of this area. Knotted Hedgeparsley (*Torilis nodosa*), a scarce plant in eastern Ireland, has been recorded here, along with Brackish Water-crowfoot (*Ranunculus baudotti*), a species of brackish pools and ditches which has declined in most places due to habitat loss. Two plant species, legally protected under the Flora (Protection) Order, 1999, occur in the Mayne marsh, Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*).

Baldoyle Bay is an important bird site for wintering waterfowl and the inner part of the estuary is a Special Protection Area under the E.U. Birds Directive as well as being a Statutory Nature Reserve. Internationally important numbers of Pale-bellied Brent Goose (418) and nationally important numbers of two Annex I Birds Directive species - Golden Plover (1,900) and Bar-tailed Godwit (283) - have been recorded. Four other species also reached nationally important numbers: Shelduck (147), Pintail (26), Grey Plover (148) and Ringed Plover (218) - all figures are average peaks for four winters 1994/95 to 1997/1998. Breeding wetland birds at the site include Shelduck, Mallard and Ringed Plover. Small numbers of Little Tern, a species listed on Annex I of the E.U. Birds Directive, have bred on a few occasions at Portmarnock Point but not since 1991.

The area surrounding Baldoyle Bay is densely populated and so the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site.

Baldoyle Bay is a fine example of an estuarine system. It contains four habitats listed on Annex I of the E.U. Habitats Directive, and supports two legally protected plant species. The site is also an important bird area and part of it is a Special Protection Area under the E.U. Birds Directive, as well as being a Statutory Nature Reserve. It supports internationally important numbers of Brent Goose and nationally important numbers of six other bird species, including two Annex I Birds Directive species.'

The Qualifying Interests (QI) (Features of Interest) and the National conservation status of the QI for Baldoyle Bay SAC are seen in Table 5.

Table 5. Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for Baldoyle Bay SAC.

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
Baldoyle Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	Inadequate Favourable Inadequate Inadequate

The Conservation Objectives and overall status of species and habitats in Baldoye Bay SAC are as follows^{3 4}:

'Objective: To maintain the favourable conservation condition of Mudflats and sandflats (Figure 15) not covered by seawater at low tide in Baldoye Bay SAC, which is defined by the following list of attributes and targets.

Target 1. The permanent habitat area is stable or increasing, subject to natural processes.

This target refers to activities or operations that propose to permanently remove habitat from a site, thereby reducing the permanent amount of habitat area. It does not refer to long or short-term disturbance of the biology of a site.

Target 2. Conserve the following community types in a natural condition:

- *Fine sand dominated by *Angulus tenuis* community complex; 257ha (Figure 16).*
- *Estuarine sandy mud with *Pygospio elegans* and *Tubificoides benedii* community complex; 152ha (Figure 8).*
- *Significant continuous or ongoing disturbance of communities should not exceed an approximate area of 15% of the interpolated area of each community type, at which point an inter - Departmental management review is recommended prior to further licensing of such activities.*
- *Proposed activities or operations that cause significant disturbance to communities but may not necessarily represent a continuous or ongoing source of disturbance over time and space may be assessed in a context - specific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.'*

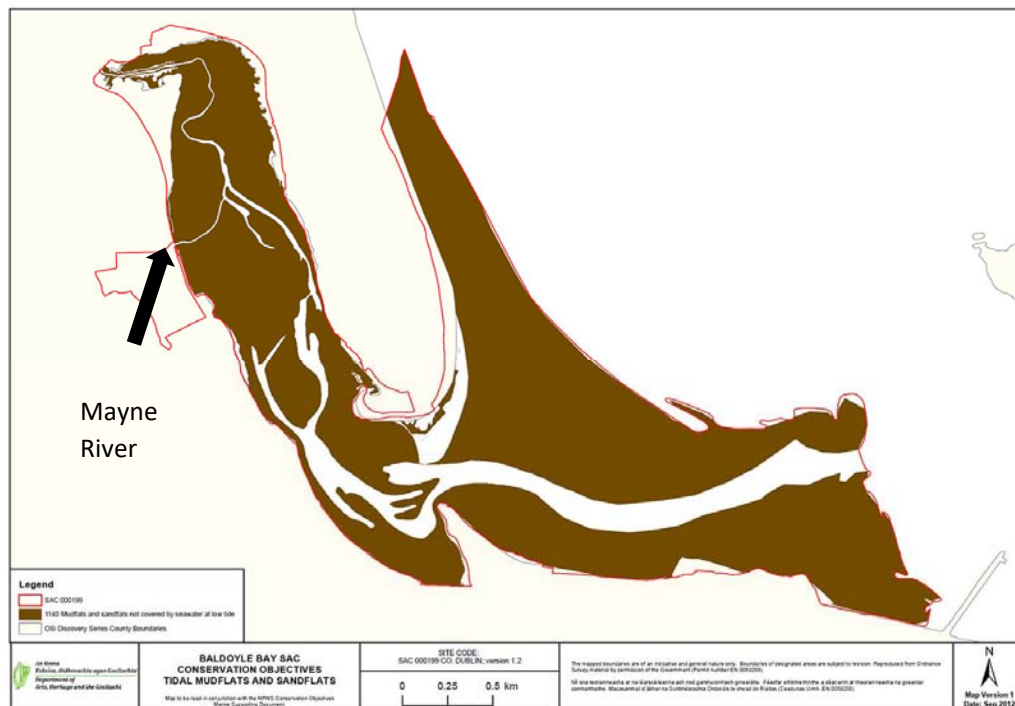


Figure 14. Distribution of Mudflats and Sandflats not covered by seawater at low tide in Baldoye Bay SAC

³ NPWS (2012). Conservation Objectives: Baldoye Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

⁴NPWS (2012) Baldoye Bay SAC (site code: 199) Conservation objectives supporting document -Marine Habitats

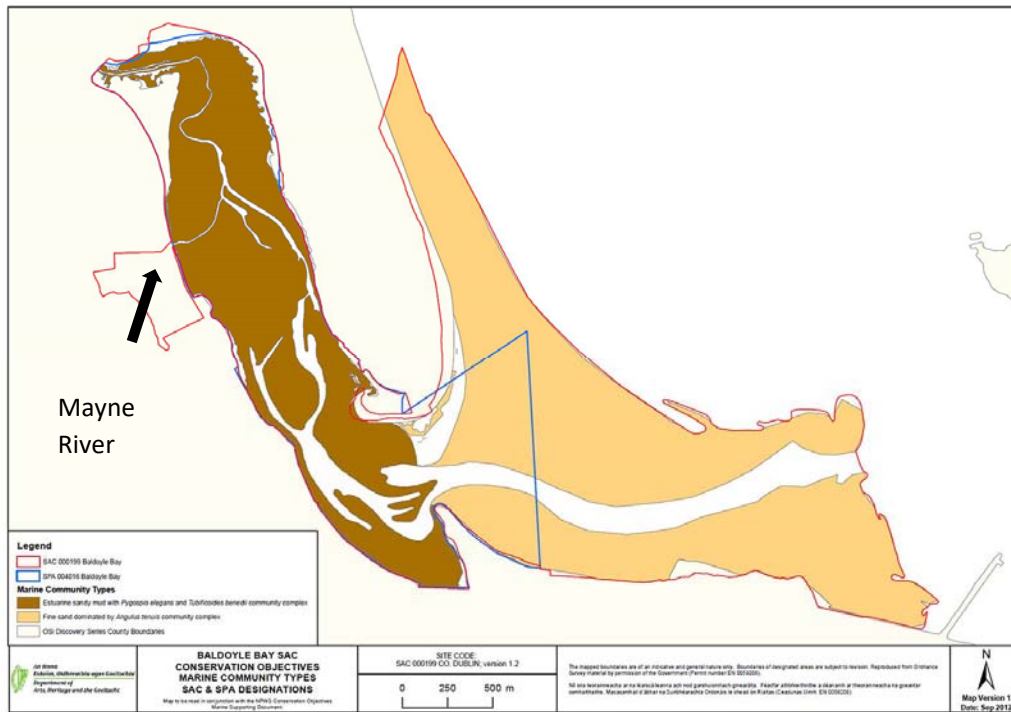


Figure 15. Distribution of marine community types in Baldoye Bay SAC & Baldoye Bay SPA

As outlined in the Conservation objectives supporting document – coastal habitats (NPWS, 2012):

'Baldoye Bay SAC (site code: 199) is designated for a range of coastal habitats, including saltmarsh. The following three coastal habitats are included in the qualifying interests for the site (denotes a priority habitat):*

- *Salicornia and other annuals colonising mud and sand (1310)*
- *Atlantic salt meadows (Glaucopuccinellietalia maritimae) (ASM) (1330)*
- *Mediterranean salt meadows (Juncetalia maritimi) (MSM) (1410)*

These saltmarsh habitats are found in close association with each other.

The following habitats were recorded during the Coastal Monitoring Project (Ryle et al. 2009),⁵ but they are not listed in the qualifying interests for the site:

- *Annual vegetation of drift lines (1210)*
- *Embryonic shifting dunes (2110)*
- *Shifting dunes along the shoreline with Ammophila arenaria (white dunes) (2120)*
- *Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130)**
- *Humid dune slacks (2190)**

Within Baldoye Bay SAC, there are five main areas of saltmarsh and Atlantic salt meadow (ASM) is the dominant saltmarsh habitat type (Figure 16). As outlined in NPWS 2012:

'The main area occurs in the north-west corner of the estuary to the south of the estuarine river channel. This area contains the largest area of ASM and contains a band of MSM on its landward side. There is extensive Spartina sward formation on the seaward side, along the river channel and into the estuary.

There are several patches of Salicornia habitat located on both sides, towards the lower end of the estuary. ASM habitat dominates the older area and is covered by spring tides in Baldoye Estuary. The MSM habitat is

⁵ Ryle, T., Murray, A., Connolly, K. and Swann, M. (2009). Coastal Monitoring Project 2004-2006. Unpublished report to the National Parks and Wildlife Service, Dublin.

characterised by clumps of sea rush (*Juncus maritimus*) and is found in small scattered clumps along the landward side of most of the saltmarsh (McCorry, 2007) ⁶.

The target is that there should be no decline or change in the distribution of these saltmarsh habitats, unless it is the result of natural processes, including erosion, accretion and succession’.

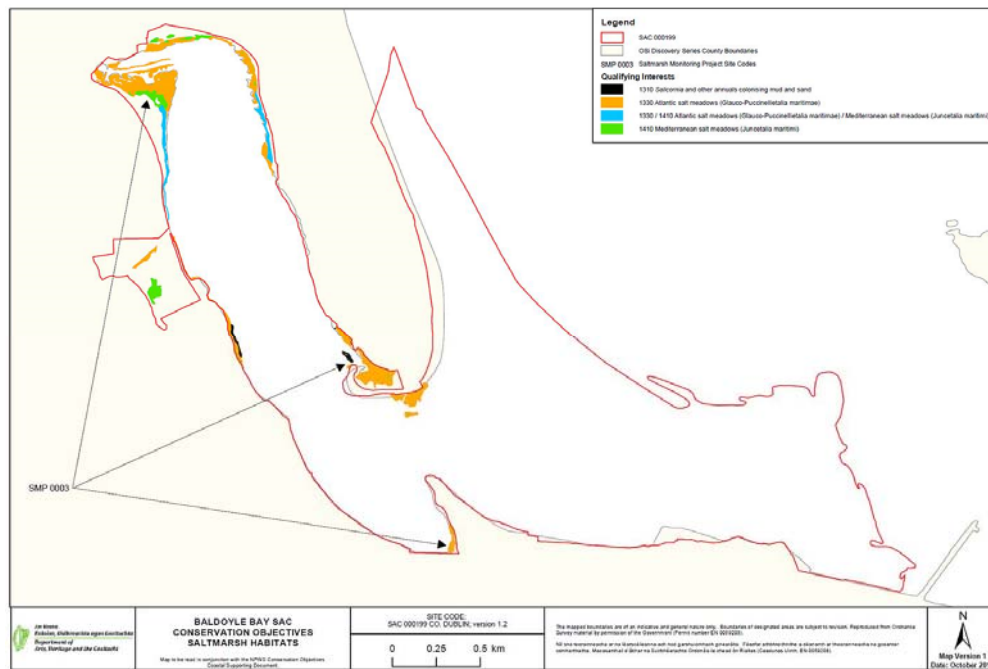


Figure 16. Saltmarsh habitats found in Baldoye Bay SAC

The attribute, measure and target of the site-specific Conservation Objectives for Baldoye Bay SAC are seen in Table 6.

Table 6. Attribute, measure and target of the site conservation objectives for Baldoye Bay SAC

Attribute	Measure	Target
Salicornia and other annuals colonising mud and sand [1310] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward

⁶ McCorry, M. (2007). Saltmarsh Monitoring Project 2006. Unpublished report to the National Parks and Wildlife Service, Dublin.

Attribute	Measure	Target
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Percentage cover	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species- <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i> [1330] (Maintain the favourable conservation condition))		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure:vegetation height	Centimetres	Maintain structural variation within sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure:flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to

Attribute	Measure	Target
		natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%

Baldoyle Bay SPA (Site code: 004016)

Baldoyle Bay SPA is located 870m from the planning boundary. The proposed development is directly hydrologically connected to Baldoyle Bay SPA via the proposed surface water drainage strategy. Surface water will be directed to a wetland installed within the Mayne River floodplain, located just beyond the line of the existing North Fringe foul sewer. This wetland and its corresponding upstream surface water network were granted planning permission under Planning Ref. F16A/0412 and is currently under construction. Surface water will then discharge to the River Mayne after attenuation in the wetland. The River Mayne ultimately outfalls to Baldoyle Bay (Figure 12).

Further, given the proximity of the planning boundary to the SPA (870m), there the potential for significant impacts on the bird species protected within the SPA resulting from heightened noise levels during construction and operational phases of development.

Site-specific data

As outlined in the Baldoyle Bay SPA Site Synopsis (NPWS, Version date 25.03.2014):

'Baldoyle Bay, located to the north and east of Baldoyle and to the south of Portmarnock, Co. Dublin, is a relatively small, narrow estuary separated from the open sea by a large sand dune system. Two small rivers, the Mayne River and the Sluice River, flow into the inner part of the estuary.

*Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Ulva* spp.). The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips found along other parts of the estuary. Species such as Glasswort (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here.*

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Ringed Plover, Golden Plover, Grey Plover and Bar-tailed Godwit. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Baldoyle Bay is an important site for wintering waterfowl, providing good quality feeding areas and roost sites for an excellent diversity of waterfowl species. It supports an internationally important population of Light-bellied Brent Goose (726), and has a further five species with nationally important populations (all figures are mean peaks

for the five winters 1995/96 to 1999/2000): Shelduck (147), Ringed Plover (223), Golden Plover (2,120), Grey Plover (200) and Bar-tailed Godwit (353). Other species which occur include Great Crested Grebe (42), Pintail (35), Teal (138), Mallard (46), Common Scoter (61), Oystercatcher (531), Lapwing (524), Knot (189), Dunlin (879), Black-tailed Godwit (113), Curlew (98), Redshank (224), Greenshank (11) and Turnstone (43).

Regular breeding birds include Shelduck, Mallard and Ringed Plover. In autumn, passage migrants such as Curlew Sandpiper, Spotted Redshank and Green Sandpiper are regular in small numbers. Little Egret, a species which has recently colonised Ireland, also occurs at this site.

Baldoyle Bay SPA is of high conservation importance, for supporting internationally important numbers of Light-bellied Brent Goose as well as nationally important populations of a further five species, including Golden Plover and Bar-tailed Godwit, both species that are listed on Annex I of the E.U. Birds Directive. The inner part of the site is a Statutory Nature Reserve and also designated as a wetland of international importance under the Ramsar Convention.⁷

The Special Conservation Interests (SCIs) for the Baldoyle Bay SPA and the National conservation status of the QI are seen in Table 7.

Table 7. Special Conservation Interests (SCIs) for Baldoyle Bay SPA and National status

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
Baldoyle Bay SPA	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Wetland and Waterbirds [A999]	Amber Amber Green Red Amber Amber N/A

The status of qualifying interest species listed for Baldoyle Bay SPA are as follows⁷:

- 'During winter the site regularly supports 1% or more of the biogeographic population of Light-bellied Brent Geese (*Branta bernicla hrota*). The mean peak number of this species within the SPA during the baseline period (1995/96 – 1999/00) was 726 individuals.
- During winter the site regularly supports 1% or more of the all-Ireland population of Ringed Plover (*Charadrius hiaticula*). The mean peak number of this species within the SPA during the baseline period (1995/96 – 1999/00) was 223 individuals.
- During winter the site regularly supports 1% or more of the all – Ireland population of Bar-tailed Godwit (*Limosa lapponica*). The mean peak number of this Annex I species within the SPA during the baseline period (1995/96 – 1999/00) was 353 individuals.'

The current population data for waterbirds of Special Conservation Interest in Baldoyle SPA is outlined in the NPWS⁷.

'Non - breeding waterbirds have been counted at Baldoyle Bay each winter as part of the Irish Wetland Bird Survey (I-WeBS) since the survey commenced in 1994/95. The site was counted once in 1994/95; otherwise the core survey months (September to March inclusive) were covered in all seasons. The core count period covers the main

⁷ NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

wintering period when many species occur in their largest concentrations, but also the autumn and spring passage periods when total waterbird numbers may be enhanced by staging/stopover birds.

Baldoyle SPA is an important feeding and roosting resource for Light-bellied Brent Geese, a listed Special Conservation Interest (SCI) species for the site. However, the same geese also utilise other locations that are outside of the SPA but may be inside or outside of the I-WeBS count boundary. These areas, which provide feeding resources for the geese, are largely amenity grasslands and/or agricultural fields. Bird counts for species of conservation importance are seen in Table 8.

Table 8. Bird counts of species of conservation importance in Baldoyle Bay

	Light-bellied Brent Geese	Ringed Plover	Bar-tailed Godwit	Shelduck	Golden Plover	Grey Plover
(1995/96 - 1999/00)	726 (i)	223 (n)	353 (n)	147 (n)	2,120 (n)	200 (n)
(2005/06 - 2009/10)	874 (i)	122	134	290 (n)	914	96 (n)

(i) denotes numbers of international importance; (n) denotes numbers of all-Ireland importance.

Additional Special Conservation Interests for Baldoyle Bay SPA are as follows:

- During winter the site regularly supports 1% or more of the all –Ireland population of Shelduck (*Tadorna tadorna*). The mean peak number of this species within the SPA during the baseline period (1995/96 –1999/00) was 147 individuals.
- During winter the site regularly supports 1% or more of the all – Ireland population of Golden Plover (*Pluvialis apricaria*). The mean peak number of this Annex I species within the SPA during the baseline period (1995/96 – 1999/00) was 2,120 individuals.
- During winter the site regularly supports 1% or more of the all - Ireland population of Grey Plover (*Pluvialis squatarola*). The mean peak number of this species within the SPA during the baseline period (1995/96 – 1999/00) was 200 individuals.
- The wetland habitats contained within Baldoyle Bay SPA are identified of conservation importance for non – breeding (wintering) migratory waterbirds. Therefore, the wet land habitats are considered to be an additional Special Conservation Interest.

The Conservation Objectives of Baldoyle Bay SPA are as follows⁸:

‘Objective 1 is ‘To maintain the favourable conservation condition of the non - breeding waterbird Special Conservation Interest species listed for Baldoyle Bay SPA’. This objective is defined by the following attributes and targets:

- To be favourable, the long-term population trend for each Special Conservation Interest species of waterbirds should be stable or increasing;
- Waterbird populations are deemed to be unfavourable when they have declined by 25% or more, as assessed by the most recent population trend analysis.
- To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.

The factors that can adversely affect the achievement of Objective 1 include:

⁸ NPWS (2013) Conservation Objectives Supporting Document: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

- **Habitat modification:** Activities that modify discrete areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (e.g. as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers.
- **Disturbance:** Anthropogenic disturbance that occurs in or near the site and is either singular or cumulative in nature could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and /or a reduction in their numbers.
- **Ex-situ factors:** Several of the listed waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas outside of the SPA but ecologically connected to it. The reliance on these habitats will vary from species to species and from site to site. Significant habitat changes or increased levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers.

Objective 2 is 'To maintain the favourable conservation condition of the wetland habitat at Baldoyle Bay SPA as a resource for the regularly - occurring migratory waterbirds that utilise it.' This objective is defined by the following attributes and targets:

- To be favourable, the permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263 ha, other than that occurring from natural patterns of variation. The boundary of Baldoyle Bay SPA was defined to include the primary wetland habitats of this site. Objective 2 seeks to maintain the permanent extent of these wetland habitats, which constitute an important resource for regularly-occurring migratory waterbirds. The wetland habitats can be categorised into three broad types: subtidal; intertidal; and supratidal. Over time and though natural variation these subcomponents of the overall wetland complex may vary due to factors such as changing rates of sedimentation, erosion etc. Waterbird species may use more than one of the habitat types for different reasons (behaviours) throughout the tidal cycle.
- Subtidal areas refer to those areas contained within the SPA that lie below the mean low water mark and are predominantly covered by marine water. Tidal rivers, creeks and channels are included in this category. For Baldoyle Bay SPA this broad category is estimated to be 34 ha. Subtidal areas are continuously available for benthic and surface feeding ducks (e.g. Wigeon) and piscivorous/other water birds. Various waterbirds roost in subtidal areas. The relatively low proportion of subtidal habitat is due to the fact that this SPA is designated primarily for birds using intertidal habitats.
- The intertidal area is defined, in this context, as the area contained between the mean high-water mark and the mean low water mark. For Baldoyle Bay SPA this is estimated to be 164 ha. When exposed or partially exposed by the tide, intertidal habitats provide important foraging areas for many species of waterbirds, especially wading birds, as well as providing roosting/loafing areas. When the intertidal area is inundated by the tide it becomes available for benthic and surface feeding ducks and piscivorous/other waterbirds. During this tidal state this area can be used by various waterbirds as a loafing/roosting resource. The supratidal category refers to areas that are not frequently inundated by the tide (i.e. occurring above the mean high watermark) but contain shoreline and coastal habitats and can be regarded as an integral part of the shoreline.
- For Baldoyle Bay SPA this is estimated to be 65 ha. Supratidal areas are used by a range of waterbird species as a roosting resource as well as providing feeding opportunities for some species. The maintenance of the 'quality' of wetland habitat lies outside the scope of Objective 2."

The maintenance of the 'quality' of wetland habitat lies outside the scope of Objective 2. However, for the species of Special Conservation Interest, the scope of Objective 1 covers the need to maintain, or improve where appropriate, the different properties of the wetland habitats contained within the SPA.'

The attribute, measure and target of the site-specific conservation Objectives for Baldoyle Bay SPA are seen in Table 9.

Table 9. Attribute, measure and target of the site conservation objectives for Baldoye Bay SPA.

Attribute	Measure	Target
A046 Brent Goose (<i>Branta bernicla hrota</i>), A048 Shelduck (<i>Tadorna tadorna</i>), A137 Ringed Plover (<i>Charadrius hiaticula</i>), A140 Golden Plover (<i>Pluvialis apricaria</i>), A141 Grey Plover (<i>Pluvialis squatarola</i>), A157 Bar-tailed Godwit (<i>Limosa lapponica</i>), A999 Wetlands.		
Population trend	Percentage change	Long term population trend stable or increasing
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing and intensity of use of areas by all of the above-named species, other than that occurring from natural patterns of variation
Wetlands [A999] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263ha, other than that occurring from natural patterns of variation

Analysis of the Potential Impacts on the Baldoye Bay SAC and Baldoye Bay SPA.

The proposed amendments relate to a development that will involve the removal of existing internal habitats on site, the construction of a housing development and the discharge of surface water to the existing attenuation pond which discharges to the Mayne River. Noise will be generated on site during construction and operation. These impacts have the potential impact the conservation objectives of Baldoye Bay SAC and Baldoye Bay SPA.

Construction Impacts

The construction of the proposed development, would potentially impact on the existing ecology of the site and the surrounding area. These potential construction impacts would include impacts that may arise during the site clearance, re-profiling of the site and the building phases of the proposed development. The potential impacts are outlined in Table 10.

Construction phase mitigation measures are required on site particularly as there are proposals to discharge surface water to the existing attenuation pond with potential for downstream impacts on the River Mayne and Natura 2000 sites. There is potential for silt laden runoff, dust or contamination to enter surface water network and with potential for downstream impacts.

Designated Natura 2000 Sites

The proposed development is not within a designated conservation site. A direct pathway exists via surface water to Natura 2000 sites (Baldoye Bay SAC and Baldoye Bay SPA) downstream from the proposed development site via the River Mayne. The construction of the proposed development would potentially impact on the watercourse through silt laden runoff and pollution. In addition, noise would be generated during the construction phase and there is potential for pollution during the operation phase. These potential construction impacts on Natura 2000 sites are seen in Table 10. Runoff during site clearance, re-profiling, the construction and operation of project elements including the drainage network, could enter the Mayne River which leads to the Natura 2000 sites. Compliance with the Water Pollution Acts and monitoring would be seen as the primary method of ensuring no significant impact on designated conservation sites. Mitigation measures are required to ensure that the proposed development will not impact on the conservation objectives of the Natura 2000 sites within Baldoye Bay.

Ecology

The impact of the development during construction phase will be a loss of existing habitats and species. During the site visit no flora, bird or terrestrial mammal species of conservation importance were recorded on site or in NPWS or NBDC records. Small mammals such as long-tailed field mouse, house mouse, brown rat are likely to be present. No evidence of mammal activity or badger setts were noted. Frogs and reptiles were not observed on site; however, given the presence of the stream and drainage ditches, frogs may be present. The common lizard may occur on site but was not observed. Some mortality may occur of species that are not of conservation significance during construction.

Operational Impacts

Once constructed all onsite drainage will be connected to separate foul and surface water systems. Surface water runoff will comply with SUDS and will discharge to the existing attenuation pond that leads to the Mayne River. Mitigation measures will be required to ensure that water quality is maintained prior to discharging to watercourses.

Mitigation Measures and Monitoring

Construction and operational mitigation will be incorporated into the proposed development project to minimise the potential negative impacts within the Zone of Influence (Zoi) including the Mayne River and downstream Natura 2000 sites (Table 11).

Designated Conservation Sites within 15km

As the main potential vector for impacts to Natura 2000 sites would be seen to be via the surface water connection and the Mayne River, no additional controls are required besides those outlined below, during the construction and operational phases of the development, to mitigate against potential negative impacts on designated conservation sites. The mitigation has been designed to ensure that the project will comply with the Water Pollution Acts and standard County Council and Inland Fisheries Ireland conditions in relation to construction and drainage operations. All construction and operational phase controls outlined will be followed.

Table 10. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites		
Natura 2000 Site & Site Code	Qualifying Interests	Potential for Adverse Effects
Baldoyle Bay SAC	<p>Mudflats and sandflats not covered by seawater at low tide [1140]</p> <p>[1310] <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>[1330] Atlantic salt meadows (<i>Glauco - Puccinellietalia maritima</i>)</p> <p>[1410] Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p>	<p>Works on site, dust and surface water runoff on site during construction or operation may lead to silt or contaminated materials from site entering the attenuation pond and Mayne River. Concrete, silt or pollution could enter the watercourse during enabling works including, site clearance, reprofiling and dewatering of foundations, if required during construction. If on-site concrete production is required or cement works are carried out in the vicinity of drains there is potential for contamination of the watercourse.</p> <p>The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals in addition to exporting materials offsite could lead to pollution on site or in adjacent watercourses. The storage of topsoil or works onsite could lead to dust, soil or silt laden runoff entering adjacent watercourses. The use of haul roads could lead to silt laden runoff or dust with downstream effects on the SAC. Contaminated wastewater from onsite toilets, could cause localised pollution.</p> <p>Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site and would have little effect on Natura 2000 sites. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the attenuation pond, leading to the Baldoyle Bay SAC.</p> <p>Given the nature of the potential effects outlined above, and the presence of saltmarsh at the mouth of the Mayne River, the proposed project could impact on the:</p> <ol style="list-style-type: none"> 1) Habitat area, Community distribution of Mudflats and sandflats not covered by seawater at low tide [1140] 2) Habitat area, Habitat distribution, Physical structure: sediment supply, Physical structure: creeks and pans, Physical structure: flooding regime, Vegetation structure: zonation, Vegetation structure: vegetation height, Vegetation structure: vegetation cover, Vegetation composition: typical species and subcommunities, Vegetation structure: negative indicator species-<i>Spartina anglica</i> of <i>Salicornia</i> and other annuals colonising mud and sand [1310]. 3) Habitat area, Habitat distribution, Physical structure: sediment supply, Physical structure: creeks and pans, Physical structure: flooding regime, Vegetation structure: zonation, Vegetation structure: vegetation height, Vegetation structure: vegetation cover, Vegetation composition: typical species and subcommunities, Vegetation structure: negative indicator species –1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) 4) Habitat area, Habitat distribution, Physical structure: functionality sediment supply, Vegetation structure: zonation, Vegetation composition: plant health of fore dune grasses, Vegetation composition: typical species and subcommunities Vegetation composition: negative indicator species of 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) <p>Mitigation measures are required to protect the Features of Interest of the SAC. These mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project. The mitigation measures outlined will be carried out to ensure that no silt or pollution enters the Mayne River from the construction or operation phases of the proposed project and create localised pollution. However, the level of effect on Baldoyle Bay SAC, without the use of mitigation measures, is not deemed to be significant due to the presence of existing pond on site with a sediment forebay, which will enable settlement of particulates. In the event of a pollution incident, it would be expected to be small e.g. maximum capacity of truck/digger fuel tank. However, by following the precautionary principal mitigation measures will be in place.</p>

Baldoyle Bay SPA	A046 Brent Goose (<i>Branta bernicla hrota</i>)	Works on site, dust and surface water runoff on site during construction may lead to silt or contaminated materials from site entering the attenuation pond and Mayne River. Concrete, silt or pollution could enter the watercourse during enabling works including, site clearance, reprofiling and dewatering of foundations, if required during construction. If on-site concrete production is required or cement works are carried out in the vicinity of drains there is potential for contamination of the watercourse.
	A048 Shelduck (<i>Tadorna tadorna</i>)	The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. The storage of topsoil or works onsite could lead to dust, soil or silt laden runoff entering adjacent watercourses. The use of haul roads could lead to silt laden runoff or dust with downstream effects on the SPA.
	A137 Ringed Plover (<i>Charadrius hiaticula</i>)	Noise would be generated by the construction which may cause disturbance to the qualifying interests. However as outlined in Appendix I <i>'The maximum likely distance at which disturbance will impact SCIs from the Baldoyle Bay SPA is 300m (Cutts et al., 2013).'</i>
	A140 Golden Plover (<i>Pluvialis apricaria</i>)	It should be noted that baseline noise environment includes the busy R106 that links Portmarnock to Howth, which is between the proposed development and the SPA and within zone C in relation Aircraft Noise ($\geq 54\text{dB}$ and $< 63\text{dB LAeq, 16hr}$ and $\geq 48\text{dB}$ and $< 55\text{dB L}_{\text{night}}$). Based on Noise assessment (AWN Consulting Ltd. EIAR Chapter 12) the loudest Construction Noise Level at the SPA boundary from the construction works would be 41db.
	A141 Grey Plover (<i>Pluvialis squatarola</i>)	A detailed measurement exercise was undertaken by Xodus Group (Postlethwaite and Stephenson, 2012) of noise levels at the Pyewipe mudflats during piling for the new Grimsby River Terminal. The general conclusions from the Xodus Group report included the following: <i>'Noise from the construction site as a whole (not just piling) caused about 1% of the total disturbances observed during construction activities, when measured as the number of birds disturbed. Disturbances to large number of birds at any one time were caused by raptors (mainly peregrine), aircraft and helicopters. Noise levels up to 81 dB LAmax F, in some cases, caused no disturbance during percussive piling.</i>
	A157 Bar-tailed Godwit (<i>Limosa lapponica</i>)	<ul style="list-style-type: none"> <i>Level 1 disturbances (heads up alert) were observed to occur in the noise level range of 66 to 83 dB LAmax F for percussive piling.</i> <i>Level 2 disturbances (short walk or swim from the source of noise) were observed to occur in the range 68 –81 dB LAmax F for percussive piling.</i>
	A999 Wetlands.	<ul style="list-style-type: none"> <i>As no Level 3 (short flight) or Level 4 (flight out of area) noise related disturbances were observed, a percussive piling noise level greater than 83 dB LAmax F would be expected to be required to instigate a flight response.</i> <p><i>A percussive piling noise level less than 66 dB LAmax F gave rise to no noise disturbance.'</i></p> <p>As outlined by RPS (2018) in their Review of Effects of Construction Noise on Birds in SSSI near Springs Road Exploratory Well site in discussing Postlethwaite and Stephenson (2012) it was stated that <i>'Whilst it was not possible to provide evidence of habituation to percussive piling noise from this study, the Level 1 disturbances generally indicated that where noise is not perceived as a threat, the disturbance is temporary.'</i></p> <p>Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site and would have little effect on Natura 2000 sites. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the attenuation pond, leading to the Baldoyle Bay SPA. Birds from</p>

		<p>the SPA could potentially use the attenuation pond on site and be impacted. Significant quantities of silt could impact on the infauna and diet of birds within the SPA and the A999 Wetlands.</p> <p>Given the nature of the potential effects outlined above, the proposed project could affect the:</p> <ol style="list-style-type: none"> 1. Distribution and Range, timing and intensity of use of areas of the SPA for Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]. The area of Wetlands [A999] <p>There is potential for pollutants to enter the Mayne River which is directly linked to the SPA. Mitigation measures are required to protect the Features of Interest of the SPA. These mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project.</p>
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Table 11. Mitigation Measures

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA
<p>Baldoyle Bay SAC</p> <p>Baldoyle Bay SPA</p>	<ul style="list-style-type: none"> • Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Downstream impacts • Negative impacts on aquatic and bird fauna. • Disturbance. 	<p>Construction</p> <p><u>Contamination of watercourses leading to Natura 2000 Sites</u></p> <ul style="list-style-type: none"> • Appointment of an ecologist to oversee enabling works and the implementation of mitigation measures outlined. • Staging of project to reduce risks to watercourses from contamination • Control of Water during Construction • Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. • Sealing of drainage ditches at the most downstream element prior to the watercourse, with a tall 45 degree sloped earth and batted back bund prior to site clearance and reprofiling. • Any discharges to the watercourse during construction must be discussed with the ecologist and undergo desilting and petrochemical interception. • Should discharges be required to the watercourse the drainage network and attenuation must be implemented at initial stages. Discharges of desilted water from the site should be made to the attenuation system so that the hydrobrake and interceptor are in place during any discharges. • Local watercourses must be protected from dust, silt and contaminated surface water throughout the works. • Local silt traps established throughout site as discussed with the ecologist. • Mitigation measures on site include dust control, stockpiling away from watercourse and drains • Stockpiling of loose materials will be kept to a minimum of 20m from watercourses and drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or the watercourse, excavations and other locations where it may cause pollution.

		<ul style="list-style-type: none"> • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the stream. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. A risk based approach will be taken. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels the stream to prevent sediment entering the watercourse. • Petrochemical interception and bunds in refuelling area • Planting in the vicinity of the stream crossings should be put in place as soon as possible to allow biodiversity corridors to establish. • On-site inspections will be carried out by project ecologist during enabling works and until drainage connection is complete. • Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water to the surface water network. • No entry of solids or concrete to the associated stream or drainage network during the connection of pipework <p><u>Air & Dust</u></p> <ul style="list-style-type: none"> • The pro-active control of fugitive dust will ensure prevention of significant emissions arising, rather than a less effective attempt to control them once they have been released. • Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. • Any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and / or windy conditions. • Vehicles exiting the Site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads. • Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced site road, this will be 20kph, and on hard surfaced roads as site management dictates. • Public roads outside the Site will be regularly inspected for cleanliness and cleaned as necessary. • Material handling systems and Site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. • During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions. • Dust may enter the onsite watercourse via air or surface water with potential downstream impacts. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on the onsite watercourse. The main activities that may give rise to dust emissions during construction include the following:
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		<ul style="list-style-type: none"> • Excavation of material; • Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant. • Contaminated surface runoff • Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes. • Speed limits on site (15kmh) to reduce dust generation and mobilisation. • The stream is to be protected from dust on site. This may require additional measures in the vicinity of the bridge (east of the site) if this road is used for machinery e.g. placing of terram/protective material over the stream. • Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book. <p><u>Monitoring</u></p> <ul style="list-style-type: none"> • Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary. • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping. • Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. • Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. • Maintain a vegetated strip and vehicle exclusion zone between the works and the onsite watercourse in consultation with the project ecologist. • Regular inspection of surface water run-off and any sediment control measures e.g. silt traps will be carried out during the Construction Phase. Regular auditing of construction / mitigation measures will be undertaken e.g. concrete pouring, refuelling in designated areas etc. • Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the Site and the suitable distance of topsoil piles from surface water drains will be maintained.
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		<ul style="list-style-type: none"> • screening; and • liaison with the public. <p>Construction Phase noise monitoring will be undertaken at periodic sample periods at the nearest noise sensitive locations to the works to check compliance with the construction noise criterion. Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.</p> <p>Operation</p> <p>During the Operational Phase of the proposed Project there is limited potential for Site activities to impact on the geological and hydrogeological environment of the area. However, hydrocarbon interception will be put in place.</p>
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Adverse Effects on the conservation objectives of Natura 2000 sites likely to occur from the project (post mitigation)

Mitigation measures were outlined in the parent SHD permission (ABP Ref. 310418-21) and will be in place during the development of the proposed project. These have been developed by a multidisciplinary project team. These would ensure that water entering the Mayne River, is clean and uncontaminated, that dust and noise levels are controlled on site and that operational measures are in place to prevent pollution. Early implementation of ecological supervision on site at initial mobilisation and enabling works is seen as an important element to the project, particularly in relation to the implementation of surface water runoff mitigation.

With the successful implementation of the outlined mitigation measures, no significant impacts are foreseen from the construction or operation of the proposed project. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works. The construction and operational mitigation proposed for the development satisfactorily addresses the potential impacts on designated conservation sites through the application of the construction and operational phase controls as outlined above. In particular, mitigation measures to ensure compliance with Water Pollution Acts and prevent silt, dust and pollution entering the River Mayne will satisfactorily address the potential impacts on downstream biodiversity and Natura 2000 sites. No significant adverse impacts on the conservation objectives of Natura 2000 sites are likely following the implementation of the mitigation measures outlined above.

In-combination Effects

The following is a list of planning applications as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal⁹:

Table 11. In combination effects evaluated.

LRD 0007 - amendment s to Block B Stapolin Growth Area 3, Baldoye, Co. Dublin. GA3.	Lands at Baldoye-Stapolin Growth Area 3, Baldoye, Dublin 13.	<p>The proposed development consists of amendments to a SHD residential development previously permitted under ABP Reg Ref.: 311016 on GA3 lands at Baldoye (formerly known as The Coast), Dublin 13. The site is bound by Racecourse Park to the north, by lands referred to as Growth Area 2 (GA2) to the east, by lands referred to as Growth Area 1 (GA1) to the south, with the Dublin-Belfast railway line to the west and Clongriffin Train Station to the south-west.</p> <p>The proposed amendments, which relate to a site area of c.3.23 hectares within the wider permitted 6.89 hectares of the permitted SHD, consists of:</p> <ul style="list-style-type: none"> • Reduction in building height of Block E1 from an 8 - 5 no. storey building to a 7 -5 no. storey building; • Reduction in building height of Block G1 from 10 – 4 no. storey building to a 7 – 4 no. storey building, façade enhancements, additional vertical fenestration from 2nd – 6th floor and amendments to the building form; • Reduction in building height of Block G2 from 10 – 4 no. storey building to a 7 – 4 no. storey building, façade enhancements, additional vertical fenestration from 2nd – 6th floor and amendments to the building form; • Reduction in building height of Block G3 from 15 – 7 no. storey building to a 10 – 6 no. storey building, façade enhancements and amendments to the building form; and • Reduction in building height of Block G5 from 10 – 4 no. storey building to a 7 – 4 no. storey building, façade enhancements,
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⁹ <https://housinggov.ie/maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>

		<p>additional vertical fenestration from 2nd – 6th floor and amendments to the building form.</p> <p>Block E2 and Block G4 remain unaltered and all other elements of the development and all other elements of the development remain as permitted under ABP 311016 resulting in a reduction of 97 no. units from 1,221 no. units to 1,124 no. units.</p>
F22A/0434	Lands at Baldoyle (Formerly known as the Coast, Dublin 13	<p>The development will consist of amendments to Block C1 permitted under FCC Reg. Ref. F16A/0412 (ABO Reg. Ref. PL06F.248970) and amended under FCC Reg. Ref. F20A/0258, F21A/0046 and F22A/0017. The proposed amendments will consist of:</p> <p>The reconfiguration of units to omit 34 no. permitted units, comprising 28 no. 2-bed duplex apartment units over 2-bed apartments (3 storey), and 6 no. 2-bed apartment units over 2x2 bed duplex units (3 storey), and the construction of 21 no. 4-bed terrace houses (2-3 no. storeys), resulting in a reduction of 13 no. units;</p> <p>Amendments to landscaping to include for the removal of communal open space and play space to the west of the permitted units and the addition of private gardens to the rear and front of the houses, and a 2.4m boundary wall between the rear gardens and lands to the west for future track expansion identified by Iarnrod Eireann;</p> <p>The provision of 24 no. cycle parking spaces provide in 4 no. secure bicycle storage sheds; and</p> <p>- Reduction in the width of Racecourse Close carriageway to a minimum width of 5.5m.</p> <p>The proposed development will also include for all associated landscaping works and site development works above and below ground.</p> <p>All at Lands at Baldoyle (Formerly known as the Coast, Dublin 13. The site is bounded to the north by undeveloped lands, to the south by existing residential development on Myrtle Avenue, to the east by Longfield Road, residential development of Red arches and Racecourse Park, and to the west by the Dublin-Belfast railway line</p>
F22A/0017	Lands at Baldoyle Formerly known as the Coast, Dublin 13	<p>The site is bounded to north by undeveloped lands, to the south by the residential development of Myrtle, to the east by residential development of Red Arches, and to the west by undeveloped lands and the Dublin - Belfast railway line. The development consists of minor alterations to permitted residential development, as permitted under F16A/0412, ABP Ref: PL06F.248970 as amended under F20A/0258 and F21A/0046. The proposed alterations relate to Blocks C2, and C3 only and primarily relate to the alteration of external finishes and material of permitted housing units including the:</p> <p>Omission of permitted fireplaces and chimneys;</p> <p>Alterations to permitted fenestration including vertical frame sections, transoms and mullions, of windows and doors to front and rear of houses;</p> <p>Alteration of permitted rear flat roof to pitched roof on Building Types A & D;</p> <p>Removal of permitted decorative balustrades;</p> <p>Alteration of the permitted brickwork finish to the rear and side elevations of the houses with a render finish;</p> <p>Alteration of permitted bin stores to include brick finishes;</p> <p>Removal of permitted solar panels from Building Types A, B, D, E, G and M;</p> <p>Conversion of Unit Type G from 3 bedroom to 4 bedroom;</p> <p>Minor amendments to the unit type areas as a result of the above amendments.</p> <p>Proposed alterations to the permitted floor areas of each building typology with either a minor increase or decrease in floor areas from 0.5 sq.m. to 5 sq.m. varying across permitted typologies.</p>

F21A/0046	Lands at Baldoyle (Formerly known as the Coast, Dublin 13)	The site is bounded to north by undeveloped lands, to the south by the residential development of Myrtle, to the east by residential development of Red Arches, and to the west by undeveloped lands and the Dublin - Belfast railway line. The development consists of minor alterations to permitted residential development, as permitted under F16A/0412, ABP Ref: PL06F.248970 as amended under F20A/0258. The proposed alterations relate to Blocks B3, B4, C3, C4 and C5 only and relate to either: Proposed alterations to some of the permitted Unit Types in respect of their external design which relates primarily to roof and porch design as well as external finishes, minor internal reconfiguration and removal or alteration of permitted solar panels. The introduction of new Unit Types in place of permitted units. This is set out in respect of each block as follows : Block B3 - To the east of the Block, the replacement of the permitted 1 no Unit Type G, 7 no. Unit Type D and 1 no. Unit Type E with 9 no. Unit Type P. Block B4- to the east side of the Block, replacement of the permitted 1 no. Unit Type G, 7 No. Unit Type D and 1 no. Unit Type E, 1 no. Unit Type A and 1 no. Unit Type B with 9 no. Unit Type P. Block C3 to the west and centre of the block replacement and alteration of the permitted 2 no. Unit Type M, 8 no. Unit Type A and 6 no. Unit Type D with 18 no. revised unit Type B. To the east of the block the replacement of 2 no. Unit Type E with 2 no. revised unit Type D and the alteration of the 5 no. Unit Type E to revised unit Type E Block C4- To the west of the block the alteration of the permitted 2 no. Unit Type N and 4 no. Unit Type K to 2 no. revised unit Type N and 4 no. Revised Unit Type K. Block C5- to the west of the block the alteration of the permitted 2 no. Unit Type N and 4 no. revised Unit Type K. In total 38 permitted units are being altered with external changes and 33 no. units are replacing Type 38 no. permitted units. This proposed replacement and alteration of permitted unit types results in a reduction in permitted units by 5. Permission is also sought for the resultant increase in car-parking from 98 permitted spaces to 122 spaces relating to the subject units and for the alterations to permitted landscaping as a result of the proposed development.
F20A/0258	Lands at Baldoyle (Formerly known as the Coast, Dublin 13)	Minor alterations to permitted residential development, as permitted under F16A/0412, ABP Re. Ref; PL06F.248970. The proposed alterations relate to Blocks C4, C5 and D1 only and primarily relate to the alteration of external finishes and material of permitted housing units including the: Omission of permitted fireplaces and chimneys; Alterations to permitted fenestration including vertical frame sections, transoms and mullions, of windows and doors to front and rear of houses; Alteration of permitted rear flat roof to pitched roof on Building Types A & D; removal of permitted decorative balustrades; Alterations of the permitted brickwork finish to the rear and side elevations of the houses with a render finish; Alteration of permitted bin stores to include brick finishes; Removal of permitted solar panels from Building Types A,B,D,E,F G and alterations of permitted solar panels on Building Types K & N.
F19A/0461	Myrtle Grange Road Baldoyle	Primary School: Three storey 16 classroom Primary School building in Baldoyle (Roll Number 20519G), including a two classroom SEN base. The design also includes a general-purpose hall, support teaching spaces and ancillary accommodation, external junior play areas, secure SEN hard and soft play area and a sensory garden. The proposed project also incorporates associated car parking, access road, pedestrian access, bicycle lane, construction of 2 no. external ball courts, landscaping, connection to public services and all associated site works
F16A/0412 ABP Reg. Ref. 248970	The Coast, Baldoyle, Dublin 13.	550 no. residential units (379 no. apartments and 171 no. houses) and a village centre comprising C.1,585sq. m. of commercial floor space laid out in 13 no. blocks (Blocks A1, A2, A3, B1, B2, B3, B4, C1, C2, C3, C4, C5 and D1) ranging in height from two storeys to six storeys as follows: Blocks A1, A2 and A3 will consist of 3 no. six storey buildings (c. 30.05m OD to roof level with an overall height of c. 33.90 OD to include lift overrun) comprising 195 no. residential units (5 no. 1-bed apartment, 162 no. 2-bed apartments, and 28 no. 3-bed apartments) at first to fifth floor level, c.1,585 sq.m. of commercial floor area at ground floor level comprising a convenience outlet (c. 493sq.m.), cafe (c. 200sq.m.), 4 no. retail units (c. 88sq.m., 99sq.m., 99 sq.m. and 90sq.m.),

		<p>a crèche (c. 516sq.m.) with outdoor play area (c. 183sq.m.) and shared car park also at ground floor level with two associated communal courtyard areas at first floor level above a podium.</p> <p>Block B1 will consist of a four storey building over basement car park (c. 21.6m OD to roof level with an overall height of c. 25m OD to include lift overrun) comprising 82 no. residential units (3 no. 1-bed apartments, 75 no. 2-bed apartments, and 4 no. 3-bed apartments); Blocks B1 and B2 include a shared central communal courtyard area over a shared basement car park and a community room (c. 78sq.m.) in the entrance pavilion to the basement.</p> <p>Block B2 will consist of 3 no. three storey terraces over basement car park comprising 24 no. residential units (12 no. own door 2-bed apartments and 12 no. own door 2-bed duplex apartments).</p> <p>Block B3 will consist of 1 no. two storey terrace and 3 no. three storey terraces comprising 32 no. residential units (11 no. 3-bed terraced houses and 21 no. 4-bed terraced houses).</p> <p>Block B4 will consist of 2 no. two storey terraces and 1 no. three storey terrace comprising 25 no. residential units (16 no. 3-bed terraced houses and 9 no. 4-bed terraced houses).</p> <p>Block C1 will consist of 3 no. three storey terraces comprising 32 no. residential units (16 no. 2-bed own door apartments and 16 no. 2-bed own door duplex apartments).</p> <p>Block C2 will consist of 1 no. two storey terrace and 2 no. three storey terraces comprising 35 no. residential units (9 no. 2-bed own door apartments, 9 no. 2-bed own door duplex apartments, 10 no. 3-bed terraced houses and 7 no. 4-bed terraced houses).</p> <p>Block C3 will consist of 1 no. two storey terrace and 2 no. three storey terraces comprising 29 no. residential units (11 no. 3-bed houses and 18 no. 4-bed houses).</p> <p>Block C4 will consist of 2 no. two storey terraces and 2 no. three storey terraces comprising 47 no. residential units (5 no. 1-bed own door apartments, 2 no. 2-bed own door apartments, 5 no. 2-bed own door duplex apartments, 2 no. 3-bed own door duplex apartments, 24 no. 3-bed terraced houses and 9 no. 4-bed terraced houses).</p> <p>Block C5 will consist of 2 no. two storey terraces and 2 no. three storey terraces comprising 37 no. residential units (5 no. 1-bed own door apartments, 2 no. 2-bed own door apartments, 5 no. 2-bed own door duplex apartments, 2 no. 3-bed own door duplex apartments, 14 no. 3-bed terraced houses, and 9 no. 4-bed terraced houses).</p> <p>Block D1 will consist of 12 no. two storey 3-bed semi-detached houses.</p> <p>All apartments and duplex apartments have private terraces or balconies and private communal amenity areas. The proposed development will also include 896 no. residential (including visitor) car parking spaces, 62 no. commercial car parking spaces, 551 no. residential bicycle spaces and 13 no. commercial bicycle spaces; pedestrian, vehicular and bicycle access will be via the existing Longfield Road and Red Arches Road and the proposed internal road network comprising Stapolin Avenue, Ireland's Eye Avenue and smaller access roads; construction access will be via existing haul road from the Coast Road; landscaping works including Stapolin Square (c. 0.4ha) which will provide access to Clongriffin Train Station via a series of terraces, steps and slopes, a range of public open spaces including pocket parks and amenity spaces, the largest of which will be Stapolin</p>
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		<p>Haggard (c. 1.57ha); public lighting; a wetland area (c. 0.4ha.) for water quality treatment associated with the proposed development; all associated ancillary facilities including 8 no. ESB substations, switch rooms, refuse storage, water storage tanks and plant; and all associated site development works including the removal of existing roads and infrastructure where required and demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station. The subject site of C 15.89ha comprised Growth Area 1 of the Baldoyle-Stapolin Local Area Plan 2013-2019. This application is accompanied by an Environmental Impact Statement (E.I.S.)</p>
<p>Stapolin Growth Area 1, Baldoyle, ABP Ref. 310418</p>	<p>GA1, Baldoyle, Co. Dublin</p>	<p>Granted Parent Permission. The Shoreline Partnership have applied for planning permission for a residential development at Stapolin Growth Area 1, Baldoyle, Co. Dublin. The proposed development will consist of alterations to the development permitted within Growth Area No. 1 (GA1) of the Baldoyle - Stapolin Local Area Plan 2013-2019, under FCC Reg. Ref. F16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046).</p> <p>The existing permission provides for 544 no. residential units (385 no. apartments and 159 no. houses), residential tenant amenities, village centre and crèche laid out in 13 no. blocks (identified as A1, A2, A3, B1, B2, B3, B4, C1, C2, C3, C4, C5, D1) ranging in height from two-storeys to six-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, landscape works and open spaces, including Stapolin Square and Stapolin Haggard, pocket parks, communal courtyards; surface water attenuation wetland; and associated ancillary services and works on an overall site of 15.89 hectares (ha). A number of elements of the existing permitted development have been constructed / will be constructed in accordance with the current grant of permission (as previously amended), including:</p> <ul style="list-style-type: none"> • Surface water attenuation wetlands and associated upstream surface water network; • Ninety-nine units in permitted Blocks C4, C5 and D1 (identified as Block C6 under amendments F20A/0258 and F21A/0046); • The open space referred to as the Haggard Park ('Stapolin Haggard'); • Demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station; • Road infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project); and • Utilities infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project). <p>Given that they are already constructed or are under construction, the area of the surface water wetlands and associated upstream surface water network, and the area of Blocks C4, C5, C6 (latter formerly D1) are excluded from the subject planning application. The Haggard Open Space will be provided in accordance with the current grant of permission and as such is also exclusion from the planning area.</p> <p>The proposed Project will provide for 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenities, village centre, and crèche, laid out in 15 no. blocks (identified as: A1, A2, A3, B1, B2, B3, B4, C1, C1A, C2, C2A, C3, D1, D2, D3) ranging in height from two-storeys to 15-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, public realm and open space, including an enlarged Stapolin Square, landscape and associated ancillary services and works over a total Site area of c. 9.1ha, of which the development area is c. 8.89ha. As well as excluding some previously permitted areas (as above), the red line boundary for this application extends beyond the red line of the previously permitted development to provide for the full extent of Stapolin Square, new access to Clongriffin Station through the Square, new apartment blocks D1, D2, D3 to the north of Stapolin Square, and a bus ramp to Clongriffin Station. The red line boundary of this application also extends north to provide for a 300mm watermain connection to the existing watermain in the parklands to the north.</p> <p>A Natura Impact Statement has been prepared by Altamar Ltd. to accompany the planning application outlined above. Following the implementation of mitigation measures, this report concludes the following:</p>

		<p><i>'On the basis of the content of this report, the competent authority is enabled to conduct an assessment for Appropriate Assessment and consider whether, in view of best scientific knowledge and in view of the conservation objectives of the relevant European sites, the Proposed Development, individually or in combination with other plans or projects is likely to have a significant effect on any European site.</i></p> <p><i>No significant effects are likely on European sites, their features of interest or conservation objectives. The proposed project will not will adversely affect the integrity of European sites.'</i></p>
<p>Stapolin Growth Area 3, Baldoyle, Co. Dublin. ABP Ref. 311016</p>	<p>GA3, Baldoyle, Co. Dublin</p>	<p>The Shoreline Partnership intend to apply to An Bord Pleanála for a 10 year planning permission for a strategic housing development at a site of c. 6.89 ha at lands at Baldoyle/Stapolin, referred to as GA03 Lands in the Baldoyle-Stapolin Local Area Plan 2013 (as extended) and which from part of the wider landholding of lands formerly known as the Coast, Baldoyle, Dublin 13. The lands are bound by the Dublin-Belfast / DART train line to the west, existing and proposed residential areas to the south and east, and future Racecourse Park to the north. The proposed development will consist of the development of 1,221 no. residential apartment/duplex dwellings in 11 no. blocks ranging in height from 2 to 15 storeys and including for residential tenant amenity, restaurant/cafe, crèche, car and bicycle parking and public realm, over a site area of c. 6.89 ha.</p> <p>1. The proposed residential development will consist of 1,221 no residential apartment/duplex dwellings (1 no. Studio, 503 No. 1-Bed, 636 No. 2-Bed, 80 No. 3-Bed) set out as follows:</p> <ul style="list-style-type: none"> • Blocks E1, ranging in height from 6 to 8 storeys, providing 157 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks E2, at 6 storeys, providing 68 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks E3, at 6 storeys, providing 45 no. apartment units with proposed balconies, and external roof terrace and solar panels at roof level. • Blocks E4, at 5 storeys, providing 36 no. apartment units with proposed balconies, and external roof terrace and solar panels at roof level. • Blocks F1, ranging in height from 2 to 5 storeys providing 91 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks F2, ranging in height from 2 to 6 storeys providing 122 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G1, ranging in height from 5 to 10 storeys providing 169 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G2, ranging in height from 5 to 10 storeys providing 175 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G3, at 15 storeys, providing 124 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G4, at 7 storeys, providing 60 no. apartment units with proposed balconies, and solar panels at roof level. • Blocks G5, ranging in height from 5 to 10 storeys providing 173 no. apartment units with proposed balconies, and solar panels at roof level. • Residential Tenant Amenity Facilities of c.2,301.m located in Blocks E3, E4, G3, G4 & G5 and external communal amenity space of c.10,793 sq.m provided at ground, podium and terrace levels throughout the scheme. <p>2. A crèche of c.452 sq.m in addition to outdoor play space of c.123 sq.m. is proposed in the ground floor of Block G4 and 1 no. restaurant/cafe units of c.205 sq.m is proposed on the ground floor of Block E3. Total non-residential uses is c.785 sq.m</p> <p>3. Car Parking is provided in a mix of undercroft for Blocks E1-E2, F1 and F2 and at basement level for Blocks G1-G3 and G4-G5 with a total parking of 632 spaces for residential units with 33 spaces at surface level for residential use and 8 spaces (4 staff in G4/G5 and 4 drop off) associated with the proposed crèche. 2016 cycle parking spaces are provided for residents and 312 for visitor and commercial uses, in secure locations and within the public realm throughout the scheme.</p>

		<p>4. A new central public space between Blocks E1-E2 and E3 and E4 and a new linear space between Blocks G2-G3 and G4-G5 provides pedestrian and cycle connectivity from Longfield Road to the proposed future Racecourse Park to the north is provided.</p> <p>5. Proposed new bus, cycle, pedestrian and taxi ramp to the south of the site and north of Stapolin Square providing access from Longfield Road to Clongriffin Train Station.</p> <p>6. The development will also provide for all associated ancillary site development infrastructure including: ESB sub-stations, bin stores, plant rooms, public lighting, new watermain connection to the north and foul and surface water drainage; internal roads & footpaths; site landscaping, including boundary treatments; associated scheme signage, and all associated engineering and site works necessary to facilitate the development.</p>
ABP Reg. Ref. JP06F.3113 15	Baldoyle, Co. Dublin	<p>Fingal County Council was granted approval from An Bord Pleanála under Section 177AE of the Planning and Development Act 2000 (as amended) to carry out a park development project at the Racecourse Park located between Baldoyle and Portmarnock, Co. Dublin.</p> <p>The proposed development consists of:</p> <ul style="list-style-type: none"> 4.5km of new walking and cycling routes including a bridge over the Mayne river and the repair to the railway underpass; Public lighting along key walking and cycling routes Expanding the existing car park to cater for up to 161 car parking spaces; Upgrading and expanding the existing playground; A Skate park and Teenage Adventure Playground; A Multi use games area; A dog run; A Bowls green; Four grass football pitches A viewing platform Tracing of circular archaeological feature through soft landscaping and removal of existing fence; Extension of existing reedbed south of Mayne river and creation of new brackish grassland north of Mayne river; All landscaping works in the park. <p>https://consult.fingal.ie/ga/consultation/section-177ae-application-bord-plean%C3%A1la-racecourse-park-development-project</p>

The area in which the proposed development is proposed is within an area that is undergoing significant development proximate to Natura 2000 sites. Public open space is being provided within each development and a significant amenity area (Racecourse Park) was granted planning, which would be seen to limit wider in combination effects during operation. Given this, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on European sites will be seen as a result of the proposed development alone or combination with other projects.

No projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.

Conclusion

In a strict application of the precautionary principle, it has been concluded that mitigation measures were required to prevent impacts on Baldoyle Bay SAC and Baldoyle SPA. Impacts are likely from the proposed works in the absence of mitigation measures, primarily as a result of the direct hydrological connection to the site via the River Mayne, which is currently connected to the site via existing attenuation pond. As a result, there is potential for downstream impacts from the project during site clearance, enabling, construction, landscaping and drainage works. In addition, the proximity of the proposed works to the Natura 2000 sites could lead to dust and noise entering the SPA and impacting on the Qualifying interests. Mitigation measures were outlined in the parent permission and will be in place during the development of the proposed project. For this reason, a NIS was carried out to assess whether the proposed project, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European Site. All other Natura 2000 sites were screened out at initial screening.

Construction on this site will create localised light and noise disturbance. This would not impact Natura 2000 sites.

Mitigation measures will be in place to ensure there are no significant impacts on the River Mayne that leads to conservation sites. A project ecologist will be appointed to oversee works in relation to the enabling works and the implementation of mitigation measures as outlined on site. The implementation of mitigation measures outlined, which will be followed, will be sufficient to prevent adverse effects on the integrity of Natura 2000 sites.

Following the implementation of the mitigation measures outlined, the construction and presence of this development would not be deemed to have a significant impact on the integrity of Natura 2000 sites. No significant impacts are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of standard construction phase mitigation measures.

This report presents an Appropriate Assessment Screening and NIS for the proposed development. It outlines the information required for the competent authority to screen for appropriate assessment and to determine whether or not the proposed development, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

On the basis of the content of this report, the competent authority is enabled to conduct an Appropriate Assessment and consider whether, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

No significant effects are likely on Natura 2000 sites, their features of interest or conservation objectives. The proposed project will not will adversely affect the integrity of European sites.

Data used for the AA Screening/NIS Assessment

NPWS site synopses and Conservation objectives of sites within 15km were examined. Natura 2000 sites beyond 15km have no direction connection to the proposed development site. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on Bing road map and satellite imagery. Several site visits were carried out to determine if the site contained possible threats to a NATURA 2000 site or any NATURA 2000 species or habitats.

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Winter Bird Survey Report 2019/2020

Project Shoreline Bird
Surveys, Baldoye, North
Co. Dublin





DOCUMENT DETAILS

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Project Title: **Project Shoreline Bird Surveys, Baldoye, North Co. Dublin**

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Prepared By: **MKO
Tuam Road
Galway
Ireland
H91 VW84**



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1.

INTRODUCTION

McCarthy Keville O'Sullivan (MKO) was appointed to carry out bird survey works at Baldoyle, north County Dublin during the period from December 2019 to March 2020 inclusive. The proposed development scheme consists of a large housing development on a greenfield site dominated by agricultural grassland. The site is approximately 50.7 ha in area and is located between Clongriffin Dart Station to the west and the Coast Road to the east. Figure 1 (Appendix 2) provides a map of the location of the proposed development boundary.

This report describes the ornithological survey methods employed and survey data collected at Baldoyle, north County Dublin for the period from December 2019 to March 2020 inclusive. This report also contains information compiled during the desktop study. Particular attention has been paid to species of conservation importance and identified target species. See Figure 1 and Figure 2 in Appendix 2 for a map of the areas surveyed between December 2019 and March 2020.

The report is supported by Technical Appendix 1 which contains the raw data from the winter bird surveys in 2019/2020. This includes detail on survey times, weather conditions, surveyors, survey results and other additional information. Flight lines and significant flocks recorded during surveys are shown in Appendix 2.

The report is structured as follows:

- › An introduction providing a description of the background and statement of authority regarding ornithological works.
- › A description of the desktop study carried out with regards to the site.
- › A comprehensive description of survey methods.
- › A full description of results for all ornithological surveys conducted.
- › A discussion of the potential impacts.

The following defines terms used in this report

- › "Zones of Influence" (ZOI) for potential ornithological receptors refers to the zone within which potential effects are anticipated. ZOIs were assigned following best available guidance (SNH 2016 and McGuinness et.al 2015).

1.1

Statement of Authority

This report has been prepared by Patrick Manley (B.Sc.) an Ornithologist with MKO, Ian Hynes (B.Sc.) and Senior Ornithologist, Padraig Cregg (M.Sc.). The field surveys were undertaken in the 2019 breeding season by Padraig Cregg, Eric Dempsey and Susan Doyle, all of whom are competent experts in bird surveying.

CVs for the authors of this report and all personnel who carried out survey work are provided in Appendix 3.

2. DESK STUDY

2.1 Desk Study Methods

A comprehensive desk study was undertaken prior to surveys in winter 2019 to search for any relevant information on species of conservation concern which may potentially make use of the study area. The assessment included a thorough review of the available ornithological data including:

- › Review of online web-mappers: National Parks and Wildlife Service (NPWS), Irish Wetland Bird Survey IWeBS.
- › Review of Birds of Conservation Concern (BoCCI) in Ireland 2014-2019 (Colhoun & Cummins, 2013)

2.2 Desk Study Results

2.2.1 Identification of Designated Sites within the Likely Zone of Influence

Using GIS software, sites designated for nature conservation within the potential ZOI of the proposed development were identified. Baldoyle SPA is located directly to the east of the proposed development opposite the R106. The SPA is a narrow estuary totalling 262ha in area and is separated from the sea by sand dunes on its eastern boundary. Two small rivers, the Mayne River and the Sluice River, flow into the inner part of the estuary. The Mayne River runs from west to east along the northern boundary of the proposed development site. At low tide, large areas of intertidal mud flats are exposed. These mud flats comprise mostly of sands but grade to muds in the more sheltered parts of the estuary.

In addition, and in the absence of any specific European or Irish guidance, the Scottish Natural Heritage (SNH) Guidance, 'Assessing Connectivity with Special Protection Areas (SPA)' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development proposals and Special Protection Areas. The guidance takes into consideration the distances some species may travel beyond the boundary of their SPAs and outlines information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.

Designated sites located within the Likely Zone of Influence are listed below in Table 2-1 and illustrated in Appendix 2, Figure 2.

Table 2-1 Designated sites within likely zone of influence

Designated site and code	Distance from proposed development (Km)	Qualifying Interests/Special Conservation Interests for which the European Site has been designated (https://www.npws.ie , last viewed 20/04/2020)	Conservation Objectives	Zone of Influence Determination & Identification of Pathways for Effect
Special Protection Areas (SPA)				
Baldoye Bay SPA (004016)	0.07m to the east of the proposed development site	<ul style="list-style-type: none"> > Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] > Shelduck (<i>Tadorna tadorna</i>) [A048] > Ringed Plover (<i>Charadrius hiaticula</i>) [A137] > Golden Plover (<i>Pluvialis apricaria</i>) [A140] > Grey Plover (<i>Pluvialis squatarola</i>) [A141] > Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] 	<p>This site has detailed conservation objectives for each species listed as Qualifying Interests of the SPA:</p> <p>"To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests of this SPA."</p> <p>This site also has a second conservation objective:</p> <p>"To maintain the favourable conservation condition of the wetland habitat in Baldoye Bay SPA."</p> <p>(NPWS (2013) Conservation objectives: Baldoye Bay SPA [004016], Version 1.</p>	The proposed development site is directly adjacent to the Baldoye SPA and is therefore located within the potential foraging range of all the SCI species associated with the SPA.

2.2.2 Irish Wetland Bird Survey (IWeBS) Records

The study area is not covered by an IWeBS site, but the nearest site is located directly adjacent to the proposed development site to the east at Baldoyle Bay SPA. Data from this IWeBS site has been used to estimate the population of waterbirds in the area surrounding the proposed development area. The dataset for Baldoyle Bay SPA was downloaded from www.birdwatchireland.ie and reviewed. The most recent 5-season period and mean counts for this period are presented in Table 2-2. IWeBS surveys for the 2011/12 and the 2012/13 survey seasons were not undertaken and no data is available for these years.

Table 2-2 IWeBS data for Baldoyle Bay SPA

Species	2011/12	2012/13	2013/14	2014/15	2015/16	5-season mean (2011/12-2015/16)
Mute Swan	-	-			2	2
Light-bellied Brent Goose	-	-	580	588	342	503
Egyptian Goose	-	-			1	1
Shelduck	-	-	52	97	88	79
Wigeon	-	-	54	54	32	47
Teal	-	-	145	160	108	138
Mallard	-	-	67	102	106	92
Pintail	-	-	4	4		4
Common Scoter	-	-	16	7		12
Red-breasted Merganser	-	-	6	5	2	4
Red-throated Diver	-	-	14	64		39
Great Northern Diver	-	-	1	2		2
Little Grebe	-	-	1			1
Great Crested Grebe	-	-	124	189		156
Cormorant	-	-	10	4	3	6
Shag	-	-	7			7
Little Egret	-	-	18	3	7	9
Grey Heron	-	-	5	7	7	6
Moorhen	-	-				
Oystercatcher	-	-	277	1113	219	536
Ringed Plover	-	-	34	59	123	72
Golden Plover	-	-	2500	450	2000	1650
Grey Plover	-	-	55	28	8	30
Lapwing	-	-	372	300	137	270
Knot	-	-	553		19	286
Sanderling	-	-	6			6
Dunlin	-	-	750	233	300	428
Snipe	-	-				
Black-tailed Godwit	-	-	389	139	296	275
Bar-tailed Godwit	-	-	162	150	48	120
Curlew	-	-	90	61	106	86
Greenshank	-	-	6	11	3	7

Species	2011/12	2012/13	2013/14	2014/15	2015/16	5-season mean (2011/12-2015/16)
Redshank	-	-	144	152	125	140
Turnstone	-	-	17	12	13	14
Black-headed Gull	-	-	242	281	52	192
Common Gull	-	-	64	11	4	26
Lesser Black-backed Gull	-	-	4	18	1	8
Herring Gull	-	-	47	91	58	65
Great Black-backed Gull	-	-	7	15	10	11

-- indicates where no data was available.

2.2.3

Method of Identification of Target Species

Following a comprehensive desk study by MKO, initial site visit and consultation, a list of "Target species" likely to occur at the site was compiled. The survey work carried out on the site was specifically designed to survey for these identified target species in accordance with relevant survey guidance, e.g. I-WcBS methods. The target species list was drawn from:

- › Annex I of the Birds Directive,
- › Special Conservation Interests (SCI) of Special Protection Areas (SPA) within the zone of likely significant effects,
- › Red listed birds of Conservation Concern in Ireland.

All species within these categories were considered as target species for the purpose of these surveys.

3. FIELD SURVEYS

3.1 Field Survey Methods

This section of the report describes the various field survey methods employed. Field surveys were undertaken from December 2019 – March 2020 inclusive. Field survey methodologies have been devised to survey for the bird species composition and assemblages that occur within the study area.

3.1.1 Initial Site Assessment

Based on the results of the desk study, the likely importance of the study area for bird species was determined. Based on the collated information available from the above preliminary assessment and adopting a precautionary approach, a site-specific scope for the ornithological surveys was developed.

3.1.2 Walkover Surveys

Winter walkover surveys were undertaken to determine the presence of bird species of high conservation concern within areas of potential suitable habitat in the study area. The walkover survey was undertaken within the redline boundary.

Transect routes were devised to ensure coverage of different habitat complexes within the study area, during each survey visit. The survey was undertaken (onsite) within two hours of high tide, as this is the period when birds from the estuary are most likely to make use of terrestrial habitats, such as those present within the proposed development area. The main aim of the survey was to identify if SCIs from the adjacent SPA were utilising areas onsite for foraging or roosting. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Survey effort, including details of survey duration and weather condition, is presented in Appendix 1, Table 1-1. Figure 1 in Appendix 1 shows the survey study area.

3.1.3 Baldoye Bay SPA Surveys

Surveys of Baldoye Bay SPA were broadly based on IWeBS methodology. On each survey of the SPA a total count of each water bird species present was recorded. Information on behaviour (i.e. foraging or roosting) and habitat was also collected. During these surveys, estuarine habitats were described as intertidal, subtidal, supratidal or terrestrial.

Survey effort, including details of survey duration and weather conditions, is presented in Appendix 1, Table 1-1. Figure 2 in Appendix 1 shows the surveyed area.

3.1.4 Survey Justification

A comprehensive suite of bird surveys was undertaken at the site between December 2019 and March 2020, as detailed in this report.

The surveys undertaken provide the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of the proposed development on avian receptors.

3.2 Field survey results

3.2.1 Survey Effort

Surveys were undertaken between the 18th of December 2019 and 24th of March 2020. Two visits a month were undertaken during this period. Table 3-1 shows the survey effort for the 2019/2020 winter season.

Table 3-1 Survey Effort

Survey Date	Survey Location	Survey Duration	Surveyor
18/12/2019	Site and SPA	05:00 starting at 09:30	PC
23/12/2019	Site and SPA	02:35 starting at 09:20	ED
15/01/2020	SPA	02:20 starting at 10:00	SD
15/01/2020	Site	01:20 starting at 13:10	SD
28/01/2020	SPA	02:35 starting at 08:40	SD
28/01/2020	Site	01:45 starting at 11:40	SD
10/02/2020	Site	02:00 starting at 10:00	SD
10/02/2020	SPA	02:05 starting at 12:10	SD
24/02/2020	Site	02:00 starting at 09:55	SD
24/02/2020	SPA	02:00 starting at 12:30	SD
11/03/2020	SPA	01:55 starting at 12:45	SD
11/03/2020	Site	02:00 starting at 10:20	SD
24/03/2020	SPA	02:15 starting at 11:45	SD
24/03/2020	Site	02:00 starting at 09:30	SD

3.2.2 Walkover Survey Results

Walkover surveys were undertaken at the site between December 2019 and March 2020 inclusive. Summary results from the walkover surveys are presented below in Table 3-2 and discussed in further detail in Section 4 of this report. Figure numbers refer to figures provided in Appendix 2.

Table 3-2 Total number of each species recorded on site during walkover surveys (Peak Counts for each species are presented in bold)

Species	Conservation Status	December		January		February		March		Figure No.
		18th	23rd	15th	28th	10th	24th	11th	24th	
Bar-tailed Godwit (SCI of Baldoye SPA)	Annex I, BoCCI Amber Listed (Wintering Populations)						35			
Light-bellied Brent Goose (SCI of Baldoye SPA)	BoCCI Amber Listed (Wintering Populations)	12	40	49	7	11	80			1.1
Shelduck (SCI of Baldoye SPA)	BoCCI Amber Listed					2		4		1.2
Black-headed Gull	BoCCI Red Listed (Breeding Populations)		1	13	15	8	68	1		1.3
Black-tailed Godwit	BoCCI Amber Listed (Wintering Populations)		12					35		1.4
Common Gull	BoCCI Amber Listed (Breeding Populations)	24							1	1.5
Common Snipe	BoCCI Amber Listed	4	1		6	4	3	3	5	1.6
Cormorant	BoCCI Amber Listed						1			
Great Black-backed Gull	BoCCI Amber Listed (Breeding Populations)					1				
Grey Heron	BoCCI Green Listed	2	1		1	1			1	1.7
Herring Gull	BoCCI Red Listed (Breeding Populations)		8	14	21	8	2	7	10	1.8
Lapwing	BoCCI Red Listed					100	30			1.9
Lesser Black-backed Gull	BoCCI Amber Listed (Breeding Populations)						1			
Little Egret	Annex I, BoCCI Green Listed								1	1.10
Mallard	BoCCI Green Listed				2	20	6	2	8	1.11
Moorhen	BoCCI Green Listed	3							1	1.12
Oystercatcher	BoCCI Amber Listed	86								1.13
Teal	BoCCI Amber Listed							4		1.14

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3.2.3 SPA Survey Results

The SPA surveys were undertaken at Baldoye Bay SPA between December 2019 and March 2020 inclusive. Summary results from these surveys are presented below. Table 3-3 shows the total number of each SCI species during each survey. Table 3-4 shows the total number of birds present for all species within the SPA and Table 3-5 shows the total number of each non-SCI species recorded during the SPA surveys. These results are discussed in further detail in Section 4 of this report.

Table 3-3 Total number of each SCI species recorded within the Baldoye Bay SPA during the SPA surveys (Peak Counts for each species are presented in bold)

Species and Conservation Status	Conservation Status	December		January		February		March	
		18th	23rd	15th	28th	10th	24th	11th	24th
Bar-tailed Godwit (SCI of Baldoye SPA)	Annex I, BoCCI Amber Listed (Wintering Populations)	47			18	1			
Golden Plover (SCI of Baldoye SPA)	Annex I, BoCCI Red Listed	50							
Grey Plover (SCI of Baldoye SPA)	BoCCI Amber Listed (Wintering Populations)	4							
Light-bellied Brent Goose (SCI of Baldoye SPA)	BoCCI Amber Listed (Wintering Populations)	69		29	398	227	167	891	538
Ringed Plover (SCI of Baldoye SPA)	BoCCI Green Listed			12	50				
Shelduck (SCI of Baldoye SPA)	BoCCI Amber Listed	53	26	47	122	45	41	30	12

Table 3-4 Overall number of birds per month within the Baldoye Bay SPA

Survey Date	All Species	SCI Species
18th December	890	223
23rd December	76	26
15th January	685	88
28th January	1859	588
10th February	612	273
24th February	432	208
11th March	1236	937
24th March	1078	552

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Table 3.5 Total number of each non-SCI species recorded within the Baldryke Bay SPA during the SPA surveys (Peak Counts for each species are presented in bold)

Species	Conservation Status	December		January		February		March	
		18th	23rd	15th	28th	10th	24th	11th	24th
Black-headed Gull	BoCCI Red Listed (Breeding Populations)	32	6	47	129	63	101	16	2
Black-tailed Godwit	BoCCI Amber Listed (Wintering Populations)								126
Common Gull	BoCCI Amber Listed (Breeding Populations)	9	1		1				1
Common Loon	BoCCI Amber Listed			2	1	6	1		
Curlew	BoCCI Red Listed	35		57	67	1	3	6	4
Dunlin	Annex I; BoCCI Red Listed	20							
Gannet	BoCCI Amber Listed (Breeding Populations)								6
Great Black-backed Gull	BoCCI Amber Listed (Breeding Populations)	16	2	2	11			1	1
Great Crested Grebe	BoCCI Amber Listed				2	6	1	1	1
Greenshank	BoCCI Green Listed	1		1	2				
Grey Heron	BoCCI Green Listed	1	1						
Herring Gull	BoCCI Red Listed (Breeding Populations)	136		41	101	23	14	22	51
Knot	BoCCI Amber Listed (Wintering Populations)				160	53		25	
Lapwing	BoCCI Red Listed	1	7	38	144	11			
Lesser Black-backed Gull	BoCCI Amber Listed (Breeding Populations)				1	2			
Little Egret	Annex I; BoCCI Green Listed		1			1		6	8
Little Grebe	BoCCI Amber Listed			1					
Long-tailed Duck	BoCCI Red Listed (Wintering Populations)	1				3			
Mallard	BoCCI Green Listed	53		2	14	2	12	33	19
Oystercatcher	BoCCI Amber Listed	155		244	538	15	21	49	250
Red-breasted Merganser	BoCCI Green Listed	10	1	7	3	15	1	5	7
Redshank	BoCCI Red Listed	80	3	108	65	115	48	115	29

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Species	Conservation Status	December		January		February		March	
		18th	23rd	15th	28th	10th	24th	11th	24th
Teal	BoCCI Amber Listed	15	11	14	28	16	22	32	16
Turnstone	BoCCI Green Listed	22		21	2	7			
Whooper Swan	Annex I; BoCCI Amber Listed (Wintering Populations)	1							
Wigeon	BoCCI Red Listed (Wintering Populations)	79	17	12	2			4	7

3.2.4 Other Observations

A number of observations of non-target species were recorded during the survey period. The most significant of these observations are detailed in Table 3.6 below and discussed in further detail in Section 4 of this report.

Table 3.6 Other observations during surveys

Species	Survey Type	Observations recorded during surveys	Activity of note
Buzzard	Walkover Survey	5	Calling from treeline, at potential nest site
Kestrel	Walkover Survey	1	None
Buzzard	SPA Survey	1	None

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DISCUSSION

The following provides a synopsis of the findings of the surveys undertaken between December 2019 and March 2020.

Within the proposed development site and/or within 500m of the site, there were six main areas of importance to birds. These areas are presented in Appendix 2, Figure 3 and listed below:

- › There was a roost site (including lapwing, black-tailed godwit, black-headed gull and teal) along the north-eastern margins of the proposed development area. This roost was partially within the proposed development site and extended to 160m from the proposed development site boundary.
- › Light-bellied brent geese were observed foraging in two amenity areas adjacent to the proposed development site. One area was immediately adjacent to the proposed development site and the second area was within 30m of the proposed development site. There was one observation of this species at each amenity area.
- › A potential buzzard nest site was located within mature trees along the boundary of the proposed development area.
- › There were two areas in which common snipe were regularly observed within the proposed development site boundary.

During the SPA surveys, significant flocks were mapped during each survey; these maps are presented in Appendix 2, Figures 2.1 to 2.4, with one map per month of survey. From these maps, four areas of importance for birds were identified. These areas are presented in Appendix 2, Figure 4 and listed below:

- › There was an area frequently used by light-bellied brent goose at the southern end of the Baldoyle Bay SPA. This location was particularly used in very windy conditions. This site was located 1.5 km to the south-east of the proposed development area at its closest point.
- › Large flocks of light-bellied brent geese were found in an area on the western side of Baldoyle Bay SPA within 170m of the proposed development site, at its closest point.
- › Oystercatcher and curlew were observed roosting along the eastern shoreline of the Baldoyle Bay SPA on multiple occasions.
- › At the north-western edge of the Baldoyle Bay SPA, there is an important area for roosting waders (including lapwing, redshank and black-tailed godwits), that has been observed being utilised on multiple occasions. This site is located approximately 850m from the proposed development site at its closest point.

Key impacts that could result from the proposed development for local avian receptors include habitat loss, disturbance/displacement and water pollution.

The site consists of amenity grassland, improved agricultural grassland and areas of scrub. Of the SCI species from the Baldoyle Bay SPA, brent geese are considered the most likely to make use of the proposed development site. However, during the survey period much of grassland onsite was overgrown and did not offer the short grazing favoured by this species. There are two light-bellied brent goose foraging areas within close proximity (1m and 30m, at its closest point) of the development area to the south within amenity grassland habitats. Within the Baldoyle Bay SPA, there is one area of importance for light-bellied brent goose within 300m of the development site. This is a large area of mudflats frequently used by this species which is approximately 170m from the development boundary at its closest point. There is potential for disturbance during the construction phase of the proposed development at these locations.



A wader roost to the north-east of the proposed development site, at the mouth of the Mayne River, lies partially within the development site boundary. Habitat loss for this roost site can therefore not be ruled out and should be considered further in the EIAR.

In addition, the site was found to be utilized by wintering snipe and may contain a buzzard nest in a treeline along the site boundary. Direct habitat loss for these species cannot be ruled out.

5.

CONCLUSION

As previously discussed, the proposed development area is not within the Baldoyle Bay SPA, however given the proximity of the SPA to the development, there is potential for impacts to result during construction and operational phases of the proposed development. These potential impacts could include:

- Loss of roosting habitat within/along the boundary of the redline at the mouth of the Mayne River.
- Disturbance during construction works and the operational phase to Special Conservation Interest of the SPA including through movement of machinery, personnel, noise, vibration and/or noise associated with domestic dwellings.
- Pollution of surface water through accidental spillage or discharge of polluting substances, or via elevated suspended solids and siltation through run-off to watercourses.

The maximum likely distance at which disturbance will impact SCIs from the Baldoyle Bay SPA is 300m (Cutts et al., 2013). The magnitude of this impact and its potential significance will require further consideration at the assessment stage of any future planning application.

The proposed housing scheme may result in disturbance of SCIs of the adjacent SPA. However, it is likely that habituation will occur to this new source of disturbance given that the SCIs of the SPA are already accustomed to the disturbance associated with Baldoyle village and existing surrounding housing developments. This should be considered in further detail at the assessment stage of any future planning application.

A wide range of environmental factors are required to support water bird species including good water quality and clarity and a good supply of food resources. Thus, water quality impacts resulting from the proposed development (i.e. during the construction and operational phases) could result in a reduction in the availability of suitable habitat for water bird species. The effect of such a reduction in water quality has the potential to be ecologically significant. However, it is likely that best practice design and mitigation can be implemented that would avoid or reduce such impacts. This should be considered in greater detail at the assessment stage of any future planning application.

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APPENDIX 1

TECHNICAL APPENDIX



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1.

APPENDIX 1 (SURVEY DATA)

Table 1-1 Survey Effort

Date	Survey Method	Survey Area	Survey Duration	Weather Conditions	Comments	Surveyor
18/12/2019	Walkover	Site and SPA	05:00 starting at 09:30	Wind Speed and Direction: Strong Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 90 Rain: Heavy Showers; Frost: None; Snow: None	Onsite area overgrown agri. fields suboptimal for foraging geese	PC
23/12/2019	Walkover	Site and SPA	02:35 starting at 09:20	Light w winds - no rain		ED
15/01/2020	Walkover	SPA	02:20 starting at 10:00	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33 Rain: None; Frost: None; Snow: None		SD
15/01/2020	Walkover	Site	01:20 starting at 13:10	Wind Speed and Direction: Fresh Breeze, W; Visibility: Moderate (1-2km); Cloud Height: >500m; Cloud Cover %: 33 Rain: None; Frost: None; Snow: None		SD
28/01/2020	Walkover	SPA	02:35 starting at 08:40	Wind Speed and Direction: Fresh Breeze, NE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66 Rain: Drizzle Mist; Frost: None; Snow: Ground		SD
28/01/2020	Walkover	Site	01:45 starting at 11:40	Wind Speed and Direction: Fresh Breeze, NE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66 Rain: None; Frost: None; Snow: None		SD
10/02/2020	Walkover	Site	02:00 starting at 10:00	Wind Speed and Direction: Strong Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66 Rain: None; Frost: None; Snow: None		SD
10/02/2020	Walkover	SPA	02:05 starting at 12:10	Wind Speed and Direction: Strong Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66 Rain: Heavy Showers; Frost: None; Snow: Ground		SD

1

Date	Survey Method	Survey Area	Survey Duration	Weather Conditions	Comments	Surveyor
24/02/2020	Walkover	Site	02:00 starting at 09:55	Wind Speed and Direction: Moderate Gale, NW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33 Rain: None; Frost: None; Snow: None		SD
24/02/2020	Walkover	SPA	02:00 starting at 12:30	Wind Speed and Direction: Moderate Gale, NW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33 Rain: None; Frost: None; Snow: None		SD
11/03/2020	Walkover	SPA	01:50 starting at 12:45	Wind Speed and Direction: Moderate Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33 Rain: Heavy Showers; Frost: None; Snow: None		SD
11/03/2020	Walkover	Site	02:00 starting at 10:20	Wind Speed and Direction: Moderate Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33 Rain: Light Showers; Frost: None; Snow: None		SD
24/03/2020	Walkover	SPA	02:15 starting at 11:45	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33 Rain: None; Frost: None; Snow: None		SD
24/03/2020	Walkover	Site	02:00 starting at 09:30	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33 Rain: None; Frost: None; Snow: None		SD

2

Table 1-3: Walkover Survey Data

Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
MH001	18/12/2019	Moorhen	3	FW2, (Depositing/upland rivers) foraging		PC
H001	18/12/2019	Grey heron	1	FW2, (Depositing/upland rivers) foraging		PC
OC001	18/12/2019	Oystercatcher	30	GA2, (Amenity grassland (improved)) foraging		PC
CM001	18/12/2019	Common Gull	24	GA2, (Amenity grassland (improved)) foraging		PC
PB001	18/12/2019	Brent Goose	12	GA2, (Amenity grassland (improved)) foraging		PC
OC002	18/12/2019	Oystercatcher	56	GA2, (Amenity grassland (improved)) foraging		PC
H002	18/12/2019	Grey heron	1	GS2, (Dry meadows and grassy verges) foraging in pool		PC
SN001	18/12/2019	Common Snipe	1	GS2, (Dry meadows and grassy verges) foraging in pool		PC
SN002	18/12/2019	Common Snipe	3	GS2, (Dry meadows and grassy verges) foraging in pool		PC
BH001	23/12/2019	Black-headed Gull	1			ED
H003	23/12/2019	Grey Heron	1			ED
HG001	23/12/2019	Herring Gull	6			ED
BW001	23/12/2019	Black-tailed Godwit	12		flight oversite	ED
PB002	23/12/2019	Brent Goose	40		flight oversite Light bellied brent geese	ED
SN003	23/12/2019	Common Snipe	1			ED
HG002	23/12/2019	Herring Gull	2			ED
HG003	15/01/2020	Herring Gull	14	ED2, (Spoil and bare ground) loafing near construction area		SD
BH002	15/01/2020	Black-headed Gull	13	ED2, (Spoil and bare ground) loafing near construction area		SD

3

Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
	15/01/2020	Hooded Crow	14	GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) ED3, (Recolonising bare ground) flyover		SD
	15/01/2020	Magpie	19	WL1, (Hedgerows) ED2, (Spoil and bare ground) foraging		SD
	15/01/2020	Buzzard	1	ED3, (Recolonising bare ground) hunting		SD
PB003/PB004	15/01/2020	Brent Goose	49	GS2, (Dry meadows and grassy verges) 41 flying south then north. 8 flying east to west. Flying over site as the tide in SPA rises, but not landing		SD
	15/01/2020	Wren	3	WS1, (Scrub) foraging		SD
	15/01/2020	Song Thrush	2	GS2, (Dry meadows and grassy verges) foraging		SD
	15/01/2020	Kestrel	1	GS2, (Dry meadows and grassy verges) hunting		SD
	15/01/2020	Jackdaw	2	ED3, (Recolonising bare ground) foraging		SD
BH003	28/01/2020	Black-headed Gull	15	ED2, (Spoil and bare ground) loafing near construction area		SD
HG004	28/01/2020	Herring Gull	9	ED2, (Spoil and bare ground) loafing near construction area		SD
	28/01/2020	Herring Gull	12	ED2, (Spoil and bare ground) ED3, (Recolonising bare ground) GS2, (Dry meadows and grassy verges) flyover		SD
PB005	28/01/2020	Brent Goose	7	GS2, (Dry meadows and grassy verges) fly over site towards SPA. Do not land		SD
	28/01/2020	Song Thrush	3	GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) foraging		SD
	28/01/2020	Magpie	7	WL2, (Treeclines) ED2, (Spoil and bare ground) foraging		SD
	28/01/2020	Robin	1	WS1, (Scrub) foraging		SD
	28/01/2020	Jackdaw	2	ED2, (Spoil and bare ground) ED3, (Recolonising bare ground) flyover		SD

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Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
	28/01/2020	Raven	1	ED2, (Spoil and bare ground) mobbed by Jackdaws		SD
	28/01/2020	Goldfinch	1	GS2, (Dry meadows and grassy verges) foraging		SD
	28/01/2020	Hooded Crow	2	ED3, (Recolonising bare ground) ED2, (Spoil and bare ground) WL1, (Hedgerows) foraging		SD
	28/01/2020	Wren	1	WL1, (Hedgerows) foraging		SD
MA001	28/01/2020	Mallard	2	FW2, (Depositing/upland rivers) swimming in river		SD
	28/01/2020	Blackbird	2	WS1, (Scrub) foraging		SD
H004	28/01/2020	Grey Heron	1	FW2, (Depositing/upland rivers) GS2, (Dry meadows and grassy verges) moving around site		SD
SN004	28/01/2020	Common Snipe	6	GS4, (Wet grassland) flushed from wet grassland		SD
	10/02/2020	Herring Gull	8	GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) ED3, (Recolonising bare ground) flying		SD
	10/02/2020	Magpie	11	ED2, (Spoil and bare ground) ED3, (Recolonising bare ground) foraging		SD
	10/02/2020	Hooded Crow	4	GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) foraging		SD
SN005	10/02/2020	Common Snipe	1	GS2, (Dry meadows and grassy verges) flushed		SD
MA002	10/02/2020	Mallard	5	GS2, (Dry meadows and grassy verges) fly over site E to W		SD
H005	10/02/2020	Grey Heron	1	ED2, (Spoil and bare ground) at pool in spoil		SD
PB006	10/02/2020	Brent Goose	11	GS2, (Dry meadows and grassy verges) fly over site E to W	look disturbed from SPA	SD
	10/02/2020	Robin	2	WS1, (Scrub) foraging		SD
	10/02/2020	Great Black-backed Gull	1	GS2, (Dry meadows and grassy verges) flying		SD
	10/02/2020	Buzzard	1	GS2, (Dry meadows and grassy verges) hunting		SD
	10/02/2020	Blackbird	2	WL1, (Hedgerows) foraging		SD
	10/02/2020	Rook	9	GS2, (Dry meadows and grassy verges) foraging		SD

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Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
L001	10/02/2020	Lapwing	100	FS1, (Reed and large sedge swamps) roosting	attempting to roost in pond adjacent to site. Frequently disturbed but do not fly over site	SD
	10/02/2020	Mallard	15	FS1, (Reed and large sedge swamps) flying	flying around reedbed adjacent to site but do not fly over site	SD
SN006	10/02/2020	Common Snipe	3	GS4, (Wet grassland) flushed		SD
	10/02/2020	Duncock	1	WS1, (Scrub) singing		SD
	10/02/2020	Starling	30	GS2, (Dry meadows and grassy verges) foraging		SD
	10/02/2020	Black-headed Gull	8	GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) flying		SD
	10/02/2020	Wood Pigeon	8	BL3, (Buildings and artificial surfaces) foraging on road		SD
	10/02/2020	Blue Tit	1	WS1, (Scrub) alarm calls		SD
PB007	24/02/2020	Brent Goose	~80	GS2, (Dry meadows and grassy verges) foraging	foraging in park adjacent to site	SD
	24/02/2020	Buzzard	1	GS2, (Dry meadows and grassy verges) hunting		SD
	24/02/2020	Black-headed Gull	14	GS2, (Dry meadows and grassy verges) flying		SD
	24/02/2020	Robin	2	WS1, (Scrub) foraging		SD
	24/02/2020	Robin	2	WS1, (Scrub) singing		SD
	24/02/2020	Hooded Crow	5	GS2, (Dry meadows and grassy verges) WS1, (Scrub) foraging		SD
	24/02/2020	Lesser Black-backed Gull	1	GS2, (Dry meadows and grassy verges) flying		SD
	24/02/2020	Meadow Pipit	15	WS1, (Scrub) GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) foraging and displaying		SD
	24/02/2020	Blue Tit	4	WS1, (Scrub) singing and calling		SD
	24/02/2020	Herring Gull	1	ED2, (Spoil and bare ground) roosting		SD

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Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
	24/02/2020	Magpie	6	WL1, (Hedgerows) WS1, (Scrub) ED2, (Spoil and bare ground) foraging		SD
	24/02/2020	Blackbird	3	WL1, (Hedgerows) foraging		SD
	24/02/2020	Skylark	2	GS2, (Dry meadows and grassy verges) displaying		SD
	24/02/2020	Duncock	1	WS1, (Scrub) singing		SD
	24/02/2020	Greenfinch	1	WS1, (Scrub) calling		SD
	24/02/2020	Goldfinch	1	GS2, (Dry meadows and grassy verges) flying		SD
	24/02/2020	Chaffinch	1	WL1, (Hedgerows) calling		SD
L002	24/02/2020	Lapwing	~30	FS1, (Reed and large sedge swamps) roosting	roosting in flooded area adjacent to site	SD
	24/02/2020	Cormorant	1	GS2, (Dry meadows and grassy verges) fly over site W to E		SD
SU001	24/02/2020	Shelduck	2	GA1, (Improved agricultural grassland) roosting	roosting near flooded area adjacent to site	SD
BH004	24/02/2020	Black-headed Gull	4	GA1, (Improved agricultural grassland) roosting	roosting near flooded area adjacent to site	SD
	24/02/2020	Wood Pigeon	5	WL1, (Hedgerows) roosting		SD
	24/02/2020	Wren	1	WS1, (Scrub) calling		SD
MA003	24/02/2020	Mallard	6	GS2, (Dry meadows and grassy verges) fly over site E to W		SD
BH005	24/02/2020	Black-headed Gull	50+	GA1, (Improved agricultural grassland) roosting	roosting on farmland adjacent to site	SD
SN007	24/02/2020	Common Snipe	1	GS2, (Dry meadows and grassy verges) flushed		SD
SN008	24/02/2020	Common Snipe	2	GS4, (Wet grassland) flushed		SD
	24/02/2020	Rook	2	GS2, (Dry meadows and grassy verges) foraging		SD
	24/02/2020	Herring Gull	1	GS2, (Dry meadows and grassy verges) flying		SD
	24/02/2020	Bar-tailed Godwit	35	GS2, (Dry meadows and grassy verges) fly over site N to S	flock flies high over site but does not land or use site	SD

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Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
	11/03/2020	Rook	2	GS2, (Dry meadows and grassy verges) ED2, (Spoil and bare ground) foraging		SD
	11/03/2020	Magpie	11	GS2, (Dry meadows and grassy verges) WL1, (Hedgerows) WS1, (Scrub) foraging		SD
	11/03/2020	Skylark	1	GS2, (Dry meadows and grassy verges) breeding display		SD
	11/03/2020	Herring Gull	7	GS2, (Dry meadows and grassy verges) flying over site		SD
	11/03/2020	Hooded Crow	3	WL1, (Hedgerows) WL2, (Treelines) nest building		SD
	11/03/2020	Meadow Pipit	18	GS2, (Dry meadows and grassy verges) WL2, (Treelines) foraging		SD
	11/03/2020	Wren	1	WL1, (Hedgerows) singing		SD
SN009	11/03/2020	Common Snipe	1	GS2, (Dry meadows and grassy verges) flushed		SD
	11/03/2020	Skylark	5	GS2, (Dry meadows and grassy verges) foraging		SD
	11/03/2020	Meadow Pipit	2	GS2, (Dry meadows and grassy verges) breeding display		SD
	11/03/2020	Buzzard	1	WL2, (Treelines) calling from treeline on site boundary - potential site for nesting		SD
	11/03/2020	Robin	3	WL1, (Hedgerows) foraging		SD
	11/03/2020	Wood Pigeon	10	WL1, (Hedgerows) WS1, (Scrub) foraging		SD
	11/03/2020	Duncock	1	WS1, (Scrub) singing		SD
SN010	11/03/2020	Common Snipe	2	GS4, (Wet grassland) flushed		SD
	11/03/2020	Blackbird	2	WL1, (Hedgerows) foraging		SD
	11/03/2020	Greenfinch	1	WL1, (Hedgerows) foraging		SD
	11/03/2020	Goldfinch	12	WL1, (Hedgerows) foraging		SD
	11/03/2020	Pheasant	1	GS2, (Dry meadows and grassy verges) flushed		SD
	11/03/2020	Buzzard	4	GS2, (Dry meadows and grassy verges) WL2, (Treelines) soaring and calling high over site		SD

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Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
	11/03/2020	Black-headed Gull	1	GS2, (Dry meadows and grassy verges) flying over site		SD
MA004	11/03/2020	Mallard	2	FW, (Watercourses) fly into site towards river		SD
	24/03/2020	Magpie	14	WL1, (Hedgerows) WL2, (Treeclines) ED2, (Spoil and bare ground) foraging		SD
	24/03/2020	Herring Gull	10	GS2, (Dry meadows and grassy verges) scattered individuals flying around site		SD
	24/03/2020	Skylark	4	GS2, (Dry meadows and grassy verges) displaying		SD
	24/03/2020	Hooded Crow	3	GS2, (Dry meadows and grassy verges) foraging		SD
	24/03/2020	Duncock	1	WS1, (Scrub) singing		SD
	24/03/2020	Stonechat	2	GS2, (Dry meadows and grassy verges) pair foraging		SD
	24/03/2020	Rook	12	GS2, (Dry meadows and grassy verges) WL2, (Treeclines) foraging		SD
	24/03/2020	Meadow Pipit	15	GS2, (Dry meadows and grassy verges) foraging		SD
	24/03/2020	Robin	4	WL1, (Hedgerows) WL2, (Treeclines) singing		SD
	24/03/2020	Wren	1	WS1, (Scrub) singing		SD
MA005/MA006/MA007	24/03/2020	Mallard	6	GS2, (Dry meadows and grassy verges) FW, (Watercourses) flying over; 2 may have landed in river		SD
	24/03/2020	Wood Pigeon	21	WL1, (Hedgerows) foraging		SD
	24/03/2020	Blackbird	2	WL1, (Hedgerows) foraging		SD
	24/03/2020	Jackdaw	6	ED2, (Spoil and bare ground) foraging		SD
	24/03/2020	Goldfinch	1	WL1, (Hedgerows) singing		SD
	24/03/2020	Greenfinch	1	WL1, (Hedgerows) calling		SD
SN011	24/03/2020	Common Snipe	2	GS4, (Wet grassland) flushed		SD
	24/03/2020	Goldfinch	4	WL1, (Hedgerows) foraging		SD

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Map Ref	Survey Date	Species	Number of birds	Habitat and Activity	Comments	Surveyor
ET001	24/03/2020	Little Egret	1	mixed flock roosting adjacent to site, overlapping site boundary at far NE corner		SD
MA008	24/03/2020	Mallard	3	mixed flock roosting adjacent to site, overlapping site boundary at far NE corner	partially within site boundary	SD
SU002	24/03/2020	Shelduck	4	mixed flock roosting adjacent to site, overlapping site boundary at far NE corner	partially within site boundary	SD
BW002	24/03/2020	Black-tailed Godwit	35	mixed flock roosting adjacent to site, overlapping site boundary at far NE corner	partially within site boundary	SD
T001	24/03/2020	Teal	4	foraging in river adjacent to site		SD
MA009	24/03/2020	Mallard	2	FW, (Watercourses) foraging in river		SD
MH002	24/03/2020	Moorhen	1	FW, (Watercourses) foraging on river's edge		SD
CM002	24/03/2020	Common Gull	1	flies over		SD
H006	24/03/2020	Grey Heron	1	ED2, (Spoil and bare ground) standing in flooded area		SD

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Table 1.3 SPA Survey Data

Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
FL001	18/12/2019	Herring Gull	Intertidal; Roosting		PC
FL001	18/12/2019	Great Black-backed Gull	Intertidal; Roosting		PC
FL001	18/12/2019	Oystercatcher	Intertidal; Feeding		PC
FL001	18/12/2019	Curlew	Intertidal; Feeding		PC
FL001	18/12/2019	Mallard	Intertidal; Feeding		PC
FL001	18/12/2019	Teal	Intertidal; Feeding		PC
FL001	18/12/2019	Redshank	Intertidal; Feeding		PC
FL001	18/12/2019	Black-headed Gull	Supratidal; Feeding		PC
FL002	18/12/2019	Mallard	Intertidal; Feeding		PC
FL002	18/12/2019	Oystercatcher	Intertidal; Feeding		PC
FL002	18/12/2019	Herring Gull	Intertidal; Feeding		PC
FL002	18/12/2019	Black-headed Gull	Intertidal; Feeding		PC
FL002	18/12/2019	Bar-tailed Godwit	Intertidal; Feeding		PC
FL002	18/12/2019	Grey Plover	Intertidal; Feeding		PC
FL002	18/12/2019	Shelduck	Intertidal; Feeding		PC
FL002	18/12/2019	Lapwing	Intertidal; Feeding		PC
FL002	18/12/2019	Common Gull	Intertidal; Feeding		PC
FL002	18/12/2019	Curlew	Intertidal; Feeding		PC
FL002	18/12/2019	Redshank	Intertidal; Feeding		PC
FL002	18/12/2019	Brent Goose	Intertidal; Feeding		PC
FL003	18/12/2019	Brent Goose	Terrestrial; Feeding	Foraging in golf course	PC
FL004	18/12/2019	Red-breasted Merganser	Subtidal; Feeding		PC
FL004	18/12/2019	Common Gull	Intertidal; Feeding		PC
FL004	18/12/2019	Herring Gull	Intertidal; Feeding		PC
FL004	18/12/2019	Oystercatcher	Supratidal; Roosting		PC
FL004	18/12/2019	Curlew	Supratidal; Roosting		PC

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
FL004	18/12/2019	Long-tailed Duck	Subtidal; Feeding		PC
FL005	18/12/2019	Redshank	Intertidal; Feeding		PC
FL005	18/12/2019	Turnstone	Intertidal; Feeding		PC
FL005	18/12/2019	Herring Gull	Intertidal; Feeding		PC
FL005	18/12/2019	Grey Heron	Intertidal; Feeding		PC
FL005	18/12/2019	Curlew	Intertidal; Feeding		PC
FL005	18/12/2019	Teal	Intertidal; Feeding		PC
FL006	18/12/2019	Curlew	Intertidal; Feeding		PC
FL006	18/12/2019	Oystercatcher	Intertidal; Feeding		PC
FL006	18/12/2019	Dunlin	Intertidal; Feeding		PC
FL006	18/12/2019	Redshank	Intertidal; Feeding		PC
FL006	18/12/2019	Bar-tailed Godwit	Intertidal; Feeding		PC
FL007	18/12/2019	Black-headed Gull	Intertidal; Feeding		PC
FL007	18/12/2019	Herring Gull	Intertidal; Feeding		PC
FL007	18/12/2019	Turnstone	Intertidal; Feeding		PC
FL007	18/12/2019	Curlew	Intertidal; Feeding		PC
FL007	18/12/2019	Bar-tailed Godwit	Intertidal; Feeding		PC
FL007	18/12/2019	Redshank	Intertidal; Feeding		PC
FL007	18/12/2019	Oystercatcher	Intertidal; Feeding		PC
FL008	18/12/2019	Bar-tailed Godwit	Intertidal; Feeding		PC
FL008	18/12/2019	Curlew	Intertidal; Feeding		PC
FL008	18/12/2019	Oystercatcher	Intertidal; Feeding		PC
FL008	18/12/2019	Redshank	Intertidal; Feeding		PC
FL008	18/12/2019	Shelduck	Intertidal; Feeding		PC
FL008	18/12/2019	Turnstone	Intertidal; Feeding		PC
FL008	18/12/2019	Greenshank	Intertidal; Feeding		PC

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
FL008	18/12/2019	Herring Gull	Intertidal; Feeding		PC
FL008	18/12/2019	Black-headed Gull	Intertidal; Feeding		PC
FL008	18/12/2019	Great Black-backed Gull	Intertidal; Feeding		PC
FL008	18/12/2019	Dunlin	Intertidal; Feeding		PC
FL008	18/12/2019	Brent Goose	Intertidal; Feeding		PC
FL009	18/12/2019	Golden Plover	Intertidal; Roosting		PC
FL009	18/12/2019	Teal	Intertidal; Roosting		PC
FL009	18/12/2019	Wigeon	Intertidal; Roosting		PC
FL009	18/12/2019	Whooper Swan	Intertidal; Roosting		PC
FL010	23/12/2019	Lapwing	Above Water; Roosting		ED
FL010	23/12/2019	Redshank	Above Water; Roosting		ED
FL011	23/12/2019	Shelduck	On Water; feeding		ED
FL012	23/12/2019	Wigeon	On Water; feeding		ED
FL012	23/12/2019	Shelduck	On Water; Feeding		ED
FL012	23/12/2019	Teal	On Water; Feeding		ED
FL012	23/12/2019	Wigeon	On Water; Feeding		ED
FL012	23/12/2019	Great Black-backed Gull	Above Water; Roosting		ED
FL012	23/12/2019	Black-headed Gull	Above Water; Roosting		ED
FL012	23/12/2019	Common Gull	Above Water; Roosting		ED
FL012	23/12/2019	Redshank	Above Water; Roosting		ED
FL012	23/12/2019	Little Egret	Above Water; Feeding		ED
FL012	23/12/2019	Red-breasted Merganser	Above Water; Roosting		ED
FL012	23/12/2019	Grey Heron	Above Water; Feeding		ED
	15/01/2020	Oystercatcher	Intertidal; Feeding		SD
	15/01/2020	Herring Gull	Intertidal; Feeding	also 15+ HG following fishing boat outside SPA boundary	SD
	15/01/2020	Curlew	Intertidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	15/01/2020	Redshank	Intertidal; Feeding		SD
	15/01/2020	Hooded Crow	Intertidal; Feeding		SD
	15/01/2020	Cormorant	Subtidal; Feeding		SD
	15/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD
	15/01/2020	Brent Goose	Flying		SD
	15/01/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	15/01/2020	Herring Gull	Intertidal; Feeding		SD
	15/01/2020	Oystercatcher	Intertidal; Feeding		SD
	15/01/2020	Brent Goose	Subtidal; Feeding		SD
	15/01/2020	Curlew	Intertidal; Feeding		SD
	15/01/2020	Redshank	Intertidal; Feeding		SD
	15/01/2020	Redshank	Intertidal; Roosting		SD
	15/01/2020	Black-headed Gull	Intertidal; Roosting		SD
	15/01/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	15/01/2020	Teal	Intertidal; Roosting		SD
	15/01/2020	Hooded Crow	Intertidal; Feeding		SD
	15/01/2020	Herring Gull	Subtidal; Roosting		SD
	15/01/2020	Herring Gull	Intertidal; Roosting		SD
	15/01/2020	Herring Gull	Intertidal; Feeding		SD
	15/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	15/01/2020	Shelduck	Intertidal; Feeding		SD
	15/01/2020	Redshank	Intertidal; Feeding		SD
	15/01/2020	Tufted Puffin	Supratidal; Feeding		SD
	15/01/2020	Curlew	Intertidal; Feeding		SD
FL013	15/01/2020	Curlew	Intertidal; Roosting		SD
FL013	15/01/2020	Oystercatcher	Intertidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	15/01/2020	Oystercatcher	Intertidal; Roosting		SD
	15/01/2020	Oystercatcher	Terrestrial; Roosting		SD
	15/01/2020	Ringed Plover	Intertidal; Feeding		SD
	15/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD
	15/01/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	15/01/2020	Sturlag	Supratidal; Feeding		SD
	15/01/2020	Brent Goose	Intertidal; Feeding		SD
	15/01/2020	Wigeon	Subtidal; Feeding		SD
	15/01/2020	Herring Gull	Subtidal; Feeding		SD
	15/01/2020	Herring Gull	Intertidal; Feeding		SD
	15/01/2020	Oystercatcher	Intertidal; Feeding		SD
	15/01/2020	Turnstone	Intertidal; Feeding		SD
	15/01/2020	Redshank	Intertidal; Roosting		SD
	15/01/2020	Shelduck	Subtidal; Feeding		SD
	15/01/2020	Shelduck	Intertidal; Feeding		SD
	15/01/2020	Curlew	Intertidal; Feeding		SD
	15/01/2020	Brent Goose	Intertidal; Feeding		SD
	15/01/2020	Brent Goose	Subtidal; Feeding		SD
	15/01/2020	Black-headed Gull	Subtidal; Roosting		SD
	15/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	15/01/2020	Little Grebe	Supratidal; Feeding		SD
FL014	15/01/2020	Lapwing	Supratidal; Roosting		SD
	15/01/2020	Redshank	Intertidal; Feeding		SD
	15/01/2020	Redshank	Supratidal; Roosting		SD
FL015	15/01/2020	Black-headed Gull	Intertidal; Feeding	also 30+ foraging in park adjacent to SPA	SD
	15/01/2020	Greenshank	Intertidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	15/01/2020	Herring Gull	Flying		SD
	15/01/2020	Wigeon	Subtidal; Feeding		SD
	15/01/2020	Mallard	Subtidal; Feeding		SD
FL015	15/01/2020	Brent Goose	Subtidal; Feeding	also 60+ foraging in park adjacent to SPA	SD
	15/01/2020	Brent Goose	Flying		SD
	15/01/2020	Wigeon	Subtidal; Feeding		SD
	15/01/2020	Herring Gull	Intertidal; Feeding		SD
	15/01/2020	Curlew	Supratidal; Roosting	in reeds	SD
	15/01/2020	Redshank	Intertidal; Roosting		SD
	15/01/2020	Teal	Subtidal; Feeding		SD
	15/01/2020	Brent Goose	Subtidal; Feeding		SD
FL016	15/01/2020	Black-headed Gull	Subtidal; Roosting		SD
	28/01/2020	Hooded Crow	Intertidal; Feeding		SD
	28/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	28/01/2020	Herring Gull	Intertidal; Feeding		SD
	28/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Roosting		SD
	28/01/2020	Curlew	Intertidal; Feeding		SD
	28/01/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	28/01/2020	Common Gull	Intertidal; Feeding		SD
	28/01/2020	Redshank	Intertidal; Feeding		SD
	28/01/2020	Ringed Plover	Intertidal; Feeding		SD
	28/01/2020	Hooded Crow	Intertidal; Feeding		SD
	28/01/2020	Curlew	Intertidal; Feeding		SD
	28/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	28/01/2020	Redshank	Intertidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Feeding		SD
FL017	28/01/2020	Oystercatcher	Intertidal; Roosting		SD
	28/01/2020	Shelduck	Intertidal; Feeding		SD
	28/01/2020	Herring Gull	Intertidal; Feeding		SD
	28/01/2020	Black-headed Gull	Intertidal; Feeding		SD
FL018	28/01/2020	Oystercatcher	Intertidal; Feeding		SD
FL018	28/01/2020	Oystercatcher	Intertidal; Roosting		SD
	28/01/2020	Redshank	Intertidal; Feeding		SD
	28/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	28/01/2020	Black-headed Gull	Intertidal; Roosting		SD
	28/01/2020	Shelduck	Subtidal; Feeding		SD
	28/01/2020	Hooded Crow	Intertidal; Feeding		SD
	28/01/2020	Curlew	Intertidal; Feeding		SD
	28/01/2020	Curlew	Intertidal; Roosting		SD
	28/01/2020	Bar-tailed Godwit	Intertidal; Feeding		SD
	28/01/2020	Herring Gull	Intertidal; Feeding		SD
	28/01/2020	Herring Gull	Intertidal; Roosting		SD
	28/01/2020	Turnstone	Intertidal; Feeding		SD
	28/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD
	28/01/2020	Greenshank	Intertidal; Feeding		SD
	28/01/2020	Great Crested Grebe	Subtidal; Feeding		SD
	28/01/2020	Brent Goose	Intertidal; Feeding		SD
FL019	28/01/2020	Brent Goose	Subtidal; Feeding		SD
FL019	28/01/2020	Brent Goose	Intertidal; Feeding		SD
	28/01/2020	Redshank	Intertidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	28/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	28/01/2020	Shelduck	Intertidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Roosting		SD
	28/01/2020	Curlew	Intertidal; Feeding		SD
	28/01/2020	Curlew	Intertidal; Roosting		SD
	28/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD
	28/01/2020	Red-breasted Merganser	Subtidal; Feeding		SD
FL020	28/01/2020	Knot	Intertidal; Feeding		SD
	28/01/2020	Bar-tailed Godwit	Intertidal; Feeding		SD
	28/01/2020	Herring Gull	Intertidal; Feeding		SD
	28/01/2020	Lapwing	Intertidal; Roosting		SD
	28/01/2020	Bar-tailed Godwit	Intertidal; Feeding		SD
	28/01/2020	Brent Goose		in park adjacent to SPA	SD
	28/01/2020	Black-headed Gull		in park adjacent to SPA	SD
	28/01/2020	Mallard		in park adjacent to SPA	SD
	28/01/2020	Shelduck	Intertidal; Feeding		SD
	28/01/2020	Curlew	Intertidal; Feeding		SD
	28/01/2020	Great Black-backed Gull	Intertidal; Roosting		SD
	28/01/2020	Cormorant	Subtidal; Roosting		SD
	28/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	28/01/2020	Mallard	Intertidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Feeding		SD
	28/01/2020	Redshank	Intertidal; Feeding		SD
	28/01/2020	Lapwing	Intertidal; Feeding		SD
	28/01/2020	Lapwing	Intertidal; Roosting		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	28/01/2020	Lesser Black-backed Gull	Intertidal; Feeding		SD
	28/01/2020	Teal	Subtidal; Feeding		SD
	28/01/2020	Herring Gull	Intertidal; Roosting		SD
	28/01/2020	Lapwing	Intertidal; Roosting		SD
	28/01/2020	Shelduck	Subtidal; Roosting		SD
	29/01/2020	Shelduck	Intertidal; Roosting		SD
	28/01/2020	Curlew	Intertidal; Roosting		SD
	28/01/2020	Curlew	Terrestrial; Roosting	some roosting within grass	SD
	28/01/2020	Black-headed Gull	Intertidal; Feeding		SD
	28/01/2020	Black-headed Gull	Intertidal; Roosting		SD
	28/01/2020	Herring Gull	Intertidal; Roosting		SD
	28/01/2020	Wigron	Subtidal; Feeding		SD
	28/01/2020	Oystercatcher	Intertidal; Feeding		SD
	28/01/2020	Great Crested Grebe	Subtidal; Feeding		SD
	28/01/2020	Redshank	Intertidal; Feeding		SD
	28/01/2020	Bar-tailed Godwit	Intertidal; Feeding		SD
	28/01/2020	Great Black-backed Gull	Intertidal; Feeding		SD
	28/01/2020	Bar-tailed Godwit	Intertidal; Feeding		SD
	10/02/2020	Black-headed Gull	Intertidal; Feeding		SD
	10/02/2020	Cormorant	Subtidal; Feeding		SD
	10/02/2020	Great Crested Grebe	Subtidal; Feeding		SD
	10/02/2020	Herring Gull	Intertidal; Feeding		SD
FL021	10/02/2020	Brent Goose	Intertidal; Feeding		SD
	10/02/2020	Turnstone	Supratidal; Feeding		SD
	10/02/2020	Herring Gull		flying	SD
	10/02/2020	Black-headed Gull	Subtidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	10/02/2020	Teal	Subtidal; Feeding		SD
	10/02/2020	Redshank	Intertidal; Feeding		SD
	10/02/2020	Black-headed Gull	Subtidal; Roosting		SD
	10/02/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	10/02/2020	Great Crested Grebe	Subtidal; Feeding		SD
	10/02/2020	Herring Gull	Subtidal; Roosting		SD
	10/02/2020	Rook		flying	SD
	10/02/2020	Knot	Intertidal; Roosting		SD
	10/02/2020	Oystercatcher	Terrestrial; Feeding		SD
	10/02/2020	Brent Goose		flying	SD
	10/02/2020	Starling	Intertidal; Feeding		SD
	10/02/2020	Long-tailed Duck	Subtidal; Roosting		SD
	10/02/2020	Knot	Supratidal; Roosting		SD
	10/02/2020	Shelduck	Subtidal; Feeding		SD
	10/02/2020	Brent Goose		flying	SD
	10/02/2020	Oystercatcher	Supratidal; Roosting		SD
	10/02/2020	Teal	Subtidal; Feeding		SD
	10/02/2020	Brent Goose	Subtidal; Feeding		SD
	10/02/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	10/02/2020	Herring Gull		flying	SD
	10/02/2020	Cormorant	Subtidal; Roosting		SD
	10/02/2020	Lesser Black-backed Gull		flying	SD
	10/02/2020	Curlew	Terrestrial; Roosting		SD
FL022	10/02/2020	Redshank	Supratidal; Roosting		SD
	10/02/2020	Black-headed Gull	Intertidal; Feeding		SD
	10/02/2020	Shelduck	Intertidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	10/02/2020	Lapwing	Supratidal; Roosting		SD
	10/02/2020	Mallard	Subtidal; Feeding		SD
	10/02/2020	Little Egret	Intertidal; Feeding		SD
	10/02/2020	Redshank	Intertidal; Feeding		SD
	10/02/2020	Starling	Supratidal; Feeding		SD
	10/02/2020	Shelduck	Terrestrial; Roosting		SD
	10/02/2020	Brent Goose	Subtidal; Feeding		SD
	10/02/2020	Brent Goose		in park adjacent to SPA	SD
	10/02/2020	Black-headed Gull		in park adjacent to SPA	SD
	10/02/2020	Bar-tailed Godwit	Supratidal; Roosting		SD
	10/02/2020	Teal	Subtidal; Feeding		SD
	10/02/2020	Teal		flying	SD
	10/02/2020	Herring Gull		flying	SD
	10/02/2020	Black-headed Gull	Subtidal; Roosting		SD
	10/02/2020	Herring Gull		flying	SD
	10/02/2020	Shelduck	Subtidal; Feeding		SD
	24/02/2020	Cormorant	Subtidal; Feeding		SD
	24/02/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	24/02/2020	Hooded Crow	Intertidal; Feeding		SD
FL023	24/02/2020	Brent Goose	Terrestrial; Feeding		SD
	24/02/2020	Teal	Intertidal; Feeding		SD
	24/02/2020	Hooded Crow	Terrestrial; Feeding		SD
	24/02/2020	Herring Gull	Subtidal; Feeding		SD
	24/02/2020	Brent Goose	Terrestrial; Feeding		SD
	24/02/2020	Herring Gull		flying	SD
	24/02/2020	Brent Goose	Subtidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	24/02/2020	Shelduck	Intertidal; Roosting		SD
	24/02/2020	Oystercatcher	Intertidal; Roosting		SD
	24/02/2020	Great Crested Grebe	Subtidal; Feeding		SD
	24/02/2020	Brent Goose	Terrestrial; Feeding		SD
	24/02/2020	Brent Goose	Intertidal; Feeding		SD
	24/02/2020	Oystercatcher	Terrestrial; Feeding		SD
FL024	24/02/2020	Redshank	Supratidal; Roosting		SD
	24/02/2020	Curlew	Supratidal; Roosting		SD
	24/02/2020	Mallard	Supratidal; Roosting		SD
	24/02/2020	Brent Goose		in park adjacent to SPA	SD
	24/02/2020	Mallard		in park adjacent to SPA	SD
	24/02/2020	Black-headed Gull		in park adjacent to SPA	SD
	24/02/2020	Shelduck	Intertidal; Roosting		SD
	24/02/2020	Teal	Intertidal; Roosting		SD
	24/02/2020	Herring Gull		flying	SD
	24/02/2020	Black-headed Gull	Terrestrial; Feeding		SD
	24/02/2020	Herring Gull		flying	SD
	24/02/2020	Teal	Intertidal; Feeding		SD
	24/02/2020	Shelduck	Intertidal; Feeding		SD
	24/02/2020	Shelduck	Intertidal; Roosting		SD
	11/03/2020	Oystercatcher	Intertidal; Roosting		SD
	11/03/2020	Hooded Crow	Intertidal; Feeding		SD
	11/03/2020	Kestrel		flyover	SD
	11/03/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	11/03/2020	Great Crested Grebe	Subtidal; Feeding		SD
	11/03/2020	Herring Gull		flyover	SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	11/03/2020	Hooded Crow	Terrestrial; Feeding		SD
FL025	11/03/2020	Brent Goose	Intertidal; Feeding		SD
	11/03/2020	Redshank	Intertidal; Feeding		SD
	11/03/2020	Herring Gull	Terrestrial; Roosting		SD
	11/03/2020	Oystercatcher	Terrestrial; Roosting		SD
	11/03/2020	Brent Goose	Terrestrial; Feeding		SD
	11/03/2020	Curlew	Terrestrial; Roosting		SD
	11/03/2020	Black-headed Gull	Terrestrial; Feeding		SD
	11/03/2020	Shelduck	Intertidal; Roosting		SD
	11/03/2020	Brent Goose	Subtidal; Roosting		SD
	11/03/2020	Shelduck	Subtidal; Roosting		SD
	11/03/2020	Black-headed Gull	Subtidal; Roosting		SD
	11/03/2020	Black-headed Gull		flyover	SD
	11/03/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	11/03/2020	Redshank	Supratidal; Roosting		SD
	11/03/2020	Oystercatcher	Terrestrial; Feeding		SD
	11/03/2020	Shelduck	Subtidal; Feeding		SD
	11/03/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	11/03/2020	Herring Gull	Subtidal; Roosting		SD
	11/03/2020	Black-headed Gull	Subtidal; Roosting		SD
	11/03/2020	Wigeon	Subtidal; Feeding		SD
	11/03/2020	Mallard		on grass at church adjacent to SPA roosting	SD
FL026	11/03/2020	Brent Goose	Intertidal; Feeding		SD
FL026	11/03/2020	Redshank	Supratidal; Roosting		SD
	11/03/2020	Great Black-backed Gull	Intertidal; Roosting		SD
	11/03/2020	Shelduck	Subtidal; Feeding		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
FL027	11/03/2020	Brent Goose	Subtidal; Roosting		SD
	11/03/2020	Little Egret	Intertidal; Feeding		SD
	11/03/2020	Mallard		in park adjacent to SPA roosting	SD
	11/03/2020	Black-headed Gull		in park adjacent to SPA roosting	SD
	11/03/2020	Herring Gull		in park adjacent to SPA roosting	SD
FL028	11/03/2020	Brent Goose	Intertidal; Feeding		SD
	11/03/2020	Mallard	Terrestrial; Feeding		SD
	11/03/2020	Redshank	Intertidal; Roosting		SD
FL029	11/03/2020	Brent Goose	Intertidal; Feeding		SD
	11/03/2020	Little Egret	Intertidal; Feeding		SD
	11/03/2020	Herring Gull		flyover	SD
	11/03/2020	Redshank	Intertidal; Feeding		SD
	11/03/2020	Teal	Subtidal; Feeding		SD
	11/03/2020	Shelduck	Intertidal; Feeding		SD
	11/03/2020	Curlew	Intertidal; Roosting		SD
	11/03/2020	Herring Gull	Subtidal; Roosting		SD
	11/03/2020	Teal	Subtidal; Feeding		SD
	24/03/2020	Hooded Crow	Intertidal; Feeding		SD
	24/03/2020	Herring Gull	Subtidal; Roosting		SD
	24/03/2020	Red-breasted Merganser	Subtidal; Feeding		SD
	24/03/2020	Gannet	Subtidal; Feeding		SD
	24/03/2020	Brent Goose	Intertidal; Feeding		SD
	24/03/2020	Black-tailed Godwit	Intertidal; Roosting	mixed flock roosting	SD
	24/03/2020	Redshank	Intertidal; Roosting	mixed flock roosting	SD
	24/03/2020	Black-headed Gull	Subtidal; Roosting		SD
	24/03/2020	Common Gull	Subtidal; Roosting		SD

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Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	24/03/2020	Herring Gull	Subtidal; Roosting		SD
	24/03/2020	Red-breasted Merganser	Subtidal; Feeding		SD
FL030	24/03/2020	Oystercatcher	Supratidal; Roosting		SD
	24/03/2020	Brent Goose	Intertidal; Feeding		SD
	24/03/2020	Great Crested Grebe	Subtidal; Feeding		SD
	24/03/2020	Great Black-backed Gull	Subtidal; Roosting		SD
	24/03/2020	Brent Goose	Intertidal; Feeding		SD
	24/03/2020	Shelduck	Intertidal; Feeding		SD
	24/03/2020	Mallard	Terrestrial; Roosting		SD
	24/03/2020	Brent Goose		fly north to south	SD
	24/03/2020	Mallard		fly north to south	SD
	24/03/2020	Brent Goose	Intertidal; Feeding		SD
	24/03/2020	Herring Gull	Supratidal; Roosting		SD
FL032	24/03/2020	Black-tailed Godwit	Supratidal; Roosting		SD
	24/03/2020	Little Egret	Supratidal; Roosting		SD
	24/03/2020	Curlew	Intertidal; Feeding		SD
	24/03/2020	Shelduck	Subtidal; Feeding		SD
	24/03/2020	Mallard	Intertidal; Feeding		SD
	24/03/2020	Gannet	Subtidal; Feeding		SD
	24/03/2020	Redshank	Supratidal; Roosting		SD
	24/03/2020	Wigeon	Intertidal; Feeding		SD
	24/03/2020	Buzzard	Intertidal; Feeding	hunting over reedbed; number 3 on map	SD
	24/03/2020	Herring Gull	Intertidal;	mobbing BZ	SD
	24/03/2020	Shelduck	Subtidal; Feeding		SD
	24/03/2020	Hooded Crow	Terrestrial; Feeding		SD
	24/03/2020	Herring Gull		in park adjacent to SPA foraging	SD

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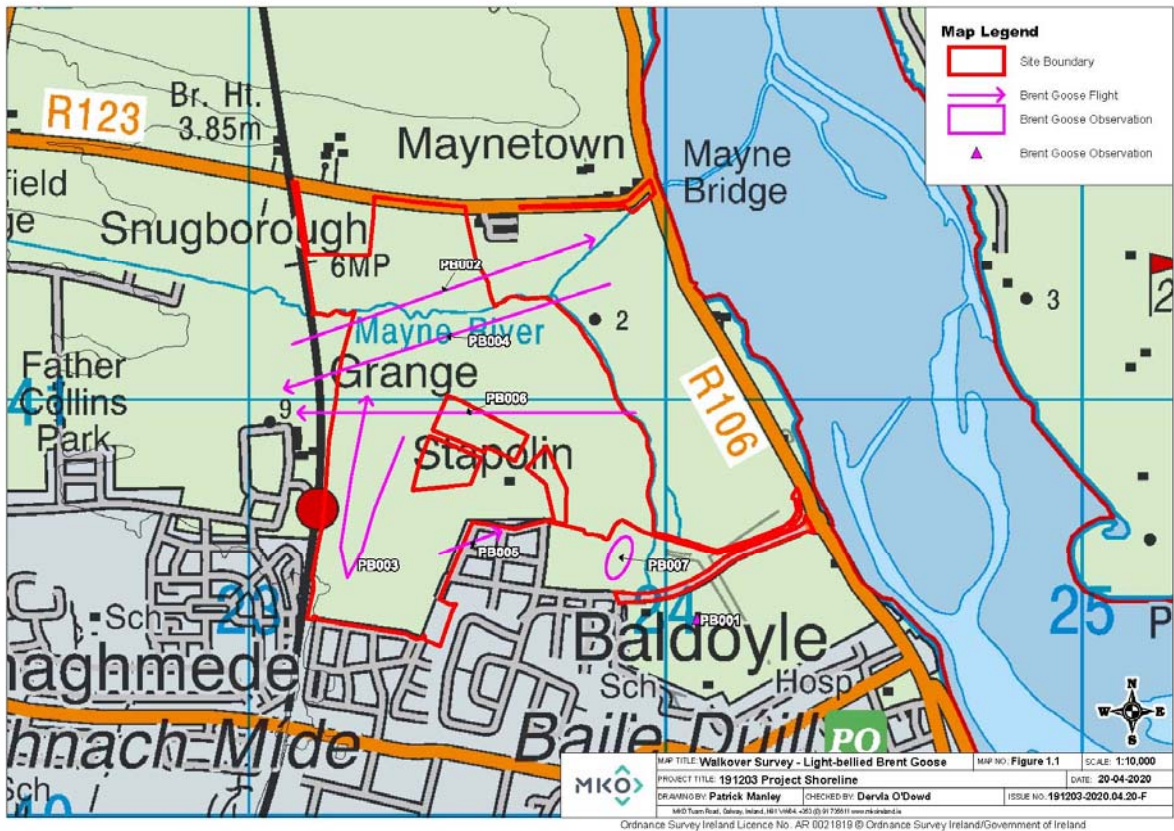
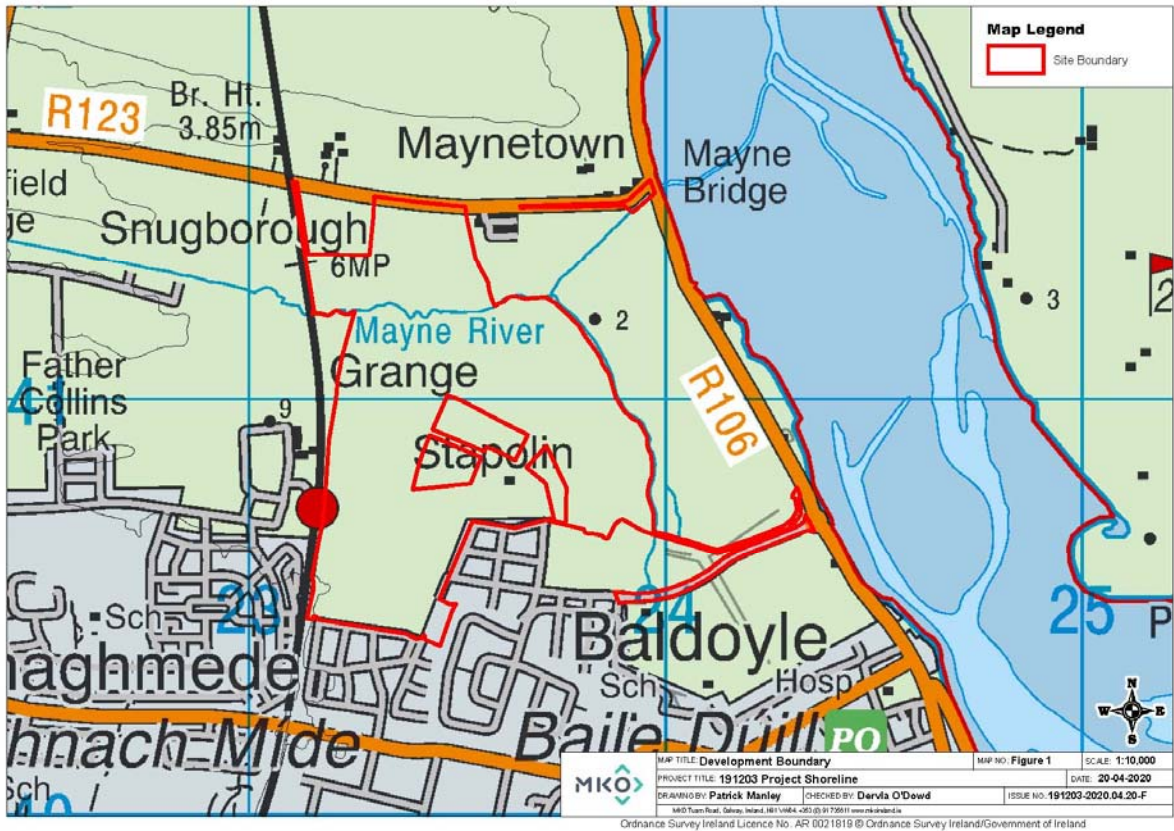
Map Ref	Date	Species	Notes on Habitat and Activity	Comments	Surveyor
	24/03/2020	Redshank	Supratidal; Roosting		SD
	24/03/2020	Black-headed Gull		flyover	SD
	24/03/2020	Teal	Subtidal; Feeding		SD
	24/03/2020	Little Egret	Intertidal; Feeding		SD
	24/03/2020	Brent Goose	Subtidal; Feeding		SD
	24/03/2020	Teal	Subtidal; Feeding		SD
	24/03/2020	Herring Gull		flyover	SD
	24/03/2020	Herring Gull	Intertidal; Feeding		SD
FL031	24/03/2020	Brent Goose	Subtidal; Feeding	large, loosely dispersed flock	SD
	24/03/2020	Teal	Subtidal; Feeding		SD
	24/03/2020	Herring Gull	Subtidal; Feeding		SD
	24/03/2020	Little Egret	Intertidal; Feeding		SD

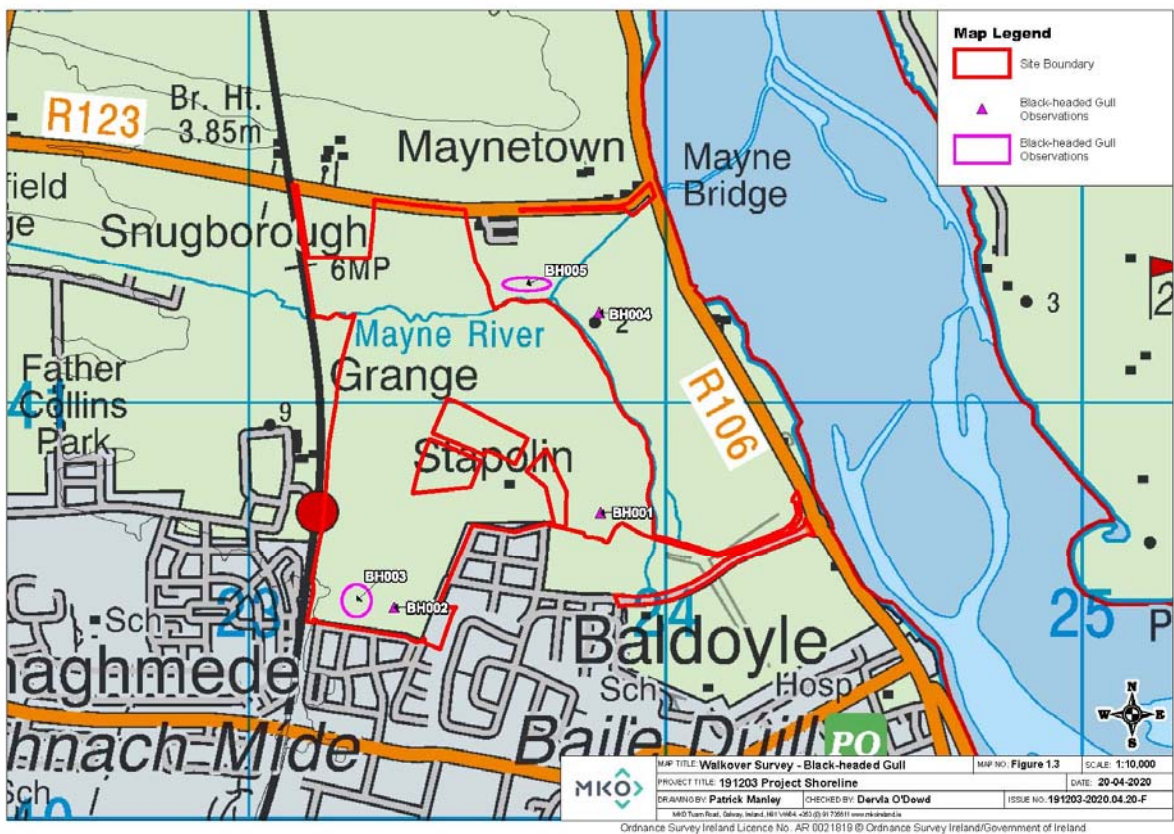
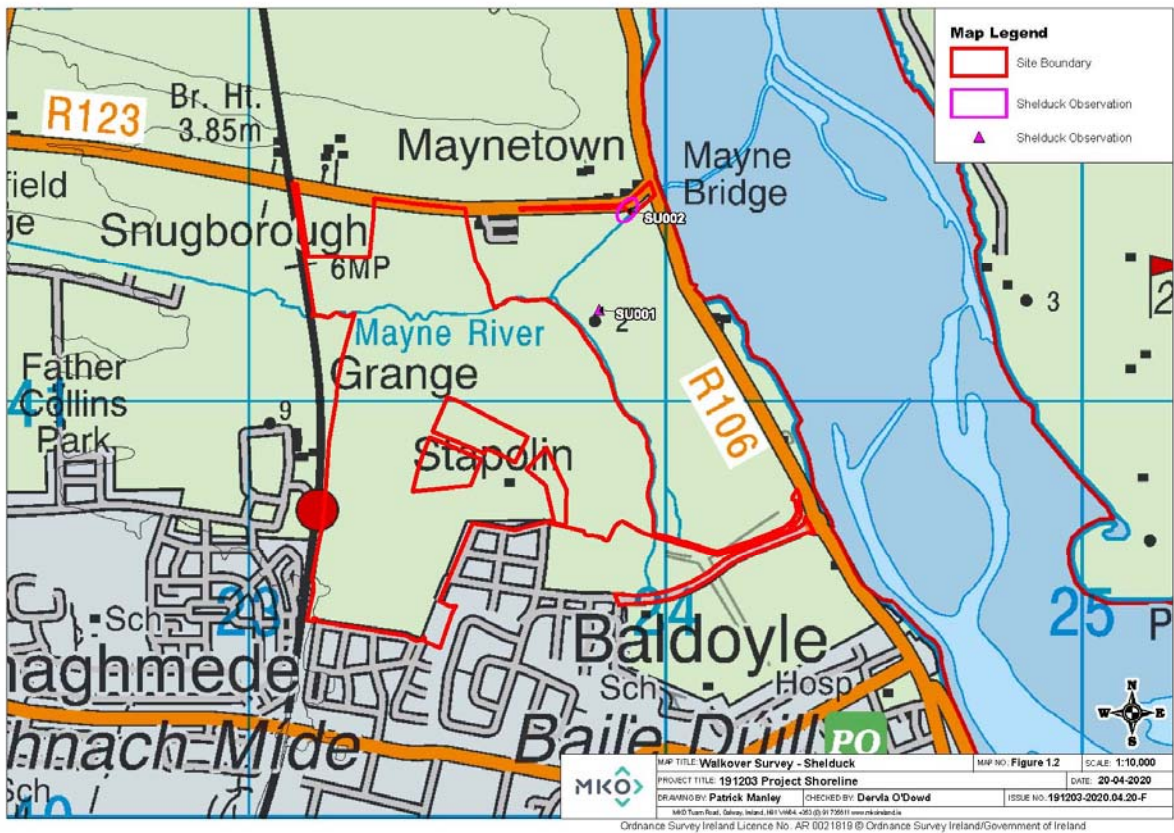
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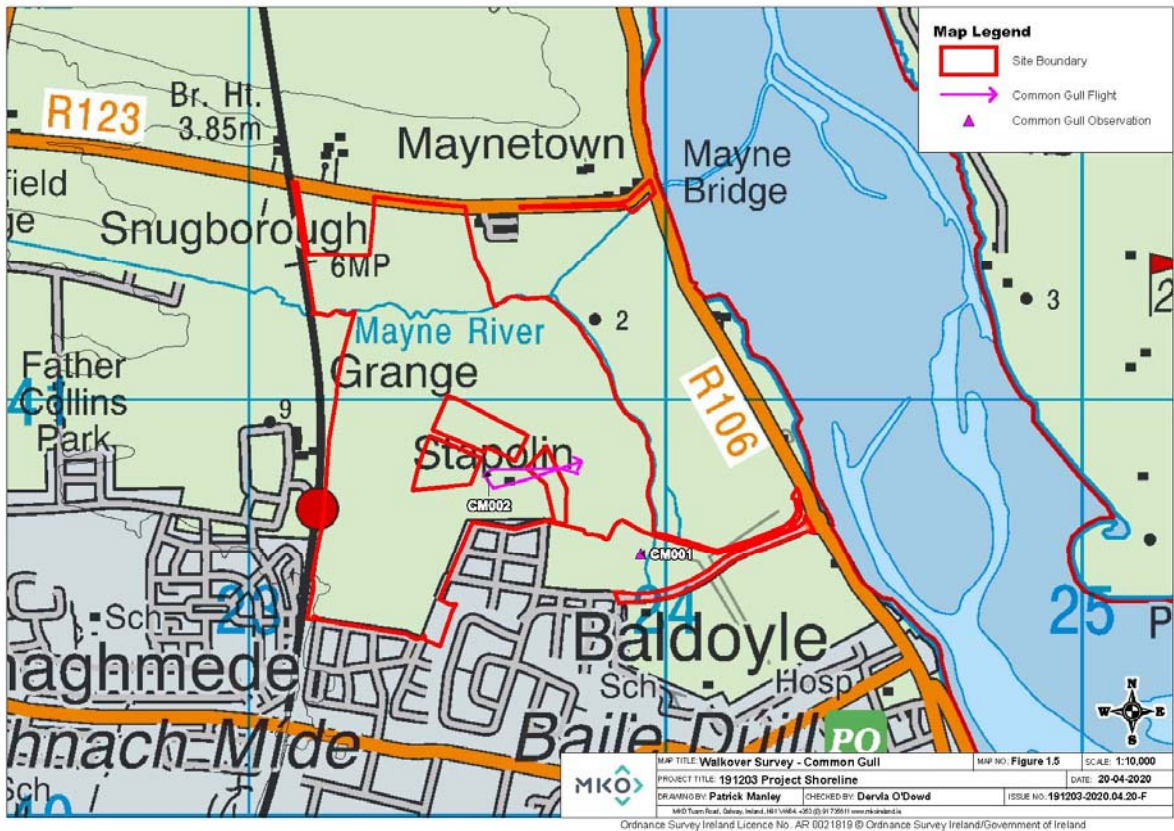
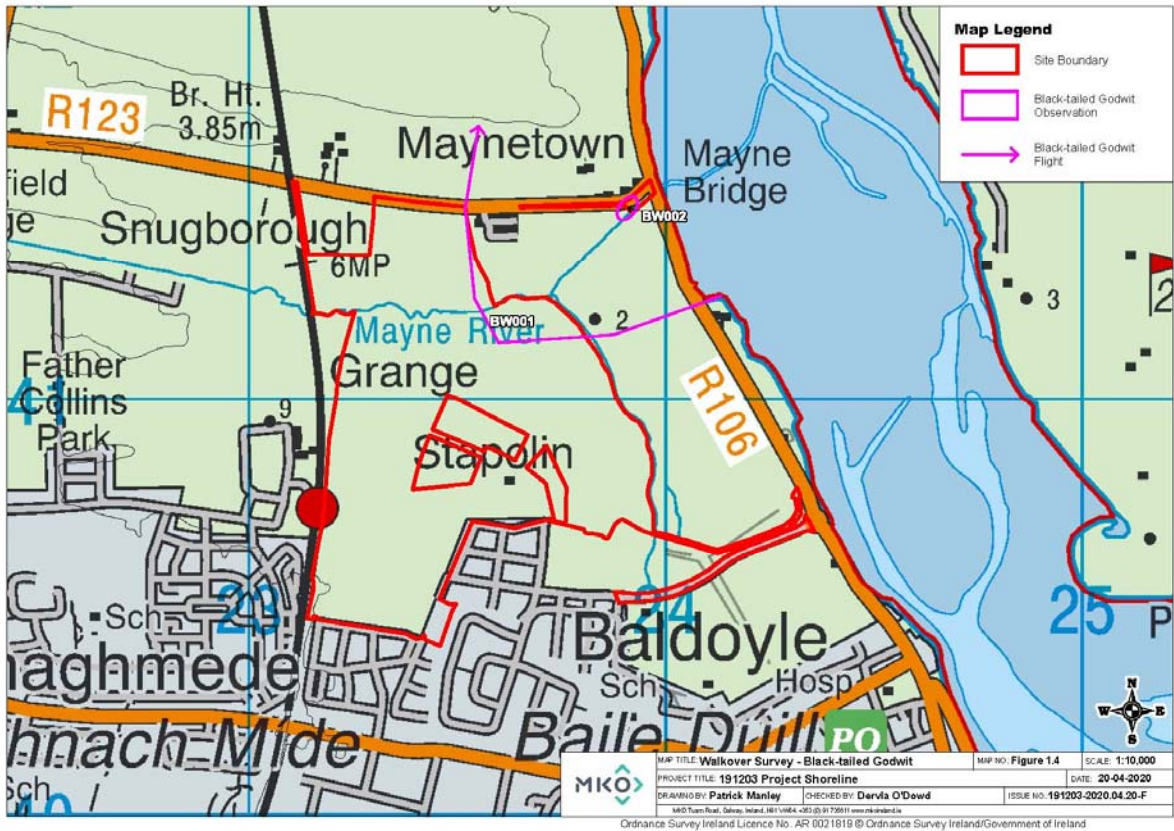


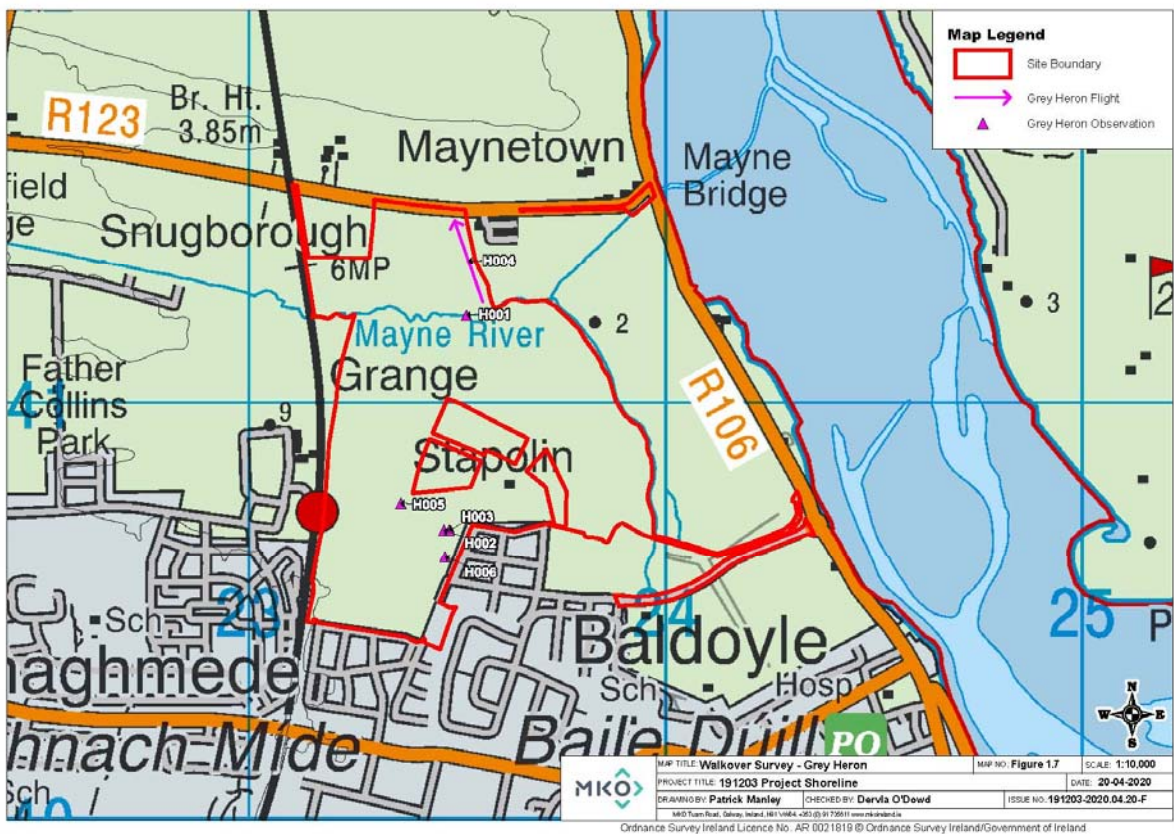
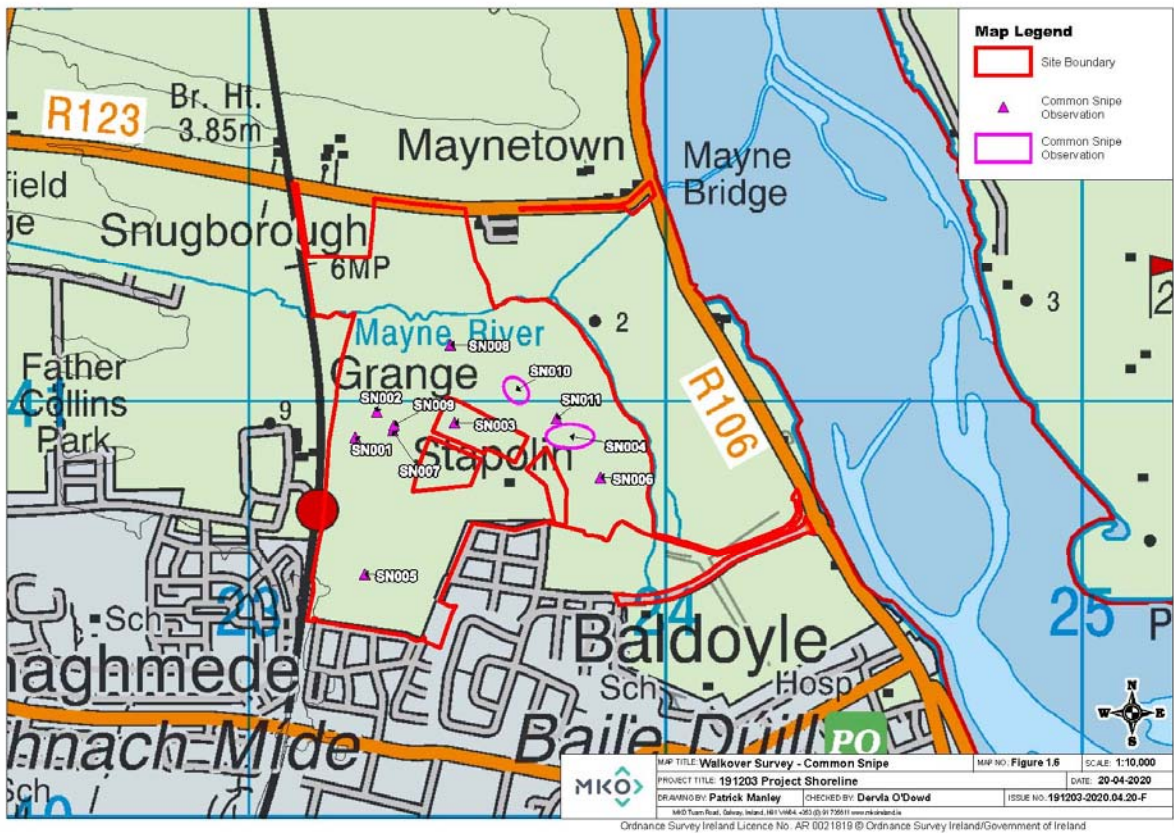
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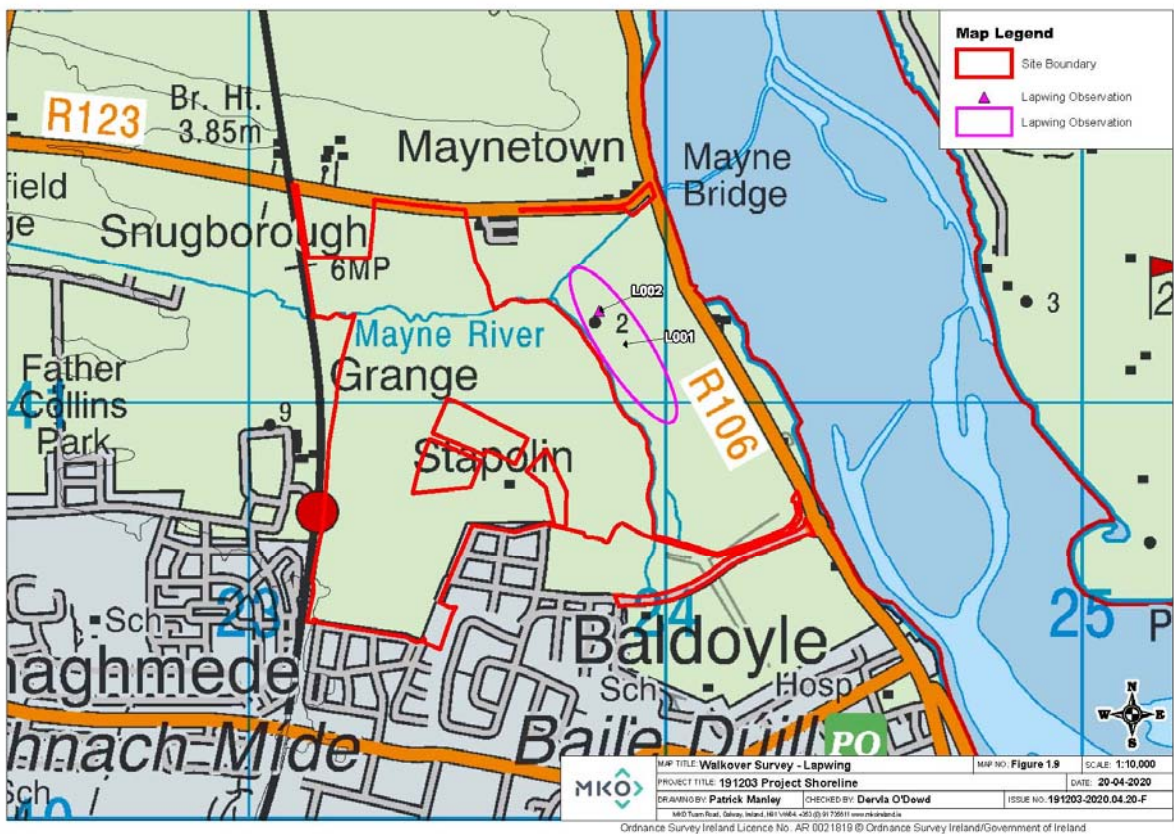
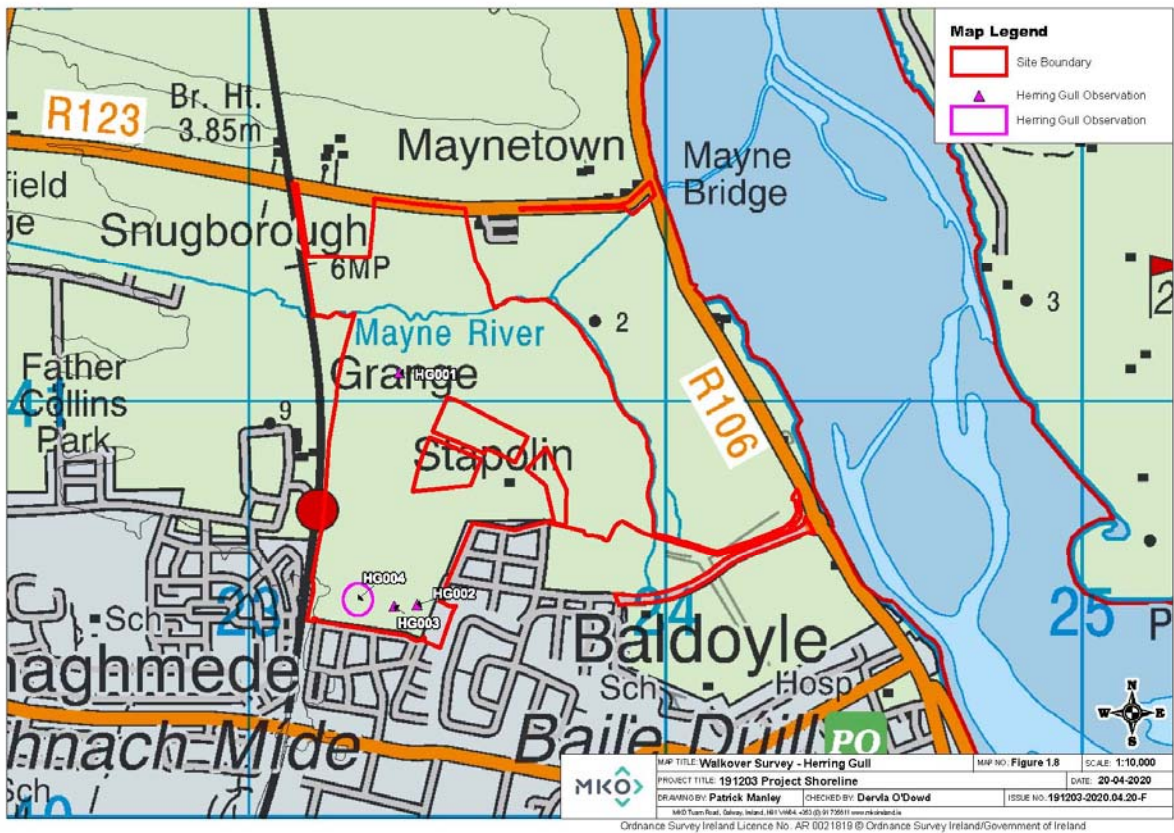
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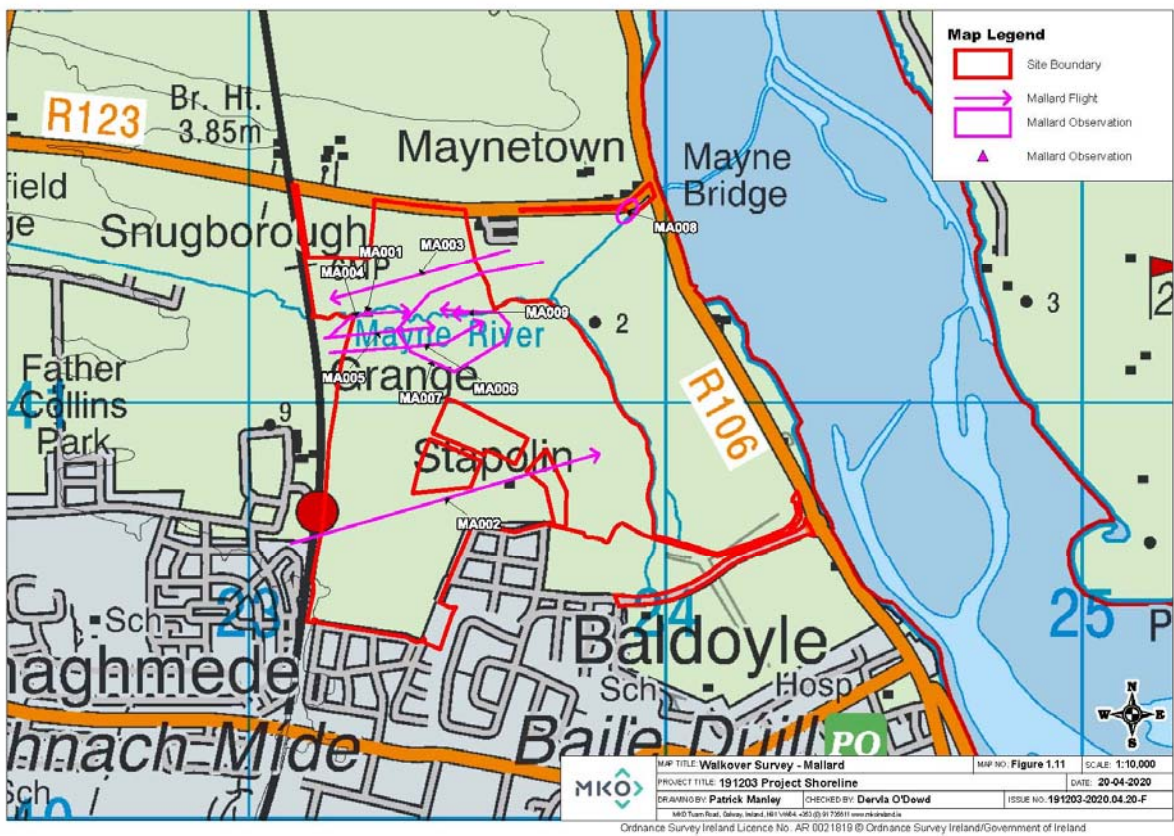
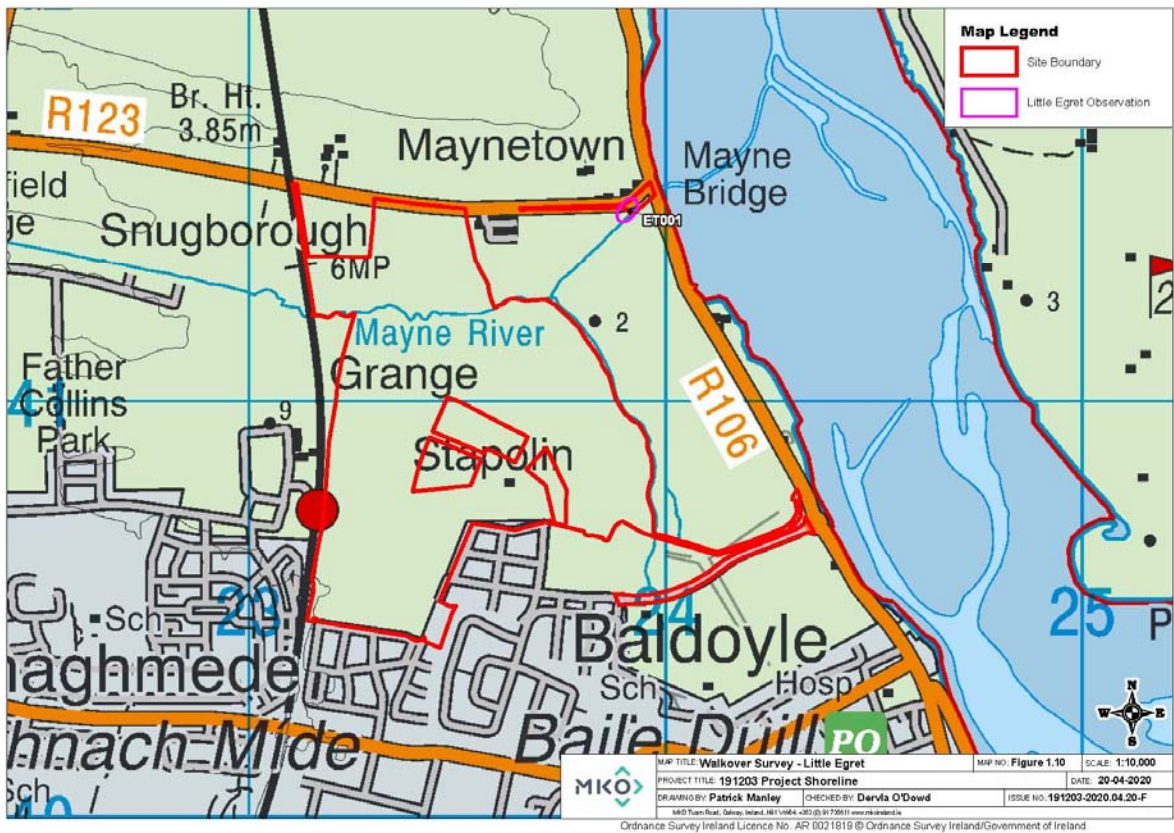


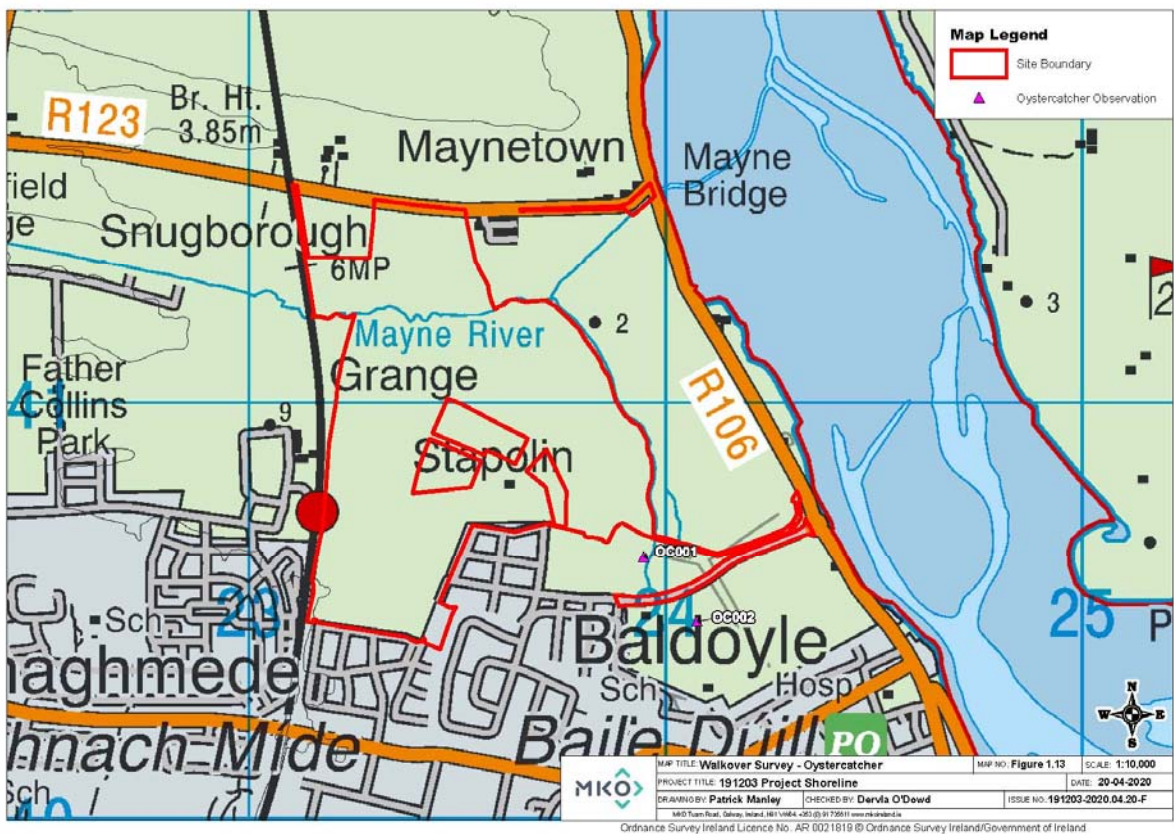
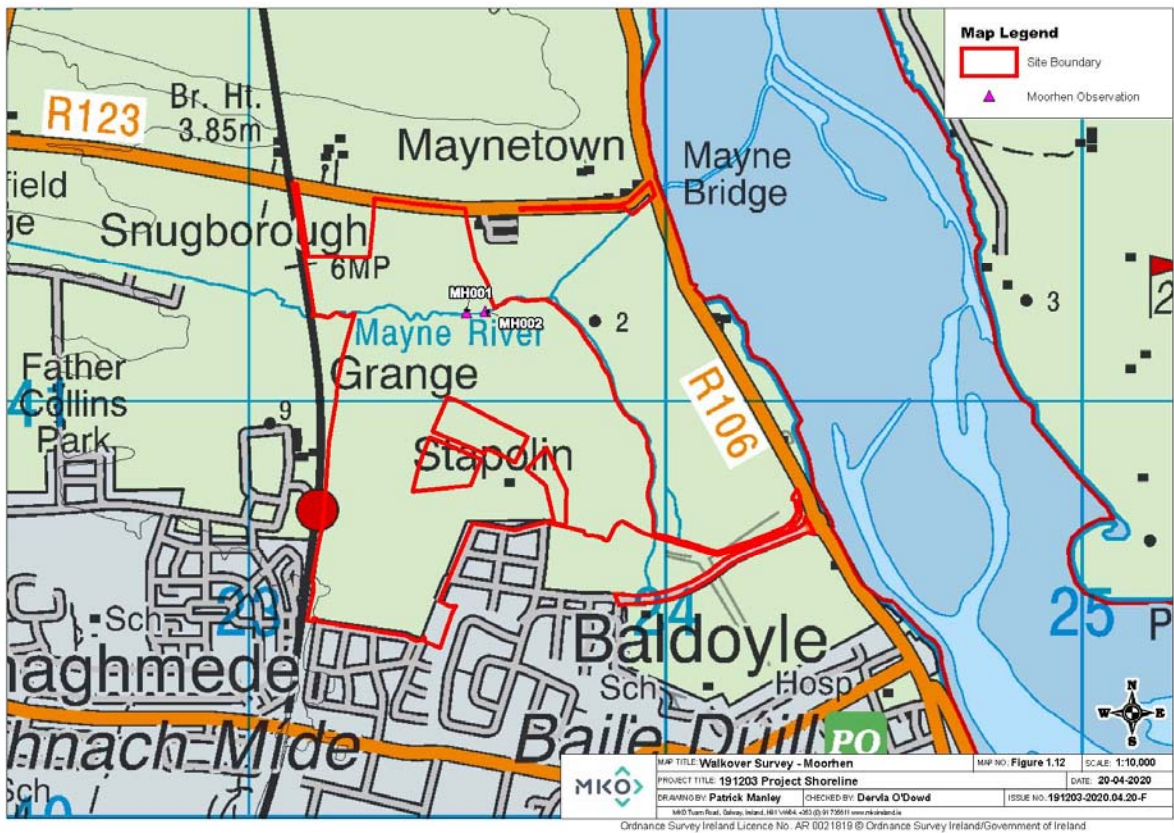












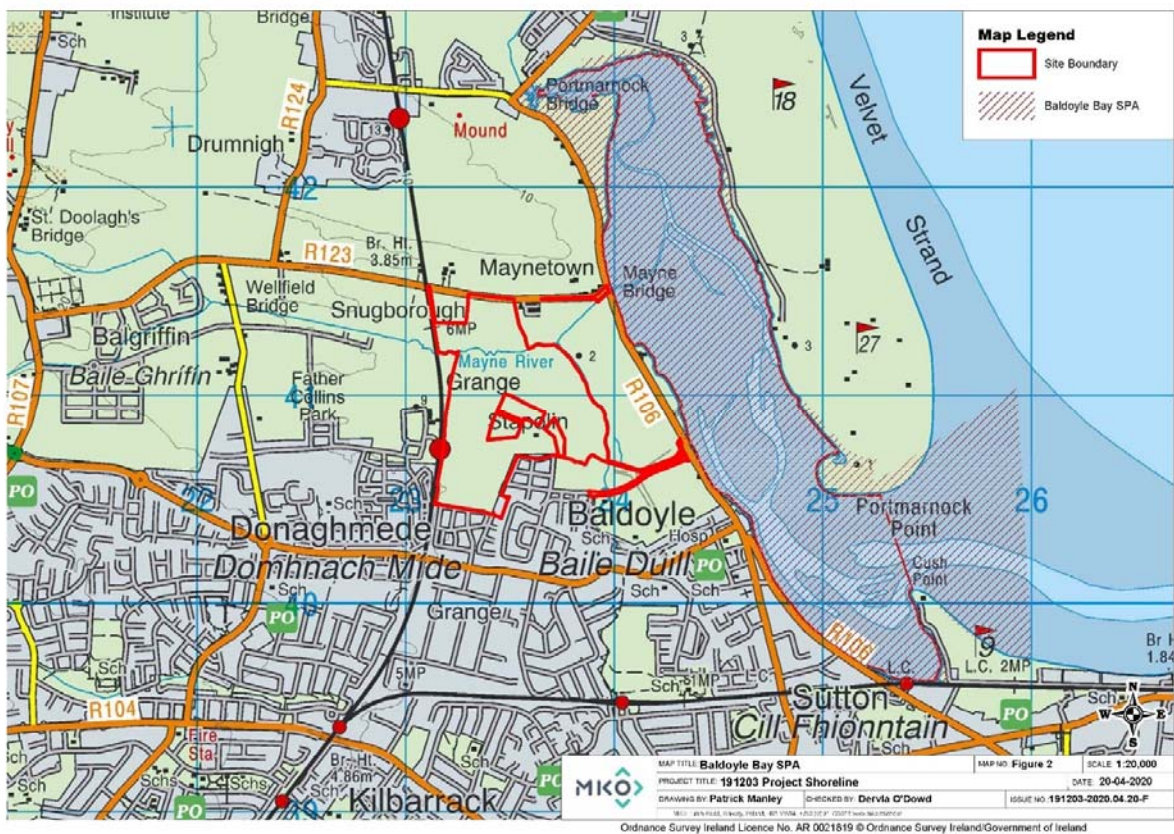
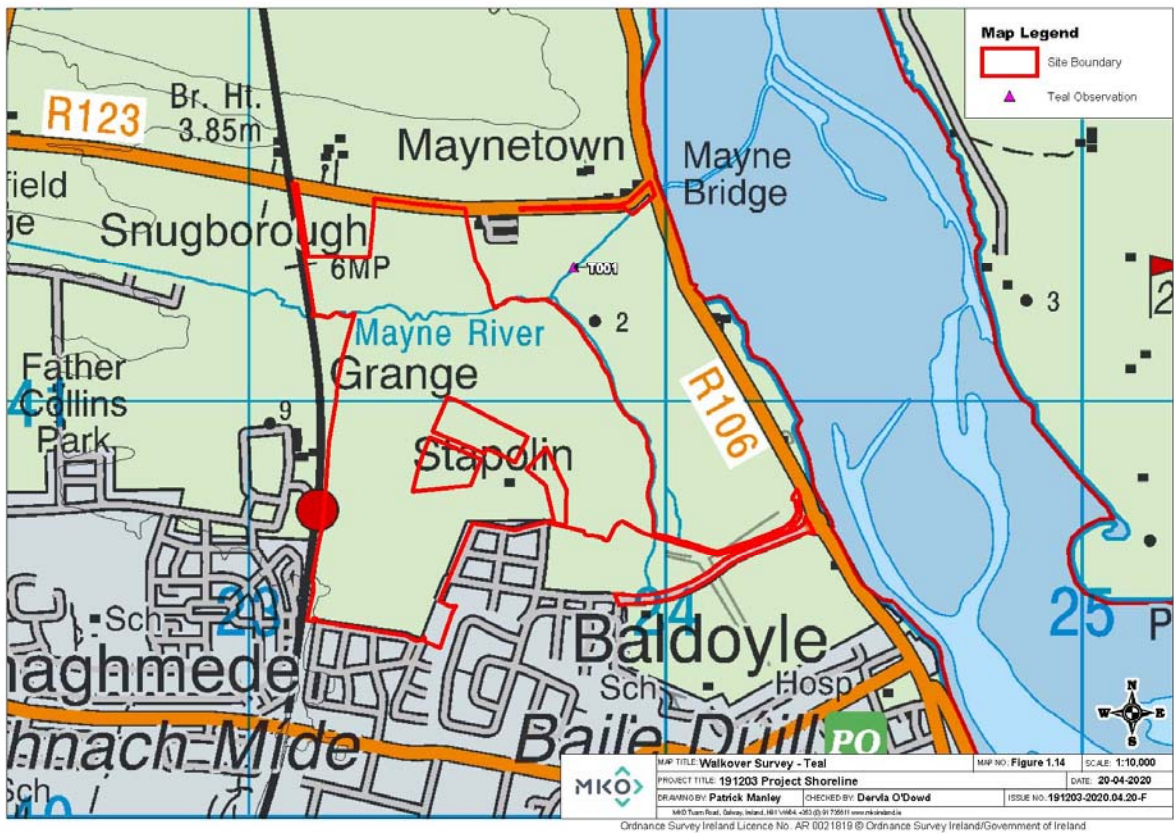


Table 4 December 2019 Block Map

Map Ref	Date	Species	Number of birds	Notes on Habitat and Activity	Comments	Surveyor
FL001	18/12/2019	Herring Gull	96	Intertidal; Roosting		PC
FL001	18/12/2019	Great Black-backed Gull	12	Intertidal; Roosting		PC
FL001	18/12/2019	Oystercatcher	26	Intertidal; Feeding		PC
FL001	18/12/2019	Curlew	2	Intertidal; Feeding		PC
FL001	18/12/2019	Mallard	2	Intertidal; Feeding		PC
FL001	18/12/2019	Teal	2	Intertidal; Feeding		PC
FL001	18/12/2019	Redshank	12	Intertidal; Feeding		PC
FL001	18/12/2019	Black-headed Gull	10	Supratidal; Feeding		PC
FL002	18/12/2019	Mallard	51	Intertidal; Feeding		PC
FL002	18/12/2019	Oystercatcher	35	Intertidal; Feeding		PC
FL002	18/12/2019	Herring Gull	6	Intertidal; Feeding		PC
FL002	18/12/2019	Black-headed Gull	5	Intertidal; Feeding		PC
FL002	18/12/2019	Bar-tailed Godwit	4	Intertidal; Feeding		PC
FL002	18/12/2019	Grey Plover	4	Intertidal; Feeding		PC
FL002	18/12/2019	Shelduck	36	Intertidal; Feeding		PC
FL002	18/12/2019	Lapwing	1	Intertidal; Feeding		PC
FL002	18/12/2019	Common Gull	5	Intertidal; Feeding		PC
FL002	18/12/2019	Curlew	10	Intertidal; Feeding		PC
FL002	18/12/2019	Redshank	11	Intertidal; Feeding		PC
FL002	18/12/2019	Brent Goose	18	Intertidal; Feeding		PC
FL003	18/12/2019	Brent Goose	45	Terrestrial; Feeding	Foraging in golf course	PC
FL004	18/12/2019	Red-breasted Merganser	10	Subtidal; Feeding		PC
FL004	18/12/2019	Common Gull	4	Intertidal; Feeding		PC
FL004	18/12/2019	Herring Gull	5	Intertidal; Feeding		PC
FL004	18/12/2019	Oystercatcher	10	Supratidal; Roosting		PC
FL004	18/12/2019	Curlew	2	Supratidal; Roosting		PC

Map Ref	Date	Species	Number of birds	Notes on Habitat and Activity	Comments	Surveyor
FL004	18/12/2019	Long-tailed Duck	1	Subtidal; Feeding		PC
FL005	18/12/2019	Redshank	18	Intertidal; Feeding		PC
FL005	18/12/2019	Turnstone	2	Intertidal; Feeding		PC
FL005	18/12/2019	Herring Gull	4	Intertidal; Feeding		PC
FL005	18/12/2019	Grey Heron	1	Intertidal; Feeding		PC
FL005	18/12/2019	Curlew	1	Intertidal; Feeding		PC
FL005	18/12/2019	Teal	7	Intertidal; Feeding		PC
FL006	18/12/2019	Curlew	1	Intertidal; Feeding		PC
FL006	18/12/2019	Oystercatcher	1	Intertidal; Feeding		PC
FL006	18/12/2019	Dunlin	4	Intertidal; Feeding		PC
FL006	18/12/2019	Redshank	3	Intertidal; Feeding		PC
FL006	18/12/2019	Bar-tailed Godwit	8	Intertidal; Feeding		PC
FL007	18/12/2019	Black-headed Gull	4	Intertidal; Feeding		PC
FL007	18/12/2019	Herring Gull	9	Intertidal; Feeding		PC
FL007	18/12/2019	Turnstone	16	Intertidal; Feeding		PC
FL007	18/12/2019	Curlew	3	Intertidal; Feeding		PC
FL007	18/12/2019	Bar-tailed Godwit	8	Intertidal; Feeding		PC
FL007	18/12/2019	Redshank	6	Intertidal; Feeding		PC
FL007	18/12/2019	Oystercatcher	21	Intertidal; Feeding		PC
FL008	18/12/2019	Bar-tailed Godwit	27	Intertidal; Feeding		PC
FL008	18/12/2019	Curlew	16	Intertidal; Feeding		PC
FL008	18/12/2019	Oystercatcher	62	Intertidal; Feeding		PC
FL008	18/12/2019	Redshank	30	Intertidal; Feeding		PC
FL008	18/12/2019	Shelduck	17	Intertidal; Feeding		PC
FL008	18/12/2019	Turnstone	4	Intertidal; Feeding		PC
FL008	18/12/2019	Greenshank	1	Intertidal; Feeding		PC

Map Ref	Date	Species	Number of birds	Notes on Habitat and Activity	Comments	Surveyor
FL008	18/12/2019	Herring Gull	16	Intertidal; Feeding		PC
FL008	18/12/2019	Black-headed Gull	13	Intertidal; Feeding		PC
FL008	18/12/2019	Great Black-backed Gull	4	Intertidal; Feeding		PC
FL008	18/12/2019	Dunlin	16	Intertidal; Feeding		PC
FL008	18/12/2019	Brent Goose	6	Intertidal; Feeding		PC
FL009	18/12/2019	Golden Plover	50	Intertidal; Roosting		PC
FL009	18/12/2019	Teal	6	Intertidal; Roosting		PC
FL009	18/12/2019	Wigeon	79	Intertidal; Roosting		PC
FL009	18/12/2019	Whooper Swan	1	Intertidal; Roosting		PC
FL010	23/12/2019	Lapwing	7	Above Water; Roosting		ED
FL010	23/12/2019	Redshank	1	Above Water; Roosting		ED
FL011	23/12/2019	Shelduck	12	On Water; feeding		ED
FL012	23/12/2019	Wigeon	1	On Water; feeding		ED
FL012	23/12/2019	Shelduck	14	On Water; Feeding		ED
FL012	23/12/2019	Teal	11	On Water; Feeding		ED
FL012	23/12/2019	Wigeon	16	On Water; Feeding		ED
FL012	23/12/2019	Great Black-backed Gull	2	Above Water; Roosting		ED
FL012	23/12/2019	Black-headed Gull	6	Above Water; Roosting		ED
FL012	23/12/2019	Common Gull	1	Above Water; Roosting		ED
FL012	23/12/2019	Redshank	2	Above Water; Roosting		ED
FL012	23/12/2019	Little Egret	1	Above Water; Feeding		ED
FL012	23/12/2019	Red-breasted Merganser	1	Above Water; Roosting		ED
FL012	23/12/2019	Grey Heron	1	Above Water; Feeding		ED

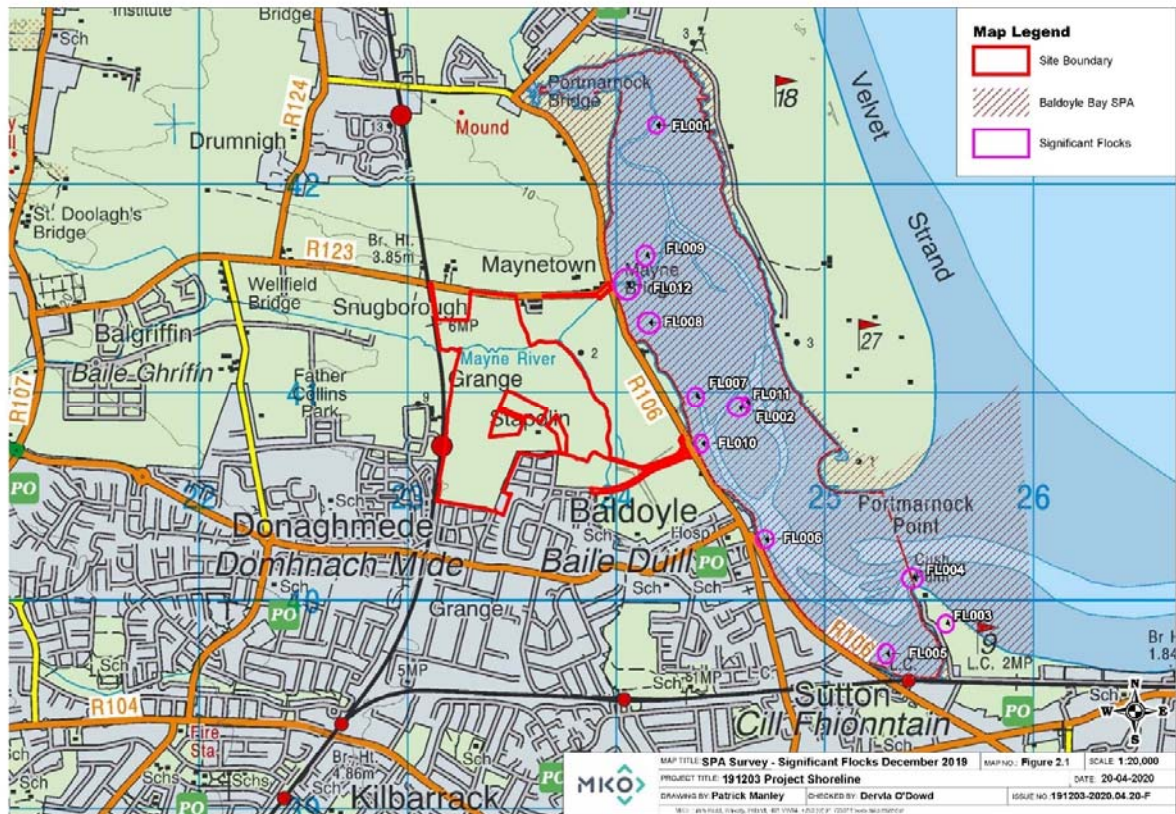


Table 2 January 2020 Flock Map

Map Ref	Date	Species	Number of birds	Notes on Habitat and Activity	Comments	Surveyor
FL013	15/01/2020	Curlew	36	Intertidal; Roosting		SD
FL013	15/01/2020	Oystercatcher	77	Intertidal; Feeding		SD
FL014	15/01/2020	Lapwing	38	Supratidal; Roosting		SD
FL015	15/01/2020	Black-headed Gull	5	Intertidal; Feeding	30+ foraging in park adjacent to SPA	SD
FL015	15/01/2020	Brent Goose	4	Subtidal; Feeding	60+ foraging in park adjacent to SPA	SD
FL016	15/01/2020	Black-headed Gull	29	Subtidal; Roosting		SD
FL017	28/01/2020	Oystercatcher	138	Intertidal; Roosting		SD
FL018	28/01/2020	Oystercatcher	32	Intertidal; Feeding		SD
FL018	28/01/2020	Oystercatcher	45	Intertidal; Roosting		SD
FL019	28/01/2020	Brent Goose	50	Subtidal; Feeding		SD
FL019	28/01/2020	Brent Goose	303	Intertidal; Feeding		SD
FL020	28/01/2020	Knot	160	Intertidal; Feeding		SD

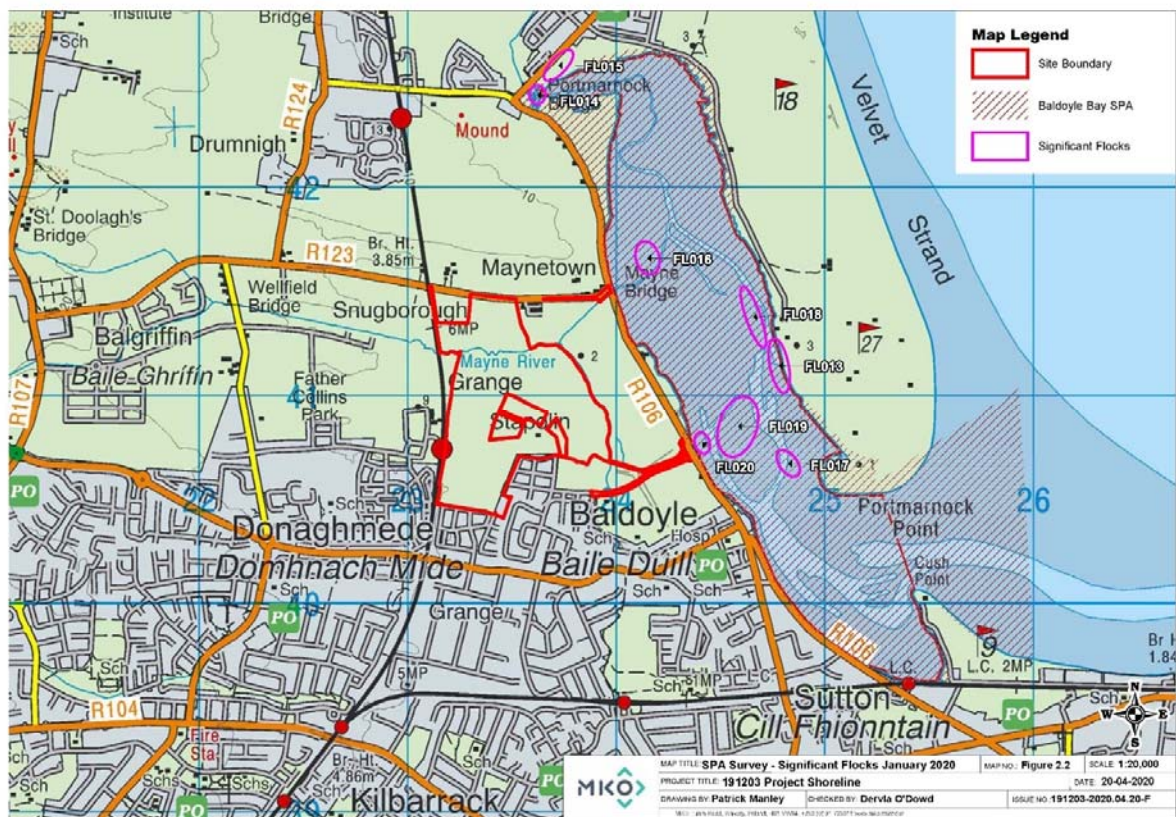


Table 3 February 2020 Flock Map

Map Ref	Date	Species	Number of birds	Notes on Habitat and Activity	Comments	Surveyor
FL021	10/02/2020	Brent Goose	119	Intertidal; Feeding		SD
FL022	10/02/2020	Redshank	111	Supratidal; Roosting		SD
FL023	24/02/2020	Brent Goose	40	Terrestrial; Feeding		SD
FL024	24/02/2020	Redshank	48	Supratidal; Roosting		SD

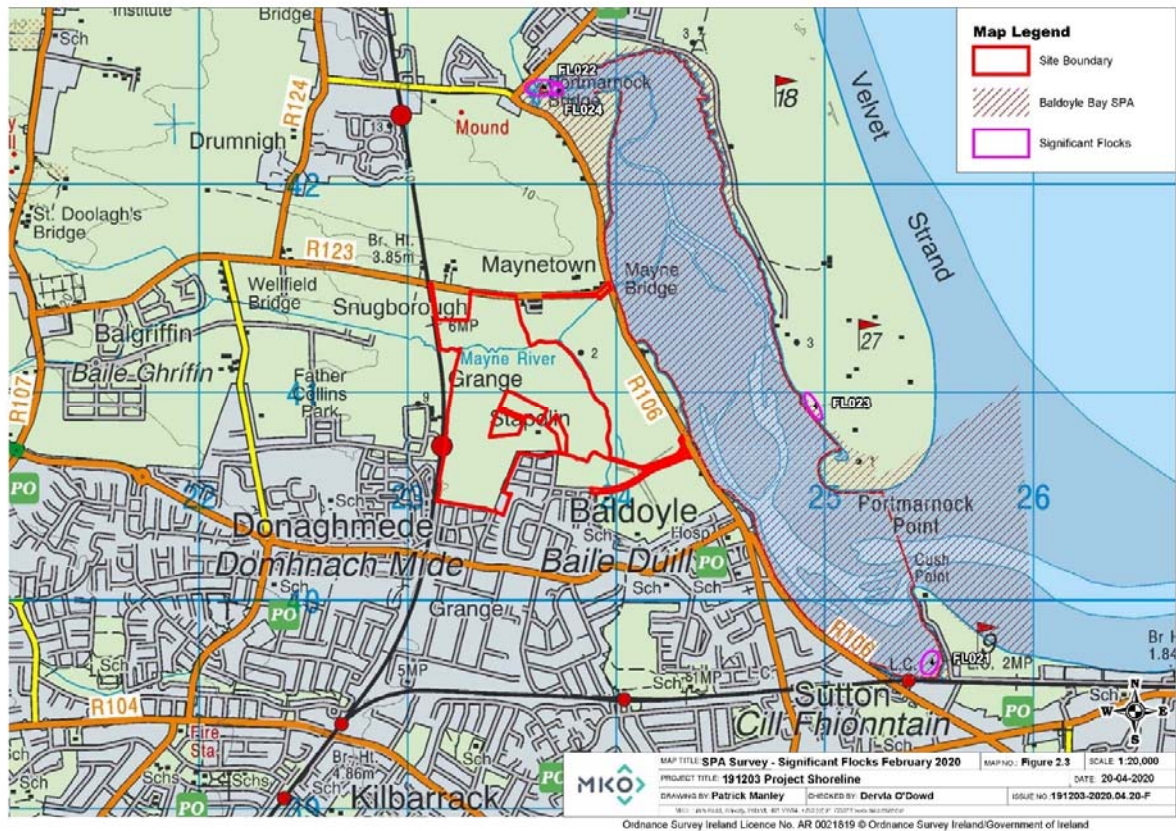
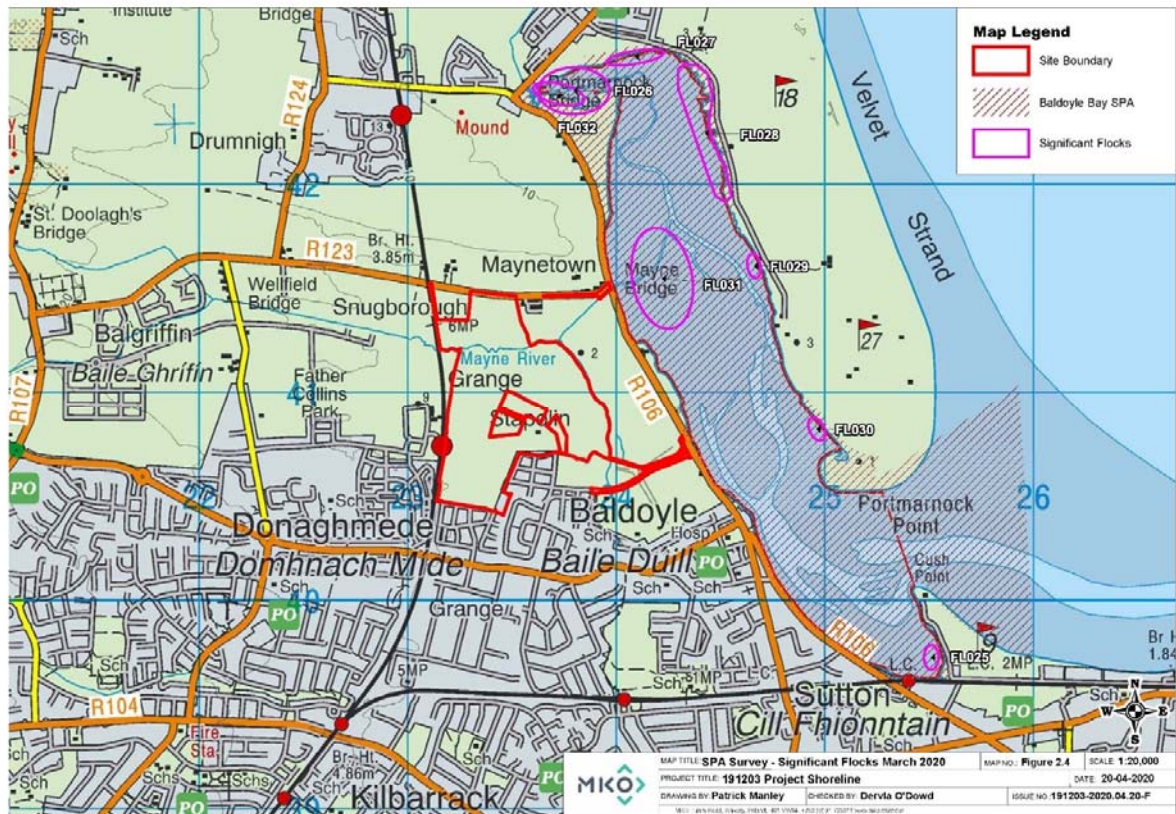
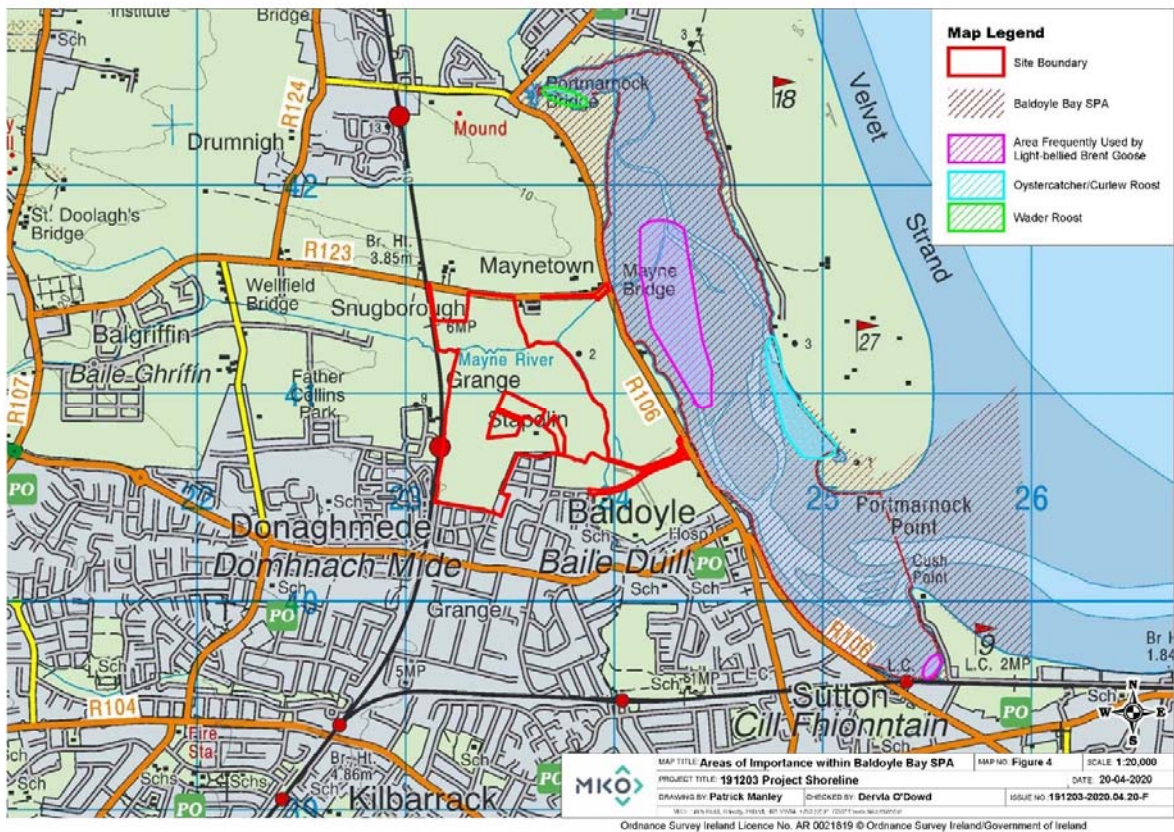
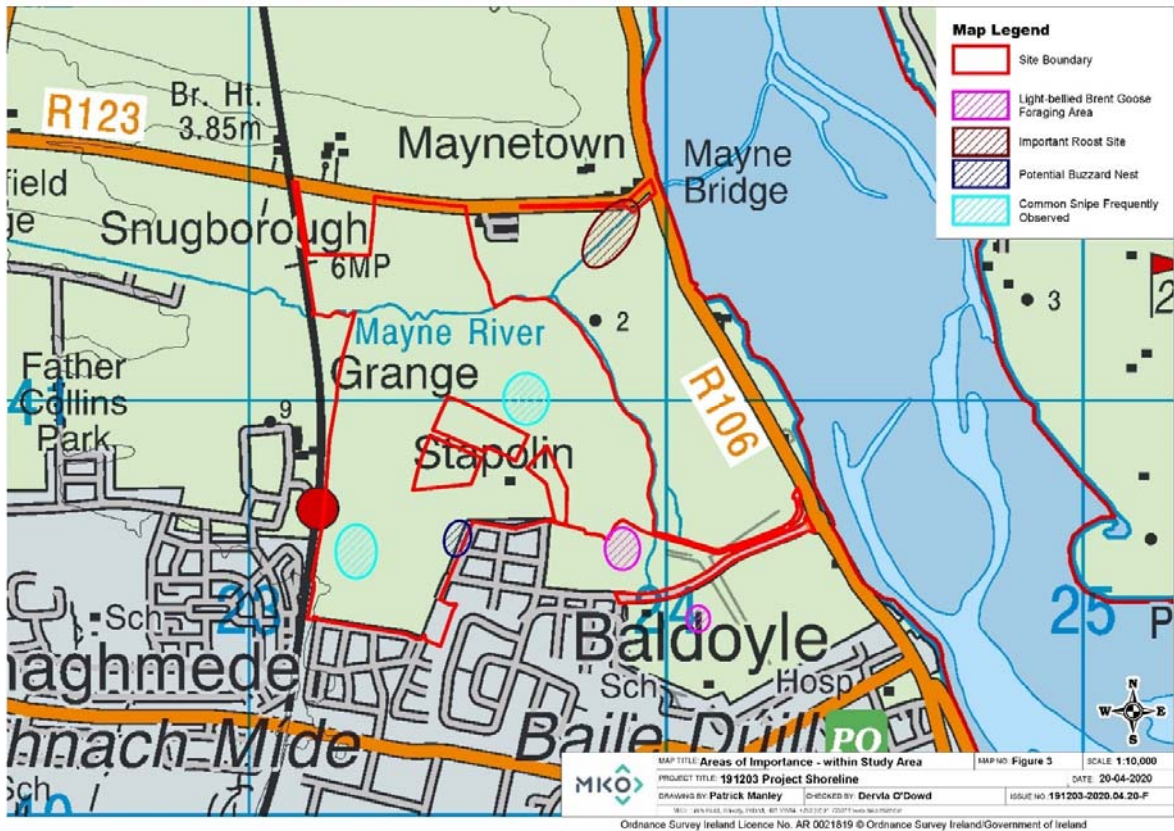


Table 1 March 2020 Flock Map

Map Ref	Date	Species	Number of birds	Notes on Habitat and Activity	Comments	Surveyor
FL025	11/03/2020	Brent Goose	62	Intertidal; Feeding		SD
FL026	11/03/2020	Brent Goose	110	Intertidal; Feeding		SD
FL026	11/03/2020	Redshank	73	Supratidal; Roosting		SD
FL027	11/03/2020	Brent Goose	114	Subtidal; Roosting		SD
FL028	11/03/2020	Brent Goose	470	Intertidal; Feeding		SD
FL029	11/03/2020	Brent Goose	101	Intertidal; Feeding		SD
FL030	24/03/2020	Oystercatcher	250	Supratidal; Roosting		SD
FL032	24/03/2020	Black-tailed Godwit	82	Supratidal; Roosting		SD
FL031	24/03/2020	Brent Goose	382	Subtidal; Feeding	large, loosely dispersed flock	SD







APPENDIX 3

CURRICULUM VITAE



CURRICULUM VITAE

Padraig Cregg is a Senior Ornithologist with MKO with over 8 years of experience in both private practice and NGOs. Padraig holds a BSc (Hons) in Zoology and Masters in Evolutionary and Behavioural Ecology. Prior to taking up his position with MKO in December 2018, Padraig worked as a Senior Ornithologist and held previous posts with TOBIN Consulting Engineers, Energised Environments Ltd in Scotland, WSP Environment and Energy Ltd in Scotland and BirdWatch Ireland. Padraig has specialist knowledge in designing, executing and project managing ornithological assessments, primarily in the renewable industry. Padraig's key strengths and areas of expertise are in ornithology and ecology surveying and in writing Natura Impact Statements (NIS) and the Biodiversity chapter of Environmental Impact Assessment Reports (EIAR) to accompany planning applications. Since joining MKO Padraig has been involved in designing, executing and project managing the ornithological assessment on over 20 proposed wind farm developments. He has played a key role in project managing these planning applications through the statutory planning system, with more projects in the pipeline. Within MKO Padraig plays a large role in the management and confidence building of junior members of staff and works as part of a large multi-disciplinary team to produce EIAR and NIS Reports. Padraig has project managed a range of infrastructure projects, with an emphasis on wind and solar energy projects across the Ireland and the UK.

Current Role	Senior Ornithologist
Qualifications	<ul style="list-style-type: none"> ➤ M.Sc Evolutionary and Behavioural Ecology (University of Exeter, 2008). ➤ B.Sc Zoology (National University of Ireland, Galway, 2007).
Years of Experience	<ul style="list-style-type: none"> ➤ Padraig has over seven years' experience working in both the UK and Ireland primarily in the renewable industry. Padraig has a strong technical background in ornithology and ecology surveying and in writing Natura Impact Statements (NIS) and sections of Environmental Impact Assessment Reports (EIAR) to accompany planning applications.
Relevant Experience	<ul style="list-style-type: none"> ➤ Wind Farm Projects. Padraig has worked on over 40 wind farm projects in both Ireland and the UK. From his time working in the UK, Padraig provides expert experience in interpreting and implementing Scottish ornithological guidance documents (SNH, 2017) for the surveying of wind farms in an Irish context. Padraig's key responsibilities included: managing the in-house team and sub-consultants, directly liaising with the client and landowner, consulting with the Planning Departments and the Development Applications Unit (DAU), writing sections of and reviewing the Environmental Impact Assessment Reports and Appropriate Assessment (AA) Screening and Natura Impact Statements (NIS) Reports (as appropriate), reviewing GIS mapping and Planning Application drawings. ➤ Solar Farm Projects. Padraig has acted as Senior Ecologist and Project Manager for several Solar Farm Planning Applications. Key responsibilities include liaising directly with client, attending preplanning meetings with local county council, consulting with Development Application Unit (DAU), designing surveys, writing sections of the Planning and Environmental Considerations Reports and Appropriate Assessment (AA) Screening Report and Natura Impact Statement, as appropriate. ➤ Water Supply Project Eastern and Midlands Region (Irish Water). Padraig acted as the Senior Ornithologist for the Water Supply Project. He was responsible for the review and design of breeding and wintering bird surveys for this project: October 2016 to October 2018. He has undertaken consultation with Development Application Unit



	<p>(DAU) and wrote sections of the Environmental Impact Assessment Report and Natura Impact Statement.</p> <ul style="list-style-type: none"> ➤ Mining Projects. Padraig was the Natura Impact Statement Expert Witness at Boliden Tara Mines Oral Hearing for a tailings extension and integrated constructed wetland for which Planning Permission was partially granted. ➤ Road Projects. Padraig has acted as Senior Ecology on several roads projects in both Ireland and the UK. Project work included the design and execution of various ecological surveys, e.g. badger and bat surveys. The resultant outputs from this work include environment impact assessments and appropriate assessment reports.
Key Strengths & Areas of Expertise	<ul style="list-style-type: none"> ➤ Padraig has a strong technical background in ornithology and ecology surveying and in writing Natura Impact Statements (NIS) and the Biodiversity chapter of Environmental Impact Assessment Reports (EIAR) to accompany planning applications.
Practical Skills & Aptitudes	<p>Field Skills:</p> <ul style="list-style-type: none"> ➤ Padraig's ornithological experience has involved carrying out a diverse catalogue of bird surveys throughout Ireland including multi-year studies (breeding, migratory and winter) for various environmental projects. In Scotland he spent two and a half years implementing bird surveys using Scottish Natural Heritage guidance documents to complete his survey work to best scientific practice. Many of his studies involved designing surveys to capture the seasonal change in avian communities at a site. Examples of this include; Breeding Raptor Surveys (following SNH & Hardy methods for species including Hen Harrier, Merlin, Peregrine, Barn Owl, White-tailed Eagle & Golden Eagle), Breeding Wader Surveys (following SNH, Brown & Shepherd and O'Brien & Smith for species including Golden Plover, Curlew, Lapwing, Dunlin & Snipe), Breeding Woodcock (following Gilbert methods), Migratory/Wintering Waterfowl (Following SNH and I-WeBS methods for species including (but not limited to) Whooper Swan, Greenland White-fronted Goose and wintering waders), Red Grouse Tape Lure Survey (following NPWS & BWI methods) Breeding diver species (following SNH & Gilbert methods) Woodland and Coastal species (following SNH and Gilbert methods). ➤ Padraig also has experience of habitat surveying: Phase 1 habitat survey. Padraig has ecological assessment experience in undertaking mammal surveys (common & protected) including bat species, badger, otter and reptiles. Habitats present are also assessed in terms of their potential to support Irish mammals.
Management/ Supervision	<ul style="list-style-type: none"> ➤ Project manager and lead ecologist on large scale ecological projects. ➤ Accustomed to working effectively as part of larger multidisciplinary project design teams. ➤ Supervision of a team of ten internal ornithologist and the management of sub-consultants to coordinate the bird survey programme at MKO. ➤ Within MKO Padraig plays a key role in mentoring junior members of staff.
Interpersonal & Communication Skills	<ul style="list-style-type: none"> ➤ Extensive experience in successful consulting with statutory ecological consultees including NPWS, Birdwatch Ireland and Inland Fisheries Ireland usually regarding sensitive ecological sites.



	<ul style="list-style-type: none"> ➤ Significant experience coordinating approach to sensitive ecological sites between client and ecological consultees and on-site contractors, etc. ➤ Development of technical working methodologies on behalf of contractors requiring understanding of both proposed works and sensitivities of site.
Licenses Held	<ul style="list-style-type: none"> ➤ Padraig has been a licence holder for the surveying of protected avian species on both the Red List of Bird of Conservation Concern in Ireland and Annex 1 of the EU Birds Directive, e.g. Red Grouse tape lure licence.
Physical / Other	<ul style="list-style-type: none"> ➤ Full Clean Driving Licence ➤ Current Safe Pass Holder





CURRICULUM VITAE

Patrick Manley is an Ornithologist with MKO with extensive practical experience in field research. Patrick holds a BSc (Hons) in Geology. Prior to taking up his position with MKO in September 2016, Patrick worked as part of the conservation team in BirdWatch Ireland, on projects such as the Dublin bay birds project, Kilcoole Little Tern conservation project and the results based agri-environmental scheme for breeding waders. Patrick's key strengths and areas of expertise are in bird ecology & identification, GIS, project planning and fieldwork skills. Since joining MKO Patrick has been involved as an Ornithologist on several wind and solar energy developments, utilising a broad range of bird survey methodologies including breeding raptor, adapted brown & shepherd and waterfowl distribution. Patrick was also part of a team of bird usage surveyors working on the Shannon/Fergus Estuary. Within MKO Patrick plays an important role as part of the Ornithology team, working independently and planning field surveys in accordance with required standards. Patrick has managed the ornithological surveying at wind energy developments, engaging with sub-contractors and management.

Current Role	Ornithologist
Qualifications	<ul style="list-style-type: none"> ➤ BSc Geology, University College Dublin (2013).
Years of Experience	<ul style="list-style-type: none"> ➤ 5 years post graduate experience in wildlife conservation and monitoring.
Relevant Experience	<p>Relevant Work Experience</p> <ul style="list-style-type: none"> ➤ Field ornithologist as part of the Little Tern Conservation Project with BirdWatch Ireland for two breeding seasons (2015 & 2016). Patrick gained experience in monitoring and protecting a vulnerable species and in the collection, collation and analyses of large data sets. He was also responsible for liaising with the public, the writing of weekly reports and full technical reports at the end of each breeding season. ➤ Agri-Environmental Liaison Officer for the Results Based Agri-Environmental Payment Scheme with BirdWatch Ireland. Patrick gained experience in liaising with land owners, coordinating and finalizing terms with participants of the scheme. He also gained skills in the ecological applications for GIS, in training landowners in land management for breeding birds and in carrying out breeding bird surveys. ➤ Conservation Team Intern with the Dublin Bay Birds Project for BirdWatch Ireland. Patrick gained experience in compiling, proofing and analysing large datasets, as well as waterbird monitoring during various tidal and weather conditions and writing technical reports. ➤ Field Assistant with the Dublin Bay Birds Project with BirdWatch Ireland. Patrick gained experience doing waterbird surveys, radio tracking surveys and the tracking of colour ringed waders. He also gained experience in collating, proofing and validating large datasets. He was also responsible for fitting colour rings to waders during multiple catching sessions. ➤ Volunteer Bird Surveyor on various projects including the Irish wetlands bird survey, the Inishmurray all-island breeding bird survey, the national Hen Harrier survey and the countryside bird survey. <p>Relevant Surveys for MKO:</p> <ul style="list-style-type: none"> ➤ Derryadd Windfarm, County Longford (Client: Bord na Mona) Carried out Vantage point surveys, waterfowl surveys and breeding raptor surveys for this site. ➤ Timahoe Solar, County Laois (Client: Bord na Mona) Carried out breeding walkover surveys for this site. ➤ Lissinagroagh Windfarm, County Leitrim (Client: Coillte) Carried out Vantage point surveys for this site ➤ Slieve Rusheen Windfarm, County Cavan (Client: Coillte) Carried out Vantage point surveys, winter walkovers, hen harrier roost surveys and red grouse surveys for this site.



	<ul style="list-style-type: none"> ➤ Cullenagh Windfarm, County Laois (Client: Coillte) Carried out Vantage point, breeding walkover and breeding raptor surveys for this site. ➤ Carrownagowan Windfarm, County Clare (Client: Coillte) Carried out Vantage point surveys, waterfowl surveys, hen harrier roost surveys and winter walkovers for this site. ➤ Glenard Windfarm, County Donegal (Client: Coillte) Carried out Vantage point surveys for this site. ➤ Cahermurphy Windfarm, County Clare (Client: Mid Clare Renewable Energy Ltd.) Carried out Vantage point surveys for this site ➤ Coole Windfarm, County Westmeath (Site located on raised bogs) Carried out Vantage point surveys, breeding walkovers, breeding raptor surveys, breeding woodcock surveys and waterfowl distribution surveys for this site. ➤ Clonbern Windfarm, County Galway Carried out Vantage point surveys, and waterfowl surveys for this site. ➤ Ardderroo Windfarm, County Galway (Client: Enerco) Carried out Vantage point surveys, hen harrier/white-tailed eagle roost surveys and waterfowl surveys for this site. ➤ Boolynagheragh Windfarm, County Clare (Client: Enerco) Carried out pre-commencement hen harrier surveys for this site.
Practical Skills & Aptitudes	<ul style="list-style-type: none"> ➤ Planning and carrying out ornithological surveys. ➤ Working Independently and effectively in the field. ➤ Planning surveys with sub-contractors and management. ➤ Data presentation. ➤ Proficient in MS Office, GIS and MapInfo software. ➤ Adhering to required guidelines and SOP's on bird survey methodologies. ➤ Experience surveying birds using line transects, vantage point counts, flush counts, mist netting, radio tracking and GSM trackers
Management/ Supervision	<ul style="list-style-type: none"> ➤ Management of all bird surveys carried out on site. ➤ Demonstrated ability to manage workload and plan surveys based on own initiative. ➤ Experience managing field sites and coordinating large teams of volunteers for the Little Tern Conservation Projects 2015 and 2016 ➤ Experience coordinating and supervising volunteers during the all-island seabird survey on Inishmurray. ➤ Experience coordinating and liaising with volunteers/surveyors with BirdWatch Ireland and Irish Midlands Ringing Group on various projects.
Interpersonal & Communication Skills	<ul style="list-style-type: none"> ➤ Extensive dealings with ecology team in planning of bird survey work and standard operating procedures. ➤ Effective and clear communicator. ➤ Proven ability to manage extensive survey requirements and collation of data upon completion. ➤ Planning surveys with team members and sub-contractors. ➤ Experience coordinating workloads and delegating tasks as a member of both large and small teams of volunteers on a number of different projects with BirdWatch Ireland and the Irish Midlands Ringing Group, often in challenging fieldwork environments. ➤ Experience as lead author or co-author on technical project reports. ➤ Managed public relations and public outreach for the Little Tern Conservation Project in 2015 and 2016 (including an appearance on RTE series "EcoEye" in January 2016).



MKO, Tuam Road, Galway, Ireland. H91 VW84

+353 (0)91 735611 | info@mkofireland.ie | www.mkofireland.ie | [@mkofireland](https://twitter.com/mkofireland)

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	<ul style="list-style-type: none"> ➤ Experience giving bird ringing demonstrations to various groups including BirdWatch Ireland branch members, Dublin Field Naturalist club and during heritage week.
Licenses Held	<ul style="list-style-type: none"> ➤ Full Clean Driving Licence. ➤ Safe Pass.
Physical / Other	<ul style="list-style-type: none"> ➤ Ability to plan and organize fieldwork in line with published survey methodologies and company SOP's. ➤ Qualified bird ringer and ringing trainer with British Trust for Ornithology





CURRICULUM VITAE

Ian Hynes is a Graduate Ecologist with MKO. Ian Graduated with an Honours Degree in Environmental Science from National University of Ireland, Galway in 2017 and joined the Ornithology team in December of the same year. Ian has a broad knowledge of ecology ranging from invertebrate sampling and identification, habitat classification and vegetation surveys. In his time with MKO he has developed a broad understanding of SNH Guidance and its application to bird surveys for wind farm developments. Ian has over two years of experience in using GIS software. Ian has also gained experience in report writing through his final year thesis and assisting in the production of EIARs and ornithological reports.

Current Role	Ecologist
Qualifications	<ul style="list-style-type: none"> ➤ B.Sc. (Hons) Environmental Science from National University of Ireland, Galway
Years of Experience	<ul style="list-style-type: none"> ➤ 1-2 years
Relevant Experience	<ul style="list-style-type: none"> ➤ June-September 2016 – Thesis, Inis Oirr, Aran Islands – Investigated the contribution of habitat patches to invertebrates on IINV farmland using a rapid biodiversity assessment. Worked alongside members of AranLIFE and the Applied Ecology Unit, NUIG. ➤ Attended BCI Training course on the identification of bats, use of detectors and interpretation of results (30th June-1st July 2018). ➤ Undertook surveys as part of the Breeding Woodcock surveys 2019 (UCC Woodcock Research Group) in Galway and Kildare.
Practical Skills & Aptitudes	<ul style="list-style-type: none"> ➤ Proficient in using ArcGIS software to produce maps representing ecological data, also has extensive experience in QGIS and Map Info. ➤ Proficient in Microsoft Office programs (Word, Excel, PowerPoint, Visio). ➤ Good knowledge of Python programming language (QQI Level 5) ➤ Experience in invertebrate sampling and identification, habitat classification and plant identification. ➤ Experience in producing a Habitat Management Plan. ➤ Good knowledge of EIS/EIAR and Appropriate Assessment. ➤ Bat surveys – acoustic sampling and analysis of results. ➤ Involved in the preparation of desk study's, GIS maps and bird data for use in ornithology reports/EIARs. ➤ Experience in using 'Windfarm' and ZVI to produce Viewshed Analysis on Vantage Points and ground truthing Vantage Points in the field.
Interpersonal & Communication Skills	<ul style="list-style-type: none"> ➤ Presented findings of final year thesis to members of staff at National University of Ireland, Galway in 2016. ➤ Liaised with members of the AranLIFE project and local landowners on Inis Oirr, Aran Islands over the course of his final year thesis. ➤ Works as part of a multi-disciplinary team within MKO and regularly liaises with surveyors/clients and other in-house teams daily.
Licenses Held	<ul style="list-style-type: none"> ➤ Current Safe Pass Holder. ➤ Current Driver's Learner Permit holder.



Physical/Other

- > Member of Bat Conservation Ireland
- > Member of Birdwatch Ireland
- > Attended NBDC workshop on improving land for pollinators (13/04/2019)
- > Attended NBDC workshop on identifying Irelands pollinators (12/05/2019)
- > Attended 2-day Irish Crayfish Seminar on identification of NICS and biosecurity methods (21&22/05/2019)



Curriculum Vitae

Eric Dempsey

Address:	Sycamore Hill	Email:	birdsireland@gmail.com
	Tiglin	Website:	www.birdsireland.com
	Newcastle	Telephone:	087 907 5669
	Co. Wicklow		

Born in Dublin and now living in Co. Wicklow, I am a professional bird guide, writer, broadcaster, photographer, consultant and speaker. I have over 40 years birdwatching field experience in Ireland and am the author of many bird and wildlife books. I am a Heritage Expert with the Heritage Council, and a team member and advisor to the Mooney Goes Wild Show on RTE Radio 1

Employment & Relevant Expertise

2015 - Present: Engaged in a wide variety of environmental bird surveys requiring the implementation of all survey methodologies, in-depth knowledge on bird identification, the submission of maps and spreadsheets, and a commitment to accurate and timely reporting. My recent survey experience includes:

- Ongoing twice monthly Dublin Bay Wetland counts
- VP surveys on Hen Harrier breeding sites
- Breeding bird transects and walk-throughs
- Hinterland breeding raptor surveys
- Woodcock breeding surveys
- Winter bird surveys
- Hen Harrier Winter roost surveys
- High tide wader roost surveys – Dublin Bay
- Evening gull roost surveys – Dublin Bay
- Bio-diversity surveys for OPW

I am currently commissioned by Dublin City Council to do bird surveys along the River Camac from November 2018 to December 2019

*

1990 - Present: Director of the Birds of Ireland News Service (BINS Ltd), promoting an awareness of Ireland's birdlife through educational workshops and acting in an advisory role to a wide selection of environmental groups and media organisations.

2002 – Present: Ireland's first professional bird tour guide and advisor to eco-tourism initiatives.

- 2003 – Present: Heritage Expert - working with the Heritage Council to educate and promote bird awareness in National Schools throughout Ireland.
- 2013 - Present: Patron and Chief Advisor to Dublin Swift Conservation Group – advising and presenting on Swift Conservation to city planners (including DCC) and a wide variety of concerned environmental and residence groups.
- 2014 – Present: Ireland’s first ‘Swarovski Ambassador’ in recognition of my dedication to the promotion of an interest in Ireland’s rich birdlife and habitats.

Other Positions

- 1979 - 2009: Chairman of Dublin Branch, Irish Wildbird Conservancy, and Founder and Chairman of Tolka Branch of Birdwatch Ireland.
- 1988- 1992: Member of the Executive Board of Directors with Birdwatch Ireland (Irish Wildbird Conservancy)
- 1983 – 1988: Irish Representative to Birdlife International
- 1990- 1995: Editor/Publisher - Irish Birding News,
- 1998-2000: Co-editor of the Irish Bird Report

Books Published

- 1993: The Complete Guide to Ireland’s Birds
- 1995: The Pocket Guide to the Common Birds of Ireland
- 2002: The Complete Guide to Ireland’s Birds (2nd edition)
- 2007: Finding Birds in Ireland
- 2008: Birdwatching in Ireland with Eric Dempsey
- 2010: The Complete Field Guide to Ireland’s Birds
- 2011: Ireland’s Wildlife Year
- 2012: The New Pocket Guide to the Common Birds of Ireland
- 2014: Finding Birds in Ireland (2nd edition)
- 2015: Don’t Die in Autumn – a memoir

Susan Doyle

Susan is a freelance ornithologist for MKO. She is currently a final-year PhD candidate at University College Dublin, conducting research into the population demography and movements of Arctic-breeding birds. She completed her primary degree in Zoology at Trinity College Dublin and went on to complete her masters in Ecological Assessment at University College Cork. Susan has extensive field survey skills, including winter and breeding bird survey, bat survey, small mammal survey, terrestrial and freshwater macroinvertebrate sampling and animal GPS and radio tracking, as well as plant surveys, habitat identification and mapping. She also has experience in Annex I habitat quality assessment, Ecological Impact Assessment and Appropriate Assessment (including Natura Impact Statements).

Proposed Role	Field ornithologist
Qualifications	MSc Ecological Assessment, University College Cork, 2014 BA Zoology, Trinity College Dublin, 2013
Years of Experience	5 years post-graduate experience as an ecologist
Relevant Experience	<p>Professional experience in bird survey</p> <p>Violet Hill Wind Farm, Co. Clare: breeding bird vantage point surveys</p> <p>Shannon-Fergus estuary, Co. Clare and Co. Kerry: co-ordinated bird counts and mapping</p> <p>Oatfield Wind Farm, Co. Clare: breeding and winter bird vantage point surveys and habitat evaluation</p> <p>Cloncreen Wind Farm, Co. Offaly: breeding and winter bird vantage point surveys and transects and wetland waterbird counts</p> <p>Ardderoo Wind Farm, Co. Galway: breeding and winter bird vantage point surveys</p> <p>Ship Street development, Co. Dublin: breeding Swift surveys</p> <p>Lisbeg Wind Farm, Co. Galway: pre-construction raptor surveys</p> <p>Coole Wind Farm, Co. Westmeath: winter bird vantage point surveys</p> <p>Lettergull Wind Farm, Co. Donegal: bird transect surveys</p> <p>Lough Derg Canoe trail, Co. Tipperary: site survey of birds for Natura Impact Statement</p> <p>Residential development, Knocknacarra, Co. Galway: appropriate assessment screening</p> <p>Research experience in birds</p> <p>GPS tracking Barnacle Geese from Ireland to Iceland and Greenland</p> <p>2018 international census of Greenland Barnacle Geese in Ireland</p> <p>Review of anthropogenic impacts to Arctic breeding birds</p> <p>Novel parasitic infection in Goldfinch and Greenfinch of the Irish midlands</p> <p>Post-breeding movements of Lesser Black-back and Black-headed Gull</p> <p>Conservation of breeding Little Terns in Co. Louth and Co. Wicklow</p> <p>Radio-tracking Oystercatcher in Dublin Bay</p> <p>Breeding seabird survey and mapping of Inishmurray Island</p> <p>Behavioural variation of Lemon-bellied White-eyes on the Wakatobi Archipelago, Indonesia</p>
Licences Held	Full driving licence Safe pass British Trust of Ornithology Bird Ringing Licence



Winter Bird Survey Report 2022

Project Shoreline Bird
Surveys, Baldoyle, North
Co. Dublin





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Prepared By: **MKO
Tuam Road
Galway
Ireland
H91 VW84**



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1.

INTRODUCTION

McCarthy Keville O'Sullivan (MKO) was appointed to carry out bird survey works at Baldoyle, north County Dublin during the period from January to March 2022 inclusive. The proposed development scheme consists of a residential development within wider development lands located between Clongriffin Dart Station to the west and the Coast Road to the east. Surveys were carried out within this area (the Study Area) in addition to the adjacent Baldoyle Bay SPA (see Figure 1.1).

This report describes the ornithological survey methods employed and survey data collected at Baldoyle, north County Dublin for the period from January to March 2022 inclusive. This report also contains information compiled during the desktop study. Particular attention has been paid to species of conservation importance and identified target species.

The report is supported by Technical Appendix 1 which contains the raw data from the winter bird surveys in 2022. This includes detail on survey times, weather conditions, surveyors, survey results and other additional information. Flight lines and flock locations recorded during surveys are shown in Appendix 2.

The report is structured as follows:

- › An introduction providing a description of the background and statement of authority regarding ornithological works.
- › A description of the desktop study carried out with regards to the site.
- › A comprehensive description of survey methods.
- › A full description of results for all ornithological surveys conducted.
- › A discussion of the potential impacts.

The following defines terms used in this report

- › "Zones of Influence" (ZOI) for potential ornithological receptors refers to the zone within which potential effects are anticipated. ZOIs were assigned following best available guidance (SNH 2016 and McGuinness et.al 2015).

1.1

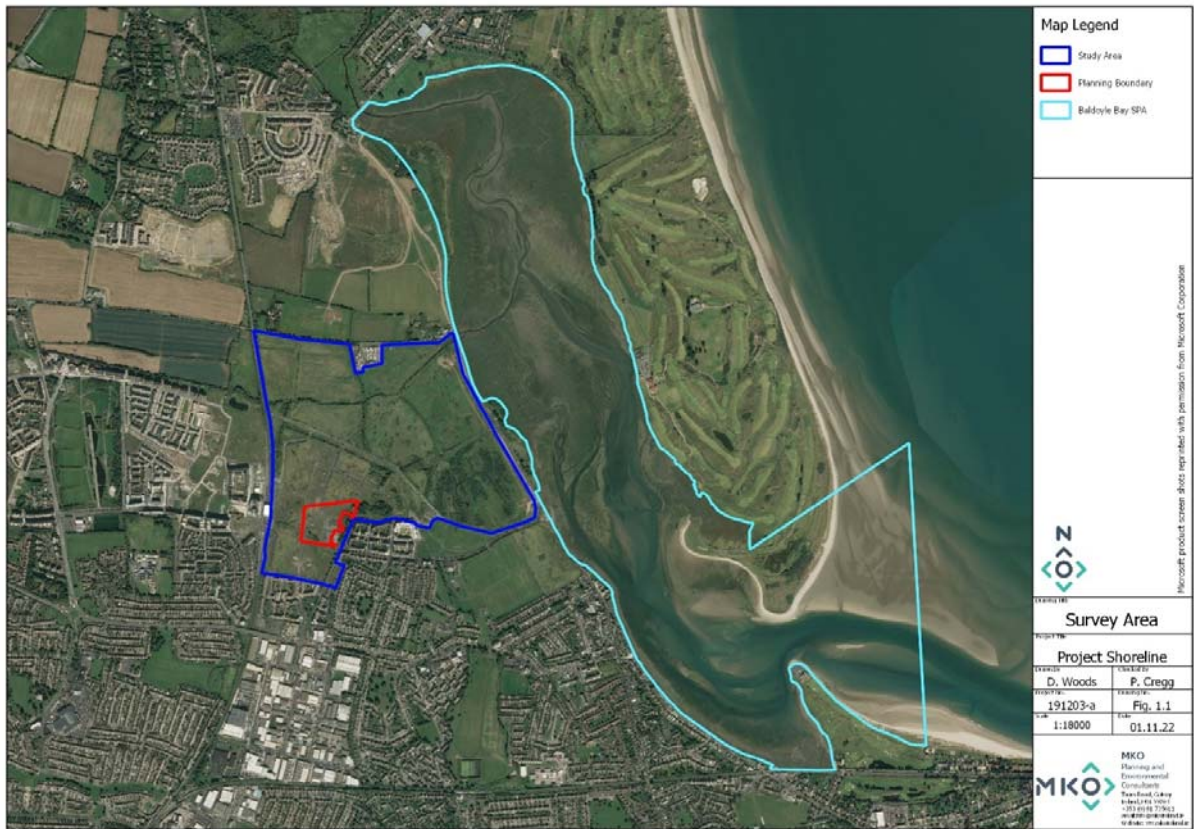
Statement of Authority

This report has been prepared by Donnacha Woods (B.Sc. M.Sc.) a Project Ornithologist with MKO and was reviewed by Patrick Manley (B.Sc.). The field surveys were undertaken by Kathryn Sheridan and Susan Doyle, both of whom are competent experts in bird surveying.

1.2

Study Area

The study area for this assessment comprises the wider ownership lands surrounding the subject planning application boundary. Surveys were also conducted of the adjacent Baldoyle Bay SPA (Figure 1.1 below).



2. DESK STUDY

2.1 Desk Study Methods

A comprehensive desk study was undertaken prior to surveys in winter 2021 to search for any relevant information on species of conservation concern which may potentially make use of the study area. The assessment included a thorough review of the available ornithological data including:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), National Biodiversity Data Centre (NBDC), Irish Wetland Bird Survey I-WeBS.
- Review of Birds of Conservation Concern (BoCC) in Ireland 2020-2026 (Gilbert *et al*, 2021).
- Review of Special Protection Areas: including site synopsis, SCI species and conservation objectives.

2.2 Desk Study Results

2.2.1 Identification of Designated Sites within the Likely Zone of Influence

Using GIS software, sites designated for nature conservation within the potential ZOI of the proposed development were identified. Baldoyle Bay SPA is located directly to the east of the study area, opposite the R106. The SPA is a narrow estuary totalling 262ha in area and is separated from the sea by sand dunes on its eastern boundary. Two small rivers, the Mayne River and the Sluice River, flow into the inner part of the estuary. The Mayne River runs from west to east along the northern boundary of the study area. At low tide, large areas of intertidal mud flats are exposed. These mud flats comprise mostly of sands but grade to muds in the more sheltered parts of the estuary.

In addition, and in the absence of any specific European or Irish guidance, the Scottish Natural Heritage (SNH) Guidance, 'Assessing Connectivity with Special Protection Areas (SPA)' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development proposals and Special Protection Areas. The guidance takes into consideration the distances some species may travel beyond the boundary of their SPAs and outlines information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.

Designated sites located within the Likely Zone of Influence are listed below in Table 2-1 and illustrated in Appendix 2, Figure 2.

Table 2.1 Designated sites within likely zone of influence

Designated site and code	Distance from proposed development (Km)	Qualifying Interests/Special Conservation Interests for which the European Site has been designated (https://www.npws.ie , last viewed 20/04/2020)	Conservation Objectives	Zone of Influence Determination & Identification of Pathways for Effect
Special Protection Areas (SPA)				
Baldyley Bay SPA (004016)	0.07km to the east of the study area	<ul style="list-style-type: none"> ➤ Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] ➤ Shelduck (<i>Tadorna tadorna</i>) [A048] ➤ Ringed Plover (<i>Charadrius hiaticula</i>) [A137] ➤ Golden Plover (<i>Pluvialis apricaria</i>) [A140] ➤ Grey Plover (<i>Pluvialis squatarola</i>) [A141] ➤ Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] 	<p>This site has detailed conservation objectives for each species listed as Qualifying Interests of the SPA:</p> <p>"To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests of this SPA."</p> <p>This site also has a second conservation objective:</p> <p>"To maintain the favourable conservation condition of the wetland habitat in Baldyley Bay SPA."</p> <p>(NPWS (2013) Conservation objectives: Baldyley Bay SPA [004016], Version 1.</p>	The study area, including the planning application boundary, is directly adjacent to the Baldyley SPA and is therefore located within the potential foraging range of all the SCI species associated with the SPA.

2.2.2 Irish Wetland Bird Survey (I-WeBS) Records

There are no I-WeBS sites within the study area, however the adjacent Baldoyle Bay SPA is covered by the Baldoyle Bay I-WeBS site. Data from this I-WeBS site has been used to estimate the population of waterbirds in the area surrounding the proposed development area. The dataset for Baldoyle Bay SPA was downloaded from www.birdwatchireland.ie and reviewed. The most recent 5-season period and mean counts for this period are presented in Table 2-2.

Table 2-2 I-WeBS data for Baldoyle Bay SPA

Species	2015/16	2016/17	2017/18	2018/19	2019/20	5-season mean (2015/16 - 2019/20)
Light-bellied Brent Goose	342	753	663	366	404	506
Mute Swan	2		2		5	2
Egyptian Goose	1					0
Shelduck	88	127	105	133	261	143
Shoveler		1				0
Wigeon	32	266	332	57	70	151
Mallard	106	71	60	124	90	90
Pintail					1	0
Teal	108	131	48	121	230	128
Common Scoter						0
Red-breasted Merganser	2	4		1	6	3
Little Grebe			3	1	4	2
Great Crested Grebe						0
Oystercatcher	219	117	144	145	628	251
Lapwing	137	392	180	267	203	236
Golden Plover	2000	1200		600	1300	1020
Grey Plover	8	25	10	13	11	13
Ringed Plover	123	4				25
Curlew	106	49	44	100	119	84
Bar-tailed Godwit	48	59	38	125	67	67
Black-tailed Godwit	296	172	189	250	234	228
Turnstone	13	10	4	8	18	11
Knot	19	600	800		201	324
Curlew Sandpiper					1	0
Sanderling						0
Dunlin	300	403	537	93	30	273
Snipe					1	0
Common Sandpiper				1		0
Redshank	125	96	154	145	126	129
Greenshank	3	6	7	6	6	6
Black-headed Gull	52	120	13	102	37	65
Common Gull	4	61	3	8	19	19
Great Black-backed Gull	10	9	9	10	12	10

Species	2015/16	2016/17	2017/18	2018/19	2019/20	5-season mean (2015/16 - 2019/20)
Herring Gull	58	112	48	133	79	86
Lesser Black-backed Gull	1	1	1	1	1	1
Red-throated Diver						0
Great Northern Diver						0
Cormorant	3	4	1	1	5	3
Shag		1				0
Grey Heron	7	4	6	8	3	6
Little Egret	7	21	25	8	7	14
Kingfisher				1		0

¹ indicates where no data was available.

2.2.3

Method of Identification of Target Species

Following a comprehensive desk study by MKO, initial site visit and consultation, a list of “Target species” likely to occur at the site was compiled. The survey work carried out on the site was specifically designed to survey for these identified target species in accordance with relevant survey guidance, e.g. I-WeBS methods. The target species list was drawn from:

- Annex I of the Birds Directive,
- Special Conservation Interests (SCI) of Special Protection Areas (SPA) within the zone of likely significant effects,
- Red listed birds of Conservation Concern in Ireland.

All species within these categories were considered as target species for the purpose of these surveys.

3. **FIELD SURVEYS**

3.1 **Field Survey Methods**

This section of the report describes the various field survey methods employed. Field surveys were undertaken from January – March 2022 inclusive. Field survey methodologies have been devised to survey for the bird species composition and assemblages that occur within the study area.

3.1.1 **Initial Site Assessment**

Based on the results of the desk study, the likely importance of the study area for bird species was determined. Based on the collated information available from the above preliminary assessment and adopting a precautionary approach, a site-specific scope for the ornithological surveys was developed.

3.1.2 **Walkover Surveys**

Winter walkover surveys were undertaken to determine the presence of bird species of high conservation concern within areas of potential suitable habitat in the study area. The walkover survey was undertaken within the study area which encompassed the proposed development planning application boundary (see Figure 1.1 above).

Transect routes were devised to ensure coverage of different habitat complexes within the study area, during each survey visit. The survey was undertaken (onsite) within two hours of high tide, as this is the period when birds from the estuary are most likely to make use of terrestrial habitats, such as those present within the proposed development area. The main aim of the survey was to identify if SCIs from the adjacent SPA were utilising areas onsite for foraging or roosting. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Survey effort, including details of survey duration and weather condition, is presented in Appendix 1, Table 1-1. Figure 1 in Appendix 2 shows the survey study area.

3.1.3 **Baldoyle Bay SPA Surveys**

Surveys of Baldoyle Bay SPA were broadly based on I-WeBS methodology. During surveys of the SPA, a total count of each water bird species present was recorded. Information on behaviour (i.e. foraging or roosting) and habitat was also collected. During these surveys, estuarine habitats were described as intertidal, subtidal, supratidal or terrestrial.

Survey effort, including details of survey duration and weather conditions, is presented in Appendix 1, Table 1-1. Figure 1.1 above shows the surveyed area.

3.2 Field Survey Results

3.2.1 Survey Effort

Surveys were undertaken between January and March 2022. One visit per month was undertaken during this period, with two visits undertaken in January. Table 3-1 shows the survey effort for the 2021/2022 winter season.

Table 3-1 Survey Effort

Survey Date	Survey Location	Survey Duration	Surveyor
24/01/2022	Baldoyle Bay SPA	3:30 starting at 10:00	KS
24/01/2022	Study Area	2:30 starting at 14:00	KS
31/01/2022	Study Area	2:25 starting at 09:45	KS
31/01/2022	Baldoyle Bay SPA	2:30 starting at 13:00	KS
25/02/2022	Study Area	2:30 starting at 10:00	SD
25/02/2022	Baldoyle Bay SPA	3:30 starting at 12:30	SD
31/03/2022	Study Area	2:30 starting at 10:00	KS
31/03/2022	Baldoyle Bay SPA	2:30 starting at 12:30	KS

3.2.2 Walkover Survey Results

Walkover surveys were undertaken within the study area between January and March 2022 inclusive. Summary results are presented below and discussed in further detail in Section 4 of this report. Figure numbers refer to figures provided in Appendix 2.

3.2.2.1 In Flight over Study Area

Table 3.2 The maximum flock size of each target species recorded commencing over the study area during walkover surveys. The total number of birds observed is presented in brackets. (Peak Counts for each species are presented in bold)

Species	Conservation Status	January		February	March	Figures (Appx. 2)
		24*	31*	25*	31*	
Black-headed Gull	BoCCI Red Listed (Breeding Populations)	-	-	25 (29)	-	Figure 1.2
Black-tailed Godwit	BoCCI Amber Listed (Wintering Populations)	-	21 (21)	-	-	Figure 3.2
Heron	BoCCI Green Listed	1 (1)	-	-	-	Figure 12.2
Herring Gull	BoCCI Red Listed (Breeding Populations)	29 (76)	-	1 (7)	5 (5)	Figure 13.2
Lapwing	BoCCI Red Listed	75 (75)	-	-	-	Figure 15.2
Lesser Black-backed Gull	BoCCI Amber Listed (Breeding Populations)	-	-	-	1 (2)	Figure 16.2
Mallard	BoCCI Green Listed	-	-	-	2 (2)	Figure 18.2
Oystercatcher	BoCCI Amber Listed	2 (2)	-	-	-	Figure 20.2
Snipe	BoCCI Amber Listed	-	-	1 (4)	-	Figure 27.1
Teal	BoCCI Amber Listed	2 (2)	-	-	-	Figure 28.2

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3.2.2.2 Foraging / Roosting within Study Area

Table 3.3 Peak counts of target species recorded within the study area (i.e. observed foraging/roosting) (Peak counts for each species are presented in bold)

Species	Conservation Status	January		February	March	Figures (Appx. 2)
		24*	31*	25*	31*	
Curlew	BoCCI Red Listed	6	-	-	-	Figure 6.1
Herring Gull	BoCCI Red Listed (Breeding Populations)	-	-	-	2	Figure 13.1
Mallard	BoCCI Green Listed	2	3	-	-	Figure 18.1
Moorhen	BoCCI Green Listed	1	-	-	-	Figure 19.1
Shelduck	BoCCI Amber Listed (SCI of Baldoyle SPA)	-	-	-	4	Figure 26.1

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3.2.3 Baldoye Bay SPA Survey Results

The SPA surveys were undertaken at Baldoye Bay SPA between January and March 2022 inclusive. Summary results from these surveys are presented below. Table 3-4 shows the total number of each SCI species during surveys. **Error! Reference source not found.** shows the total number of birds present for all species within the SPA and

Table 3-5 shows the total number of each non-SCI species recorded during the SPA surveys. These results are discussed in further detail in Section 4 of this report.

Table 3-4 Total number of each SCI species recorded within the Baldoye Bay SPA during the SPA surveys (Peak totals for each species are presented in bold)

Species	Conservation Status	January		February	March	Figures (Appx. 2)
		24 ^a	31 ^a	25 ^a	31 ^a	
Bar-tailed Godwit (SCI of Baldoye SPA)	Annex I; BoCCI Amber Listed (Wintering Populations)	46	6	2	2	Figure 1.1
Grey Plover (SCI of Baldoye SPA)	BoCCI Amber Listed (Wintering Populations)	9	1	-	-	Figure 11.1
Light-bellied Brent Goose (SCI of Baldoye SPA)	BoCCI Amber Listed (Wintering Populations)	45	110	51	260	Figure 21.1
Shelduck (SCI of Baldoye SPA)	BoCCI Amber Listed	236	191	114	30	Figure 26.1

Table 3-5 Total number of each non-SCI species recorded within the Baldoye Bay SPA during the SPA surveys (Peak totals for each species are presented in bold)

Species	Conservation Status	January		February	March	Figures (Appx. 2)
		24 ^a	31 ^a	25 ^a	31 ^a	
Black-headed Gull	BoCCI Red Listed (Breeding Populations)	66	41	55	-	Figure 2.1
Black-tailed Godwit	BoCCI Amber Listed (Wintering Populations)	110	133	33	16	Figure 3.1
Cormorant	BoCCI Amber Listed	1	-	1	-	Figure 4.1
Common Gull	BoCCI Amber Listed (Breeding Populations)	1	-	1	-	Figure 5.1
Curlew	BoCCI Red Listed	36	25	27	1	Figure 6.1
Dunlin	Annex I; BoCCI Red Listed	255	242	-	-	Figure 7.1
Little Egret	Annex I; BoCCI Green Listed	-	-	2	4	Figure 8.1

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Species	Conservation Status	January		February	March	Figures (Appx. 2)
		24 ^a	31 ^a	25 ^a	31 ^a	
Great Black-backed Gull	BoCCI Amber Listed (Breeding Populations)	10	8	-	1	Figure 9.1
Greenshank	BoCCI Green Listed	3	5	1	-	Figure 10.1
Grey Heron	BoCCI Green Listed	-	1	1	-	Figure 12.1
Herring Gull	BoCCI Red Listed (Breeding Populations)	115	108	105	121	Figure 13.1
Knot	BoCCI Amber Listed (Wintering Populations)	380	190	-	-	Figure 14.1
Lapwing	BoCCI Red Listed	268	132	9	1	Figure 15.1
Lesser Black-backed Gull	BoCCI Amber Listed (Breeding Populations)	-	-	1	2	Figure 16.1
Little Grebe	BoCCI Amber Listed	-	-	1	-	Figure 17.1
Mallard	BoCCI Green Listed	8	-	3	21	Figure 18.1
Oystercatcher	BoCCI Amber Listed	113	142	64	48	Figure 20.1
Pintail	BoCCI Amber Listed	6	-	-	-	Figure 22.1
Redshank	BoCCI Red Listed	27	42	67	53	Figure 23.1
Red-breasted Merganser	BoCCI Green Listed	3	5	1	-	Figure 24.1
Sanderling	BoCCI Green Listed	218	-	-	-	Figure 25.1
Teal	BoCCI Amber Listed	161	198	79	76	Figure 28.1
Turnstone	BoCCI Green Listed	2	8	-	-	Figure 29.1
Wigeon	BoCCI Red Listed (Wintering Populations)	106	28	16	2	Figure 30.1

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3.2.4 Incidental Observations

A number of observations of non-target species were recorded during the survey period. The most significant of these observations are detailed in Table 3-6 below and discussed in further detail in Section 4 of this report.

Table 3-6 Incidental Observations

Species	Conservation Status	Notes	Figures
Buzzard	Schedule IV	Buzzard were recorded on eight occasions during walkover surveys, comprising 1-2 birds hunting over the study area.	Figure 31.1
Kestrel	Schedule IV, BoCCI Red-Listed	Kestrel were recorded on three occasions during walkover surveys, comprising an individual bird hunting within the study area.	Figure 32.1
Meadow Pipit	BoCCI Red-Listed	Meadow pipit were recorded on four occasions during walkover surveys, comprising 1-4 birds commuting and being flushed from long grass within the study area.	Figure 33.1

DISCUSSION

The following provides a synopsis of the findings of the surveys undertaken between January and March 2022.

During walkover surveys the following key observations were noted within the study area:

- A total of 5no. target species were recorded foraging/roosting within the study area: curlew, herring gull, mallard, moorhen, shelduck and snipe. No target species were recorded roosting/foraging within the planning application site boundary,
- The above species were recorded in low numbers (maximum of 6 birds) and infrequently, with only mallard being recorded on more than one survey day.
- The above species were recorded both foraging and roosting, with observations associated with the Mayne River in the north-east of the study area.
- A total of 10no. target species were recorded in-flight over/partially over the study area. The number of birds recorded was overall low, with the largest flocks comprising 75 lapwing circling over lands to the west of the study area, and 29 herring gull in flight over study area.
- No notable connectivity was observed between the study area and the adjacent Baldoyle Bay SPA.
- Incidental records of buzzard, kestrel and meadow pipit were recorded within the study area.

During surveys of Baldoyle Bay SPA flocks of target species were mapped (these maps are presented in Appendix 2). From these maps, two large areas of importance for birds were identified. These areas are presented in Figure 4.1 below. These areas are situated within the eastern half of the SPA, adjacent to the study area. These areas are situated, at their closest points, approximately 750m from the planning application site boundary.

Key impacts that could result from the proposed development for local avian receptors include habitat loss, disturbance/displacement and water pollution. These are briefly discussed below.

Direct Habitat Loss

No target species were recorded within the planning application boundary during surveys and this area does not offer suitable habitat for overwintering waterbirds. There is therefore no potential for direct habitat loss from development within the planning application boundary.

Disturbance / Displacement

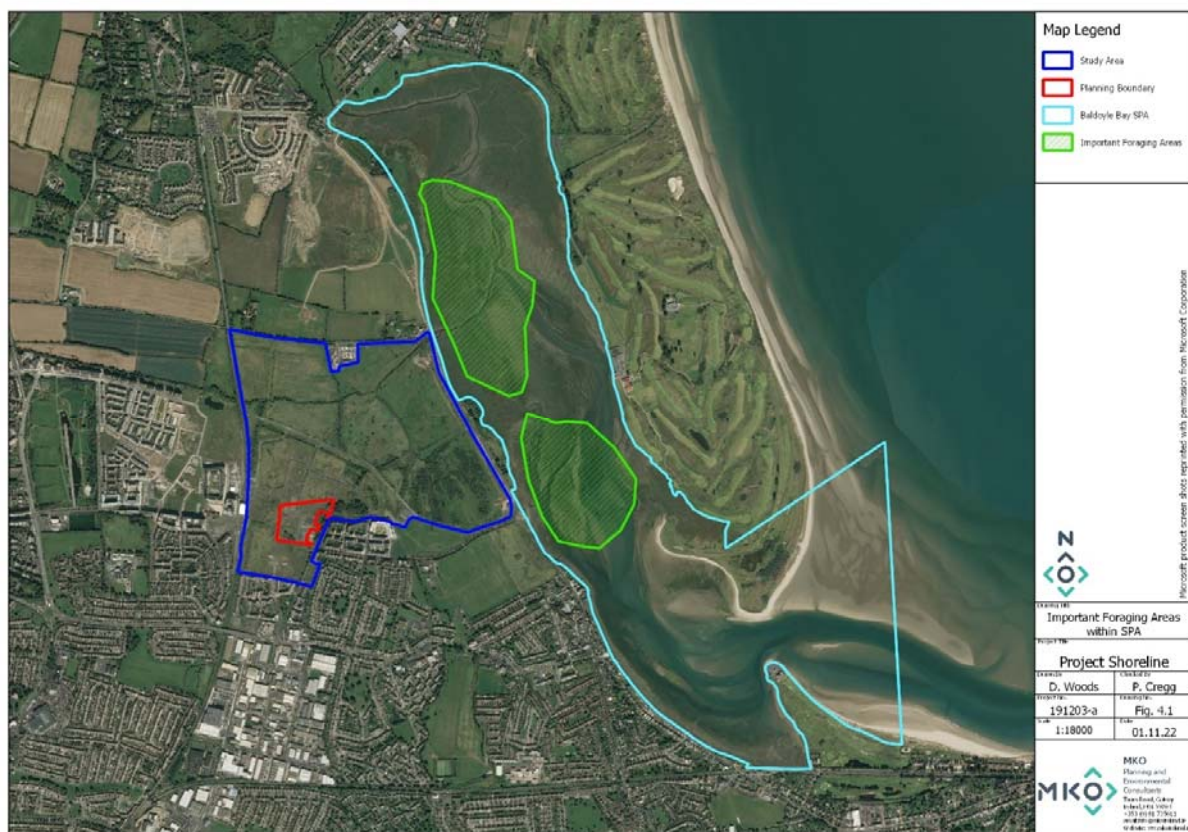
Target species recorded within the wider study area comprised small numbers of curlew, herring gull, mallard, moorhen, shelduck and snipe. These species were broadly associated with the Mayne River, which flows within the north-eastern section of the study area.

The closest recorded foraging /roosting habitat for these species within the study area is situated over 320m from the planning application site boundary. The important foraging areas noted within Baldoyle Bay SPA are situated over 750m distant from the planning application site boundary.

The maximum likely distance at which disturbance can impact overwintering waterbirds species (including SCIs from the Baldoyle Bay SPA) is 300m (Cutts et al., 2013). Therefore, given the separation distance between the planning application site boundary and recorded roosting/foraging areas, and the existing noise levels in such an urban environment, the potential for disturbance/displacement effects to the above target species as a result of the proposed development are limited.

Water Quality

A wide range of environmental factors are required to support water bird species including good water quality and clarity and a good supply of food resources. Thus, water quality impacts resulting from the proposed development (i.e. during the construction and operational phases) could result in a reduction in the availability of suitable habitat for water bird species at downstream wetland sites. The effect of such a reduction in water quality has the potential to be ecologically significant. However, it is likely that best practice design and mitigation can be implemented that would avoid or reduce such impacts. This should be considered in greater detail at the assessment stage.



5.

CONCLUSION

Winter bird surveys were carried out within the study area and the adjacent Baldoyle Bay SPA from January to March 2022. The following target species were recorded within the study area during walkover surveys:

- > Black-headed Gull
- > Black-tailed Godwit;
- > Curlew;
- > Heron;
- > Herring Gull;
- > Lapwing
- > Lesser Black-backed Gull;
- > Mallard;
- > Moorhen;
- > Oystercatcher;
- > Snipe;
- > Shelduck; and
- > Teal.

The only target species recorded foraging/roosting within the study area comprised small numbers of curlew, herring gull, mallard, moorhen, shelduck and snipe. Impacts from development within the planning application site boundary are considered to be limited, based on the separation distance between any recorded roosting/foraging areas and the site.

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APPENDIX 1

TECHNICAL APPENDIX



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Table 1 Survey Effort

Date	Location	Duration (h)	Weather Conditions	Comments	Surveyor
24/01/2022	Baldoyle Bay SPA	3:30 starting at 10:00	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KS
24/01/2022	Study Area	2:30 starting at 14:00	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KS
31/01/2022	Study Area	2:25 starting at 09:45	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KS
31/01/2022	Baldoyle Bay SPA	2:30 starting at 13:00	Visibility: moderate; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		KS
25/02/2022	Study Area	2:30 starting at 10:00	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		SD
25/02/2022	Baldoyle Bay SPA	3:30 starting at 12:30	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		SD
31/03/2022	Study Area	2:30 starting at 10:00	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: light; Snow: none		KS
31/03/2022	Baldoyle Bay SPA	2:30 starting at 12:30	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KS

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Table 2 Flock Data

Ref.	Date	Arrival Time	Location	Flock Composition	Species	Number	Activity	Surveyor
BA001	24/01/2022	10:48	SPA	Mixed species flock	Bar-tailed Godwit	2	Foraging	KS
BA002	24/01/2022	11:18	SPA	Mixed species flock	Bar-tailed Godwit	7	Foraging	KS
BA003	24/01/2022	11:49	SFA	Mixed species flock	Bar-tailed Godwit	21	Foraging	KS
BA004	24/01/2022	13:23	SPA	Mixed species flock	Bar-tailed Godwit	16	Foraging	KS
BA005	31/01/2022	14:16	SPA	Mixed species flock	Bar-tailed Godwit	3	Foraging	KS
BA006	31/01/2022	15:16	SPA	Mixed species flock	Bar-tailed Godwit	3	Foraging	KS
BA007	25/02/2022	13:40	SFA	Single species flock	Bar-tailed Godwit	2	Foraging	SD
BA008	31/03/2022	14:15	SPA	Mixed species flock	Bar-tailed Godwit	2	Foraging	KS
BH001	24/01/2022	10:48	SPA	Mixed species flock	Black-headed Gull	14	Foraging	KS
BH002	24/01/2022	10:58	SPA	Mixed species flock	Black-headed Gull	6	Foraging	KS
BH003	24/01/2022	10:58	SFA	Mixed species flock	Black-headed Gull	2	Foraging	KS
BH004	24/01/2022	11:18	SPA	Mixed species flock	Black-headed Gull	8	Foraging	KS
BH005	24/01/2022	11:49	SPA	Mixed species flock	Black-headed Gull	12	Foraging	KS
BH006	24/01/2022	13:47	SFA	Mixed species flock	Black-headed Gull	24	Foraging	KS

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BH007	24/01/2022	15:46	Portnamock Park	Mixed species flock	Black-headed Gull	34	Foraging	KS
BH008	31/01/2022	14:16	SPA	Mixed species flock	Black-headed Gull	16	Foraging	KS
BH009	31/01/2022	14:19	SPA	Mixed species flock	Black-headed Gull	1	Foraging	KS
BH010	31/01/2022	15:17	SPA	Mixed species flock	Black-headed Gull	24	Roosting	KS
BH011	25/02/2022	13:32	SPA	Single species flock	Black-headed Gull	1	Roosting	SD
BH012	25/02/2022	14:20	SPA	Mixed species flock	Black-headed Gull	3	Roosting	SD
BH013	25/02/2022	14:25	SPA	Mixed species flock	Black-headed Gull	30	Roosting	SD
BH014	25/02/2022	14:58	Portnamock Park	Single species flock	Black-headed Gull	12	Roosting	SD
BH015	25/02/2022	15:30	SPA	Mixed species flock	Black-headed Gull	21	Roosting	SD
BW001	24/01/2022	10:48	SPA	Mixed species flock	Black-tailed Godwit	56	Foraging	KS
BW002	24/01/2022	10:58	SPA	Mixed species flock	Black-tailed Godwit	22	Foraging	KS
BW003	24/01/2022	13:23	SPA	Mixed species flock	Black-tailed Godwit	9	Foraging	KS
BW004	24/01/2022	13:47	SPA	Mixed species flock	Black-tailed Godwit	23	Foraging	KS
BW005	31/01/2022	13:39	SPA	Mixed species flock	Black-tailed Godwit	21	Foraging	KS
BW006	31/01/2022	14:16	SPA	Mixed species flock	Black-tailed Godwit	1	Foraging	KS
BW007	31/01/2022	14:18	SPA	Mixed species flock	Black-tailed Godwit	13	Roosting	KS

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BW008	31/01/2022	14:19	SPA	Mixed species flock	Black-tailed Godwit	36	Foraging	KS
BW009	31/01/2022	15:16	SPA	Mixed species flock	Black-tailed Godwit	34	Foraging	KS
BW010	31/01/2022	15:17	SPA	Mixed species flock	Black-tailed Godwit	28	Roosting	KS
BW011	25/02/2022	13:40	SPA	Mixed species flock	Black-tailed Godwit	3	Roosting	SD
BW012	25/02/2022	14:10	SPA	Mixed species flock	Black-tailed Godwit	9	Foraging	SD
BW013	25/02/2022	14:10	SPA	Mixed species flock	Black-tailed Godwit	8	Roosting	SD
BW014	25/02/2022	14:20	SPA	Mixed species flock	Black-tailed Godwit	4	Foraging	SD
BW015	25/02/2022	15:10	SPA	Mixed species flock	Black-tailed Godwit	9	Roosting	SD
BW016	31/03/2022	14:15	SPA	Mixed species flock	Black-tailed Godwit	4	Foraging	KS
BW017	31/03/2022	14:53	SPA	Mixed species flock	Black-tailed Godwit	12	Foraging	KS
CA001	24/01/2022	10:48	SPA	Mixed species flock	Cormorant	1	Foraging	KS
CA002	25/02/2022	13:40	SPA	Mixed species flock	Cormorant	1	Foraging	SD
CM001	31/01/2022	14:16	SPA	Mixed species flock	Common Gull	1	Foraging	KS
CM002	25/02/2022	13:30	SPA	Single species flock	Common Gull	1	Roosting	SD
CU001	24/01/2022	10:48	SPA	Mixed species flock	Curlew	7	Foraging	KS
CU002	24/01/2022	11:18	SPA	Mixed species flock	Curlew	5	Foraging	KS

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CU003	24/01/2022	11:20	SPA	Mixed species flock	Curlew	2	Foraging	KS
CU004	24/01/2022	11:49	SPA	Mixed species flock	Curlew	18	Foraging	KS
CU005	24/01/2022	13:23	SPA	Mixed species flock	Curlew	4	Foraging	KS
CU006	24/01/2022	15:22	Development Site	Mixed species flock	Curlew	6	Foraging	KS
CU007	31/01/2022	13:39	SPA	Mixed species flock	Curlew	4	Foraging	KS
CU008	31/01/2022	14:16	SPA	Mixed species flock	Curlew	2	Foraging	KS
CU009	31/01/2022	14:17	SPA	Mixed species flock	Curlew	1	Roosting	KS
CU010	31/01/2022	14:18	SPA	Mixed species flock	Curlew	4	Roosting	KS
CU011	31/01/2022	14:19	SPA	Mixed species flock	Curlew	5	Foraging	KS
CU012	31/01/2022	15:16	SPA	Mixed species flock	Curlew	9	Foraging	KS
CU013	25/02/2022	13:31	SPA	Single species flock	Curlew	1	Foraging	SD
CU014	25/02/2022	13:40	SPA	Mixed species flock	Curlew	2	Foraging	SD
CU015	25/02/2022	14:10	SPA	Mixed species flock	Curlew	1	Roosting	SD
CU016	25/02/2022	14:20	SPA	Mixed species flock	Curlew	2	Foraging	SD
CU017	25/02/2022	15:00	SPA	Mixed species flock	Curlew	7	Foraging	SD
CU018	25/02/2022	15:27	SPA	Mixed species flock	Curlew	7	Foraging	SD

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CU019	25/02/2022	15:32	SPA	Single species flock	Curlew	7	Roosting	SD
CU020	31/03/2022	14:15	SPA	Mixed species flock	Curlew	1	Foraging	KS
DN001	24/01/2022	11:49	SPA	Mixed species flock	Dunlin	180	Foraging	KS
DN002	24/01/2022	13:23	SPA	Mixed species flock	Dunlin	40	Foraging	KS
DN003	24/01/2022	13:47	SPA	Mixed species flock	Dunlin	35	Foraging	KS
DN004	31/01/2022	14:19	SPA	Mixed species flock	Dunlin	22	Foraging	KS
DN005	31/01/2022	15:16	SPA	Mixed species flock	Dunlin	220	Foraging	KS
ET001	25/02/2022	14:48	SPA	Mixed species flock	Little Egret	1	Foraging	SD
ET002	25/02/2022	15:43	SPA	Single species flock	Little Egret	1	Foraging	SD
ET003	31/03/2022	14:54	SPA	Single species flock	Little Egret	4	Foraging	KS
GB001	24/01/2022	10:48	SPA	Mixed species flock	Great Black-backed Gull	3	Foraging	KS
GB002	24/01/2022	11:18	SPA	Mixed species flock	Great Black-backed Gull	3	Foraging	KS
GB003	24/01/2022	15:46	SPA	Mixed species flock	Great Black-backed Gull	4	Roosting	KS
GB004	31/01/2022	13:30	SPA	Mixed species flock	Great Black-backed Gull	1	Roosting	KS
GB005	31/01/2022	14:16	SPA	Mixed species flock	Great Black-backed Gull	2	Foraging	KS
GB006	31/01/2022	14:18	SPA	Mixed species flock	Great Black-backed Gull	1	Roosting	KS

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GB007	31/01/2022	14:19	SPA	Mixed species flock	Great Black-backed Gull	2	Foraging	KS
GB008	31/01/2022	15:16	SPA	Mixed species flock	Great Black-backed Gull	2	Foraging	KS
GB009	31/03/2022	14:29	SPA	Mixed species flock	Great Black-backed Gull	1	Foraging	KS
GK001	24/01/2022	11:18	SPA	Mixed species flock	Greenshank	1	Foraging	KS
GK002	24/01/2022	11:49	SPA	Mixed species flock	Greenshank	2	Foraging	KS
GK003	31/01/2022	14:16	SPA	Mixed species flock	Greenshank	2	Foraging	KS
GK004	31/01/2022	14:17	SPA	Mixed species flock	Greenshank	1	Roosting	KS
GK005	31/01/2022	14:19	SPA	Mixed species flock	Greenshank	2	Foraging	KS
GK006	25/02/2022	14:25	SPA	Mixed species flock	Greenshank	1	Roosting	SD
GV001	24/01/2022	11:49	SPA	Mixed species flock	Grey Plover	9	Foraging	KS
GV002	31/01/2022	14:19	SPA	Mixed species flock	Grey Plover	1	Foraging	KS
H001	31/01/2022	14:16	SPA	Mixed species flock	Grey Heron	1	Foraging	KS
H002	25/02/2022	15:33	SPA	Single species flock	Grey Heron	1	Foraging	SD
HG001	24/01/2022	10:48	SPA	Mixed species flock	Herring Gull	14	Foraging	KS
HG002	24/01/2022	10:58	SPA	Mixed species flock	Herring Gull	8	Foraging	KS
HC003	24/01/2022	11:18	SPA	Mixed species flock	Herring Gull	2	Foraging	KS

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HC004	24/01/2022	11:49	SPA	Mixed species flock	Herring Gull	38	Foraging	KS
HG005	24/01/2022	13:23	SPA	Mixed species flock	Herring Gull	3	Foraging	KS
HG006	24/01/2022	13:47	SPA	Mixed species flock	Herring Gull	12	Foraging	KS
HC007	24/01/2022	15:46	SPA	Mixed species flock	Herring Gull	38	Roosting	KS
HC008	31/01/2022	13:30	SPA	Mixed species flock	Herring Gull	34	Roosting	KS
HG009	31/01/2022	13:39	SPA	Mixed species flock	Herring Gull	5	Foraging	KS
HG010	31/01/2022	14:16	SPA	Mixed species flock	Herring Gull	7	Foraging	KS
HC011	31/01/2022	14:17	SPA	Mixed species flock	Herring Gull	4	Roosting	KS
HC012	31/01/2022	14:18	SPA	Mixed species flock	Herring Gull	19	Roosting	KS
HG013	31/01/2022	14:19	SPA	Mixed species flock	Herring Gull	14	Foraging	KS
HC014	31/01/2022	15:16	SPA	Mixed species flock	Herring Gull	24	Foraging	KS
HG015	31/01/2022	15:17	SPA	Mixed species flock	Herring Gull	8	Roosting	KS
HC016	25/02/2022	13:40	SPA	Mixed species flock	Herring Gull	2	Foraging	SD
HG017	25/02/2022	14:10	SPA	Mixed species flock	Herring Gull	3	Roosting	SD
HG018	25/02/2022	14:25	SPA	Mixed species flock	Herring Gull	4	Roosting	SD
HC019	25/02/2022	14:48	SPA	Single species flock	Herring Gull	6	Roosting	SD

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HC020	25/02/2022	15:00	SPA	Mixed species flock	Herring Gull	9	Foraging	SD
HC021	25/02/2022	15:10	SPA	Mixed species flock	Herring Gull	73	Roosting	SD
HC022	25/02/2022	15:17	SPA	Mixed species flock	Herring Gull	8	Foraging	SD
HC023	31/03/2022	10:25	Development Site	Single species flock	Herring Gull	2	Roosting	KS
HC024	31/03/2022	13:10	SPA	Single species flock	Herring Gull	10	Roosting	KS
HC025	31/03/2022	13:43	SPA	Mixed species flock	Herring Gull	8	Roosting	KS
HC026	31/03/2022	14:02	SPA	Mixed species flock	Herring Gull	27	Foraging	KS
HC027	31/03/2022	14:15	SPA	Mixed species flock	Herring Gull	2	Foraging	KS
HC028	31/03/2022	14:29	SPA	Mixed species flock	Herring Gull	19	Foraging	KS
HC029	31/03/2022	14:53	SPA	Mixed species flock	Herring Gull	62	Foraging	KS
KN001	24/01/2022	11:49	SPA	Mixed species flock	Red Knot	260	Foraging	KS
KN002	24/01/2022	13:23	SPA	Mixed species flock	Red Knot	120	Foraging	KS
KN003	31/01/2022	15:16	SPA	Mixed species flock	Red Knot	190	Foraging	KS
L001	24/01/2022	13:23	SPA	Mixed species flock	Lapwing	234	Foraging	KS
L002	24/01/2022	13:47	SPA	Mixed species flock	Lapwing	34	Foraging	KS
L003	31/01/2022	15:16	SPA	Mixed species flock	Lapwing	132	Foraging	KS

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L004	25/02/2022	15:10	SPA	Mixed species flock	Lapwing	9	Roosting	SD
L005	31/03/2022	14:15	SPA	Mixed species flock	Lapwing	1	Foraging	KS
LB001	25/02/2022	15:30	SPA	Mixed species flock	Lesser Black-backed Gull	1	Roosting	SD
LB002	31/03/2022	14:15	SPA	Mixed species flock	Lesser Black-backed Gull	2	Foraging	KS
LG001	25/02/2022	15:10	SPA	Mixed species flock	Little Grebe	1	Roosting	SD
MA001	24/01/2022	13:23	SPA	Mixed species flock	Mallard	8	Foraging	KS
MA002	24/01/2022	15:22	Development Site	Mixed species flock	Mallard	2	Foraging	KS
MA003	31/01/2022	11:31	Development Site	Single species flock	Mallard	3	Roosting	KS
MA004	25/02/2022	14:48	SPA	Mixed species flock	Mallard	3	Foraging	SD
MA005	31/03/2022	14:15	SPA	Mixed species flock	Mallard	17	Foraging	KS
MA006	31/03/2022	14:53	SPA	Mixed species flock	Mallard	4	Foraging	KS
MH001	24/01/2022	15:22	Development Site	Mixed species flock	Moorhen	1	Foraging	KS
OC001	24/01/2022	10:48	SPA	Mixed species flock	Oystercatcher	37	Foraging	KS
OC002	24/01/2022	10:58	SPA	Mixed species flock	Oystercatcher	4	Foraging	KS
OC003	24/01/2022	11:18	SPA	Mixed species flock	Oystercatcher	21	Foraging	KS
OC004	24/01/2022	11:20	SPA	Mixed species flock	Oystercatcher	13	Foraging	KS

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OC005	24/01/2022	11:49	SPA	Mixed species flock	Oystercatcher	22	Foraging	KS
OC006	24/01/2022	13:23	SPA	Mixed species flock	Oystercatcher	16	Foraging	KS
OC007	31/01/2022	13:30	SPA	Mixed species flock	Oystercatcher	4	Roosting	KS
OC008	31/01/2022	13:31	SPA	Single species flock	Oystercatcher	75	Roosting	KS
OC009	31/01/2022	14:16	SPA	Mixed species flock	Oystercatcher	10	Foraging	KS
OC010	31/01/2022	14:18	SPA	Mixed species flock	Oystercatcher	5	Roosting	KS
OC011	31/01/2022	14:19	SPA	Mixed species flock	Oystercatcher	25	Foraging	KS
OC012	31/01/2022	15:16	SPA	Mixed species flock	Oystercatcher	25	Foraging	KS
OC013	25/02/2022	13:32	SPA	Single species flock	Oystercatcher	4	Foraging	SD
OC014	25/02/2022	13:35	SPA	Single species flock	Oystercatcher	6	Foraging	SD
OC015	25/02/2022	13:37	SPA	Single species flock	Oystercatcher	12	Foraging	SD
OC016	25/02/2022	14:10	SPA	Mixed species flock	Oystercatcher	3	Foraging	SD
OC017	25/02/2022	14:25	SPA	Mixed species flock	Oystercatcher	6	Roosting	SD
OC018	25/02/2022	15:00	SPA	Mixed species flock	Oystercatcher	1	Foraging	SD
OC019	25/02/2022	15:10	SPA	Mixed species flock	Oystercatcher	4	Roosting	SD
OC020	25/02/2022	15:15	SPA	Mixed species flock	Oystercatcher	6	Foraging	SD

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OC021	25/02/2022	15:17	SPA	Mixed species flock	Oystercatcher	7	Foraging	SD
OC022	25/02/2022	15:27	SPA	Mixed species flock	Oystercatcher	15	Foraging	SD
OC023	31/03/2022	14:02	SPA	Single species flock	Oystercatcher	44	Roosting	KS
OC024	31/03/2022	14:02	SPA	Mixed species flock	Oystercatcher	4	Foraging	KS
PB001	24/01/2022	10:48	SPA	Mixed species flock	Brent Goose	17	Foraging	KS
PB002	24/01/2022	10:58	SPA	Mixed species flock	Brent Goose	14	Foraging	KS
PB003	24/01/2022	10:58	SPA	Mixed species flock	Brent Goose	5	Foraging	KS
PB004	24/01/2022	11:18	SPA	Mixed species flock	Brent Goose	9	Foraging	KS
PB005	24/01/2022	15:46	Portmarnock Park	Mixed species flock	Brent Goose	85	Foraging	KS
PB006	31/01/2022	13:31	SPA	Mixed species flock	Brent Goose	11	Foraging	KS
PB007	31/01/2022	13:39	SPA	Mixed species flock	Brent Goose	5	Foraging	KS
PB008	31/01/2022	14:16	SPA	Mixed species flock	Brent Goose	21	Foraging	KS
PB009	31/01/2022	14:17	SPA	Single species flock	Brent Goose	14	Foraging	KS
PB010	31/01/2022	15:17	SPA	Mixed species flock	Brent Goose	59	Roosting	KS
PB011	25/02/2022	13:31	SPA	Single species flock	Brent Goose	15	Foraging	SD
PB012	25/02/2022	14:20	SPA	Mixed species flock	Brent Goose	36	Foraging	SD

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PB013	31/03/2022	13:28	SPA	Single species flock.	Brent Goose	6	Foraging	KS
PB014	31/03/2022	13:43	SPA	Mixed species flock.	Brent Goose	8	Roosting	KS
PB015	31/03/2022	14:02	SPA	Mixed species flock.	Brent Goose	41	Foraging	KS
PB016	31/03/2022	14:15	SPA	Mixed species flock.	Brent Goose	3	Foraging	KS
PB017	31/03/2022	14:29	SPA	Mixed species flock.	Brent Goose	56	Foraging	KS
PB018	31/03/2022	14:54	SPA	Single species flock.	Brent Goose	146	Foraging	KS
PT001	24/01/2022	13:23	SPA	Mixed species flock.	Pintail	6	Foraging	KS
RK001	24/01/2022	10:48	SPA	Mixed species flock.	Redshank	8	Foraging	KS
RK002	24/01/2022	10:58	SPA	Mixed species flock.	Redshank	19	Foraging	KS
RK003	24/01/2022	11:18	SPA	Mixed species flock.	Redshank	2	Foraging	KS
RK004	24/01/2022	11:49	SPA	Mixed species flock.	Redshank	5	Foraging	KS
RK005	31/01/2022	13:39	SPA	Mixed species flock.	Redshank	5	Foraging	KS
RK006	31/01/2022	14:16	SPA	Mixed species flock.	Redshank	6	Foraging	KS
RK007	31/01/2022	14:19	SPA	Mixed species flock.	Redshank	12	Foraging	KS
RK008	31/01/2022	15:16	SPA	Mixed species flock.	Redshank	19	Foraging	KS
RK009	25/02/2022	13:40	SPA	Single species flock.	Redshank	11	Foraging	SD

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RK010	25/02/2022	14:10	SPA	Mixed species flock.	Redshank	13	Foraging	SD
RK011	25/02/2022	15:00	SPA	Mixed species flock.	Redshank	3	Foraging	SD
RK012	25/02/2022	15:10	SPA	Mixed species flock.	Redshank	16	Roosting	SD
RK013	25/02/2022	15:15	SPA	Mixed species flock.	Redshank	10	Foraging	SD
RK014	25/02/2022	15:17	SPA	Mixed species flock.	Redshank	14	Foraging	SD
RK015	31/03/2022	14:15	SPA	Mixed species flock.	Redshank	46	Foraging	KS
RK016	31/03/2022	14:53	SPA	Mixed species flock.	Redshank	7	Foraging	KS
RM001	24/01/2022	10:48	SPA	Mixed species flock.	Red-breasted Merganser	3	Foraging	KS
RM002	31/01/2022	14:17	SPA	Single species flock.	Red-breasted Merganser	5	Foraging	KS
RM003	25/02/2022	13:40	SPA	Mixed species flock.	Red-breasted Merganser	1	Foraging	SD
SS001	24/01/2022	10:58	SPA	Mixed species flock.	Sanderling	28	Foraging	KS
SS002	24/01/2022	13:23	SPA	Mixed species flock.	Sanderling	190	Foraging	KS
SU001	24/01/2022	10:48	SPA	Mixed species flock.	Shelduck	18	Foraging	KS
SU002	24/01/2022	11:49	SPA	Mixed species flock.	Shelduck	154	Foraging	KS
SU003	24/01/2022	13:23	SPA	Mixed species flock.	Shelduck	64	Foraging	KS
SU004	31/01/2022	13:31	SPA	Mixed species flock.	Shelduck	4	Foraging	KS

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SU005	31/01/2022	14:16	SPA	Mixed species flock	Shelduck	9	Foraging	KS
SU006	31/01/2022	14:19	SPA	Mixed species flock	Shelduck	113	Foraging	KS
SU007	31/01/2022	15:16	SPA	Mixed species flock	Shelduck	65	Foraging	KS
SU008	25/02/2022	13:35	SPA	Single species flock	Shelduck	1	Roosting	SD
SU009	25/02/2022	13:40	SPA	Mixed species flock	Shelduck	22	Foraging	SD
SU010	25/02/2022	13:40	SPA	Mixed species flock	Shelduck	5	Foraging	SD
SU011	25/02/2022	14:20	SPA	Mixed species flock	Shelduck	3	Roosting	SD
SU012	25/02/2022	15:10	SPA	Mixed species flock	Shelduck	1	Roosting	SD
SU013	25/02/2022	15:10	SPA	Mixed species flock	Shelduck	1	Roosting	SD
SU014	25/02/2022	15:17	SPA	Mixed species flock	Shelduck	30	Foraging	SD
SU015	25/02/2022	15:27	SPA	Mixed species flock	Shelduck	51	Foraging	SD
SU016	31/03/2022	10:42	Development Site	Single species flock	Shelduck	2	Roosting, at pond	KS
SU017	31/03/2022	11:47	Development Site	Single species flock	Shelduck	2	Foraging	KS
SU018	31/03/2022	13:43	SPA	Mixed species flock	Shelduck	12	Roosting	KS
SU019	31/03/2022	14:02	SPA	Mixed species flock	Shelduck	6	Foraging	KS
SU020	31/03/2022	14:15	SPA	Mixed species flock	Shelduck	2	Foraging	KS

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SU021	31/03/2022	14:29	SPA	Mixed species flock	Shelduck	10	Foraging	KS
T001	24/01/2022	11:49	SPA	Mixed species flock	Teal	16	Foraging	KS
T002	24/01/2022	13:23	SPA	Mixed species flock	Teal	125	Foraging	KS
T003	24/01/2022	13:47	SPA	Mixed species flock	Teal	20	Foraging	KS
T004	31/01/2022	13:39	SPA	Mixed species flock	Teal	13	Foraging	KS
T005	31/01/2022	14:19	SPA	Mixed species flock	Teal	6	Foraging	KS
T006	31/01/2022	15:16	SPA	Mixed species flock	Teal	168	Foraging	KS
T007	31/01/2022	15:17	SPA	Mixed species flock	Teal	11	Roosting	KS
T008	25/02/2022	14:10	SPA	Mixed species flock	Teal	6	Foraging	SD
T009	25/02/2022	15:00	SPA	Mixed species flock	Teal	9	Foraging	SD
T010	25/02/2022	15:10	SPA	Mixed species flock	Teal	16	Foraging	SD
T011	25/02/2022	15:17	SPA	Mixed species flock	Teal	22	Foraging	SD
T012	25/02/2022	15:27	SPA	Mixed species flock	Teal	12	Foraging	SD
T013	25/02/2022	15:29	SPA	Single species flock	Teal	14	Foraging	SD
T014	31/03/2022	14:15	SPA	Mixed species flock	Teal	70	Foraging	KS
T015	31/03/2022	14:53	SPA	Mixed species flock	Teal	6	Foraging	KS

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TT001	24/01/2022	11:18	SPA	Mixed species flock	Turnstone	2	Foraging	KS
TT002	31/01/2022	14:16	SPA	Mixed species flock	Turnstone	8	Foraging	KS
WN001	24/01/2022	10:48	SPA	Mixed species flock	Wigeon	3	Foraging	KS
WN002	24/01/2022	11:18	SPA	Mixed species flock	Wigeon	2	Foraging	KS
WN003	24/01/2022	13:23	SPA	Mixed species flock	Wigeon	101	Foraging	KS
WN004	31/01/2022	14:19	SPA	Mixed species flock	Wigeon	2	Foraging	KS
WN005	31/01/2022	15:16	SPA	Mixed species flock	Wigeon	26	Foraging	KS
WN006	25/02/2022	15:10	SPA	Mixed species flock	Wigeon	16	Roosting	SD
WN007	31/03/2022	14:15	SPA	Mixed species flock	Wigeon	9	Foraging	KS

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Table 3 Flight Data

Ref.	Date	Time	Location	Species	Number of birds	Activity	Surveyor
BH001	25/02/2022	10:22	Study Area	Black-headed Gull	25	Flying at 1m-8m for 45s; circling	SD
BH002	25/02/2022	10:41	Study Area	Black-headed Gull	1	Flying at 1m-12m for 12s; landing, foraging along road	SD
BH003	25/02/2022	10:51	Study Area	Black-headed Gull	1	Flying at 15m-20m for 63s; circling	SD
BH004	25/02/2022	11:14	Study Area	Black-headed Gull	1	Flying at 35m-40m for 25s; commuting	SD
BH005	25/02/2022	11:14	Study Area	Black-headed Gull	1	Flying at 10m-12m for 21s; commuting	SD
BW001	31/01/2022	11:30	Study Area	Black-tailed Godwit	21	Flying at 1m-10m for 30s; flushed, k hunting	KS
BZ001	24/01/2022	15:04	Study Area	Buzzard	1	Flying at 2m-12m for 30s; circling, mobbed by crows	KS
BZ002	24/01/2022	16:01	Study Area	Buzzard	1	Flying at 5m-15m for 60s; circling, calling, mobbed k, soaring	KS
BZ003	25/02/2022	11:15	Study Area	Buzzard	1	Flying at 45m-55m for 130s; circling, very high - probably searching for hunting spot	SD
BZ004	25/02/2022	12:05	Study Area	Buzzard	1	Flying at 40m-50m for 150s; circling, calling	SD
BZ005	25/02/2022	12:14	Study Area	Buzzard	1	Flying at 8m-75m for 240s; circling, calling, then lands in tree	SD
BZ006	25/02/2022	12:25	Study Area	Buzzard	1	Flying at 14m-16m for 55s; departing, mobbed by jackdaws	SD
BZ007	31/03/2022	10:47	Study Area	Buzzard	2	Flying at 5m-15m for 120s; flushed, calling from perch together in tree, both flew agitated	KS
BZ008	31/03/2022	11:50	Study Area	Buzzard	2	Flying at 5m-7m for 35s; commuting, calling	KS
CA001	31/03/2022	13:10	Study Area	Cormorant	1	Flying at 2m-2m for 30s; commuting	KS

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H001	24/01/2022	16:08	Study Area	Grey Heron	1	Flying at 5m-10m for 15s; commuting	KS
HG001	24/01/2022	15:56	Study Area	Herring Gull	7	Flying at 5m-15m for 40s; commuting	KS
HG002	24/01/2022	16:07	Study Area	Herring Gull	24	Flying at 5m-15m for 60s; commuting	KS
HG003	24/01/2022	16:12	Study Area	Herring Gull	16	Flying at 5m-15m for 80s; commuting	KS
HG004	24/01/2022	16:17	Study Area	Herring Gull	29	Flying at 5m-15m for 90s; commuting	KS
HG005	25/02/2022	10:26	Study Area	Herring Gull	1	Flying at 5m-8m for 15s; circling	SD
HG006	25/02/2022	10:33	Study Area	Herring Gull	1	Flying at 35m-45m for 30s; circling	SD
HG007	25/02/2022	10:50	Study Area	Herring Gull	1	Flying at 12m-15m for 15s; circling	SD
HG008	25/02/2022	11:04	Study Area	Herring Gull	1	Flying at 40m-45m for 90s; circling	SD
HG009	25/02/2022	11:44	Study Area	Herring Gull	1	Flying at 5m-7m for 27s; commuting	SD
HG010	25/02/2022	11:45	Study Area	Herring Gull	2	Flying at 12m-17m for 35s; commuting	SD
HG011	25/02/2022	11:49	Study Area	Herring Gull	1	Flying at 20m-23m for 22s; commuting	SD
HG012	31/03/2022	10:06	Study Area	Herring Gull	5	Flying at 2m-15m for 60s; circling	KS
K001	24/01/2022	16:01	Study Area	Kestrel	1	Flying at 7m-12m for 35s; circling, hunting, mobbed by bz calling	KS
K002	25/02/2022	12:20	Study Area	Kestrel	1	Flying at 5m-8m for 95s; circling, hunting and lands in tree	SD
K003	31/01/2022	11:30	Study Area	Kestrel	1	Flying at 10m-15m for 60s; circling, hunting/hovering	KS

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L001	24/01/2022	15:39	Study Area	Lapwing	75	Flying at 10m-30m for 45s; circling	KS
LB001	31/03/2022	11:49	Study Area	Lesser Black-backed Gull	1	Flying at 5m-10m for 40s; circling	KS
LB002	31/03/2022	12:11	Study Area	Lesser Black-backed Gull	1	Flying at 5m-10m for 25s; commuting	KS
MA001	31/03/2022	11:45	Study Area	Mallard	2	Flying at 1m-10m for 35s; flushed	KS
MP001	25/02/2022	10:24	Study Area	Meadow Pipit	2	Flying at 1m-2m for 13s; flushed	SD
MP002	31/01/2022	10:27	Study Area	Meadow Pipit	1	Flying at 1m-10m for 20s; flushed	KS
MP003	31/01/2022	11:23	Study Area	Meadow Pipit	1	Flying at 1m-5m for 20s; flushed	KS
MP004	31/03/2022	12:23	Study Area	Meadow Pipit	4	Flying at 1m-5m for 20s; commuting	KS
OC001	24/01/2022	14:49	Study Area	Oystercatcher	2	Flying at 10m-12m for 95s; commuting	KS
SN001	25/02/2022	10:31	Study Area	Snipe	1	Flying at 1m-2m for 4s; flushed	SD
SN002	25/02/2022	10:38	Study Area	Snipe	1	Flying at 1m-2m for 6s; flushed	SD
SN003	25/02/2022	11:48	Study Area	Snipe	1	Flying at 1m-2m for 8s; flushed	SD
SN004	25/02/2022	11:49	Study Area	Snipe	1	Flying at 1m-1m for 4s; flushed	SD
T001	24/01/2022	16:07	Study Area	Teal	2	Flying at 5m-10m for 90s; landing	KS

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APPENDIX 2

FIGURES

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