Screening Statement for Appropriate Assessment

White Heather Strategic Housing Development

Doherty Environmental Consultants Ltd.

March 2022

Statement in Support of Screening for Appropriate Assessment

White Heather SHD

Document Stage	Document Version	Prepared by
Final	1	Pat Doherty MSc, MCIEEM

This report has been prepared by Doherty Environmental Consultants Ltd. with all reasonable skill, care and diligence. Information report herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is prepared for U and I (White Heather) Limited and we accept no responsibility to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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1.0 INTRODUCTION

Doherty Environmental Consultants Ltd. have been commissioned by U and I (White Heather) Limited (the applicant) to prepare a report to enable the competent authority (An Bord Pleanála) to carry out Stage 1 Screening for Appropriate Assessment for a proposed strategic housing development (SHD) at White Heather Industrial Park, White Heather, Dublin (see Figure 1.1 for location and Figure 1.2 for Site Aerial).

This Appropriate Assessment Screening Statement (AASS) has been prepared by Mr. Pat Doherty BSc., MSc, MCIEEM, of DEC Ltd. Mr. Doherty is a consultant ecologist with over 18 years' experience in completing ecological impact assessments and environmental impact assessments. Pat has been involved in the completion of assessment reports for proposed developments and land use activities under the EIA Directive and Article 6 of the Habitats Directive since 2003. He has extensive experience completing such reporting for projects located in a variety of environments and has a thorough understanding to the biodiversity issues that may arise from proposed land use activities. Pat has completed focused certified professional development training in a range of ecological survey techniques and assessment processes. Training has been completed for National Vegetation Classification (NVC) and Irish Vegetation Classification (IVC) surveying, bryophyte survey for habitat assessment and identification, professional bat survey and assessment training, mammal surveying and specific training for bird and bat survey techniques. Ongoing training has been completed by approved training providers such as CIEEM, British Trust for Ornithology, the Botanic Gardens and the Field Studies Council.

Ruth Minogue, BscSci, MA, MCIEEM assisted in the preparation of this AASS. Ruth has over twenty years in the field of environmental assessment and has been involved in the completion of environmental and ecological impact assessments since 2002. She is a full member of the Chartered Institute of Ecology and Environmental Management, holds a diploma in Field Ecology (UCC), Advanced Diploma in Planning and Environmental Law (Kings Inn) and undertakes ongoing CDP through CIEEM.

Screening for Appropriate Assessment forms Stage 1 of the assessment process required under Article 6 of the Habitats Directive. The function of this Screening Report is to enable the competent authority to determine whether or not if it can be excluded, on the basis of objective information, that the project, individually or in combination with other plans or projects, will have a significant effect on a European Site.

1.1 LEGISLATIVE CONTEXT

This Screening Report for Appropriate Assessment is being prepared in order to enable the competent authority to comply with Article 6(3) of Council Directive 92/43/EEC (the Habitats Directive). It is prepared to assess whether or not the project alone or in combination with other plans and projects is likely to have a significant effect on any European Site in view of best scientific knowledge and in view of the conservation objectives of the European Sites and specifically on the habitats and species for which the sites have been designated.

1.1.1 Requirement for an Assessment under Article 6 of the Habitats Directive

Screening for Appropriate Assessment is required pursuant to Article 6(3) of Directive 92/43/EEC (the Habitats Directive) and Part XAB of the Planning and Development Act 2000, as amended ("the 2000 Act"). Where it cannot be excluded that a project or plan, either alone or in combination with other projects or plans, would have a significant effect on a European Site, then same shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives. The project is not directly connected with, or necessary for, the management of any European Site and, consequently, the project is subject to the Appropriate Assessment Screening process.

The assessment in this report specifically assesses the potential for the proposed development to result in significant effects on European sites in the absence of any best practice, mitigation or preventative measures.

This Appropriate Assessment Screening Report has been prepared in accordance with the *European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC* (EC, 2001) and *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive* (EC, 2018) as well as the Department of the Environment's *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities* (DoEHLG, 2010) and *Appropriate Assessment Screening for Development Management* (Office of the Planning Regulator, 2021).

In addition to the guidelines referenced above, the Interpretation Manual of European Union Habitats. Version EUR 28. European Commission EC (2013) was also considered in the preparation of this report.

1.2 STAGE 1 SCREENING METHOD

The purpose of a Stage 1 screening exercise for Appropriate Assessment is to determine whether it is necessary to carry out a Stage 2 Appropriate Assessment of the

implications for a European site of a project. The trigger for the requirement for an Appropriate Assessment is that the project, either individually or in combination with other plans or projects, is "likely to have a significant effect" on the European site.

It is clear that the trigger for an Appropriate Assessment is a very light one, and that the mere probability or a risk that a project might have a significant effect is sufficient to require an Appropriate Assessment to be undertaken. Under Part XAB of the 2000 Act, screening for Appropriate Assessment must be carried out by the competent authority.

Section 177U provides:

> *A screening for appropriate assessment shall be carried out by the competent authority to assess, in view of best scientific knowledge, if… a proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.*

Accordingly, the competent authority shall determine that an Appropriate Assessment of a proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site. The competent authority's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and must be recorded.

Whereupon the carrying out of a Stage One screening, it is determined by the competent authority that a Stage Two Appropriate Assessment is required, an applicant for permission must prepare and submit a Natura Impact Statement to the competent authority.

This Article 6(3) Appropriate Assessment Screening Report has been prepared in compliance with the provisions of section 177U of the 2000 Act.

The nature of the likely interactions between a project and the Conservation Objectives of European Sites will depend upon the:

- the ecological characteristics of the species or habitat, including their structure, function, conservation status and sensitivity to change; *and/or*
- the character, magnitude, duration, consequences and probability of the impacts arising from land use activities associated with the plan, in combination with other plans and projects.

The European Commission Guidelines (2001) outline the stages involved in undertaking a Screening assessment of a plan or project that has the potential to have likely significant effects on European Sites. The methodology adopted for the screening of this project is informed by these guidelines, as well as the Irish guidance identified above, and was undertaken in the following stages:

- A brief description of the proposed SHD is provided and determine whether it is necessary for the conservation management of European Sites;
- Identification of European Sites occurring within the zone of influence of the proposed SHD;
- Identification of potential likely significant effects on European Sites; and
- Identification of other plans or projects that, in combination with the proposed SHD, have the potential to affect European Sites.

There is absolutely no reliance placed in this report on (a) measures intended to avoid/reduce harmful effects on the European sites, (b) construction management/best practice measures, or (c) any other measures (such as SUDS) which are proposed with no relation to the *intention* of avoiding or reducing any potentially harmful effect of the development on any European site.

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The proposed Strategic Housing Development is located at the White Heather Industrial Estate, South Circular Road, Dolphins Barn, Dublin 8 and No. 307/307a South Circular Road, Dublin 8 and an industrial building at 12a St James Terrace. The 1.443ha site is bounded by the Grand Canal to the south; Our Lady of Dolour's Church and residential dwellings on the South Circular Road to the north; Priestfield Cottages to the east; and residential dwellings at St James's Terrace to the west.

Across 7 no. blocks, the residential mix of the proposed 335 no. units includes a combination of studio units, 1-bedroom apartments, 2-bedroom apartments, units and a terrace of 3-bedroom townhouse units. A change of use of an existing residential building at 307/307a South Circular Road to be used as a workspace. The proposed Part V social housing requirement is provided at 10% in 2 no. blocks within the proposed scheme. This Build to Rent scheme will also include 2 no. cafés and a 2-storey creche, while the residents will also have access to residential amenity areas at ground floor level and fifth floor level with access to a roof terrace area overlooking the canal.

A landscaped square will be accessible to the public, with private open space and amenity areas for the residents also provided including children's play areas. Building heights range from 2 no. to 10 no. storeys, with finger blocks arranged in a north-south direction and height tapering down from the centre of the site to the boundary.

The entrance to the scheme will be from the existing junction at the South Circular Road, which will be reconfigured and upgraded. The existing access road at St James's Terrace will provide pedestrian access only to the development. Car parking is proposed at undercroft and at surface levels, with a number of dedicated car sharing spaces in convenient locations. Covered and secure bicycle storage facilities are located also at undercroft and surface level, adjacent to individual block entrances. A new street will run east-west across the north of the site and the creation of a new public space at

the heart of the proposed scheme will connect to a publicly accessible linear park along the canal to the south

2.1.1 Water Services and Management

It is proposed to provide an independent surface water drainage network, which discharges to the local public combined sewer network; to serve the proposed development that will limit the flow rates discharging from site to 2 l/s/ha, which is less than the greenfield equivalent runoff rate. As flows are to be restricted to a maximum rate of 2 l/s/ha that is less than the greenfield runoff rate and significantly less than the pre-development – i.e., existing - conditions.

Relevant "confirmation of feasibility" letters have been provided to the applicant for permission by letters which relate to the confirmation required pursuant to articles 285(2)(g) and 297(2)(d) of the 2001 Regulations.

All surface water runoff from the proposed development is to be collected and directed towards the north eastern corner of the development site, where it will discharge to the public combined sewer network, at the entrance from the South Circular Road, as there is no public surface water network in the vicinity of the site.

The proposed surface water network has been designed with an allowance for climate change as per the Greater Dublin Drainage Strategy.

The subject lands are not proximate to any SEVESO/COMAH designated sites

Car parking is proposed at undercroft and surface levels, with a number of dedicated car sharing spaces in convenient locations. Covered and secure bicycle storage facilities are located also at undercroft and surface levels, adjacent to individual block entrances. A sustainable travel approach has been adopted, particularly with regards to access to Dublin City Centre, with the Luas (850m) and Dublin Bus stops adjacent to the development site. The City Centre area is also accessible by bicycle and walking, at approximately 10 and 30 minutes respectively.

The wastewater arising for the operational phase of the proposed SHD will also discharge to the same combined sewer network.

The Water Supply is to connect to the public watermain at Dolphin's Barn Road, to the west of the proposed development.

2.2 PLANNING CONTEXT

The lands comprise a small inner city industrial complex comprising of low scale and low intensity development. To enable the more efficient use of these urban lands, a change of zoning from Z6 to a Z1 (Residential) zoning was effected pursuant to Variation No. 23 to Dublin City Development Plan 2016-2022. In addition, there is a Z9 (open space) zoning adjacent to the Grand Canal, thereby providing a riparian buffer[1].

2.3 CONSTRUCTION METHODOLOGY

2.3.1 Key Activities

It is intended, subject to planning permission, that the proposed construction works will be completed over two phases.

It is intended that the proposed development will be constructed in the following sequence highlighting key activities;

• Secure site and set up boundary hoarding

[1] **SEA Screening Report Dublin City Council 2020 SEA_Screening_Report_Proposed Variations Nos 8 to 27_28.11.2019.pdf (dublincity.ie).**

• Clear site. Disconnect/divert services such as the water main and substation

• Demolition of existing industrial buildings and ancillary structures

• Foundation sub-structure works & bulk excavation

• Basement construction including podium slab

• Construction of building frame of each block of varying heights

• Façade envelope construction

• Interior fit out and building services construction

• External landscape works Note water connection agreement principal to be referenced above once agreed and finalised for planning.

2.3.2 Phasing & Programme

It is expected that the proposed SHD development will be constructed in 2 no. phases and that there may some degree of overlap between the end of the first phase and the commencement of the second phase of development.

3.0 DESCRIPTION OF PROJECT SITE

3.1 OVERVIEW

The overall site area is approximately 1.443 hectares. The site currently comprises a number of small-scale industrial/warehouse units, with ancillary car parking and storage areas. Businesses occupying units within the Industrial Estate include: An Post Dublin 8 Delivery Office; BSS Dublin; and Storage World Self Storage. Finished floor levels of the existing buildings range from 22.47 to 22.78 m AOD. The existing ground levels across the overall site are typically quiet flat, with typical high points in the order

of 22.7 m AOD adjacent to the canal and a low point of 22.0 m AOD at the northern boundary adjacent at the South Circular Road.

The subject site is bound by residential lands to the west, north and east, and partially bounded by the District Centre zoned land located at the Dolphin's Barn Bridge junction adjacent and west of the subject site.

The Grand Canal proposed Natural Heritage Area (pNHA site code 002104) is an extensive and highly important east west ecological corridor. The boundary of the pNHA is located on the White Heather Industrial Estate. A summary of the Grand Canal pNHA is provided below:

Grand Canal pNHA (site code 002104)

The Grand Canal is a man-made waterway linking the River Liffey at Dublin with the Shannon at Shannon Harbour and the Barrow at Athy. The Grand Canal Natural Heritage Area (NHA) comprises the canal channel and the banks on either side of it. The canal system is made up of a number of branches - the Main Line from Dublin to the Shannon, the Barrow Line from Lowtown to Athy, the Edenderry Branch, the Naas and Corbally Branch and the Milltown Feeder. The Kilbeggan Branch is dry at present, but it is hoped to restore it in the near future. Water is fed into the summit level of the canal at Lowtown from Pollardstown Fen, itself an NHA.

A number of different habitats are found within the canal boundaries - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland. The hedgerow, although diverse, is dominated by Hawthorn (*Crataegus monogyna*). On the limestone soils of the midlands Spindle (*Euonymus europaeus*) and Guelder-rose (*Viburnum opulus*) are present. The vegetation of the towpath is usually dominated by grass species. Where the canal was built through a bog, soil (usually calcareous) was brought in to make the banks. The contrast between the calcicolous species of the towpath and the calcifuge species of the bog is very striking.

The diversity of the water channel is particularly high in the eastern section of the Main Line - between the Summit level at Lowtown and Inchicore. Arrowhead (Sagittaria sagittifolia) and Watercress (Nasturtium officinale) are more common in this stretch than on the rest of the system. All sites for Hemlock Water-dropwort (Oenanthe crocata) on the Grand Canal system are within this stretch. The aquatic flora of the Corbally Extension of the Naas Branch of the canal is also very diverse, with a similar range of species to the eastern Main Line.

Otter spraints are found along the towpath, particularly where the canal passes over a river or stream. The Common Newt breeds in the ponds on the bank at Gollierstown in Co. Dublin. The Rare and legally protected Opposite-leaved Pondweed (Groenlandia densa) (Flora Protection Order 1987) is present at a number of sites in the eastern section of the Main Line, between Lowtown and Ringsend Basin in Dublin.

The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.

The boundary of the pNHA include the lands at the White Heather Industrial Estate. However, the walkover and ecological appraisals confirm that none of the qualifying interests or habitats identified for the pNHA are present within the subject lands as the summary below shows.

3.2 SITE INVESTIGATIONS

There was a number of existing SI reports for the site to obtain the underlying ground conditions and likely substructure construction methodology. These reports were from IGSL dated 2010 and Ground Investigation Ireland dated 2007, respectively. In addition, historic data from the site was obtained from sources such as the Ordnance Survey of Ireland and the Geological Society of Ireland. These sources confirmed the findings in the aforementioned reports and indicated that the site was once the location for a dock from the Grand Canal.

The existing ground investigation reports in general summarised that the underlying ground conditions comprised;

- Made ground fill
- Organic CLAY
- Gravelly CLAY
- Limestone ROCK

Ground water was found to be between 1m – 3m below existing ground level. No contaminated land was identified on site during the previous site investigations. Five additional site investigation records are listed for the nearby areas. These include works for the proposed Dolphin's Barn Library to the south of the Site (ID 490); the Dolphin's Barn bridge extension to the southwest in 1981 (ID 966); a development on the South Circular Road to the west in 2005 (ID 6159); a proposed housing development on Parnell Road to the southeast in 1996 (ID 2958); and the redevelopment of the Players Mills factory to the northeast in 2003 (ID 5110). The results of these investigations generally indicated the presence of fill materials ranging from 0.7 to 2.8m thick underlain by brown gravelly clay with possible sands or silts. Some deeper investigations also encountered grey gravelly clays underlying these. The presence of bedrock was confirmed at a depth of 20.73mOD on the Dolphin's Barn bridge site. Shallow groundwater ingress was encountered during a number of the investigations. Investigations for soil contamination were not noted in the reports except at the Players Mills site where low levels of polycyclic aromatic hydrocarbon and lead contamination were encountered in the fill material by limited environmental testing.

3.3 EXISTING HABITATS

The subject lands comprise primarily Built Land and Artificial Surfaces including tarmacked surfaces, and warehouse style buildings and office space, of modern construction type.

The Grand Canal is located adjacent to the site with an area of amenity grassland currently providing the boundary between the fencing and the industrial estate and the water course. This covers an area of approximately 3,276m^2 (0.33ha).

The River Poddle is approximately 836m to the east, however, the Poddle is culverted for much of its length in the city centre and there is no connection between the proposed development area and this watercourse.

3.4 FAUNA

Given the urban nature of the development lands, the opportunity for large mammal use is not high. However, given the sites proximity to the Grand Canal. a proposed Natural Heritage Area, site visits were undertaken on 15th February 2021, 19th July 2021 and 15th February 2022. Another site visit was undertaken in February 2022.

3.4.1 Habitat Surveys

A Habitat survey was carried out in May and July 2021 to identify, describe, map and evaluate habitats and to verify information gathered at the desk study stage. Another site visit was undertaken on 15th February 2022.

The basis of the Habitat Survey was an Extended Phase 1 Habitat Survey. The habitat survey was undertaken in accordance with the Heritage Council's Draft Best Practice Guidance for Habitat Survey and Mapping. Habitats were classified using Fossitt's Guide to Habitats in Ireland (2000) which classifies habitats according to a hierarchical framework with Level 1 habitats representing broad habitat groups, Level 2 representing habitat sub-groups and Level 3 representing individual habitats. The field survey focused on identifying Level 3 habitats. I

Bird Surveys

All bird seen and heard on site during the Phase 1 Habitat Survey in June and July 2021 and February 2022 were recorded.

Bat Surveys

Prior to undertaking activity surveys the status of habitats occurring at the site was classified in terms of their potential to function as bat foraging habitat. The classifications follows the approach outlined by Bat Conservation Trust (2012) to assessing the value of potential development sites for bats, based on the occurrence of habitat features within the landscape, and the likelihood of bats being present. The classifications range from low to high. Manual bat surveys were completed by walking a continuous transect through the site to record bat foraging activity. The bat survey was completed using an Echo-Meter Touch Pro bat detector, Batlogger M2 and a high-powered LED head torch. The bat surveys were completed on the following dates:

Table 3.1 Bat Surveys and weather conditions.

Date	Weather Conditions
10th May 2021	10C dropping to 8 C, cool with slight wind
3rd August 2021	18C warm, no breeze

A static bat detector was installed along the Grand Canal for 8 nights from 26th July to 2nd August 2021. These nights were largely dry, calm and warm with optimal foraging conditions.

During the initial appraisal of the proposed development an assessment was made of on-site features that have the potential to support roosting bats. These features include built structures and trees along and adjacent to the project site. The roost potential of these structures was assessed with reference to features that are typically associated with bat roosts in buildings (see Kelleher and Marnell, 2006; Collins, 2016).

Built structures occurring within and adjacent to the proposed development were assessed for their potential to support roosting bats. All structures (all commercial/industrial units) inspected for their potential to support roosting bats are shown in Figure 1.1. An internal inspection survey of the commercial/industrial structures were undertaken. It is also noted that residential dwellings located to the north of the development at its eastern end were appraised from the car park within the industrial estate and no detailed close up inspection was carried out for these structures.

External and inspection surveys were carried out during the daytime of structures and involved inspecting the structure for:

- obvious exit/egress points for bats such as missing roof tiles, opening to the roof spaces, wall crevices, open windows & doors etc.; and

- field signs associated with bat activity such as faecal droppings, scratch marks, staining on walls etc.

Other structural features such as roof material, aspect and roof shape were also recorded.

Tree Roost Potential

The bat roost potential of trees follows the guidelines outlined in Chapter 6 of the Bat Conservation Trust's Bat Surveys for Professional Ecologists (2016). The trees occurring within the immature woodland were visually inspected on site for the signs of preferred roost features (PRFs). PRFs include holes, cracks and splits in stems or branches; loose or platy bark; knot holes, cankers in which cavities have developed; detached ivy with stem diameters in excess of 50mm; existing bat or bird boxes.

A daytime inspection of tree roost potential was undertaken on the 16th February 2022. The daytime inspection involving visually inspecting the trees occurring within the area of the project site where vegetation is to be removed and trees are to be felled for the PRFs listed above.

Mammal Surveys

The project site and surrounding area was searched for the evidence indicating the presence of mammals. Particularly attention was given to identifying the presence or otherwise of otters along the canal bank adjacent to the development site.

A survey for field signs indicating the presence of otters was undertaken on 15th February 2022. This survey was undertaken during the daytime and particular attention was given to habitat features normally associated with otters along the Grand Canal immediately adjacent to the project site and the southern bank. Any mammal field signs typical of otter activity were recorded during the surveys. These field signs include:

- holts,
- couches,
- slides
- or spraints.

3.4.1.1 Non-Volant Mammals

A survey of the project site for the presence of non-volant mammals was completed during May and July 2021 and February 2022. The project site does not support any resting or breeding sites for protected non-volant mammals. A hole in the fencing accompanied by a mammal track was recorded at the fencing adjacent to the Grand Canal at the eastern boundary. This is approximately 45cm x 60xcm and no evidence of mammal hair was recorded by a mammal such as an otter fitting through this hole.

No field signs indicating the presence of otters was identified within the project site or along the Grand Canal immediately adjacent to the project site. The nearest evidence of otter activity (spraints, holts) are northwest of the project site at the River Camac approximately 1847m northeast; otter activity identified at River Poddle which is

culverted for much of its length is identified in Tymon Park, approximately 4.5km southwest of the project site .

The site is not relied upon by non-volant mammals and does not provided suitable habitat for protected non-volant mammal species.

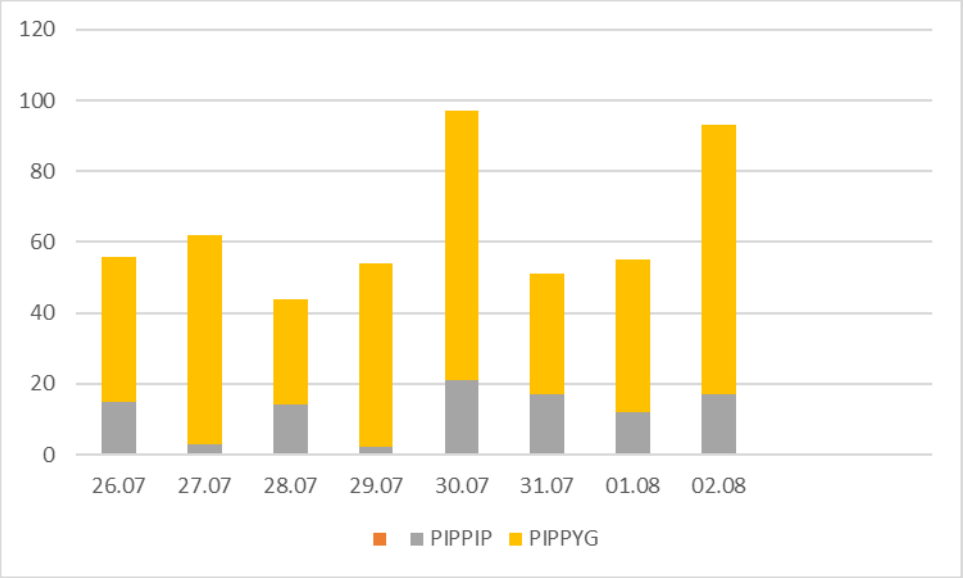
3.4.1.2 Volant Mammals – Bats

The Bat Landscape Map (see biodiversityireland.ie) indicates that the site is located in an area that has been assigned a suitability index of 18.33 for all bat species. This is representative of an area of low habitat potential for bats. The Grand Canal and its banks with vegetation provide foraging and commuting habitats for bat species habituated to urban environments. There are no structures on site that have the potential to function as bat roosts. The early mature sycamore tree that straddles the eastern site boundary does not support features that could support roosting bats.

Three species of bats were recorded foraging at the site during bat surveys. These species included Common pipistrelle, Soprano pipistrelle and Leisler's Bat. Soprano pipistrelle was the dominant species recorded at the site during bat surveys, while Common pipistrelle was recorded and very occasionally Leisler's bat were also recorded occasionally throughout the bat surveys. The highest levels of bat activities recorded during the bat surveys was on the 3rd August when approximately 2 soprano pipistrelle were observed foraging along the sycamore and across the Grand Canal waterway. The foraging at this location lasted for a brief period of time (circa 9 minutes) after which the bats dispersed. During both activity surveys bat activity was concentrated exclusively along the Grand Canal itself with visual confirmation of bats commuting over and adjacent to the water and along the treeline vegetation.

A static bat detector was erected on the Elm tree outside the project site that is be retained. The results of the static detector are presented below in Table 3.1

Table 3-1Static Bat Detector Results



Soprano pipistrelle, Common pipistrelle and Leisler's bat are all widespread and abundantly occurring in Ireland and are typically encountered during bat surveys. All three species have been assessed to be at favourable conservation status at a national range in Ireland (NPWS, 2019).

The bat surveys completed at the project site indicate that the project site is used by low numbers of Soprano and Common pipistrelle that are likely to opportunistically forage and commute along the Grand Canal corridor, as recorded during the August 2021 bat survey. Leisler's bat were recorded in very low numbers during the survey. All three species are widespread and abundantly occurring in Ireland and are typically encountered during bat surveys. The three species recorded flying over the project site have been assessed to be at favourable conservation status at a national range in Ireland (NPWS, 2019). Based on the results of the surveys and the widespread populations of these species, the project site is considered to be of Local importance (lower value) (Rating E) for populations of these species.

3.4.1.3 Birds

Given the urban made ground habitats dominating the site, it provides very limited suitable foraging habitat for bird species. No evidence of bird nesting or signs of

previous nesting within buildings on site was recorded during field surveys. The bird fauna was typical of urban habitats with the Grand Canal providing the most significant habitat for species. Species recorded during site visits included:. Woodpigeon, rook, jackdaw, common gull and magpie were the larger species seen while the hedges support blackbird, and blue tit. No red listed bird species such as yellowhammer were heard or seen during the habitat surveys.

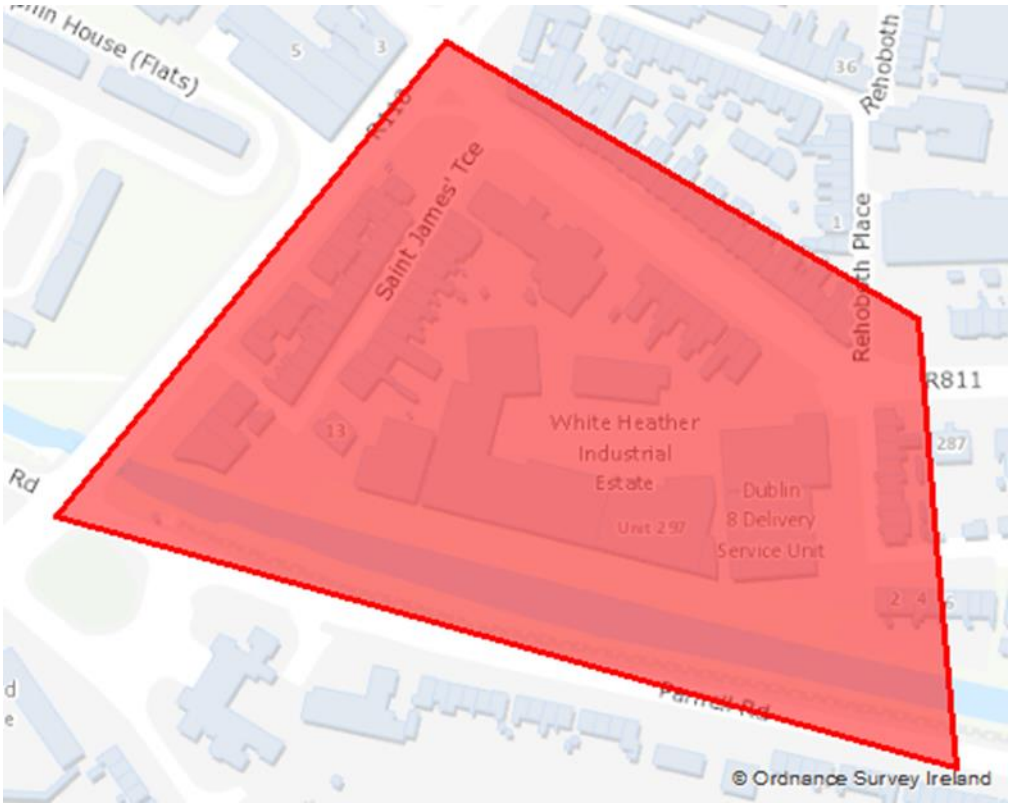
No wetland birds such as mallard or mute swan were recorded during site visits however the Grand Canal outside the project site does provide suitable habitat to support such species. No such habitat is present on site to support these wetland bird species. The results of all site surveys completed at the project site and the section of the Grand Canal adjacent to the project site have found this section of the canal not to be relied upon by significant numbers of wetland bird species and this section of the canal is not relied upon by the special conservation interest bird species and wetland birds associated with the SPAs occurring in the wider area surrounding the project site.

A search of the National Biodiversity Data Centre (NBDC) for records of rare and/or threatened species previously identified in the vicinity of the project site was completed in January 2022. Information for the 1km^2 grid square O1332 (in which the project site is located) was downloaded. No records of bat species were noted in the 1km quadrat, Euoprean Otter (Lutra lutra) have been recorded within this 1km grid

3.5 FLORA

A search of the National Biodiversity Centre Database was carried out on the immediate project area (see Figure 3.1 below). No plant species protected under the Flora Protection Order (2015) are identified within this area. Two such species Meadow Barley (*Hordeum secalinum*) and Opposite-leaved Pondweed (*Groenlandia densa*) have been recorded from the Grand Canal in the wider vicinity of the project site.

No invasive plant species (i.e. those species listed on Schedule 3 of the Birds and Habitats Regulations, 2011-2015), were identified on site.



4.0 IS THE PROJECT NECESSARY FOR THE CONSERVATION MANAGEMENT OF EUROPEAN SITES

The project has been described in Section 2 above and it is clear from the description provided that the project is not directly connected with or necessary for the future conservation management of any European Sites.

5.0 EUROPEAN SITES OCCURRING WITHIN THE ZONE OF INFLUENCE OF THE PROJECT

Current guidance informing the approach to screening for Appropriate Assessment defines the zone of influence of a proposed development as the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. It is recommended that this is established on a case-by-case basis using the Source-Pathway-Receptor (SPR) framework.

As a first step in identifying the European Sites which could potentially be connected to the project via SPR pathways, all European Sites occurring in the wider surrounding areas were identified.; were identified. Figure 5.1 and 5.2 show the wider area surrounding the project site and all European Sites occurring within this wider area.

A total of 14 European Sites occur within the wider area surrounding the project site. The 14 European Sites occurring in the wider surrounding area consist of 9 no/ SACs (including candidate SACs) and 5 no. SPAs. All other European Sites occurring beyond the wider surrounding area shown on Figures 5.1 and 5.2 are located at a remote distance from the project site and are not connected to it via any SPR pathways. As such the remainder of this screening exercise focuses on establishing whether 14 European Sites as shown on Figures 5.1 and 5.2 are located within the zone of influence of the project.

As the nearest European Sites (the South Dublin Bay SAC and the South Dublin Bay and River Tolka Estuary SPA) are located approximately 5km (as the crow flies) overland to the east, the project will not have the potential to result in direct impacts to European Sites. Direct impacts are impacts that arise as a result of direct loss habitat, direct disturbance to habitats as a result of physical interactions such as damage; mortality to fauna as a result of physical interactions.

Thus, this Screening exercise focuses on investigating whether it can or cannot be excluded, on the basis of objective information, that the project will have the potential

to result in indirect effects to any of the 14 no. European Sites occurring in the wider surrounding area or to affect mobile species associated with these European Sites beyond the boundaries of their designated conservation areas (i.e., *ex situ* effects). Indirect effects are defined as impacts to European Site receptors, which are not a direct result of the project, are often produced away from the or as a result of a complex pathway. A theoretical example of an indirect impact in this context is the release of polluted waters from a project site, the conveyance of associated contaminants downstream with resultant pollution impacts and associated pressure to habitats and fauna that are sensitive to pollution.

Using the SPR framework, the project, as described in Section 2 of this Screening Report, represents the source of potential indirect impacts to European Sites. The construction and operation of new developments projects can, in theory, generate the following emissions:

Emissions to surface water

Emissions to groundwater

Noise and vibration emissions

Emissions to air

Light emissions;

Visual emissions; and

The spread of non-native invasive species where such species occur within the proposed development site and there is a risk of such species being spread and conveyed via air, water or other vectors such as fauna (e.g. birds, mammals) or traffic movement.

Development projects that are located outside of European Sites can also result in impacts to mobile qualifying species of European Sites in the event that such species rely on habitats occurring within the project site. For the purposes of this screening report this impact is referred to as a "mobile species impact".

- Water emissions: Given that all surface water and wastewater generated at the project site will eventually discharge to Dublin Bay there is a hydrological pathway connecting the project site to European Sites at Dublin Bay.

- Groundwater: The project site is located within the Dublin Groundwater body, IE_EA_G_008. The eastern boundary of this groundwater body is defined by the River Liffey to the north and the coast to the east. A review of the Geological Survey of Ireland mapping shows that the project site is located at the northern boundary of a distinct groundwater recharge area within this groundwater body that encompasses the project site and the area enclosed within a polygon stretching approximately 50m to the east; 400m to the east and 2.3km to the south. This groundwater recharge area represents the area where rainfall reaches the stores of groundwater or aquifer underlying the project site. the eastern boundary of this recharge area is located approximately 5km from the nearest European Site, the South Dublin Bay & Tolka Estuary SPA. Given the location of the project site at a significant distance from the nearest European Site and its location in a distinct groundwater recharge area also located at a remote distance from the nearest European Site there will be no potential for a groundwater pathway to connect the project site to European Sites occurring in the wider surrounding area.

- Air: Guidance outlined by Holman et al. (2014), provides a risk assessment for ecological impacts arising from air emissions associated with the construction and development projects. European Sites including SACs and SPAs are ranked as highly sensitive sites and the risk to high sensitive sites ranges from high (at less than 20m from source) and medium (at less than 50m from source). Given the location of the nearest European Sites is approximately 5km from the project site, the project site lies well outside the 50m zone of influence

of air emissions and as such any air emissions generated at the project site will not have the potential to result in likely significant effects to European Sites in the wider surrounding area. It is also noted that an assessment of the potential impact of the project to local air quality has been completed as part of the EIAR for the project and has found that the project will not result in significant negative impacts to air quality in the wider area surrounding the project site.

- Noise & Vibration: Given the distance of the project site from the nearest European Sites of approximately 5km and its location within an existing urban area there will be no potential for the project to result in noise or vibration effects that could result in disturbance to habitats or fauna within European Sites in the wider surrounding area.

- Light: Given the distance of the project site from the nearest European Sites of approximately 5km and its location within an existing urban area there will be no potential for the project to result in light emissions to European Sites.

- Visual Disturbance: Given the distance of the project site from the nearest European Sites of approximately 5km there will be no potential for visual emission pathways to arise.

- Mobile Species Pathway: the project site is representative of an artificial made ground habitat that does not provide suitable habitat for mobile species of surrounding European Sites such as wetland bird species. Furthermore, the results of field surveys at the project site and the section of the Grand Canal adjacent to the project site have found that this section of the Grand Canal is not relied upon by special conservation interest bird species or wetland birds of SPAs in the wider surrounding area. In light of this there no potential for a mobile species pathway to connect the project site to SPAs in the wider surrounding area.

Following on from the foregoing the potential indirect impact pathways connecting the project site to European Sites in the wider surrounding area are restricted to hydrological pathways. The potential for aqueaous emissions to surface water and the Grand Canal represent the only potential surface water emission from the project that could be conceivably transported via pathways to European Sites. The Grand Canal is located adjacent to the project site and forms a hydrological pathway between the project site and Dublin Bay. Any European Sites occurring downstream of, or otherwise linked to the project via this hydrological pathway, are identified in Table 5.1 below.

Wastewater will be generated during the construction phase and operation phase of the project. Wastewater generated during both phases of the project will be directed to the existing combined sewerage network that services the project site and will convey wastewater to the municipal wastewater treatment plant at Ringsend. A pre-connection enquiry has been submitted to Irish Water, which in turn has confirmed the feasibility of a connection to the Irish Water network at the project site without the need for any network upgrades. Following treatment of wastewater at Ringsend, treated effluent will be discharged to Dublin Bay. Given the proposed wastewater treatment pathway and discharge location, the potential for this to function as a pathway between the project site and European Sites is examined as part of this screening report. There will be no potential for wastewater generated at the project site to be discharged to the Grand Canal. It is proposed that all wastewater generated during the operation phase will be directed to the Irish Water sewer network and will be conveyed to the Ringsend wastewater treatment plant where it will be treated prior to release to the receiving environment. The project will not have the potential to result in the discharge of wastewater generated on site during the construction phase to. All wastewater generated at the project site will be contained within bunded tanks and will be regularly collected for disposal offsite at a licence wastewater treatment plant.

The receptors represent European Sites and their associated qualifying features of interest. All qualifying features of interest and special conservation interests as listed in Appendix 1 have been considered during the identification of European Sites occurring within the zone of influence of the project.

European Sites and their associated qualifying features occur in the zone of influence of the project only where a hydrological pathway establishes a link between the project site and European Sites, or where the project site is likely to support populations of mobile species that are listed as special conservation interests/qualifying species for surrounding European Sites. Table 5.1 identifies which European Sites within the wider area surrounding the project site. The examination of possibility of impacts on European sites arising from the proposed SHD has been undertaken in line with the following examination:

- Is there a hydrological pathway linking the Project site to European Sites and does this pathway have the potential to function as an impact pathway?
- Are qualifying habitats of these European Sites at risk of experiencing impacts as a result of the project?
- Does the project site have the potential to interact with or support Annex II qualifying species/special conservation interest species of these European Sites?

White Heather SHD

Figure 5.1

SACs in the wider area surrounding the Project Site

- Site Boundary
- 5km Buffer
- 10km Buffer
- 15km Buffer

SACs

- Baldoyle Bay SAC
- Glenasmole Valley SAC
- Howth Head SAC
- Knocksink Wood SAC
- North Dublin Bay SAC
- Rockabill to Dalkey Island SAC
- Rye Water Valley/Carton SAC
- South Dublin Bay SAC
- Wicklow Mountains SAC

0 1.25 2.5 5 Km

N W E S

Drawn By	PD
Date	28/03/202
Data Source	Bing

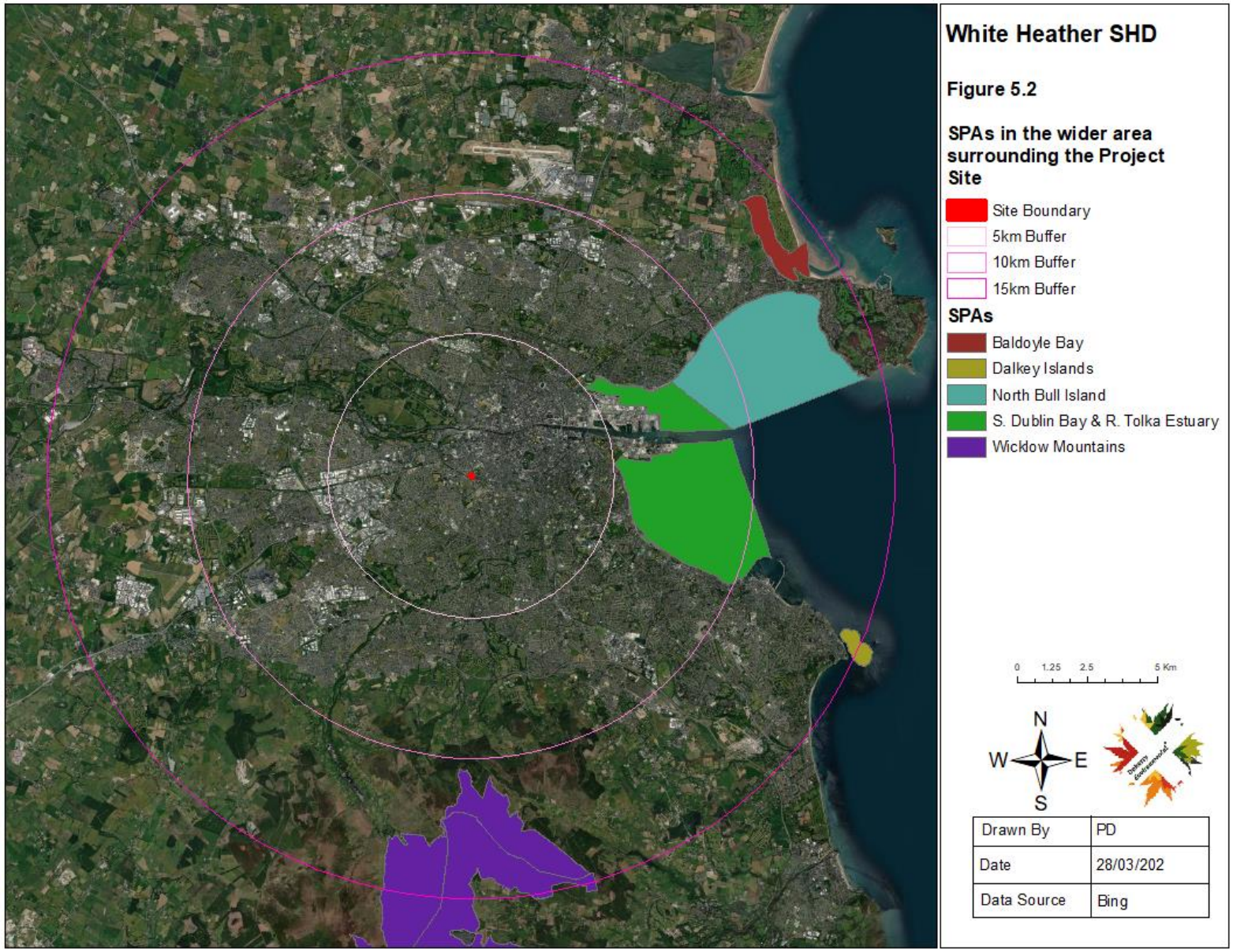

White Heather SHD
Figure 5.2
SPAs in the wider area surrounding the Project Site
Site Boundary
5km Buffer
10km Buffer
15km Buffer
SPAs
Baldoyle Bay
Dalkey Islands
North Bull Island
S. Dublin Bay & R. Tolka Estuary
Wicklow Mountains
0 1.25 2.5 5 Km
N
W
E
S
Drawn By PD
Date 28/03/202
Data Source Bing

Table 5.5-1: Identification of European Sites connected to Project via Pathways

European Sites	**Distance from Project Site**	**Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway**	**Does the Project have the potential to interact with Mobile Species**	**Is the project connected to the European Site?**
South Dublin Bay SAC Site Code: 000210	7.5km downstream and 5.2km to the east	***Surface Water Pathway*** There is no surface water pathway connecting the project site to this SAC. Modelling of the Liffey Estuary and Dublin Bay has shown that the waters from the Liffey draining into Dublin Bay are deflected east and north towards Dollymount and Howth. The presence of the South Great Wall in Dublin Bay provides a barrier to the movement of waters towards the south (Dowly & Bedri, 2007; Bedri et al., 2012; Camp, Dresser & McKee, 2012). As such there is no surface	No. There are no Annex 2 species listed as qualifying features of interest for this SAC.	Yes. For the reasons outlined in column 3 the potential for the wastewater pathway to function as an impact pathway requires further examination as part of this screening exercise.

		water pathway between the project site and this SAC. ***Wastewater Pathway***. Wastewater from the construction phase and operation phase of the project will be conveyed to the Ringsend Wastewater treatment plant for treatment. Treated effluent will be discharged to Dublin Bay. As such, the potential for a wastewater impact pathway between the project and this SAC requires further examination.		
South Dublin Bay & Tolka Estuary SPA Site Code: 004024	7.5km downstream and 5.2km to the east	***Surface Water Pathway*** Yes, surface waters draining from the Grand Canal and the Liffey catchment drain to Dublin Bay and are dispersed over this SPA.	No. This SPA is designated for its role in supporting a number of wetland bird species, including breeding terns. The project site does not provide suitable habitat for any wetland bird species and there is no potential impact pathway linking the project site to the foraging,	Yes. The potential for the hydrological pathways, linking the project site to this SPA, to function as an impact pathway requires further examination to establish whether or not the project could result in downstream effects to this SPA.

		As such there is a potential hydrological connection between the project site and this SPA. ***Wastewater*** Wastewater from the construction phase and operation phase of the project will be conveyed to the Ringsend Wastewater treatment plant for treatment. Treated effluent will be discharged to Dublin Bay. As such, the potential for a wastewater impact pathway between the project and this SPA requires further examination	nesting and roosting grounds upon which these species rely.	
North Dublin Bay cSAC Site Code: 000206	7.5km downstream and 8km to the northeast	***Surface Water Pathway*** Yes, surface waters draining from the Grand Canal and the Liffey catchment drain to Dublin Bay and are dispersed over this cSAC.	No. This cSAC supports a population of the liverwort *Petalophyllum ralfsii*. This is a sedentary species, reliant on terrestrial dune slack habitats occurring on Bull Island and	Yes. The potential for the hydrological pathways, linking the project site to this cSAC, to function as an impact pathway requires further examination to establish whether or

		As such there is a hydrological connection between the project site and this SAC. ***Wastewater Pathway*** Wastewater from the construction phase and operation phase of the project will be conveyed to the Ringsend Wastewater treatment plant for treatment. Treated effluent will be discharged to Dublin Bay. As such, the potential for a wastewater impact pathway between the project and this SAC requires further examination	there is no potential for the project to interact with this species.	not the project could result in downstream effects to this cSAC.
North Bull Island SPA Site Code: 004006	7.5km downstream and 8km to the northeast	***Surface Water Pathway*** Yes. Surface waters draining from the Grand Canal and the Liffey catchment drain to Dublin Bay and are dispersed over this SPA.	No. This SPA is designated for its role in supporting a number of wetland bird species. The project site does not provide suitable habitat for the wetland bird species of this SPA and there is no potential impact pathway linking the project site to the foraging, nesting	Yes. The potential for the hydrological pathways, linking the project site to this SPA, to function as an impact pathway requires further examination to establish whether or not the project could result in downstream effects to this SPA.

		As such there is a hydrological connection between the project site and this SPA. ***Wastewater Pathway*** Wastewater from the construction phase and operation phase of the project will be conveyed to the Ringsend Wastewater treatment plant for treatment. Treated effluent will be discharged to Dublin Bay. As such, the potential for a wastewater impact pathway between the project and this SPA requires further examination	and roosting grounds upon which these species rely.	
Rye Water Valley/Carton SAC Site Code: 001398	13.5km to the west	No. This SAC is located within a separate surface water sub-catchment to the project.	No. No mobile species are listed as qualifying features of interest for this SAC (see Appendix 1 for a full list of qualifying features of interest for this SAC).	No. No impact pathways link the Project site to this SAC.

Glenasmole Valley cSAC Site Code: 001209	9.6km to the southeast	No. This cSAC is designated for the presence of the Annex 1 habitats grassland habitats and petrifying spring. The grassland habitats do not rely on lotic processes while the spring relies on soligenous hydrological processes. Furthermore this cSAC is located within a separate surface water catchment to the proposed Project site.	No. No Annex 2 species are listed as qualifying features of interest for this cSAC.	No. No impact pathways link the Project site to this cSAC.
Baldoyle Bay cSAC Site Code: 000397	13.5km to the northeast	No. This SAC is located within a separate surface water sub-catchment to the project.	No. No mobile species are listed as qualifying features of interest for this cSAC (see Appendix 1 for a full list of qualifying features of interest for this SAC).	No. No impact pathways link the Project site to this cSAC.
Baldoyle Bay SPA	13.5km to the northeast	No.	No. This SPA is designated for its role in supporting a number of wetland bird species.	No.

Site Code: 000397		This SPA is located within a separate surface water sub-catchment to the project.	The project site does not provide suitable habitat for the wetland bird species of this SPA and there is no potential impact pathway linking the project site to the foraging, nesting and roosting grounds upon which these species rely.	No impact pathways link the Project site to this SPA.
Wicklow Mountains cSAC Site Code: 002122	10.3km to the south	No. This cSAC is located within a separate surface water sub-catchment to the project.	No. No mobile species are listed as qualifying features of interest for this cSAC (see Appendix 1 for a full list of qualifying features of interest for this cSAC).	No. No impact pathways link the Project site to this cSAC.
Wicklow Mountain SPA Site Code: 004040	10.3km to the south	No. This is an upland SPA designated for its role in supporting merlin and Peregrine falcon. There is no hydrological pathway linking the project site to this SPA.	No. The study area is not predicted to play an important role in terms of the provision of roosting, nesting or foraging habitat for either merlin or Peregrine falcon.	No. No potential impact pathways link the project site to this SPA.

Howth Head cSAC Site Code: 000202	13.7km to the northeast	No. This cSAC is located within a separate surface water sub-catchment to the project.	No. No mobile species are listed as qualifying features of interest for this cSAC (see Appendix 1 for a full list of qualifying features of interest for this SAC).	No. No impact pathways link the Project site to this cSAC.
Dalkey Island SPA Site Code: 004172	14.5km to the southeast	No. This SPA is located within a separate surface water sub-catchment to the project and there is no hydrological pathway linking the project site to this SPA.	No. This SPA is designated for its role in supporting a number of coastal breeding bird species. The project site does not provide suitable habitat for these species and there is no potential impact pathway linking the project site to the foraging, nesting and roosting grounds upon which these species rely.	No. No potential impact pathways link the project site to this SPA.
Knocksink Woods SAC	14.5km to the south	No. This cSAC is located within a separate surface water sub-catchment to the project.	No. No mobile species are listed as qualifying features of interest for this SAC (see Appendix	No. No impact pathways link the Project site to this SAC.

Site Code: 000725			1 for a full list of qualifying features of interest for this SAC).	
Rockabill to Dalkey Island SAC Site Code: 003000	13.5km to the east	No. This is an offshore SAC that is not hydrologically connected to the project site.	No. No mobile species are listed as qualifying features of interest for this cSAC (see Appendix 1 for a full list of qualifying features of interest for this SAC).	No. No impact pathways link the Project site to this SAC.

Table 5.1 above outlines the relationship between the project site and the European Sites occurring within the zone of influence. Of the 14 European Sites occurring within this zone, 4 have been identified as requiring further examination to ascertain whether there is potential for impact pathways connecting the project site to these European Sites.

The remainder of this Screening aims to identify whether the project will have the potential to result in likely significant effects to these four European Sites, namely:

1. South Dublin Bay SAC;
2. South Dublin Bay River Tolka Estuary SPA;
3. North Dublin Bay cSAC; and
4. North Bull Island SPA.

5.1 EUROPEAN SITES OCCURRING WITHIN THE ZONE OF INFLUENCE

The following sub-sections provide an overview of the four European Sites occurring within the zone of influence of the project.

5.1.1 South Dublin Bay SAC

This site lies south of the River Liffey in County Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake.

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

[1210] Annual vegetation of drift lines

[1310] Salicornia and other annuals colonising mud and sand

[2110] Embryonic shifting dunes

The bed of Dward Eelgrass (Zostera noltii) found below Merrion Gates is the largest stand on the east coast. Green algae (Enteromorpha spp. and Ulva lactuca) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include Fucus spiralis, F. vesiculosus, F. serratus, Ascophyllum nodosum and Pelvetia canaliculata. Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/ Booterstown. The formation at Booterstown is very recent. Drift line vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Booterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. Species present are Sea Rocket (Cakile maritima), Frosted Orache (Atriplex laciniata), Spear-leaved Orache (A. prostrata), Prickly Saltwort (Salsola kali) and Fat Hen (Chenopodium album). Also occurring is Sea Sandwort (Honkenya peploides), Sea Beet (Beta vulgaris subsp. maritima) and Annual Sea-blite (Suaeda maritima). A small area of pioneer saltmarsh now occurs in the lee of an embryonic sand dune just north of Booterstown Station. This early stage of saltmarsh development is here characterised by the presence of pioneer stands of glassworts (Salicornia spp.) occurring below an area of drift line vegetation. As this is of very recent origin, it covers a small area but ample areas of substrate and shelter are available for the further development of this habitat.

Lugworm (Arenicola marina), Cockles (Cerastoderma edule) and annelids and other bivalves are frequent throughout the site. The small gastropod Hydrobia ulvae occurs on the muddy sands off Merrion Gates. South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. Baitdigging is a regular activity on the sandy flats.

At high tide some areas have windsurfing and jet-skiing. This site is a fine example of a coastal system, with extensive sand and mudflats, and incipient dune formations. South Dublin Bay is also an internationally important bird site.

The threats and pressures to this SAC have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017). The documented threats and pressures to this SAC are as follows:

- Urbanised areas, human habitation
- Walking, horseriding and non-motorised vehicles
- Golf course
- Industrial or commercial areas
- Discharges

Table 5.2 lists each of the qualifying features of interest for this SAC and their conservation status.

Table 5.2: South Dublin Bay SAC qualifying features of interest and conservation status

Qualifying Annex Feature	Conservation Status (Site-Level)	Conservation Status (National-Level)
Mudflats and sandflats not covered by seawater at low tide	Favourable	Inadequate
Annual vegetation of drift lines	Not established	Inadequate
Salicornia and other annuals colonizing mud and sand	Unfavourable	Favourable
Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	Unfavourable-inadequate	Inadequate

5.1.2 South Dublin Bay River Tolka Estuary SPA

The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included.

The site is a Special Protection Area (SPA) designated under the EU Birds Directive, of special conservation interest for the following species over-wintering species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Curlew, Redshank, and Black-headed Gull.

This SPA is also designated for its role in supporting breeding colonies of the following species: Roseate Tern, Common Tern and Artic Tern. 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.

The qualifying features for which this site has been designated as a SPA are listed in Table 5.3 below. The threats and pressures to this SAC have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017b). The documented threats and pressures to this SPA are as follows:

- Walking, horseriding and non-motorised vehicles
- Reclamation of land from sea, estuary or marsh
- Discharges
- Roads, motorways
- Industrial or commercial areas

Table 5.3 lists each of the qualifying features of interest for this SAC and their conservation status.

Table 5.3: South Dublin Bay River Tolka Estuary SPA qualifying features of interest, and conservation status

Special conservation interests	Conservation Status
Light-bellied Brent Goose (*Branta bernicla hrota*)	Amber listed species- Species of medium conservation concern
Oystercatcher (*Haematopus ostralegus*)	Amber listed species- Species of medium conservation concern
Ringed Plover (*Charadrius hiaticula*)	Amber listed species- Species of medium conservation concern
Grey Plover (*Pluvialis squatarola*)	Amber listed species- Species of medium conservation concern
Knot (*Calidris canutus*)	Red listed species – Species of high conservation concern[†]
Sanderling (*Calidris alba*)	Green listed species – Species not threatened
Dunlin (*Calidris alpina*)	Amber listed species- Species of medium conservation concern
Bar-tailed Godwit (*Limosa lapponica*)	Amber listed species- Species of medium conservation concern
Redshank (*Tringa totanus*)	Red listed species – Species of high conservation concern

Black-headed Gull (*Croicocephalus ridibundus*)	Red listed species – Species of high conservation concern
Roseate Tern (*Sterna dougallii*)	Green listed species – Species not threatened
Common Tern (*Sterna hirundo*)	Amber listed species- Species of medium conservation concern
Arctic Tern (*Sterna paradisaea*)	Amber listed species- Species of medium conservation concern
Wetlands & Waterbirds	

5.1.3 North Dublin Bay SAC

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site. Qualifying features for which this site has been designated as a SAC are listed in Table 5.3 below. The distribution of the habitats associated with this SAC are outlined in the Conservation Objectives for this SAC (see NPWS, 2013).

The threats and pressures to this SAC have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017). The documented threats and pressures to this SAC are as follows:

- Urbanised areas, human habitation
- Walking, horseriding and non-motorised vehicles
- Golf course
- Industrial or commercial areas
- Discharges

Table 5.4 lists each of the qualifying features of interest for this SAC and their conservation status.

Table 5.4: North Dublin Bay SAC qualifying features of interest and conservation status

Qualifying Annex Feature	Conservation Status (Site-Level)	Conservation Status (National-Level)
Mudflats and sandflats not covered by seawater at low tide	Favourable	Inadequate
Annual vegetation of drift lines	Not established	Inadequate
Salicornia and other annuals colonizing mud and sand	Unfavourable	Favourable
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	Inadequate
Petalwort (Petalophyllum ralfsii)	Not established	Inadequate
Mediterranean salt meadows (Juncetalia maritimi)	Favourable	Inadequate
Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	Unfavourable-inadequate	Inadequate

Fixed coastal dunes with herbaceous vegetation (grey dunes)	Unfavourable-Bad	Bad
Humid dune slacks	Unfavourable-inadeqaute	Inadequate

5.1.4 North Bull Island SPA

This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The site is a Special Protection Area (SPA) under the EU Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The EU Birds Directive provides for 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.

The qualifying features for which this site has been designated as a SPA are listed in Table 5.5 below. The threats and pressures to this SPA have been documented in the Standard Natura 2000 Data Form for the site (NPWS, 2017a). The documented threats and pressures to this SPA are as follows:

- Disposal of household / recreational facility waste
- Golf Course
- Industrial or commercial areas
- Walking, horseriding and non-motorised vehicles
- Bridge, viaduct
- Roads, motorways

- Discharges

Table 5.5 lists each of the qualifying features of interest for this SAC and their conservation status.

Table 5.5: North Bull Island SPA qualifying features of interest and conservation status

special conservation interests	Conservation Status
Light-bellied Brent Goose (*Branta bernicla hrota*)	Amber listed species- Species of medium conservation concern
Shelduck (*Tadorna tadorna*)	Amber listed species- Species of medium conservation concern
Teal (*Anas crecca*)	Amber listed species- Species of medium conservation concern
Pintail (*Anas acuta*)	Red listed species – Species of high conservation concern†
Shoveler (*Anas clypeata*)	Red listed species – Species of high conservation concern†
Oystercatcher (*Haematopus ostralegus*)	Amber listed species- Species of medium conservation concern
Golden Plover (*Pluvialis apricaria*)	Red listed species – Species of high conservation concern
Grey Plover (*Pluvialis squatarola*)	Amber listed species- Species of medium conservation concern

Knot (*Calidris canutus*)	Red listed species – Species of high conservation concern†
Sanderling (*Calidris alba)*	Green listed species – Species not threatened
Dunlin (*Calidris alpina*)	Amber listed species- Species of medium conservation concern
Black-tailed Godwit (*Limosa limosa*)	Amber listed species- Species of medium conservation concern
Bar-tailed Godwit (*Limosa lapponica*)	Amber listed species- Species of medium conservation concern
Curlew (*Numenius arquata*)	Red listed species – Species of high conservation concern
Redshank (*Tringa totanus*)	Red listed species – Species of high conservation concern
Turnstone (*Arenaria interpres*)	Green listed species – Species not threatened
Black-headed Gull (*Larus ridibundus*)	Red listed species – Species of high conservation concern
Wetlands & Waterbirds	

5.2 QUALIFYING FEATURES OF INTEREST/SPECIAL CONSERVATION INTERESTS CONNECTED TO THE PROJECT VIA HYDROLOGICAL PATHWAY

Table 5.6 below lists the qualifying features of interest/special conservation interests of the four European Sites that are hydrologically connected to the project site and identifies the interest features of these four European Sites that are influenced by transitional/coastal waters.

Table 5.6: Identification of Qualifying Features of Interest/Special Conservation Interests Influenced Transitional/Coastal Waters

European Site	Qualifying Interest	Is the qualifying feature of interest/special conservation interest Influenced by Transitional/Coastal Waters
South Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Annual vegetation of drift lines	No. This habitat is not influenced by surface waters and lotic processes.
	Salicornia and other annuals colonizing mud and sand	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Embryonic shifting dunes	No. This habitat is not influenced by surface waters and lotic processes.

North Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Annual vegetation of drift lines	No. This habitat is not influenced by surface waters and lotic processes.
	Salicornia and other annuals colonizing mud and sand	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Spartina swards (Spartinion maritimae)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.

	Petalwort (Petalophyllum ralfsii)	No. This species is reliant on humid dune slacks occurring within the terrestrial environment. This dune slacks will not be influenced by hydrological emissions.
	Mediterranean salt meadows (Juncetalia maritimi)	No. Examples of this habitat are restricted to the northwestern end of Bull Island and are considered to lie outside the influence of the hydrological pathway established by the Grand Canal and the River Liffey Estuary.
	Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	No. This is a terrestrial habitat that will not be influence by hydrological emissions.
	Fixed coastal dunes with herbaceous vegetation (grey dunes)	No. This is a terrestrial habitat that will not be influence by hydrological emissions.
	Humid dune slacks	No. This is a terrestrial habitat that will not be influence by hydrological emissions.
North Dublin Bay SPA	Light-bellied Brent Goose (*Branta bernicla hrota*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.

	Shelduck (*Tadorna tadorna*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Teal (*Anas crecca*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Pintail (*Anas acuta*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Shoveler (*Anas clypeata*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Oystercatcher (*Haematopus ostralegus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat.

		Further examination of the wastewater pathway to connect the project site this habitat is required.
	Golden Plover (*Pluvialis apricaria*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Grey Plover (*Pluvialis squatarola*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Knot (*Calidris canutus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Sanderling (*Calidris alba)*	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.

	Dunlin (*Calidris alpina*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Black-tailed Godwit (*Limosa limosa*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Bar-tailed Godwit (*Limosa lapponica*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Curlew (*Numenius arquata*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Redshank (*Tringa totanus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat.

		Further examination of the wastewater pathway to connect the project site this habitat is required.
	Turnstone (*Arenaria interpres*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Black-headed Gull (*Larus ridibundus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Wetlands & Waterbirds	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
South Dublin Bay River Tolka Estuary SPA	Light-bellied Brent Goose (*Branta bernicla hrota*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.

	Oystercatcher (*Haematopus ostralegus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Ringed Plover (*Charadrius hiaticula*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Grey Plover (*Pluvialis squatarola*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Knot (*Calidris canutus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Sanderling (*Calidris alba*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat.

		Further examination of the wastewater pathway to connect the project site this habitat is required.
	Dunlin (*Calidris alpina*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Bar-tailed Godwit (*Limosa lapponica*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Redshank (*Tringa totanus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Black-headed Gull (*Croicocephalus ridibundus*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.

	Roseate Tern (*Sterna dougallii*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Common Tern (*Sterna hirundo*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Arctic Tern (*Sterna paradisaea*)	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.
	Wetlands & Waterbirds	Yes. Hydrological pathways in the form of surface water discharges to the Grand Canal and the Liffey catchment will have the potential to link the project to this qualifying habitat. Further examination of the wastewater pathway to connect the project site this habitat is required.

Following on from Table 5.6 above, Table 5.7 provides a summary of the qualifying features of interest that can be influenced by transitional/coastal waters and their associated water quality. The qualifying features of interest are grouped into broader groups that will be referred to in the assessment sections below.

Table 5.7: Summary of qualifying features of interest/special conservation interests occurring within the Zone Of Influence of the Project

Qualifying feature Group	Qualifying feature of interest	Associated European Site
Coastal/Littoral Habitats	Mudflats and sandflats not covered by seawater at low tide	North Bull Island SAC; South Dublin Bay SAC
	Salicornia and other annuals colonising mud and sand	North Bull Island SAC; South Dublin Bay SAC
	Spartina swards (Spartinion maritimae)	North Bull Island SAC
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	North Bull Island SAC
Coastal/Littoral Bird Species	Special conservation interests wetland bird species	South Dublin Bay River Tolka Estuary SPA & North Dublin Bay SPA

6.0 EXAMINATION OF LIKELY SIGNIFICANT EFFECTS TO FEATURES OF INTEREST WITHIN THE ZONE OF INFLUENCE

The consideration of likely significant effects to European Sites as a result of the project relates to an examination of the project's potential to result in contamination to local surface waters, with consequent negative indirect effects downstream at Dublin Bay and/or the release of inadequately treated wastewater and the potential for such discharges to result in negative water

quality effects to transitional/coastal waters influencing the features of interest listed in Table 5.7 above.

The local surface water that could receive contaminated surface water in the event of a release of pollutants to the aquatic environment is the Grand Canal. Whether the project will have the potential to result in negative effects to the European Sites at Dublin Bay downstream is dependent on the capacity of the hydrological pathway between the project site and Dublin Bay to function as an effective impact pathway. An assessment of the hydrological pathway and its potential to function as an impact pathway is provided in the following sub-section.

6.1 ASSESSMENT OF THE HYDROLOGICAL PATHWAY

6.1.1 Surface Water Pathway

Of the four European Sites being examined as part of the assessment of the hydrological pathway, it is noted that only three are connected to the project site via the surface water pathway (i.e. South Dublin Bay SAC is not connected to the project site via the surface water pathway – see Table 5.1 above). The nearest point of the three Dublin Bay European Sites to the project site is approximately 7.5km downstream along the Grand Canal and the Liffey Estuary (see Figure 5.3 for an overview of the hydrological pathway). The Grand Canal and the waters discharging from it to the Liffey Estuary represent a minor fraction of the overall volume of freshwater draining into the Liffey estuary and Dublin Bay. This will eliminate the potential for the project, even in the event of the release of contaminated surface water to the Grand Canal, from having an effect on the conservation status of European Sites downstream at Dublin Bay. Further details supporting this evaluation of an absence of a functional impact pathway established by the hydrological pathway between the project site and the Dublin Bay European Sites are as follows:

- The bulk of all material required for the construction phase will be stored at the proposed construction compound which will be situated on existing made ground that is serviced by existing surface water drainage network Construction machinery will be restricted to site compound and the footprint of the proposed scheme. The bulk of all material required for the construction phase will be stored at the proposed construction compound which will be situated on existing made ground that is serviced by existing

surface water drainage network. The contractor is to place site compound and storage areas as far as reasonable away from the canal corridor.

- The volumes of surface water draining the project site represents a miniscule fraction of the volumes discharging to the Liffey Estuary upstream of the Dublin Bay European Sites. This is supported by an examination of the area occupied by footprint of the project site (i.e. approximately 1.6Ha within the Dodder_SC_010 subcatchment (approximately 17,000 Ha in size) in which the project site is located. The project site represents 0.01% of the land surface occurring within this catchment and the runoff generated at the project site will therefore represent a miniscule extent of the runoff draining from lands within this sub-catchment. In the unlikely event that contaminated waters enter the Grand Canal it is highly likely, based on the above that any associated pollutants will be adequately diluted within the canal waters.

- Further to the fact that the Grand Canal waters represent a minor fraction of freshwater inputs to the Liffey estuary, it is noted that a recent hydrodynamic model for Dublin Bay showed that the medium flow rates of $15m^3/s$ was calculated for the River Liffey versus an estimated flow rate of $0.1m^3/s$ for the Grand Canal (DHI, 2018). It is noted that there are multiple other sources of freshwater (11 in total, some of which include the River Dodder, Royal Canal, River Cammock etc.) entering the Liffey Estuary. These other sources combine with the River Liffey discharges to further dilute freshwater discharging from the Grand Canal. In light of this any discharges to the River Liffey Estuary from the project site, via the Grand Canal will be thoroughly mixed and imperceptible downstream within the Liffey Estuary and will be further diluted by the tidal coastal waters at Dublin Bay.

- Finally, in support of the above, other studies have shown that pollutants in the estuary are rapidly mixed and become diluted within the estuary and Dublin Bay (O'Higgins and Wilson, 2005; Wilson and Jackson, 2011) again demonstrating that any potential for the release of contaminants to the Grand Canal or other watercourses draining lands adjacent to the canal during the project will not have the potential to result in any perceptible effect to water quality downstream at Dublin Bay.

6.1.2 Wastewater Pathway

Ringsend WWTP, which will receive wastewater from the project site has historically operated at or above capacity, with a total load of 2.19 million P.E. on average, with significant fluctuations from day to day. Loading has increased in recent years with the rise in population recorded in the Dublin local authorities between 2011 and 2016 of approximately 4-6%. The latest information from Irish Water indicates that the plant is currently operating above its capacity of 1.64 million P.E. with a current operational loading of approximately 2.0 million P.E. with up to 2.4 million P.E during busier times of high loads (EPA, 2021). In 2021, the plant was non-compliant with several parameters as set under the EPA discharge licence. The EPA (2021) notes that Irish Water is increasing capacity of the WWTP in phases. A new additional 400,000 P.E. capacity WWTP was completed in 2021. The commencement of operations of the new 400,000 population equivalent treatment facility include the provision of additional secondary treatment capacity with nutrient reduction (400,000 population equivalent), this commenced operation in November 2021. ; Irish Water is increasing the capacity of the existing WWTP tanks on a phased basis. Once completed, these phased upgrades will increase the capacity to 2.4 million P.E. by 2025. Given the exceedances in the ELVs noted by the EPA (EPA, 2021), the EPA has set out corrective action for the WWTP, which requires Irish Water to maintain such available capacity within the waste water works as is necessary to ensure that there is no environmental risk posed to the receiving water environment as a result of the discharges.

It is noted that the additional loads discharging from the proposed SHD to the WWTP will have the potential to act cumulatively with existing wastewater loads to result in exceedances in ELVs prior to the commencement of any WWTP upgrades. However, it is further noted that the commencement of operations of the upgrade to the WWTP in November 2021 prior to the operational phase of the proposed SHD, at which time it is predicted by Irish Water (2020) there will be sufficient capacity at the WWTP to adequately treat all wastewater, in compliance with ELVs, prior to discharge.

Despite the capacity issues associated with the Ringsend WWTP, the Liffey Estuary Lower and Dublin Bay are currently classified by the EPA as being of “Unpolluted” water quality status . The Tolka Estuary is currently classified by the EPA as being “Potentially Eutrophic”. The pollutant content of future foul water discharges to Dublin Bay is considered likely to decrease in the long-term for the following reasons:

- An Bord Pleanála granted planning permission for an upgrade to the Ringsend WWTP in April 2019 , which will increase capacity at the plant, and

- There is a commitment in the National Development Plan 2018-2027 to invest in and progress the Greater Dublin Drainage Project which will involve the provision of a new regional wastewater treatment plant at a site in the northern part of the Greater Dublin Area and the provision of a new Orbital Drainage Sewer linking the new plant to the existing regional sewer network, which will enable future connections for identified areas of development within the catchment area. The provision of the Greater Dublin Drainage Project will augment the waste water treatment capacity currently provided by Ringsend WWTP across the Greater Dublin Area;

- It is also an objective of the Greater Dublin Strategic Drainage Study, and all development plans within the catchment of Ringsend WWTP, to include Sustainable Urban Drainage Systems (SUDS) within new developments. The relevant development plans also have protective policies/objectives in place to protect water quality in the receiving freshwater and marine environments, and to implement the Water Framework Directive in achieving good water quality status for Dublin Bay.

Considering the above, particularly the current unpolluted status of Dublin Bay, and that wastewater discharges from the proposed development would equate to a very small percentage of the overall discharge volumes sent to Ringsend WWTP for treatment, it is concluded that the proposed development will not impact on the overall water quality status of Dublin Bay.

Therefore, there is no possibility of the proposed development undermining the conservation objectives of any of the qualifying interests or special conservation interests of the European sites in, or associated with, Dublin Bay as a result of foul water discharges.

In light of the above, the discharge of wastewater generated at the project site during the construction phase and operation phase to Dublin Bay will not have the potential to function as an impact pathway and result in likely significant effects to the conservation objectives of the Dublin Bay European Sites. In any event, given that there is no surface water pathway linking the project site to South Dublin Bay SAC and that there is an absence of a wastewater impact pathway between the project and this SAC, the potential for likely significant effects to SAC can be screened out.

6.2 EXAMINATION OF PROJECT ELEMENTS

The elements of the project that require to be considered in terms of likely significant effects to European Sites downstream are those that have the potential to result in emissions to the Grand Canal. Emissions to the Grand Canal from the project site will be restricted to surface water runoff during the construction phase and operation phase.

As noted in Section 6.1.2 above, no wastewater will be discharged to the Grand Canal during either the construction phase or operation phase:

- all wastewater generated during the construction phase will be discharged to the existing Irish Water sewerage network and conveyed to the Ringsend WWTP for treatment prior to discharge to Dublin Bay. The examination provided in Section 6.1.2 above confirms that the wastewater pathway will not have the potential to function as an impact pathway.
- all wastewater generated during the operation phase will be directed to the existing wastewater sewerage system and conveyed to the Ringsend WWTP for treatment prior to discharge to Dublin Bay. The examination provided in Section 6.1.2 above confirms that the wastewater pathway will not have the potential to function as an impact pathway.

In the absence of the design measures detailed in Section 2.1.1 above, construction phase and operation phase elements of the project have the potential to result in the emission of pollutants to the Grand Canal. These potential sources of contaminants are listed in Table 6.1 and an examination of the potential effects of these elements on water quality downstream at Dublin Bay is outlined. This examination is underpinned by the examination of the hydrological pathway provided in Section 5.1 above.

It is noted that this examination has been undertaken without regard to best practice construction management measures and operation phase design measures (see Section 2.1.1 above) that aim to avoid the generation and release of polluted surface water runoff from the project site.

Table 6.1: Assessment of Elements of the Project that could result in the Release of Contaminant to Receiving Waters

Element	Assessment
Mobilisation of sediment during construction; Removal of waste material and existing overburden. Dewatering of excavation trenches.	For the reasons outlined in Section 6.1 this will not have the potential to result in water quality effects downstream at Dublin Bay. Furthermore it is noted that the Grand Canal is subject to low flow rates that are artificially controlled and is representative of a depositing waterbody. Any sediment discharging to this waterbody will settle within the canal rather than being transported downstream.
Emission of cementitious materials to Grand Canal;	For the reasons outlined in Section 6.1 this will not have the potential to result in water quality effects downstream at Dublin Bay. Furthermore it is noted that the Grand Canal is subject to low flow rates that are artificially controlled and is representative of a depositing waterbody. Any cementitious materials discharging to this waterbody will settle within the canal rather than being transported downstream.

Emission of hydrocarbons or other chemical pollutants to the Grand Canal	The risk of hydrocarbons being released to the Grand Canal during the construction phase will be low due to the appropriate storage of all hydrocarbon materials within the construction compound located at an area set back from the Grand Canal and the absence of any known contaminated land on site. Even in the event of the inappropriate storage of hydrocarbons or other chemical substances on site and their accidental release to the Grand Canal and the potential impact such emissions may have for the water quality and aquatic ecology supported by the canal downstream of the project site, for the reasons outlined in Section 5.1, such an event will not have the potential to result in negative effects to water quality or the conservation objectives of the European Sites downstream at Dublin Bay.
Surface water runoff from hardstanding areas during the operation phase	The operation phase of the project will not involve activities that have the potential to pose a significant risk of generating polluted surface water runoff and pollution to surface waters. The main source of pollution will related to the leak of fuel from parked cars and subsequent runoff to the Grand Canal. For the reasons detailed in Section 6.1 above such a pollution event will not have the potential to result in negative impacts to water quality at Dublin Bay and negatively affect the conservation objectives of the European Sites at Dublin Bay.

6.3 IN-COMBINATION EFFECTS

The proposed development was considered in combination with other plans and projects in the area that could result in cumulative effects on the environment.

The plan that is of relevance to the project site is the Dublin City Development Plan 2016 – 2022. This plan has zoned the lands in which the project site is located as Z1 Residential while

the lands to the adjacent to the project site between it and the Grand Canal have been zoned Z9 (open space) to provide a riparian buffer along the canal. The project is therefore consistent with the County Development Plan, which was itself subject to Appropriate Assessment, which determined that the plan did not have the potential, alone or in-combination with other plans or projects, to result in significant adverse effects to European Sites.

The online planning system myplan.ie was consulted on 25th March 2022 for the subject lands and immediate surrounds. A number of development projects have either been proposed (and are the subject of planning applications) or were granted planning permission in the local area by Dublin City Council or by An Bord Pleanála. A search was undertaken of the Dublin City Council planning website to identify developments with the potential for significant effects on environmental resources within the zone of influence of the proposed development within the past 5 years. These projects are presented in Table 6.2 below.

Table 6-2: Examination of Cumulative Effects with Other Projects

Planning Reference	Outline of development	Planning status
308917 D	Demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works.	Subject to full EIAR. Granted planning permission with conditions
308917 D South Circular Road Dublin 8	Demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works. Former Player Wills site and undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin 8	A report in support of Screening for Appropriate Assessment has been completed for this project. This report has found that this project will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites.
PL29S.302149 43-50 Dolphins Barn Street Dublin 8	Demolition of former factory building & construction of a part 4 to part 7 storey residential / retail building, stepping down to 3 storeys to the rear, over basement & ground floor retail & car park with 1 no. retail unit at ground floor & 70 no. apartments from first to sixth floor level.	Granted permission with conditions. A screening for Appropriate Assessment was completed by the planning authority, which

	Balconies are provided for the residential apartments on the eastern, western, southern and northern elevations. Provision of 67 no. car parking spaces at basement level & 18 no. car parking spaces with bike store.	determined that this project will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites.
3675/21 **Coombe Woman & Infant University Hospital, Cork Street, Dublin 8, D08 XW7X**	The development on the site will consist of a new access gate to the boundary of the Coombe with Margaret Kennedy Road with all associated site works. This application site is in S.D.R.A. no. 12 St Teresa's Gardens and Environs Strategic Development and Regeneration Area.	Additional information
41 Glenealy Road	New two storey extension to the side of the existing dwelling, some internal alterations and associated site works.	Not decided
3426/18 The Donnelly Centre Phase 2 Building, Cork Street/Brickfield Lane, Dublin 8	The proposal relates to student accommodation development of c. 5,231 sq.m gross floor area, to include a retail/enterprise unit at ground floor level (119 sq.m) as well as ancillary areas. The proposed development will consist of: - Demolition of the building on site known as The Donnelly Centre Phase 2 (totalling c.728 sq.m) - Construction of a development comprising 166 student accommodation bed spaces with associated ancillary areas and a retail/enterprise unit (119 sq.m), in a five to seven storey high building over basement with frontage onto Cork Street and Brickfield Lane	Granted permission with conditions. A screening for Appropriate Assessment was completed by the planning authority, which determined that this project will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites.
2027/21 17, Rehoboth Place, South Circular Road, Dublin 8	Retention sought for existing single story extension	No decision. This project is small in scale and of a quantum that will not have the potential to result in likely significant effects, alone or in-combination with other plans or projects, to European Sites.
2068/21	Retention sought for existing single story extension	No decision. This project is small in scale and of a quantum that will not

277, South Circular Road, Dublin 8, D08 R29H		have the potential to result in likely significant effects, alone or in-combination with other plans or projects, to European Sites.
ABP 305061 355 South Circular Road, Dublin 8	Student accommodation	An Bord Pleanala granted permission with conditions. A screening for Appropriate Assessment was completed by An Bord Pleanála, which determined that this project will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites.
Clonburris SDZ	The Clonburris SDZ is proposed to the to the west of the project site but adjacent to the Grand Canal. This project is located a short distance to the north of the canal and aims to convert existing greenfield land to residential land. This project, which has been screened for Appropriate Assessment, has not been found to have the potential to result in likely significant effects to European Sites. It has been adjudged not to have the potential to combine with other land use plans or projects to result in cumulative impacts downstream to the European Sites at Dublin Bay	Given the findings of the screening for Appropriate Assessment for the SDZ, there is no potential for this project to combine with the SHD project to result in likely significant effects, to European Sites.

7.0 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS IN VIEW OF EUROPEAN SITE CONSERVATION OBJECTIVES

The function of this screening exercise is to determine whether the project is likely to have significant effects on European Sites. The screening is required to be completed in view of the Conservation Objectives for the qualifying features of interest of these European Sites that also occur within the zone of influence of the project.

Site Specific Conservation Objectives (SSCOs) have been formulated for all three European Sites occurring within the zone of influence of the project. The structural and functional elements of a European Site to maintain the favourable conservation status of qualifying features of interest is embedded into the list of SSCOs for each of the site's interest features. As such the SSCOs of a European Site represent the parameters against which an assessment of a project's potential to result in likely significant effects should be undertaken.

SSCOs for the special conservation interests of the South Dublin Bay River Tolka Estuary SPA and the North Bull Island SPA; and the relevant qualifying features of interest of the North Dublin Bay cSAC occurring within the zone of influence of the project have been published by the NPWS (NPWS, 2013; 2015a; 2015b). Table 7.1 lists the Conservation Objectives attributes and targets for each of these features and provides an assessment of the project's potential to result in likely significant effects to these objectives .

Table 7-1: Assessment of the Project potential to effect the SSCOs of the qualifying feature occurring within its Zone of Influence

Attribute. No.	Attribute	Target	Assessment
Mudflats (North Dublin Bay cSAC)			
1	Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
2	Community distribution	Conserve the following community types in a natural condition: Intertidal sand with *Scolelepis squamata* and *Pontocrates* spp. community; and Intertidal sand to mixed sediment with polychaetes, molluscs and crustaceans community complex.	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
Salicornia and other annuals colonising mud (North Dublin Bay cSAC)			
3	Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession.	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
4	Habitat distribution	No decline or change in habitat distribution, subject to natural processes.	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
5	Physical structure: sediment supply	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
6	Physical structure: creeks and pans	Maintain creek and pan structure, subject to natural processes, including erosion and succession	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.

7	Physical structure: flooding regime	Maintain natural tidal regime	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
8	Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
9	Vegetation structure: vegetation height	Maintain structural variation within sward	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
10	Vegetation structure: vegetation cover	Maintain more than 90% of the saltmarsh area vegetated	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
11	Vegetation composition: typical species and sub-communities	Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
12	Vegetation structure: negative indicator species- *Spartina anglica*	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
Special conservation interest bird species (South Dublin Bay River Tolka Estuary SPA & North Bull Island SPA)			
22	Population trend	Long term population trend stable or increasing	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.
23	Distribution	There should be no significant decrease in the range, timing or intensity of use of areas by special conservation interest bird species of the SPA occurring within the zone of influence other than that occurring from natural patterns of variation	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.

Wetland habitat (South Dublin Bay River Tolka Estuary SPA & North Bull Island SPA)			
24	Wetland habitat area	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 32,261ha, other than that occurring from natural patterns of variation	For reasons outlined in Section 6 above the project will not have the potential to undermine the targets for this conservation objective attribute.

CONCLUSION

During the examination of the project it was found that 14 no. European Sites occur within a wider area surrounding the project site. The zone of influence was extended to a radius of 15km from the project site, so as to ensure that all aspects of those 14 no. European sites fell within the scope of this screening report.

The nearest European Sites to the project site (i.e. the South Dublin Bay SAC and South Dublin Bay & Tolka Estuary SPA) are located approximately 5.2km to the east. Of the 14 no. European Sites occurring within the zone of influence, no pathways were identified connecting 10 of these to the project site and these European Sites were screened out from further consideration at an early stage of this screening exercise.

The remaining four European Sites occurring at Dublin Bay were identified as occurring within the zone of influence of the project by virtue of the presence of a potential hydrological pathway linking the project site to these European Sites. A potential surface water pathway was identified between the project site and the South Dublin Bay & Tolka Estuary SPA; North Bull Island SPA and North Dublin Bay SAC. A potential wastewater pathway was identified during an early stage of the screening between these three European Sites as well as the South Dublin Bay SAC.

Accordingly, the potential for the surface water and wastewater hydrological pathways to function as impact pathways were then examined as part of this screening exercise. This examination was completed by considering all aspects of the proposed project that could result in the emission of potentially polluting material to the Grand Canal draining lands adjacent to the project.

This assessment found that the three European Sites occurring downstream of the project site via the potential surface water pathway (i.e. Grand Canal) at Dublin Bay are not deemed to be at risk of likely significant effects from the project due to the reasons set out in Section 6.1.1 of this report .

The absence of a functional surface water hydrological impact pathway between the project site and the Dublin Bay European Sites will ensure that the project will not have the potential to result in likely significant effects to the future conservation status of qualifying features of interest and special conservation interests for which these European Sites are designated and will not undermine the achievement of their site-specific conservation objectives.

The examination also found that the discharge of wastewater from the project site during its construction phase and operation phase will not have the potential to negatively affect the water quality of the transitional/coastal waters. As such the wastewater pathway to Dublin Bay does not have the potential to function as an impact pathway and the discharge of wastewater from the project site will not result in likely significant effects to the future conservation status of qualifying features of interest and special conservation interests for which these European Sites are designated and will not undermine the achievement of their site-specific conservation objectives.

In light of the findings of this report it is the considered view of the authors of this Screening Report for Appropriate Assessment that it can be concluded by An Bord Pleanála that the project is not likely, alone or in-combination with other plans or projects, to have a significant effect on any European Sites in view of their Conservation Objectives and on the basis of best scientific evidence and there is no reasonable scientific doubt as to that conclusion.

Accordingly, the competent authority is enabled to determine that it can be excluded, on the basis of objective information, that the project, individually or in combination with other plans or projects, will have a significant effect on any European Site.

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APPENDIX 1: QUALIFYING FEATURES OF INTEREST OF EUROPEAN SITES OCCURRING WITHIN THE WIDER SURROUNDING AREA

A total of five European Sites were identified as occurring within a 15km radius of the project site and an addition four European Sites were identified as occurring downstream of the project site at Dublin Bay. Table A1.1 below lists the qualifying features of interest of each of these European Sites.

Table A1.0-1: Qualifying Features of Interest European Sites occurring within a 15km radius and downstream of the Project

European Sites	Qualifying features of interest
Rye Water Valley/Carton SAC	Petrifying springs with tufa formation (Cratoneurion) [7220]
	Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]
	Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]
Glanasmole Valley SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]
	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]
	Petrifying springs with tufa formation (Cratoneurion) [7220]
Wicklow Mountain SAC	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]
	Natural dystrophic lakes and ponds [3160]

	Northern Atlantic wet heaths with Erica tetralix [4010]
	European dry heaths [4030]
	Alpine and Boreal heaths [4060]
	Calaminarian grasslands of the Violetalia calaminariae [6130]
	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]
	Blanket bogs (* if active bog) [7130]
	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110]
	Calcareous rocky slopes with chasmophytic vegetation [8210]
	Siliceous rocky slopes with chasmophytic vegetation [8220]
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
	Lutra lutra (Otter) [1355]
Wicklow Mountain SPA	Merlin (Falco columbarius) [A098]
	Peregrine (Falco peregrinus) [A103]

South Dublin Bay SAC	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]
North Dublin Bay cSAC	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 (Glauco-Puccinellietalia maritimae) [1330]
	Mediterranean salt meadows (Juncetalia maritimi) [1410]
	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]

	Petalophyllum ralfsii (Petalwort) [1395]
North Bull Island SPA	Light-bellied Brent Goose (Branta bernicla hrota) [A046]
	Shelduck (Tadorna tadorna) [A048]
	Teal (Anas crecca) [A052]
	Pintail (Anas acuta) [A054]
	Shoveler (Anas clypeata) [A056]
	Oystercatcher (Haematopus ostralegus) [A130]
	Golden Plover (Pluvialis apricaria) [A140]
	Grey Plover (Pluvialis squatarola) [A141]
	Knot (Calidris canutus) [A143]
	Sanderling (Calidris alba) [A144]
	Dunlin (Calidris alpina) [A149]
	Black-tailed Godwit (Limosa limosa) [A156]
	Bar-tailed Godwit (Limosa lapponica) [A157]
	Curlew (Numenius arquata) [A160]

	Redshank (Tringa totanus) [A162]
	Turnstone (Arenaria interpres) [A169]
	Black-headed Gull (Chroicocephalus ridibundus) [A179]
	Wetland and Waterbirds [A999]
South Dublin Bay & Tolka Estuary SPA	Light-bellied Brent Goose (Branta bernicla hrota) [A046]
	Oystercatcher (Haematopus ostralegus) [A130]
	Ringed Plover (Charadrius hiaticula) [A137]
	Grey Plover (Pluvialis squatarola) [A141]
	Knot (Calidris canutus) [A143]
	Sanderling (Calidris alba) [A144]
	Dunlin (Calidris alpina) [A149]
	Bar-tailed Godwit (Limosa lapponica) [A157]
	Redshank (Tringa totanus) [A162]
	Black-headed Gull (Chroicocephalus ridibundus) [A179]
	Roseate Tern (Sterna dougallii) [A192]

	Common Tern (Sterna hirundo) [A193]
	Arctic Tern (Sterna paradisaea) [A194]
	Wetland and Waterbirds [A999]
Knocksink Wood SAC	Petrifying springs with tufa formation (Cratoneurion) [7220]
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
Baldoyle Bay SPA	Light-bellied Brent Goose (Branta bernicla hrota) [A046]
	Shelduck (Tadorna tadorna) [A048]
	Ringed Plover (Charadrius hiaticula) [A137]
	Golden Plover (Pluvialis apricaria) [A140]
	Grey Plover (Pluvialis squatarola) [A141]
	Bar-tailed Godwit (Limosa lapponica) [A157]
	Wetland and Waterbirds [A999]
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 (Glauco-Puccinellietalia maritimae) [1330]
	Mediterranean salt meadows (Juncetalia maritimi) [1410]
Howth Head SAC	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
	European dry heaths [4030]
Dalkey Island SPA	Roseate Tern (Sterna dougallii) [A192]
	Common Tern (Sterna hirundo) [A193]
	Arctic Tern (Sterna paradisaea) [A194]