

**JACOBS®**



## **Greater Dublin Drainage Project**

Irish Water

### **Greater Dublin Drainage Project: Response to Submissions**

January 2019

10001369

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## 1. Introduction

1. Irish Water (the Applicant) acknowledges receipt of the letter sent by An Bord Pleanála (ABP) on 27 November 2018 in respect to the Strategic Infrastructure Development (SID) application for approval for the proposed Greater Dublin Drainage Project (hereafter referred to as the Proposed Project) (ABP reference no. ABP-301908-18).

2. The letter from ABP invited the Applicant to make a submission as follows:

*'It is considered that an issues-based response broadly following the format set down in documents previously presented may best facilitate cross-referencing and ease of understanding. Therefore, in providing a response to the issues raised you are requested to generally follow the structure laid down in the EIAR/ other documents, as appropriate, rather than responding to the individual submissions'.*

3. This document, and its supporting appendices comprise the response of the Applicant to the issues raised in the submissions and observations received by ABP.
4. The Applicant reserves its entitlement to further expand on its reply in relation to these issues as may be appropriate at any Oral Hearing which may be held in relation to this application.

### 1.1 Overview of the Statutory Consultation Phase

5. The application for planning approval for the Proposed Project was submitted to ABP on 20 June 2018. The application documentation was placed on display during the period 28 June 2018 to 17 August 2018 (a seven-week period). Additionally, the application documentation was made available to view and download on a dedicated website ([www.gddapplication.ie/statutory-documents/](http://www.gddapplication.ie/statutory-documents/)).
6. Prescribed bodies, the general public, landowners and other interested parties were able to make submissions/ observations on:
  - the likely effects on the environment of the Proposed Project; and
  - the implications of the Proposed Project for proper planning and sustainable development in the area concerned.
7. Following this consultation period, it came to the attention of the Applicant on 19 July 2018 that in relation to the documents which were lodged with the planning application, some documentation forming part of the Environmental Impact Assessment Report (EIAR) were inadvertently omitted. By agreement with ABP, these documents were placed on display during the period 13 September 2018 to 18 October 2018 (a five-week period) and Prescribed Bodies, the general public, landowners and other interested parties were invited to make further submissions on the entirety of the planning application until 18 October 2018.
8. A total of 174 submissions/ observations were received; comprising 145 from the first consultation period and 29 from the second consultation period.
9. The Applicant is cognisant and appreciative of the time spent by all third parties in preparing these submissions. Each submission has been considered and the Applicant has sought to ensure that the issues raised in each are appropriately addressed in this Response.

## **1.2 Review of Submissions**

10. For ease of reference an identification number has been assigned to each submission. These identification numbers run from GDD\_SUB\_1 to GDD\_SUB\_174 and can be viewed in Appendix A1.2 of this Response, together with the Submitter Name and ABP Submission ID, where one was assigned.
11. An initial review of the submissions was undertaken which involved the identification of the main issues. These issues were separated into themes which related to various aspects of the Proposed Project and aligned with the structure of the EIAR/ other documents (i.e. Planning, Noise and Vibration, Air Quality, Traffic and Transport etc.)
12. The purpose of the review was to collate the issues relevant to each specialist/ Project Team member to allow for a more refined analysis to be undertaken. This resulted in each submission undergoing two reviews; the initial Project Team review and a focused specialist review.
13. The review of submissions allowed for similar types of issues to be grouped together under the relevant topic headings of the EIAR/ other documents to provide a comprehensive overall response, in line with the request from ABP, as outlined in Section 1

## **1.3 Response to Submissions**

14. A significant quantity of issues raised in submissions have already been addressed in the Planning Report, EIAR, Natura Impact Statement (NIS) and other supporting documentation of the Proposed Project planning application which was submitted to ABP. To avoid significant replication of text, the Applicant has addressed the substance of issues raised and provides references to the relevant sections of the planning application documentation.

## **1.4 Key Concerns Raised in Submissions**

15. The review and detailed consideration of the 174 submissions and observations identified key areas of concern. These particular concerns and the Applicant's summary response are provided below.

### **1.4.1 Site Selection and Alternatives**

16. Submissions raised concern about the site selection and route selection process undertaken. A detailed Alternative Sites Assessment (ASA)/ Route Selection (RS) was undertaken in four distinct phases between 2011 and 2013. The assessment considered a broad range of factors including environmental and technical aspects. The outcomes of each of these assessments were combined into an overall assessment matrix. The process concluded that the Clonshagh site option (proposed Wastewater Treatment Plant (WwTP) site, southern marine outfall and orbital sewers) was the most environmentally, technically and economically advantageous option. The Clonshagh site option was therefore recommended as the final preferred site option and was brought forward for further assessment under the Environmental Impact Assessment (EIA) and Appropriate Assessment processes. The ASA / RS Report is publicly available and is summarised in Chapter 5 Consideration of Alternatives in Volume 2 Part A of the EIAR.
17. A review of the ASA/Route Selection Report was undertaken by the project team in December 2017. The purpose of this review was to examine each element of the Proposed Project against the findings of each Phase of the ASA/Route Selection in light of the development of the project since the final ASA/Route Selection Report was published in 2013 to assess whether the recommendations of the ASA/Route Selection

Report remain valid. This review concluded that the methodology, findings and recommendations of the ASA/Route Selection process remain valid.

18. The Applicant prepared the Greater Dublin Drainage Strategy – Overview and Future Strategic Needs (May 2018) which confirmed that they had reviewed the Greater Dublin Strategic Drainage Study (GDSDS) and its SEA in framing its Water Services Strategic Plan (WSSP) in 2015. The WSSP is the Applicant's strategic national plan for the delivery of water and wastewater services over the next 25 years. It was determined in the WSSP that the conclusions of the GDSDS and its associated SEA were entirely valid, that the additional wastewater treatment capacity was required, and that this additional treatment capacity was best provided by a single regional WwTP.

#### **1.4.2 Marine Water Quality**

19. Particular concern was raised that the Proposed Project will affect marine water quality during operation or as a result of process failure. The concerns extended to impacts on bathing water quality, local Blue Flag beaches, shellfish, potential impact of dredging to sediment patterns.
20. Extensive modelling has been undertaken of the receiving waters as part of the planning application, examining the potential for impact of the Proposed Project and assessment of compliance with the Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008), Blue Flag Programme Standards, Environmental Objectives (Surface Waters) (Amendment) Regulations 2015 (S.I. No. 386 of 2015), Environmental Objectives Regulations 2009 and EC (Quality of Shellfish Waters) Regulations.
21. Results from the model simulations demonstrated no significant impact of the proposed discharge on receiving waters, any designated bathing waters beaches, Blue Flag beaches, Balcadden Bay nor Ireland's Eye. No compliance failures were predicted at any of the designated bathing water beaches or Blue Flag beaches' 'excellent' status arising from the proposed discharge of treated wastewater.
22. Two of the designated shellfish waters are located in the vicinity of the proposed outfall pipeline route; Malahide and Balbriggan/Skerries.
23. There is no direct relationship between the concentration of coliforms in the overlying water and the concentration of coliforms in the shellfish flesh as both the uptake/accumulation and clearance/removal of coliforms by filter-feeding shellfish is a dynamic process affected by many variables (e.g. temperature, food availability, salinity, shellfish age, season, reproductive state, health of the shellfish and the impacts of toxins and other contaminants, etc).
24. The modelling of the Average Daily Flow and Flow to Full Treatment predict that the coliform concentration fluctuate between a maximum value on flooding tides and zero concentration on ebbing tides. This provides equal time for uptake/accumulation and subsequent clearance/removal of any coliforms by the shellfish. There is not predicted to be any impact on the shellfish water quality as a result of the proposed discharge.
25. Additional concerns were raised for the Construction Phase about marine water quality during construction, particularly in relation to the potential impact of dredging to sediment patterns. The excavated material created during dredging will be stockpiled and will be subsequently reused to refill the trench over and around the pipe once it is installed in the trench resulting in no net removal of sediment or alteration of sediment transport patterns

### **1.4.3 Tertiary Treatment**

26. Submissions raised concerns about the use of secondary treatment and not tertiary treatment at the proposed WwTP.
27. The decision to apply and advanced form of secondary treatment rather than tertiary treatment is addressed in Section 4.4.4 – Proposed Treatment Standards of Chapter 4 Description of the Proposed Project in Volume 2 Part A of the EIAR. Section 4.4.4 noted that the proposed WwTP will require a wastewater discharge licence to be granted by the EPA under the Waste Water Discharge (Authorisation) Regulations 2007 (S.I No. 684 of 2007) prior to commissioning of the proposed WwTP.
28. Extensive modelling studies were undertaken on the proposed discharge which confirmed that, for the identified proposed outfall location and the emission limit values proposed for treated wastewater, the receiving water will meet 'good' status criteria and will meet the environmental quality objectives for coastal water nutrients levels with the use of secondary treatment. The modelling studies also confirmed that:
  - The Proposed Project will have a negligible impact on the water quality of the coastal waters off County Dublin;
  - The Proposed Project will have no impact on achieving the goals of the Water Framework Directive (i.e. reaching 'good' status in all water bodies);
  - The proposed discharge location will not negatively impact any designated bathing waters including blue flag beaches; and
  - The Proposed Project will have a negligible impact on the quality of shellfish waters.

### **1.4.4 Odour**

29. Concern has been raised in submissions that the Proposed Project will result in odour impacts to local residents, businesses and tourism during operation and in the event of malfunction. Additional concerns were raised with regards the design of odour control units, and effective implementation of odour control measures.
30. There have been significant engineering advances in the technology employed at WwTPs. Modern plants have extensive odour, emissions and noise controls in place and this will be the case with the Greater Dublin Drainage project.
31. The design of the proposed WwTP and Abbotstown pumping station has incorporated several mitigation measures and management proposals to minimise odour impact. All tanks will be covered at the proposed WwTP and as such the ability to contain, abstract and treat gases is enhanced. All gases at the proposed WwTP and Abbotstown pumping station will be contained, abstracted and treated in Odour Control Units. All potential odour releasing activities at the proposed WwTP will be enclosed.
32. The performance of the Odour Control Units will be monitored during a comprehensive Process Proving Phase at commissioning and at regular intervals throughout the operation of the facility. Monitors will be installed which monitor key elements of performance for the abatement systems over the full life of the proposed WwTP.

33. In addition, independent performance checks will be carried out by an ISO17025 accredited testing laboratory at quarterly intervals during the first two years of operation to verify the effectiveness of control measures and ongoing compliance with the required performance targets.

#### **1.4.5 Consultation and Communications**

34. Consultation and communications process concerns were raised as topics in submissions and observations received. Concerns included how consultation was conducted, location of consultation events proximate to the Proposed Project location, accessibility of documentation and timeframes for statutory submissions.
35. An extensive programme of consultation and stakeholder engagement has been undertaken both by Fingal County Council (2011-2013) and by the Applicant (2014 to date) as a key element of the development of the Proposed Project. Detailed information on the consultation and engagement programme is contained in the GDD Public and Stakeholder Participation Report (GDD PSPR) previously submitted to An Bord Pleanála (ABP). 7 phases of non-statutory public consultation were held between 2011 and 2018 which included 34 information events held locally within the project area; 19 project updates issued; 41 press advertisements published in national and local newspapers; 31 press releases issued and numerous media interviews conducted; 351 media articles; 196 stakeholder meetings/briefings; 3 study tours of other WwTPs for residents, landowners and public representatives; Poster campaigns in local areas; a project website; a project overview video; a project information service (phone/email/post); and A public information campaign held in 2017 to provide advance notice of the GDD planning application which included a mailout to 11,000 recipients and three locally held public information events.
36. Consultation has formed a central part of the development of the Greater Dublin Drainage project from 2011 to 2018 and has been effective in widely disseminating information about the Proposed Project.

#### **1.4.6 Natura Impact Statement (NIS)**

37. The NIS was raised as a topic in submissions and observations received. Concerns included the impact of dredging, plumes, potential leakages and/or malfunction and in-combination impacts as a result of the proposed marine outfall, on designated sites.
38. The assessment contained in the NIS concludes that the conservation objectives of the Qualifying Interests and Special Conservation Interests of the 18 Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) considered will not be compromised, the favourable conservation condition of the features shall not be compromised, and there is no adverse effect on the integrity of any designated sites.

### **1.5 Structure of the Report**

39. Section 1 (Introduction): Outlines the requirements of ABP as set out in its letter of 27 November 2018, the Applicant's approach to reviewing and responding to issues raised in submissions received by ABP and the structure of the overall report.
40. Section 2 to 27: Includes responses to submissions under the structure of the EIAR/ other documents chapter headings/topics).
41. The Applicant has considered the issues raised in all submissions / observations.

## 1.6 References in this Response

42. There are extensive references to the planning application documentation in this Response in response to issues raised in submissions/ observations. The structure of the relevant planning application documentation is outlined in Table 1.

**Table 1: Structure of Relevant Planning Application Documentation**

Documentation Category	Details
<b>Statutory</b>	SID Application Cover Letter
	SID Application Form
	Newspaper Notice
	Site Notice
	Notification Letters to Prescribed Bodies
<b>Statutory (Addendum)</b>	Newspaper Notice – Irish Independent
	Newspaper Notice – The Herald
	Letter to Prescribed Bodies - Addendum
	Additional Letters to IAA, CRR and Irish Rail
<b>Planning</b>	SID Planning Report
	Greater Dublin Drainage Strategy Overview and Future Strategic Needs
	GDD Engineering Design Report
	RBSF Engineering Design Report
	RBSF Architectural Design Report
	GDD Outline Construction Environmental Management Plan
	RBSF Outline Construction Environmental Management Plan
	Public Stakeholder Participation Report
	Community Benefits Scheme
	GDD Flood Risk Assessment
	RBSF Flood Risk Assessment
	GDD Planning Drawings
	RBSF Planning Drawings
	Location of Site Notices
<b>Environmental</b>	Natura Impact Statement
	Environmental Impact Assessment Report Volume 1 Non-Technical Summary
	Environmental Impact Assessment Report Volume 2 Part A Introduction
	Environmental Impact Assessment Report Volume 2 Part B Appendices (relevant to Volume 2 Part A)
	Environmental Impact Assessment Report Volume 3 Part A Main Report for the Proposed Project



Documentation Category	Details
	Environmental Impact Assessment Report Volume 3 Part B Appendices (relevant to Volume 3 Part A)
	Environmental Impact Assessment Report Volume 4 Part A Main Report for the Regional Biosolids Storage Facility
	Environmental Impact Assessment Report Volume 4 Part B Appendices (relevant to Volume 4 Part A)
	Environmental Impact Assessment Report Volume 5 Part A Proposed Project Figures
	Environmental Impact Assessment Report Volume 5 Part B Regional Biosolids Storage Facility Figures
	Environmental Impact Assessment Report Volume 6 Photomontages
<b>Environmental (Addendum)</b>	Appendix 2E RBSF Stage 3 Consultation Report
	Appendix 4D RBSF Stage 1 Report Site Selection Methodology
	Appendix 4E RBSF Stage 2 Report Identification of Potential Sites
	Appendix 4F RBSF Stage 3 Report Identification of Preferred Site
	Appendix A18.1 (Various Geological Reports)
	Figure 20.1 Location of Active Landfills in the Study Area
	Figure 21.1 Gas Transmission Infrastructure Location of Crossing Points
	Figure 21.2 Power Transmission Infrastructure Location of Crossing Points
	Figure 21.3 Railway Infrastructure Location of Crossing Points
	Figure 21.4 Dublin to Belfast Railway Propose Trenchless Crossing
	Figure 21.5 N2 National Road Proposed Trenchless Crossing
	Figure 21.6 Collinstown Cross Proposed Trenchless Crossing
	Figure 21.7 M1 Motorway Proposed Trenchless Crossing
	Figure 21.8 Water Supply Infrastructure Crossing Points
	Figure 21.9 Watercourses Crossing Points
	Figure 21.10 Quarry Locations in Greater Dublin Region
	Appendix A11.1 Figure 2.1
	Appendix A11.1 Figure 2.2



## 2. Planning

### 2.1 Overview

43. Four of the 174 submissions raised the issue of planning in relation to the Proposed Project.
44. Eight of the 174 submissions raised the topic of community gain.
45. The Proposed Project has been under design, public consultation, stakeholder consultation and detail design for a number of years, and as such has taken all consultation feedback on board in its assessments, design iterations and final proposal.
46. The Proposed Project is also acknowledged by the four Dublin Local Authorities, as critical infrastructure that is required to meet the identified need for additional sustainable wastewater treatment within the Dublin area. This is a strategic need identified in National, Regional and Local strategic and planning policy documents, is supported and underpinned by such policy (including EU policies and Directives) and is also supported through the National Planning Framework National Strategic Outcomes and associated National Development Plan (2018-2027). This need is comprehensively addressed in the initial Greater Dublin Drainage Study (GDDS) and the subsequent Irish Water Greater Dublin Drainage Strategy, which stress tested the conclusions of, and inputs to the GDDS.

### 2.2 Response to General Issues Raised

#### 2.2.1 Strategic Infrastructure Development (SID)

47. The following submissions raised the concern as to whether the Proposed Project is a SID:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_161	Orla O'Kane & Others	Not assigned by ABP
GDD_SUB_163	Seán Haughey TD	Not assigned by ABP

#### Applicants Response

48. The planning application for the Proposed Project went through the statutory SID pre-application procedure as required by the Planning and Development Act 2000, as amended (the Act). As provided for under Section 37B of the Act, the Applicant therefore entered into discussions and consultations with An Bord Pleanála (ABP) in relation to the Proposed Project (Case Ref.PL06F.PC0152). Six meetings were held with ABP on the 21st January 2013, the 16th February 2014, the 9th July 2015, the 26th June 2017, 20th November 2017, and 14th February 2018, respectively. A Direction issued by ABP on 16 May 2018, confirmed that the Proposed Project constitutes strategic infrastructure within the meaning of section 37A of the Act, as it is a class of development that comes within the scope of the 7th Schedule and in the opinion of ABP would, if carried out, fall within the following paragraphs of Section 37A(2)(a)(b) and (c) of the Act:
- the development would be of strategic economic or social importance to the State or the region in which it would be situate;

- the development would contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situate; and
  - the development would have a significant effect on the area of more than one planning authority.
49. As can be noted from the SID planning application documentation submitted, the supporting policy context and framework is detailed in the Planning Report (see Section 1.6 and 1.7, and Chapter 3 and 4). Such need and policy is also acknowledged and highlighted in both the Fingal County Council, and Dublin City Council, Chief Executives' Reports submitted to ABP under Section 37E(4) of the Act.

## 2.2.2 National Spatial Strategy (NSS)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_67	Eugene Farrell	LDG-007761-18

50. The submission from Eugene Farrell objected to the planning application on the basis that, in his submission, it is contrary to the NSS 2002-2020 and the Fingal Development Plan 2017-2023.

## Applicant's Response

51. The NSS has been superseded by the National Planning Framework and the National Development Plan. The Planning Report addresses, in detail, the context and framework of the Proposed Project, in respect of these relevant and most recent Government policy and strategy – refer to Sections 1.1, 1.6, 1.7, and Chapters 3 and 4 of the Planning Report. The Fingal Development Plan 2017-2023 has also been considered in depth in the Planning Report, and considerations relating to same are contained within Chapter 3 and 4 of the Planning Report.

## 2.2.3 Community Gain

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_31	Cllr Cian O Callaghan	LDG-007713-18
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_156	Peter Coyle	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP
GDD_SUB_174	Fingal County Council	Not assigned by ABP

52. Submissions received from Minister Richard Bruton, Councillor John Lyons and Riverside Residents Association contended that there is no community gain associated with the Proposed Project.
53. Councillor Cian O'Callaghan submits, that given the level of economic deprivation in the adjacent areas of Darndale and Belcamp the Community Benefits Scheme that forms part of the planning application should be amended to better serve local community youth and sport.

54. Portmarnock Community Association submit that the Applicant should commit to community schemes to enhance and improve the environment from Clonshagh to Ireland's Eye.

### **Applicant's Response**

55. If planning permission is granted, the Proposed Project will be the most significant wastewater treatment advancement in Ireland for many years. The Proposed Project is proposed to be operational by 2026 and will have the capacity to provide long-term wastewater treatment for the equivalent of half a million people in the Greater Dublin Area (GDA).
56. The Proposed Project will underpin the sustainable growth of the north Dublin region to 2050 and beyond by forming a vital part of the primary infrastructure network that is essential to enable residential, commercial and public development. The Proposed Project will protect and enhance Dublin's water quality for all, bringing significant, lasting benefits for the environment, for public health and for economic and social growth through providing the vital wastewater treatment capacity that the region needs to support its development.
57. The delivery of the Proposed Project is a key strategic investment priority under the National Planning Framework (Project Ireland 2040), the National Development Plan 2018-2027, Regional Planning Guidelines, the Fingal Development Plan 2017-2023 and the Dublin City Development Plan 2016-2022.
58. In addition to its many inherent benefits, the Applicant recognises that the delivery of the Proposed Project presents opportunities for benefits to accrue locally during construction and in operation. The Applicant has reviewed and considered the feedback provided by members of the public and other interested stakeholders relating to community benefit.
59. In response, we have researched and proposed a Community Benefits Scheme for the Proposed Project that leverages the significant public expenditure so as to maximise the benefits for communities in proximity to the Proposed Project. The details of the proposed Community Benefits Scheme were submitted to ABP as part of the planning application documentation on 20 June 2018.
60. As part of the development of the Community Benefits Scheme a detailed Community Needs Analysis Study was undertaken by the Applicant. This study provided a factual basis for evaluating and understanding the social, economic and environmental needs of communities in close proximity to the Proposed Project.
61. Following a detailed socio-economic and demographic analysis, a community infrastructure audit was undertaken within the Proposed Project area. The results of these first two phases of research were considered in combination with the feedback on community gain as provided by members of the public and other stakeholders during the various Proposed Project consultations. Priorities for social, economic and environmental development were then identified and assessed. The research found that initiatives that deliver economic (employment/enterprise), educational or environmental benefits would be most beneficial to communities in proximity to the Proposed Project.
62. The Community Benefits Scheme proposes to deliver tangible benefits for communities in proximity to the proposed infrastructure in the three key identified areas: Employment, Education and Environment.
63. Table 2 summarises the Proposed Project and the Applicant's commitment and actions under each category of the Community Benefits Scheme.

**Table 2: Summary of Community Benefit Scheme Commitments for the Proposed Project**

Category	Commitments	Actions
<b>Employment</b>	A social procurement initiative to provide local employment opportunities to new entrant employees/job seekers.	A minimum of 10% of the person weeks worked on the GDD Project during construction to be delivered by new entrant employees/job seekers through the use of social clauses in the construction contracts.
	Providing opportunities for SMEs and social enterprises to benefit from the delivery of the GDD project.	'Meet the Buyer' events will be organised locally to identify potential sub-contractors and local suppliers of goods and services.
		A minimum of 5% of project team personnel including contractor(s) staff, consultants and sub-consultants are to be employees of SMEs.
<b>Education</b>	Initiatives that encourage progression in education at all levels and which seek to reduce early school leaving in the project area.	Workplace training will be provided for recruited personnel.
		A Permanent Wastewater Education Zone will be located at the GDD WwTP. Guided tours of the GDD WwTP will be facilitated.
		A Community Liaison Officer will be appointed to coordinate delivery of the scheme with all stakeholders. Outreach by CLO and contractor(s) to schools, colleges, universities within the GDA.
<b>Environment</b>	The GDD Project will be developed in an environmentally sensitive manner.	Construction works will be sequenced and phased in order to minimise impacts for the local community and on the local environment. The new treatment facility and pumping station will be appropriately landscaped and screened.
	The Applicant will support local projects which seek to protect and enhance the local environment.	The Applicant will provide in-kind supports for local projects that seek to enhance or protect the local built or natural environment.

## 2.3 Response to Specific Issues Raised in Observers' Submissions

### 2.3.1 Dalata Hotel Group PLC

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18

#### General Overview

64. In summary, the Dalata submission acknowledges the need for the Proposed Project, but asserts that the location of the proposed Wastewater Treatment Plant (WwTP) takes no cognisance of the pattern of development in the area (hotels). The submission states that the proposed WwTP represents a material contravention of the Fingal Development Plan's Zoning policy. In their submission, Dalata further submit that inadequate consideration of alternative sites has been given in respect of the proposed WwTP and Sludge Hub Centre (SHC) and will result in material detrimental impacts on the operation of the established hotel. Given the local context and additional matters relating to the subject site greenbelt zoning and overall site selection process, the Dalata submission asserts that the scale and nature of the Proposed Project at this location is such that it will give rise to undue negative impacts on the immediate area.

65. The Dalata submission also asserts that the applicants attempt to demonstrate that there is a need for the Proposed Project in this location in compliance with objective SS09 (for Greenbelt Zones) of the Fingal Development Plan 2017-2023 is deficient and ignores the remaining parts of the objective that development must also protect and promote permanency of the Greenbelt and the open and rural character of the area. It notes that the site selection undertaken does not establish a functional need for the Proposed Project to be located at the subject site, rather only that it would be less expensive to do so.
66. Additionally, the Dalata submission asserts that the proposed SHC is a land use specifically not permitted by the Greenbelt, high technology and open space zoning objectives, and that the assertion that WwTPs are 'open for consideration' on lands zoned for open space and amenities, contradicts commentary and policies related to such zones within the development plan. It further notes that in accordance with Fingal Development Plan 2017-2023, the proposed WwTP is a Utility Installation and the SHC is a Waste Disposal/Recovery Facilities (High Impact), and that in consideration of the zoning objective for the majority of the site, which is 'Greenbelt', there can be no way that the proposed facility can be considered to be compliant with the specific zoning objectives for Greenbelt zones (despite being mentioned in the Fingal Development Plan).
67. In the above regard, the submission asserts that the Proposed Project represents a material contravention of the Fingal Development Plan Zoning Policy *"to a compellingly material degree not alone by the extent of the site, the nature of the use and the scale of the facility but also through the paucity of the mitigation measures proposed to try properly integrating the facility into the Greenbelt landscape."*

### Applicant's Response

68. Having regard to the content of the submission made by Coakley O'Neill Town Planning Ltd (on behalf of the Dalata Hotel Group Plc) (the Dalata submission), and the issues raised therein, it is submitted that all planning matters are already addressed within the planning application documents. In particular in respect of general and specific planning policy, as well as sectoral policies and objectives raised, these have been covered within the planning application documents (see Section 1.1, 1.6, 1.7 and Chapter 3 and 4 of the Planning Report).
69. This response identifies the main planning issues raised and identifies, for ease of reference, where these have been addressed within the application documentation. Where necessary, clarification has been provided in relation to the planning position. This response also demonstrates to ABP that in terms of these issues, the full effects of the development proposal have been examined in detail and fully addressed within the application documentation and associated various specialist reports.

### Location Context

70. The proposed WwTP and SHC site, as is noted in Section 2.1.1 of the Planning Report, will be located in generally open agricultural land, with nearby roads in the area being characterised by low-density one-off residential properties. The Clayton Dublin Airport Hotel is situated in close proximity to the M50/ M1 junction – 485m north of Clonsaugh Business and Technology Park. There are other hotels in the area including the Holiday Inn Airport Hotel - located c. 1.65km south-west of the Clayton Hotel Dublin Airport in the centre of the Airways Industrial Park. Dardistown Cemetery is also situated c.1km to the north-west, and east of the Carlton Hotel Dublin Airport. As is noted within the submission made, the Clayton Dublin Airport Hotel is located some 400m from the proposed WwTP and SHC site. This location context, including an overview visual of the surrounding area is illustrated in Figure 1.



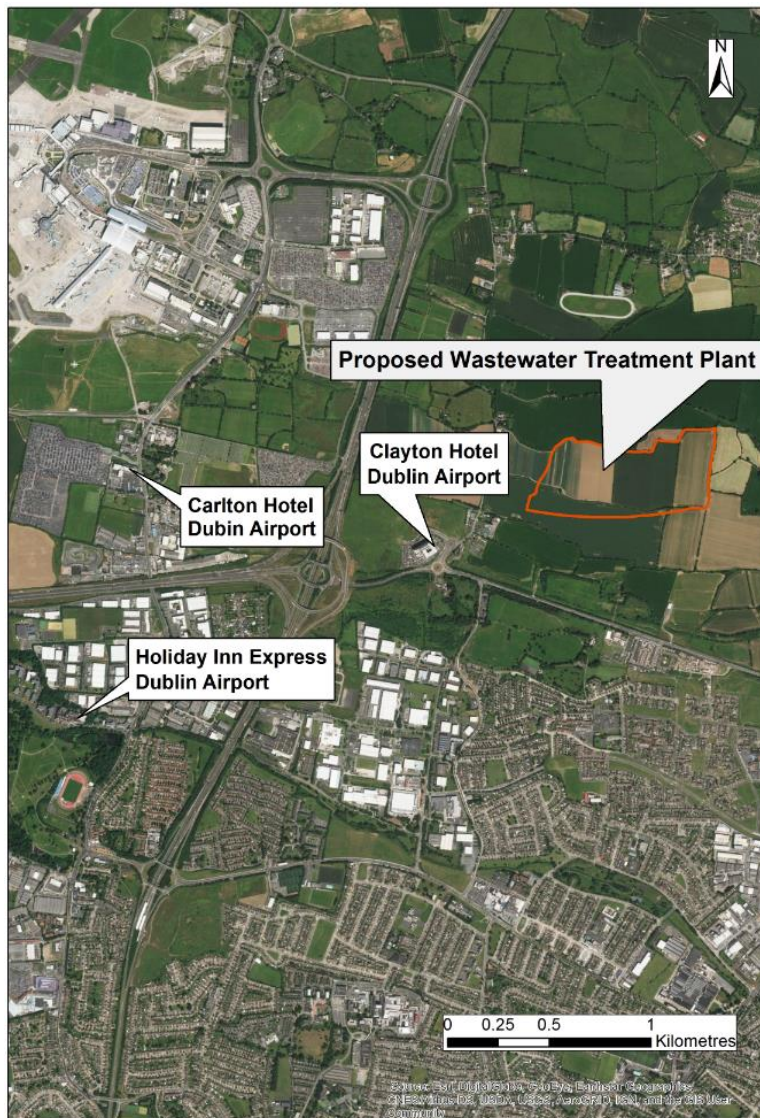


Figure 1: Proposed WwTP and SHC Surrounding Area Overview

71. Figure 1 shows that there are a number of hotels within the overall area, all located approximately equidistant from the M1/M50 interchange. These hotels largely exist to service Dublin Airport. As such the 'tourism' offer which they service, is largely, and generally related to brief, overnight stays either arising due to early morning departures, and late night arrivals from Dublin Airport.

#### *Hotel Permission(s) and Use*

72. Clarification is required to be made in respect of the existing, 'permitted' and extant hotel permissions. The Dalata Submission states that there is an extant permission under Planning Reference ABP PL09.232704 for a 325 bedroom hotel nearby to the north-east. It should be noted that planning permissions granted by ABP under reference PL09.232704 relates to the imposition of an additional condition following the Development Contribution Appeal. The Applicant notes that the hotel development referred to is in fact permitted by planning permission Ref. F08A/1305, granted by Fingal County Council on 14 September 2009.

This permission is therefore not extant but has in fact expired. The Applicant is not aware of any extension of the duration of the permission having been granted.

73. It is further clarified that the additional expired 239 bed hotel permission referred to (Planning Ref.F04A/1648 and ABP PL06F.212020) relates to the planning history of the same site, the implementation of which would have lapsed, on implementation of permission for the 325 bedroom hotel, should this have occurred.
74. Whilst it is noted that there is an existing hotel in the area, situated at some distance from the proposed WwTP and SHC site, the other similar such uses are expired permissions. The existence therefore of a hotel as a use within the area, does not in itself establish a pattern or character for the area. It is however a specific use which occurs within the area, characterised by a variety of uses, as has been addressed within the planning application documentation, and further clarified in the context of the specific submission as highlighted above. It should also be noted that any planning application lodged by the Dalata Group, and implementation thereof, would have been done in the knowledge of the Proposed Project, given its protracted design and consultation phases over the past number of years.

#### *Landscape and Visual*

75. The Planning Report and Chapter 12 Landscape and Visual in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR), assesses landscape and visual aspects relating to the Proposed Project. It is noted in Section 4.1.8 of the Planning Report that *“with regard to the WwTP and Sludge Hub Centre site, as the primary focus ... that represents the most visible permanent aspect of the Proposed Project, the project response has been to seek to blend and buffer the site within its surroundings - providing hedgerows within the WwTP site and extensive planting around the perimeter”*.
76. Chapter 12 Landscape and Visual in Volume 3 Part A of the EIAR also states that the Proposed Project would provide landscaped berms 3-4m in height to the east, west and northern boundaries. The visual impact of these boundaries would be ‘softened’ by the proposed planting on the berms. Section 4.1.7 (Project Response) of the Planning Report presents that the proposed WwTP buildings are proposed to be low-rise, and the site is also proposed to be well landscaped to ensure consistency with the existing landscape, and a ‘campus-style’ landscape as requested in consultation with Fingal County Council, which reflects the provisions required of development within High Technology zoned lands. In this respect, Table 12.7 of the ‘Design Guidelines for Business Parks and Industrial Areas’ has influenced the design of the Proposed Project, due to the proximity of these lands. This is in accordance with Objective ED112 to “Encourage better integration of industrial areas into the urban fabric of the County, resolving tensions between uses and enhancing the security and permeability of industrial areas for pedestrians and cyclists as well as businesses”.

#### *Zoning*

77. Section 4.1.10 of the Planning Report sets out in detail the zoning context of the Proposed Project. The Applicant notes that this accords with Section 2 of the Fingal County Council FCC Chief Executive Report. For clarity, the following provision is highlighted below:

*“Uses which are neither ‘Permitted in Principle’ nor ‘Not Permitted’ will be assessed in terms of their contribution towards the achievement of the Zoning Objective and Vision and their compliance and consistency with the policies and objectives of the Development Plan.”*

78. In respect of the stated material contravention of the Fingal County Development Plan, Section 4.1.10.1 of Planning Report provides that “The primary objective of the Greenbelt zoning is to demarcate urban and rural areas in order to curb unrestricted sprawl into the countryside. The development of the proposed WwTP and sludge hub centre, on these lands will not serve to undermine this objective. The specific nature of the development, which is essential public infrastructure, will not set a precedent for additional industrial, commercial or residential development within the Greenbelt”. Further, the FCC Chief Executive’s Report states “it would have a significant role in strengthening the Green Belt through ensuring sufficient services for the development and regeneration of appropriately zoned lands...it is considered that the proposal complies with the zoning policy and would contribute to the vision of protecting Green Belt lands from development pressure through facilitating development in the region within appropriately zoned lands.”
79. As stated in Section 4.1.10.1 of the Planning Report, in the event that ABP consider any aspect of the Proposed Project to materially contravene any of the provisions or zoning objectives of the Fingal County Development Plan (2017-2023), it is requested that ABP consider the application under the provisions of Section 37G(6) of the Act on the basis that:
- The Proposed Project is considered to be of strategic and regional importance;
  - Permission should be granted having regard to the relevant National and Regional plans and strategies as highlighted and presented within the Planning Report.

#### *Consideration of Alternatives*

80. The Dalata submission considers that no new site selection assessment was undertaken for the Proposed Project, and that the approach consists of re-evaluation of the initial site selection process (carried out between 2011-2013). The submission suggests that the nature and character of the area has changed to such a degree since original site selection assessment, that it is reasonable to require that a more detailed evaluation of the changes should have formed part of the study of alternative sites. In this regard, it is stated that there is a significant information deficit in relation to site selection and consideration of alternative sites.

#### **Applicant’s Response**

81. Section 3.4.1 of the Planning Report notes that “*with regards to ‘buffers’ relative to odour producing units....a feature of the Alternative Site Assessment is the implementation of a 300m buffer from any existing receptors – this is substantially in excess of the 100m buffer sought through Objective WM11. In regard to the proposed site layout itself, this incorporates a ‘green’ buffer to the west, north and east of the Proposed Project which varies in width between 60-120m. This buffer, together with the proposed extensive landscaping, will ensure that a minimum of 100m is maintained between any odour producing elements of the Proposed Project, as well as a “consistency with the character of the landscape with the Greenbelt”, and will integrate and screen the proposed WwTP and Sludge Hub Centre within the area. To the south of the Proposed Project, a campus-style landscaped edge, coterminous with the road, and the width of the road itself, will act as the Proposed Project buffer in this direction.*”
82. Given the scale and complexity of the Proposed Project as public infrastructure provision, evolution of the proposal has, by necessity, occurred over a number of years, with design amendments being incorporated through the consultation process and stakeholder engagement. Notwithstanding, the location and policy context of the Proposed Project has not materially or considerably altered since 2013 (as noted in the submission lodged), save for an increasing need for the Proposed Project.



83. Section 4.1.2 of the Planning Report notes that: *“Whilst elements of the Proposed Project are to be located within Greenbelt zoned lands, the functional and technical requirements of such a development (as outlined within the Alternative Sites Assessment reports), demonstrates their need and requirement to be installed/implemented in such a location. In this regard it is again highlighted that the ‘site’ was selected following a rigorous 4 phase Alternative Site Assessment (ASA), with a final report identifying the preferred site, which was published in June 2013. The provisions of these have been summarised and included within the EIAR.”*
84. Section 4.1.10.1 of the Planning Report also states that *“In addition to the above it is submitted that public infrastructure projects, such as drainage and rail infrastructure, will inevitably extend across a wide variety of zoned lands as a result of their linear nature. Such infrastructure must be developed on the most suitable undeveloped lands, while balancing considerations such as technical feasibility, cost, existing infrastructure networks, environmental sensitivities/designations and land use zoning. By way of comparison it is noted that the route of the proposed Metro North public infrastructure project, which is also supported by Fingal County Council (Objectives DMS120 and DMS121), extended through Greenbelt zoned lands. Furthermore, the East-West distributor road is identified on the FCDP which, when constructed, will form the southern boundary of the WwTP, site and is to be located in the lands.”*
85. Contrary to the Coakley O'Neill assertion that *“the site selection undertaken does not establish a functional need for the Proposed Project to be located at the subject site, rather only that it would be less expensive to do so”*, Section 4.1.10.1 of the Planning Report highlights the following:
86. Of the three shortlisted sites that arose out of the Alternative Sites Assessment (ASA) process<sup>1</sup>, the Clonshagh site was considered ‘more favourable’ on the basis of the following:
- Less ecological value in comparison to the other two alternative sites;
  - WwTP design could ensure there would be no impact to existing archaeological remains at the edge of the site;
  - The design, construction and operation of the proposed WwTP and southern marine outfall could ensure that the Proposed Project would not adversely affect the integrity of any Natura 2000 sites;
  - Better initial dilution and mixing characteristics for the effluent plume
  - Less technical difficulty associated with tunnelling the southern outfall;
  - Significantly shorter pipeline length, with associated benefits in respect of:
    - Reduced ecological impact
    - Fewer watercourse crossings
    - Fewer existing (and proposed) key infrastructure crossings
    - Less potential to disrupt the landscape during construction
    - Lower energy requirements

<sup>1</sup> Reference: ASA Phase 4 Executive Summary, published June 2013

- Less expensive (under preliminary cost estimates, the Clonshagh site is over €80m less than the other two site options).
87. In respect of the proposed SHC, the Fingal County Council review of the Fingal Sludge Management Plan included the recommendation for the co-location of an SHC on a future proposed WwTP site. This was subsequently confirmed by Irish Water in the National Sludge Waste Water Management Plan. There is, therefore, a clear functional need for the proposed WwTP and SHC to be located on the proposed site and within these zoning objectives.
88. In conclusion, the planning application documentation has given full and proper consideration to the planning and environmental matters relevant to the area and the subject of the Proposed Project. The likely impacts and effects that may be likely to arise as a result of implementation of the Proposed Project have been given considerable and appropriate scrutiny at all stages of the Proposed Project development, assessments and design.
89. The Applicant considers that the Proposed Project is in compliance with planning policies and objectives and will not have an unduly negative impact on the environment, character or amenity of the area, and will ensure the proper planning and sustainable development of appropriately zoned lands, it is therefore considered, and the Proposed Project is in accordance with the proper planning and sustainable development of the area.

### 2.3.2 Connections North and East of the Proposed WwTP

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_156	Peter Coyle	Not assigned by ABP

90. Peter Coyle submits that the local community needs to be offered local facilities as part of a community benefits scheme. A local sewage scheme such as for the houses at Baskin Lane, funding for local community projects and a local liaison committee should be applied.

### Applicant's Response

91. At operation, the proposed WwTP will treat wastewater arising in Fingal (areas west of the proposed WwTP from Blanchardstown to Clonshagh including from the Dublin Airport Zone), from northern parts of Dublin City (areas from Finglas to Clonshagh), and from parts of south-east Meath and from north-east Kildare. The Proposed Project will also divert part of the North Fringe Sewer south of the proposed WwTP at Clonshagh. It is proposed that the SHC at the proposed WwTP will accept and treat sludge from other local WwTPs and domestic septic tanks in Fingal including from areas to the north and east of the proposed WwTP.
92. At operation, the proposed WwTP will treat wastewater arising in Fingal (areas west of the proposed WwTP from Blanchardstown to Clonshagh including from the Dublin Airport Zone), from northern parts of Dublin City (areas from Finglas to Clonshagh), and from parts of south-east Meath and from north-east Kildare. It is proposed that the Sludge Hub Centre at the proposed WwTP will accept and treat sludge from other local treatment plants and domestic septic tanks in Fingal including from areas to the north and east of the proposed WwTP. Table 2 in this Response summarises the proposed community benefits including providing support for projects or initiatives that seek to enhance the local built or natural environment.

## 2.4 Response to Specific Issues Raised by Prescribed Bodies

### 2.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

93. The submission from Fingal County Council (which includes the Chief Executive's Report and Councillor comments) included a request to create a community fund to benefit sporting, amenity and community clubs and facilities within the areas through which the Proposed Project will pass.

#### Applicant's Response

94. The Proposed Project represents an investment by the exchequer of approximately €500m to improve the wastewater network in the GDA. The Proposed Project will bring environmental, public health and economic and social benefits for the population living and working in this area. The Proposed Project Community Benefits Scheme represents a significant investment of financial and human resources by the Applicant aligned to the delivery of this important environmental project. We consider that the Community Benefits Scheme, as proposed, provides a fair and proportionate benefit for the effects associated with developing this vitally important piece of wastewater infrastructure for the population of north Dublin. The Applicant has committed as part of the Proposed Project to supporting local projects that seek to enhance the local environment.
95. In considering the request for the conditioning of a community fund, the Applicant requests that ABP assesses whether it is appropriate that the public water utility, in addition to providing improved water and wastewater infrastructure and services, should bear the cost of providing sporting facilities or other community amenities. The Community Benefits Scheme will deliver employment, educational and environmental benefits for communities in proximity to the proposed infrastructure and the scheme is aligned both to the needs of the community and to Irish Water's values and remit in safeguarding our water.
96. Development contributions have also been requested by Fingal County Council. The Applicant requests that ABP considers the precedent that could be set for future projects by conditioning development contributions for a public wastewater infrastructure project and the additional cost to the exchequer of such a fund.
97. Through the development of the Proposed Project and the proactive initial engagement undertaken to date with the local community, local authorities, and the local employment and training organisations, we have demonstrated our commitment to building positive, lasting relationships and goodwill with neighbouring communities and to maximising the benefits that will accrue locally from the delivery of the Proposed Project. We look forward with enthusiasm to collaborating with all stakeholders to fully implement the Community Benefits Scheme in order to leverage benefits for neighbouring communities.

### 2.4.2 Dublin City Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_57	Dublin City Council	Not assigned by ABP

98. A submission from the elected members of Dublin City Council stated that local employment would be welcome.

### **Applicant's Response**

99. Details of the benefits in terms of employment arising from the delivery of the Proposed Project are detailed in the Community Benefits Scheme as proposed and are summarised in Paragraph 94 to 97 above.
100. Through the development of the Proposed Project and the proactive initial engagement undertaken to date with the local community, local authorities, and the local employment and training organisations, we have demonstrated our commitment to building positive, lasting relationships and goodwill with neighbouring communities and to maximising the benefits that will accrue locally from the delivery of the Proposed Project. We look forward with enthusiasm to collaborating with all stakeholders to fully implement the Community Benefits Scheme in order to leverage benefits for neighbouring communities.

## 3. Consultation and Communications

### 3.1 Overview

101. Consultation and communications were raised as topics in 50 submissions.

102. In responding to the issues raised, we have sought to avoid repeating the detailed information on the consultation and engagement programme as contained in the GDD Public and Stakeholder Participation Report (GDD PSPR) previously submitted to An Bord Pleanála (ABP) as part of the planning documentation in June 2018. To assist ABP, in some instances we have extracted and collated pertinent data from the GDD PSPR and in other instances we have cross referenced to relevant sections where more detailed information can be reviewed.

### 3.2 Response to General Issues Raised

#### 3.2.1 Consultation Process

103. The following 35 submissions received queried the consultation process and how consultation was conducted with communities in proximity to the Proposed Project infrastructure:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_4	Angela & Michael Callanan	LDG-007626-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_8	Anthony Murphy	LDG-007657-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_16	Breda Doyle	LDG-007718-18
GDD_SUB_22	Carol Barr	LDG-007674-18
GDD_SUB_43	David Healy (Cllr)	LDG-007716-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_51	Derek Clifford	LDG-007567-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_67	Eugene Farrell	LDG-007761-18
GDD_SUB_71	Friends of Balcaddan Bay	LDG-007720-18
GDD_SUB_74	Gavin O Connor	LDG-007711-18
GDD_SUB_80	Joe White	LDG-007738-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_84	John Walsh	LDG-007730-18
GDD_SUB_87	Laurence & Geraldine Byrne	LDG-007553-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_94	Marie Hayes	LDG-007647-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18
GDD_SUB_101	Michelle Salmon & Others	LDG-07636-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_142	Winnie McDonnagh	LDG-007627-18
GDD_SUB_150	Meakstown Community Council	LDG-007712-18
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP

104. The feedback received contended that there was a lack of communication with local communities in proximity to the proposed infrastructure. A number of submissions queried the holding of information events locally in Clonshagh and Coolock and consultation with stakeholders in coastal areas in relation to the proposed marine outfall.
105. Four submissions questioned the accessibility of the statutory, planning, and environmental documentation submitted and the time allowed for making submissions during the statutory consultations.
106. The need for a Community Liaison Officer or Project Liaison Committee was suggested in three submissions.

### Applicant's Response

107. Consultation has formed a central part of the development of the Proposed Project from 2011 to 2018. An extensive programme of consultation and stakeholder engagement has been undertaken both by Fingal County Council (2011-2013) and by the Applicant (2014 to date) as a key element of the development of the Proposed Project.
108. The primary objective of public consultation for the Proposed Project was to provide early opportunities for interested stakeholders to participate in the development process for the Proposed Project through providing information and insight for consideration by the Project team. From the very earliest stages of project development, opportunities for public participation in the decision-making process for the Proposed Project were provided and, in line with best practice, all communications were accessible, meaningful and accountable.

109. Feedback provided by members of the public and stakeholder organisations was recorded, reviewed and considered by the Project team in the decision-making process. Terms of reference, developed for each formal period of non-statutory public consultation, sought to provide clarity to stakeholders on the purpose and scope of each consultation phase. Following each stage a consultation report, detailing the issues raised, was published on the dedicated website and in Fingal County Council offices and libraries. Issues raised in each period of non-statutory public consultation were responded to by the technical Project team in Consultation Response Reports published at the next phase of project development. These reports demonstrate how public and stakeholder feedback was reviewed, considered, and informed the decisions taken on the project. The reports are available to view at <http://www.greaterdublindrainage.ie/project-reports/>
110. It is acknowledged in the consultation reports published following each phase of public consultation, as referenced and summarised in the GDD PSPR, that the majority of the submissions received were objections to the Proposed Project. The GDD PSPR details the consultation and communications undertaken for the Proposed Project from 2011 to 2018 and demonstrates how public feedback has informed the decisions taken on the project during the alternative sites assessment (2011-2013) and the environmental assessment phases (2014-2018).
111. As summarised in the GDD PSPR Table 0-1 Summary of GDD Consultation and Engagement Activity 2011-2018, the consultation and engagement programme for the Proposed Project included:
- 7 phases of non-statutory public consultation held between 2011 and 2018;
  - 34 information events held locally within the project area;
  - 19 project updates issued;
  - 41 press advertisements published in national and local newspapers;
  - 31 press releases issued, and numerous media interviews conducted;
  - 351 media articles;
  - 196 stakeholder meetings/briefings;
  - 3 study tours of other wastewater treatment plants (WwTPs) for residents, landowners and public representatives;
  - Poster campaigns in local areas;
  - A project website established in 2011 and updated regularly including Frequently Asked Questions;
  - A project overview video;
  - A project information service (phone/email/post) which operated each weekday since 2011; and
  - A public information campaign held in 2017 to provide advance notice of the GDD planning application which included a mailout to 11,000 recipients and three locally held public information events.

112. The GDD PSPR records that there were 34,379 submissions made to the Proposed Project between 2011 and 2018. When the submissions to the statutory consultations by ABP are added, the total number of observations and submissions received is 34,551.
113. A number of submissions suggested that there was a lack of consultation with stakeholders in the Clonshagh, Coolock or Clare Hall areas.
114. Appendix A of the GDD PSPR lists all the public information events, open days and stakeholder meetings held for the Proposed Project. For ease of reference, the public information events and open days are collated below:
- 4 open days in Swords (2 no.), Blanchardstown and Balbriggan in June 2011;
  - 4 open days in Swords in October and November 2011;
  - 4 open days in Swords in May and June 2012;
  - 4 open days in Swords and Northern Cross in June and July 2013;
  - 3 study tours to Shanganagh Wastewater WwTP held in 2013 and 2014;
  - 2 Public Information Events at Northside Civic Centre, Coolock in January and September 2014;
  - 2 Public Information Events at Baldoyle Library in June 2014 and July 2015;
  - 2 Public Information Events at Portmarnock Parish Centre and Golf Links Hotel in June 2014 and July 2015;
  - 1 Public Information Event at Howth Yacht Club in July 2015;
  - 1 Breakfast briefing at Blanchardstown with Fingal Dublin Chamber in March 2017;
  - 4 Public Information Events at Newpark (2 no.), Saggart and Dunboyne in May and September 2017; and
  - 3 Public Information Events at Abbotstown, Portmarnock and Northern Cross in November 2017.
115. As can be seen from the above list, 17 of the 34 public information events were held for the Proposed Project in Swords (13 no.), Coolock (2 no.) or Northern Cross (2 no.) between 2011 and 2018 which provided accessibility for stakeholders in proximity to the proposed WwTP site.
116. All of the information events were open to all members of the public and were advertised in advance in the national and local media and via the project information service. Consultation and information events were mostly held between 2pm and 8pm. Some events were staggered to be open from 11am to 4pm. Of the 34 public information events held, seven were held on Saturdays in order to maximise the opportunities for attendance. More than 2,046 people attended the public information events between 2011 and 2018.
117. Appendix A of the GDD PSPR records that 23 open days and meetings with community stakeholders were held in the Clonshagh, Coolock, Clare Hall and Darndale areas from 2011 to 2018. For ease of reference, these are extracted and listed below:



- 05/11/2011 Reclaim Fingal Alliance
- 31/05/2012 Newtown Court Housing Manager
- 06/06/2012 NABCO Newcourt (Now Co-operative Housing Ireland)
- 06/06/2012 St. Michael's House
- 06/06/2012 Darndale Belcamp Village Centre
- 06/06/2012 TravAct Outreach
- 06/06/2012 Darndale Tenants & Residents Association
- 16/06/2012 Reclaim Fingal Alliance
- 06/03/2013 Landowner Study Tour to Shanganagh WwTW
- 27/05/2013 Councillor Study Tour to Shanganagh WwTW
- 29/06/2013 Riverside Residents Association
- 29/06/2013 Community Working Together Group
- 16/07/2013 Riverside Residents Association
- 21/01/2014 Public Information Event Northside Civic Centre, Coolock
- 03/07/2014 Public Information Event Community Study Tour to Shanganagh WwTW
- 03/07/2014 Riverside Residents Association
- 19/07/2014 Public Information Event Northside Civic Centre, Coolock
- 19/08/2014 Community Working Together Group
- 19/08/2014 Clonsaugh/Newbury/Swifts Grove Residents Association
- 15/09/2014 Dublin City Council - North Area Committee Briefing, Coolock Civic Centre
- 15/04/2015 Briefings with local TDs/Senators/Cllrs
- 29/03/2017 Fingal County Council – Dublin City Council Inter-Authority Information Forum
- 29/11/2017 Public Information Event, Hilton Hotel, Northern Cross

118. In addition to the public events and meetings, the project information service (phone, email and post) operated each weekday between 2011 and 2018 and was open to anyone with queries on the Proposed Project. Information materials, including project updates, were issued regularly throughout the Proposed Project to all stakeholders who subscribed to the mailing list through the website, the project information service or at

events. The dedicated Project website and information video were also updated regularly as the Proposed Project progressed.

119. A number of the submissions received queried whether a public information event took place on 29 November 2017 for Clonsaugh residents and, if so, how this event was advertised.
120. As detailed in Section 4.9 and Appendix A of the GDD PSPR, a public information event was held for the Proposed Project at the Hilton Hotel, Northern Cross on Wednesday 29 November 2017 from 2pm to 8pm. This was one of three public information events organised in November 2017 as part of a public information campaign which provided advance notification of the Proposed Project planning application. The events were advertised in advance as follows:
- 08/11/17 The Irish Independent
  - 08/11/17 The Evening Herald
  - 14/11/17 Fingal Independent
  - 15/11/17 Dublin People
  - 16/11/17 Fingal Gazette
121. A copy of the advertisement is shown on Page 31 of the GDD PSPR.
122. As part of the public information campaign, a newsletter for the Proposed Project was issued via post to 11,000 homes and businesses across north county Dublin from 8 November 2017. A press release was issued to national and local media and details were posted on the dedicated website, on Irish Water's social media and on third party social media pages. Approximately, 1,300 stakeholders, registered to receive updates on the Proposed Project, were also issued with advance notification of the public information events held in November 2017. More than 100 people attended the November 2017 events.
123. A number of submissions queried how the Project team had consulted with vulnerable stakeholders in proximity to the proposed WwTP including with the St. Michael's House organisation, which provides services to people with intellectual disabilities, and with private nursing homes located at Stockhole Lane and at Northern Cross.
124. Fingal County Council and the Applicant were committed to early, proactive engagement with all stakeholders from the outset of the Proposed Project. An early consultation meeting place with the management of St. Michael's House in June 2012. Further engagement took place with the management of St. Michael's House in relation to air and noise monitoring surveys in July 2015, in Jan 2016 and in June 2017. Section 15.4.2 of Chapter 15 Noise and Vibration in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR) provides further details on the noise monitoring programme and notes that a noise mitigation measure will be required during the temporary night-time tunnel boring machine works near St. Michael's House.
125. In addition, all Proposed Project updates were issued to St. Michael's House and to all other subscribed organisations. As part of the public information campaign in November 2017, a project newsletter containing information on the Proposed Project, the timescale to planning and details of the public information events was issued to all addresses within a 1.5km radius of the proposed WwTP and within 500m from the orbital sewer pipeline.

126. All publications were available in Braille, on CD and in large text format on request.
127. A number of submissions queried how the Project team had consulted with the Traveller Community in proximity to the proposed WwTP.
128. An early consultation meeting took place with representatives of TravAct - the north Dublin Traveller advocacy and support organisation - in June 2012. A number of submissions were received from residents of Cara Park to the sites assessment consultations in 2012 and 2013. The issues raised were acknowledged in the consultation reports published after each consultation and responded to in the consultation response reports published at the next stage. An invitation to a meet with the Project team was issued in June 2013. A response was not received by the Project team.
129. As part of the public information campaign held in November 2017, a project newsletter containing information on the Proposed Project, the timescale to planning and details of the public information events was issued to all homes and businesses within a 1.5km radius of the proposed WwTP and within 500m from the orbital sewer pipeline.
130. A submission to ABPs statutory consultation was received on behalf of residents of Cara Park.
131. The concerns of the local Traveller Community have been taken into consideration in the design of the proposed WwTP including the proposed access route and in the Proposed Project EIAR. The proposed WwTP boundary will be located more than 500m north of the R139 and will be appropriately landscaped and screened. At the proposed WwTP site entrance, a one-way left-turn only traffic system will operate for the entire Construction Phase and during the Operational Phase to minimise the risk of potential collisions/incidents on the R139. Table 7.3 in Chapter 7 Human Health in Volume 3 Part A of the EIAR summarises the consultation issues raised in relation to human health and lists the conclusions of the health impact assessment and mitigations for noise, traffic, dust, air quality, odour and health and safety.
132. A Community Liaison Officer will be appointed for the Proposed Project. The key role of this Officer will be to liaise with local stakeholders in advance of and during construction works to avoid where possible, or alternatively, to resolve any construction related issues expediently.
133. Two submissions queried consultation with stakeholders in Howth in relation to the proposed marine outfall.
134. In addition to the consultation processes undertaken during the alternative sites assessment (2011-2013), further engagement with stakeholders in coastal areas of north Dublin took place during the environmental assessment phase (2014-2018). This included three series of information events held at Howth, Baldoyle and Portmarnock in July 2014, July 2015 and November 2017.
135. Press advertising in national and local media and project updates were issued to promote the information events in advance. Information on the Proposed Project was issued proactively to all identified community stakeholders in Howth as listed on the Fingal Public Participation Network list.
136. In July 2015, door-to-door outreach by the Project team was undertaken with businesses and organisations on West Pier, Howth ahead of the commencement of the marine investigations.
137. Engagement with marine leisure (diving, swimming and sailing etc.), fishing (commercial and seafood processors) and statutory stakeholders (including the Department of Agriculture, Food and the Marine and the Sea Fisheries Protection Authority) was undertaken at specially arranged meetings at Howth Yacht Club

in July 2015 and in April 2018. Individual meetings and engagement with Howth Yacht Club and other stakeholders with an interest in the marine environment has been conducted on an ongoing basis since 2011.

138. Impacts on marine based activities are identified and assessed in Section 6.3.7 of Chapter 6 Population in Volume 3 Part A of the EIAR. This Chapter describes the local coastal areas and the water based activities including fishing, sailing, walking, bathing, diving etc.
139. The consultation and engagement undertaken for the Proposed Project has resulted in 34,551 submissions. The Project team submits that it has been proactive in its awareness raising and consultation activities and that it has sought to provide every opportunity for early and meaningful participation by a wide range of stakeholders in the development of the Proposed Project.

### 3.2.2 Planning Application and Statutory Consultation

140. The following submissions questioned the accessibility of the statutory, planning, and environmental documentation submitted and the time allowed for making submissions during the statutory consultations:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_43	David Healy (Cllr)	LDG-007716-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18

### Applicant's Response

141. We appreciate that planning applications and associated environmental assessments are, by their nature and by virtue of the statutory requirements, complex and lengthy documents.
142. To assist in making the documentation more accessible for members of the public, a one-page guide to the Proposed Project planning application was published in the project update issued in June 2018 and posted to the dedicated website. A non-technical summary of the EIAR also formed part of the environmental documentation.
143. The Project team was available throughout the development of the Proposed Project planning application to assist members of the public and interested groups with accessing information on the Proposed Project including through the dedicated website, by phone and by email. A short project overview video was also produced and posted to the project website.
144. The Applicant provided in excess of six months advance notice of the submission timeframe for the Proposed Project planning application to all stakeholders via the public information campaign held in November 2017, which included a mailout to 11,000 homes and businesses across north county Dublin and information events advertised and held locally.
145. The planning application and its associated seven week statutory consultation was advertised in national and local media and was notified to all project stakeholders registered to receive updates on the Proposed Project.
146. The additional five week statutory consultation was re-advertised in national and local media and notified to all project stakeholders via an email update and web/social media posts.

### 3.2.3 Community Liaison

147. The need for a Community Liaison Officer (CLO) or Project Liaison Committee was raised as a topic in the following submissions:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Alison Gilliland (Cllr)	LDG-007538-18
GDD_SUB_43	David Healy (Cllr)	LDG-007716-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_156	Peter Coyle	Not assigned by ABP

#### Applicant's Response

148. The Applicant is committed to continuing its ongoing engagement with local communities in advance of and during the Construction Phase. A Community Liaison Officer (CLO) shall be appointed. The role of the CLO will be to maintain an open, transparent and positive relationship with members of the public, resident's groups, businesses and any other organisations affected by the construction works. The CLO will work closely with the local community to ensure that information on the nature and duration of all works is provided and that all efforts to address any issues and concerns are made in a timely fashion. The CLO will act as a contact point for local stakeholders including residents associations, sporting clubs, schools, businesses and other community organisations in the area. The CLO will also be tasked with coordinating with all stakeholders to ensure the effective implementation of the Community Benefits Scheme including the delivery of the wastewater education zone at the proposed WwTP.

### 3.3 Response to Specific Issues Raised in Observers' Submissions

#### 3.3.1 Model of the Proposed Wastewater Treatment Plant (WwTP)

149. The following submission contends that a physical model of the proposed WwTP was not produced:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18

#### Applicant's Response

150. The Proposed Project ASA Phase 4 Report (June 2013) contained images showing the indicative layout (Drawing No. 9B) and indicative elevations of buildings (Drawing No. 9C) for the proposed WwTP. An artist's impression of the indicative layout of the proposed WwTP has been used in project brochures and on the project website since 2013. A project video showing a computer generated graphic of the GDD facility layout was produced in mid-2014 and posted on the website and displayed at local briefings and open days. A computer generated flyover of the proposed WwTP was produced in early 2016 and displayed at stakeholder briefings and at locally held public information events in 2017.

151. The above initiatives enabled the project team to show the proposed WwTP to stakeholders and to update the layout and design as the project progressed. A physical model would not have provided the same level of flexibility and is why one was not produced.
152. In addition, study tours to Shanganagh WwTP in Shankill, Co. Dublin, were provided (with free transport) to landowners, public representatives and residents associations, community groups and individuals to generate further understanding of what is proposed.

### 3.3.2 Study Tours

153. The following submissions queried the rationale for providing study tours to Shanganagh WwTP:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18

#### Applicant's Response

154. The Shanganagh WwTP was selected following its upgrade in 2013 to 180,000 population equivalent. Shanganagh is a modern, covered WwTP which operates in close proximity (circa 50 metres) to residential dwellings. The wastewater, treated to advanced secondary standard, is safely discharged through a 1km outfall to the Irish Sea off Killiney beach. The Shanganagh facility offered to opportunity for members of the local communities to experience a modern, covered WwTP in operation in close proximity to residential properties.
155. The Proposed Project, although on a larger site, will also be a covered facility, treating 500,000PE (population equivalent) using advanced biological treatment technology, and will be located a minimum of 300m from the nearest sensitive receptor and over 600m from the populated areas to the south of the R139. The proposed WwTP for the Proposed Project has been sized to allow for extensive screening and landscaping to further reduce the visual impact of the proposed WwTP on sensitive receptors. The proposed marine outfall pipeline will be circa 6km in length.

### 3.3.3 Communications (2014 and 2018)

156. The level of communications undertaken during the environmental assessment phase to submission of the planning application was queried in the following submission:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18

#### Applicant's Response

157. The GDD PSPP summarises the extensive and wide ranging consultation and communications programme implemented for the Proposed Project from 2011 to 2018. Chapter 4 of the GDD PSPP describes the public and stakeholder consultation and engagement activities undertaken during the environmental assessment phase of the Proposed Project (2014-2018) up to and including submission of the planning application.
158. This phase included:

- issuing regular project updates/factsheets (14 no. issued between 2014 and 2018 including a postal mailing to 11,000 recipients in 2017);
- holding information events in the project area (18 no. held 2014-2018);
- the project information service (phone/email/post/website service operated daily);
- issuing press releases (13 no. issued 2014-2018) and press adverts (12 no. 2014-2018)
- production of an information video; and
- ongoing engagement with landowners and briefings for community groups, public representatives, media, business groups, statutory stakeholders/prescribed bodies. (80+ briefings/meetings held 2014-2018)

159. Between 2014 and 2018, more than 500 people were recorded as attending events and meetings for the Proposed Project and over 1,300 submissions were made to the project. The Applicant submits that there was proactive, wide ranging and extensive engagement and consultation throughout the pre-planning stages of the Proposed Project.

### 3.3.4 Planning Application and Site Notices

160. The following submissions queried the publication and promotion of the planning application for the Proposed Project. The location of site notices at Clonshagh was queried. The rationale for not displaying site notices at Ireland's Eye and at Howth was also queried:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_43	David Healy (Cllr)	LDG-007716-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18

### Applicant's Response

161. Advance notification of the planning application for the Proposed Project was issued to all project stakeholders as part of a public information campaign held for the Proposed Project in November 2017. This included an 11,000 piece project newsletter mailout to homes and business across north county Dublin and advertised information events held in Abbotstown, Northern Cross, and Portmarnock in November 2017.

162. Public Information Notices (advertisements) were placed in national and local media to announce the planning application statutory consultation period for the Proposed Project in June 2018.

163. A planning application notification was issued to all registered project stakeholders on 20 June 2018. All documentation including maps and drawings were made available on [www.gddapplication.ie](http://www.gddapplication.ie) and were put on public display at the Fingal County Council, Dublin City Council, and ABP's offices for the duration of the statutory consultation periods.

164. Site notices were erected at locations where infrastructure is planned, either where proposed temporary construction compounds will be located or where the proposed orbital sewer pipeline crosses road/rail corridors or where tunnelling is proposed to take place. As no works are planned at Ireland's Eye or at Howth, it was not necessary to erect site notices at these locations.



165. The Site Notices Locations Map submitted with the planning application documentation shows the locations of the erected site notices. 29 no. site notices were erected and maintained for the full duration of the statutory consultation periods including on Stockhole Lane (notices no. 16 & 17) and on the R139 (notice no. 18) at the proposed WwTP site entrance, at R103 Moyne Road (notice no. 24), at R106 Coast Road (notice no. 25), at Golf Links Road (notice no. 26) and at Velvet Strand, Portmarnock (notice no. 27).

### 3.3.5 Response Issued in Relation to the Treatment Process

166. Two submissions queried a response issued by the Project team in August 2018 to a stakeholder on the treatment process that will be used at the new facility:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP

167. An extract quoted from the response issued by the Project team was:

*'The exact details regarding the design of the proposed project and processes to be used are not confirmed at this stage'*

It was stated by the stakeholder that *"this is not an acceptable response by a project of this size when there are concerns for public health."*

### Applicant's Response

168. The response issued to the stakeholder on 13 August 2018 is provided below:

*"Irish Water will be applying to the Environmental Protection Agency (EPA) for a wastewater discharge licence for the treated effluent discharge from the proposed wastewater treatment plant. Contractors will be appointed to design, build and operate the proposed treatment plant to achieve the required emission limit values as conditioned by the Environmental Protection Agency. Therefore, the exact details regarding the design of the proposed project and processes to be used are not confirmed at this stage."*

*Nevertheless, an indicative design has been undertaken to assess the environmental impacts of the proposed project. Where different treatment processes are possible, the maximum impact is assessed with respect to the potential impact of the design."*

*Typical wastewater unit treatment processes will include:*

- Preliminary Treatment (Zone 1), which is a physical/mechanical process which is designed to remove gross suspended and floating materials from the raw wastewater before they damage/clog the pumps or downstream treatment processes. Preliminary treatment involves screening (coarse and fine screens) to remove papers and plastics as well as fats, oils, grease and grit removal, prior to sedimentation;*
- Primary Sedimentation (Zone 1) which is a settling process where the larger solids in the wastewater are settled out by gravity in large tanks (settling or sedimentation tanks). The settled solids are removed from the tanks by mechanical scrapers and transferred to the sludge treatment facilities;*
- Biological Treatment (Zone 2) where organic matter in the wastewater is broken down through the action of bacteria which is facilitated by the addition of air (aeration). Sludge produced during this process is removed from the tanks and transferred to the sludge treatment facilities;*



- *Final Settlement (Zone 2) where any organic matter carried over from the biological treatment is settled out in large tanks, removed from the tanks by mechanical scrappers and transferred to the sludge treatment facilities; and*
- *Testing of final treated wastewater (Zone 2) prior to discharge.*

*The proposed outfall discharge point is over 6km from the Coast Road. The water depth (25 metres) and tidal patterns and current speeds/directions at the discharge location will allow for optimum dispersion and assimilation of the treated water within a short distance of the outfall point.*

*Extensive modelling of the marine environment and water quality has been undertaken as part of the development of the Environmental Impact Assessment Report (as submitted with the planning application).*

*The proposed project will have an imperceptible residual impact on the water quality of the coastal waters off Dublin and will not negatively influence the marine environment, any protected sites, local bathing waters or Blue Flag beaches."*

169. In light of the expert regulatory role the Environmental Protection Agency has, and the fact it is a statutory consultee in the planning application process for the Proposed Project, it is submitted that this issue of concern as expressed by the submitters was appropriately addressed in the response issued on 13 August 2018.

### 3.3.6 Clarity on the Proposed Project Timeline

170. It was stated that there has been no clarity to local stakeholders as to when the Proposed Project would be progressed, constructed and completed. It was considered unacceptable that the State should organise a project in this manner:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_81	Joe and Elaine Jones	LDG-007382-18

### Applicant's Response

171. A project roadmap was produced and published by Fingal County Council at the outset of the Proposed Project in 2011. The purpose of the project roadmap was to provide an indicative development timeline showing the duration of each phase of development of the Proposed Project. The roadmap was published in all project reports and project updates and was made available on the dedicated website as well as at project briefings and open days. It was updated ahead of each key phase of the development of the Proposed Project between 2011 and 2018. A copy of the project roadmap is contained in Figure 1-1 of the GDD PSPR.

## 3.4 Response to Specific Issues Raised by Prescribed Bodies

### 3.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

172. The submission from Fingal County Council (which includes the Chief Executive's Report and Councillor comments) stated the following in relation to the consultation process for the Proposed Project:

*“The scoping of the EIAR is set out in the Public Stakeholder Participation document submitted within the ‘Planning Documentation’ folder. This sets out consultation which took place from 2011 – 2018, indicates how public participation informed the project, development of study area constraints, development of alternatives, assessment of emerging preferred sites, feedback on issues to be contained within an EIS. Having regard to the document submitted and the detailed consultations undertaken, it is considered that the scoping for the EIAR sufficiently identified the methodology and information to be contained in the EIAR and undertook consultations with proscribed bodies and An Bord Pleanála.” – Page 59, Fingal County Council, Chief Executive’s Report – September 2018*

### **Applicant’s Response**

173. The Applicant submits that it has provided opportunities for consultation and engagement from the earliest stages of the development of the Proposed Project and that the consultation undertaken has been accessible, meaningful and accountable. All feedback from members of the public and stakeholder organisations has been considered and has resulted in significant changes both to the Proposed Project development process and to the Proposed Project solution. Chapter 6 of the GDD PSPP describes how public and stakeholder feedback has informed and influenced the Proposed Project. The Applicant intends to continue its engagement with all stakeholders throughout the construction and operation of the Proposed Project.

## 4. The Need for the Proposed Project

### 4.1 Overview

174. A total of 23 submissions addressed the issue of project need.

### 4.2 Response to General Issues Raised

175. There were no generic issues raised in submissions/ observations in relation to the need for the Proposed Project.

176. The following submissions recognised the need for the Proposed Project for future development to occur:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_10	Aulden Grange Residents Association	LDG-007619-18
GDD_SUB_20	Councillor Brian McDonagh	LDG-007690-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_28	Cambers Ireland	LDG-007471-18
GDD_SUB_29	Charles Heasman	LDG-007700-18
GDD_SUB_31	Cian O'Callaghan	LDG-007713-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_56	daa	LDG-007762-18
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_72	Gannon Properties	LDG-007747-18
GDD_SUB_76	Health Service Executive	LDG-007913-18
GDD_SUB_97	Meath County Council	LDG-007911-18

### Applicant's Response

177. This has been acknowledged by the Applicant. No response is considered necessary.

### 4.3 Response to Specific Issues Raised in Observers' Submissions

#### 4.3.1 Upgrade of Ringsend Wastewater Treatment Plant (WwTP)

178. The following submission questioned whether there would still be a need for the Proposed Project when Ringsend WwTP is upgraded.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

179. The upgrade works proposed at Ringsend WwTP have been factored into the assessment for the need for the Proposed Project. Section 3.5.2 to Section 3.8.3 of Chapter 3 The Need for the Proposed Project in Volume 2 Part A of the Environmental Impact Assessment Report (EIAR) indicate that even with the proposed upgrades to Ringsend WwTP to its ultimate capacity, additional wastewater treatment capacity will be required, and that this additional treatment capacity is best provided by the Proposed Project.

#### 4.3.2 Inclusion of Areas of County Meath and County Kildare

180. The following submissions raised the issue that the treatment of waste from areas such as County Meath and County Kildare is unfair.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_46	Councillor Declan Flanagan	LDG-007693-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_101	Michelle Salmon & Others	LDG-07636-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18

### Applicant's Response

181. The Engineering need for the Proposed Project is addressed in Chapter 3 The Need for the Proposed Project in Volume 2 Part A of the EIAR.

182. The contributing catchments for each of the eight WwTPs in the GDSDS study area are illustrated in Figure 3.1 Volume 2B of the EIAR. The contributing catchment to the Ringsend WwTP currently includes the Meath towns and villages of Ashbourne, Ratoath, Kilbride, Dunboyne & Clonee. These towns and villages are connected to the Ringsend WwTP via the main Blanchardstown trunk sewer, known as the 9C Sewer. These towns and villages are the only areas in County Meath that are proposed to be diverted to the proposed WwTP at Clonshagh.

183. The Applicant currently have works at contract stage to transfer excess flow and load from Leixlip WwTP to the Blanchardstown (9C Sewer) catchment as a result of a projected treatment capacity arising at Leixlip WwTP between 2016 and 2025 and an inability to further expand Leixlip WwTP beyond its current 150,000PE treatment capacity. Leixlip WwTP serves the Lower Liffey Valley Catchment which includes Kilcock, Maynooth, Straffan, Celbridge and Leixlip. These towns and villages are the only areas in County Kildare that are proposed to be diverted to the proposed WwTP at Clonshagh. These works will be completed before the Proposed Project goes to tender.

184. The Proposed Project will intercept the 9C Sewer downstream of the above connections and divert these flows to the proposed WwTP at Clonshagh.

#### 4.3.3 daa

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_56	daa	LDG-007762-18

185. daa sought clarification that the future additional demands generated by increased growth at Dublin Airport can be catered for in the proposed drainage strategy.

#### Applicant's Response

186. The future additional demands generated by increased growth at Dublin Airport have been considered in the assessment of existing loading and projected future treatment capacity requirements as set out in Section 3.5.2 in Chapter 3 The Need for the Proposed Project in Volume 2 Part A of the EIAR. Dublin Airport was considered to fall under the category of industrial source for which a headroom allowance of 20% of the sum of the residential and commercial loads is provided in the design, from which capacity can be made available for future industrial loads.

#### 4.4 Response to Specific Issues Raised by Prescribed Bodies

187. There were no specific issues raised in submissions/ observations by prescribed bodies in relation to project need.

## 5. Description of the Proposed Project

### 5.1 Overview

188. Two submissions raised issues which are best responded to under the description of the Proposed Project.

### 5.2 Response to General Issues Raised

189. There were no generic issues raised in submissions/ observations in relation to the description of the Proposed Project.

### 5.3 Response to Specific Issues Raised in Observers' Submissions

#### 5.3.1 Lights at the Proposed Wastewater Treatment Plant (WwTP)

190. The following submission raised concerns that lights used at the sewage plant may cause light pollution and impact on Dunsink Observatory

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_55	Donna Cooney	LDG-007470-18

#### Applicant's Response

191. The lighting proposed at the proposed Abbotstown pumping station and the proposed WwTP will be cowed and directional to minimise light spillage to the boundaries of the proposed Abbotstown pumping station and the proposed WwTP. There will therefore be no light pollution and no impact on Dunsink Observatory.

#### 5.3.2 ESB Power Station

192. The following submission raised the issue that planning permission has not been sought for the proposed ESB power station required for the proposed WwTP.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_111	Philomena Fitzsimons	LDG-007710-18

#### Applicant's Response

193. As discussed in Section 4.9 of Chapter 4 Description of the Proposed Project in Volume 2 Part A of the Environmental Impact Assessment Report, power and energy sources for the proposed WwTP will be provided through a combination of electricity, natural gas and biogas. Electricity and natural gas will be supplied from suitable connection points off the national grid, which are in close proximity to the proposed WwTP site. Biogas generated on-site during the anaerobic digestion of sludge will be used to generate electricity and recover heat through the Combined Heat and Power (CHP) system. A new ESB power station is not required for the proposed WwTP

### 5.4 Response to Specific Issues Raised by Prescribed Bodies

194. There were no specific issues raised in submissions/ observations by prescribed bodies in relation to the Description of the Project

## 6. Consideration of Alternatives

### 6.1 Overview

195. 77 submissions raised the issue of alternative options and whether they were considered during the preparation of the planning application documents.

### 6.2 Response to General Issues Raised

#### 6.2.1 Network of Smaller Localised WwTPs

196. The following submissions questioned the need for one large facility rather than a network of smaller localised Wastewater Treatment Plants (WwTPs):

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565 -18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_8	Anthony Murphy	LDG-007657-18
GDD_SUB_13	Barbara and Niall Connolly	LDG-007617-18
GDD_SUB_22	Carol Barr	LDG-007674-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_45	Deborah Byrne	LDG-006735-18
GDD_SUB_46	Councillor Declan Flanagan	LDG-007693-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_99	Michael O'Brien	LDG-007593-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_129	Stephen & Theresa Walsh	LDG-007588-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_153	Annabella Rushe	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP
GDD_SUB_164	Dr. Alex McDonnell	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

197. The feasibility of a network of smaller localised WwTPs was addressed in Section 5.5 – Strategic Drainage Scenarios of Chapter 5 Consideration of Alternatives in Volume 2 Part A of the Environmental Impact Assessment Report (EIAR). Section 5.5 summarised the consideration sixteen strategic drainage options which were a central element of the GDSDS and its SEA. Strategic options 5A, 5B, 6A, 6B, 7A and 7B covered a range of networks of smaller localised WwTPs as summarised in the table below.

Strategy Scenario	Summary Description of Additional Strategic Drainage Scenarios Considered by the Strategic Environmental Assessment of the Greater Dublin Strategic Drainage Study
5A	This scenario envisages seven sub-regional WwTPs which would provide treatment to foul flows from specific catchments on a foul-catchment-by-foul-catchment basis. The treated effluent from these plants would be discharged to the nearest surface water or groundwater bodies. These WwTP sizes range from 40,000 PE to 150,000 PE.
5B	This scenario has a similar range of WwTPs as Scenario 5A, but instead of having groundwater and/or surface water discharge, it proposes to have a regional treated effluent pipeline with a coastal discharge to the Irish Sea.
6A	This scenario considers the development of a network of community WwTPs (e.g. 850 no. WwTPs with a treatment capacity of 1,000 PE (approx.)), each discharging to the nearest surface water or groundwater bodies. This scenario also requires a series of sludge treatment centres.
6B	Similar to Scenario 6A, this scenario has a network of community WwTPs. However, instead of discharging locally to groundwater or surface water bodies, this scenario will differ in that each WwTP will discharge into a common treated effluent pipeline which ultimately discharges to the Irish Sea.
7A	This scenario envisages 15 sub-regional WwTPs which would provide treatment to foul flows from specific catchments on a foul-catchment-by-foul-catchment basis. The treated effluent from these plants would be discharged to the nearest surface water or groundwater bodies. These WwTP would range in size from 20,000 PE to 65,000 PE.
7B	This scenario has a similar range of WwTPs to Scenario 7A, but instead of relying on discharges to groundwater/surface waters, it proposes to have a regional treated effluent pipeline with a coastal discharge to the Irish Sea.

198. The SEA assessed options 5A, 6A and 7A as likely to have Major Negative effects on Biodiversity, Flora & Fauna and Water.

199. Option 6A was also considered likely to have Major Negative effects on Population and Human Health due to the potential impacts on Dublin Bay, various recreational assets in the study area and public health or nuisance risks.

200. Option 5B relies on the development of multiple WwTPs across the study area to serve individual growth areas discharging to a regional treated wastewater pipeline with a coastal discharge to the Irish Sea, was not favoured as a coherent integrated strategic approach. Furthermore, the majority of the flow arriving at the proposed WwTP is from developed catchments on northern and western areas of the Ringsend WwTP

Catchment where, given the heavily urbanised nature of these catchments, it would be impossible to locate sufficient open space(s) on which to site multiple WwTPs without significant impact on the population and environment in these catchments.

201. Option 6B relies on the construction of an extensive network of community based WwTPs (e.g. 850 no. WwTPs with a treatment capacity of 1,000 PE) linking to a treated effluent orbital pipeline. This scenario was assessed as having a number of distinct disadvantages which would render it impractical, e.g. excessive pumping and energy consumption requirements, protracted design and strategy delivery process, sludge management and transportation complexities, operational control and environmental risks. This scenario was assessed as having Major Negative impacts for Air Quality, Climatic Factors Material Assets, Cultural Heritage and Landscape due to the number of community-scale WwTPs required (850+).
202. Option 7B was assessed as having significant negative environmental effects, particularly under Climatic Factors, due to the likely extensive pumping requirements associated with them, in addition to the complex engineering design considerations (e.g. reversal of flows through the Sutton submarine pipeline and unnecessary works on the Grand Canal Sewer).
203. The SEA concluded that a single, regional WwTP was preferable to a series of sub-regional WwTPs, as a single plant offers the greatest planning, procurement, engineering, cost, flexibility and future operational benefits in comparison to a network comprising multiple WwTPs.
204. The Applicant prepared the Greater Dublin Drainage Strategy – Overview and Future Strategic Needs (May 2018) which confirmed that they had reviewed the GDSDS and its SEA in framing its Water Services Strategic Plan (WSSP) in 2015. The WSSP is the Applicant's strategic national plan for the delivery of water and wastewater services over the next 25 years. It was determined that the conclusions of the GDSDS and its associated SEA were entirely valid, and that the additional wastewater treatment capacity was required, and that this additional treatment capacity was best provided by a single regional WwTP.

## 6.2.2 Tertiary Treatment

205. The following submissions raised concerns about the use of secondary treatment and not tertiary treatment at the proposed WwTP:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565 -18
GDD_SUB_2	Dr. Alex McDonnell	LDG-007539-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_26	Catherine McMahon	LDG-007735-18
GDD_SUB_31	Cian O'Callaghan	LDG-007713-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_71	Friends of Balscadden Bay	LDG-007720-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_126	Siobhan Hyde	LDG-007555-18
GDD_SUB_129	Stephen and Theresa Walsh	LDG-007588-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_144	Betty Ennis and Alvis Crawford	Not assigned by ABP
GDD_SUB_146	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_155	Siobhan Hyde	Not assigned by ABP
GDD_SUB_156	Peter Coyle	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP
GDD_SUB_164	Dr. Alex McDonnell	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

## Applicant's Response

206. The decision to apply secondary treatment rather than tertiary treatment is addressed in Section 4.4.4 – Proposed Treatment Standards of Chapter 4 Description of the Proposed Project in Volume 2 Part A of the EIAR. Section 4.4.4 noted that the proposed WwTP will require a wastewater discharge licence to be granted by the EPA under the Waste Water Discharge (Authorisation) Regulations 2007 (S.I No. 684 of 2007) prior to commissioning of the proposed WwTP.
207. Section 4.4.4 also summarises the work undertaken in examining existing treatment standards for treated wastewater from the proposed WwTP to be discharged into the marine environment of the Irish Sea off the coast of North County Dublin which was reported on in the Key Wastewater Treatment Standards Report (Jacobs Tobin 2018a) and which was appended as Appendix A4.1, Volume 2B of the EIAR.

208. This report proposed, subject to the granting of a wastewater discharge licence by the EPA, that the final treated wastewater produced at the proposed WwTP will conform to the standards provided in Chapter 4 Description of the Proposed Project in Volume 2 Part A of the EIAR, which conforms to a 'secondary treatment' standard.

209. Extensive modelling studies undertaken have confirmed that, for the identified proposed outfall location and the proposed emission limit values, the receiving water will meet 'good' status criteria and will meet the environmental quality objectives for coastal water nutrients levels. The modelling studies have also confirmed that:

- The Proposed Project will have a negligible impact on the water quality of the coastal waters off County Dublin;
- The Proposed Project will have no impact on achieving the goals of the Water Framework Directive (i.e. reaching good status in all water bodies);
- The proposed discharge location will not negatively impact any designated bathing waters; and
- The Proposed Project will have a negligible impact on the quality of shellfish waters.

### 6.2.3 Site Selection

210. The following submissions questioned the location of the proposed WwTP and the site selection process:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_8	Anthony Murphy	LDG-007657-18
GDD_SUB_13	Barbara and Niall Connolly	LDG-007617-18
GDD_SUB_16	Breda Doyle	LDG-007718-18
GDD_SUB_22	Carol Barr	LDG-007674-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_26	Catherine McMahon	LDG-007735-18
GDD_SUB_31	Cian O'Callaghan	LDG-007713-18
GDD_SUB_33	Clare Daly TD	LDG-007590-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_45	Deborah Byrne	LDG-006735-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_55	Donna Cooney	LDG-007470-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_79	Jennifer Jones	LDG-007670-18
GDD_SUB_81	Joe and Elaine Jones	LDG-007382-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_99	Michael O'Brien	LDG-007593-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_109	Peter Daly	LDG-007689-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_131	Susan Kavanagh	LDG-007615-18
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_136	Thomas B. Broughan TD	LDG-007037-18
GDD_SUB_138	Tom and Breda Tracey	LDG-007541-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_144	Betty Ennis and Alvis Crawford	Not assigned by ABP

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_152	Corina Johnston on behalf of Donabate/ Portrane Community Council	Not assigned by ABP
GDD_SUB_156	Peter Coyle	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_168	Séan Lyons	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### **Applicant's Response**

211. The site selection process is addressed in Section 5.6 – Alternative Sites (ASA) and Route Selection of Chapter 5 Consideration of Alternatives in Volume 2 Part A of the EIAR. This summarised the ASA and Route selection study, which was undertaken in four distinct phases between 2011 and 2013 and ultimately concluded that the Clonshagh site option (proposed WwTP site, southern marine outfall and orbital sewers) was the most environmentally, technically and economically advantageous option. The Clonshagh site option was therefore recommended as the final preferred site option and was brought forward for further assessment under the Environmental Impact Assessment (EIA) and Appropriate Assessment processes.
212. A review of the ASA/Route Selection Report was undertaken by the project team in December '17. The purpose of this review was to examine each element of the GDD project against the findings of each Phase of the ASA/Route Selection in light of the development of the project since the final ASA/Route Selection Report was published in 2013 to assess whether the recommendations of the ASA/Route Selection Report remain valid. This review concluded that the methodology, findings and recommendations of the ASA/Route Selection process remain valid.

## **6.3 Response to Specific Issues Raised in Observers' Submissions**

213. There were no other specific issues raised in observer's submissions in relation to the consideration of alternatives.

## **6.4 Response to Specific Issues Raised by Prescribed Bodies**

214. There were no specific issues raised in submissions/ observations by prescribed bodies in relation to the consideration of alternatives.

## 7. Population

### 7.1 Overview

215. 127 submissions raised the issue of population in relation to the Proposed Project.

### 7.2 Response to General Issues Raised

#### 7.2.1 Impact of the Proposed Wastewater Treatment Plant on the Local Community

216. The following submissions raise concerns about the proposed Wastewater Treatment Plant (WwTP), particularly its proximity to the local community and the potential impact of its scale on the local community:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_4	Angela & Michael Callanan	LDG-007626-18
GDD_SUB_8	Anthony Murphy	LDG-007657-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_10	Aulden Grange Residents Association	LDG-007619-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_20	Brian Gibbons	LDG-007764-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_33	Clare Daly TD	LDG-007590-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_60	Elaine Murray	LDG-007664-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_67	Eugene Farrell	LDG-007761-18



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_69	Fiona Mills	LDG-007637-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_123	Séan Haughey TD	LDG-007484-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_137	Thomas Tolster	LDG-007699-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_146	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell	Not assigned by ABP
GDD_SUB_151	John Cuddy	Not assigned by ABP
GDD_SUB_152	Corina Johnston on behalf of Donabate/ Portrane Community Council	Not assigned by ABP
GDD_SUB_153	Annabelle Rushe	Not assigned by ABP
GDD_SUB_163	Seán Haughey TD	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

217. Many of the submissions on the Proposed Project have made reference to proximity of the proposed WwTP to the local community. In general the submissions make the case that the proposed WwTP is too close to residential settlement and would have an impact on residential amenity.
218. This is reflected in several submissions that state that the proximity of the proposed WwTP at 300m to the nearest house is too close to residential areas and that it will injure the amenities of locals e.g. schools, hotels, local parks, playgrounds, pitch and putt etc. Several submissions considered that there would be liveability issues with children not being able to play outside and that it would affect activities such as gardening or having barbeques, or that all windows will need to be closed. This reflected a general submission point that residents could lose the enjoyment of their home, general health, wellbeing and quality of life.
219. The submission from Angela & Michael Callanan also argues that the proposed WwTP will destroy the use of Belcamp park for sports clubs, playgrounds, summer projects, walking and running with an impact on sports facilities and residents.
220. Tom Brabazon (Cllr) submits that there will be an impact to residential amenity due to odours. It is argued that GAA clubs and other land uses will be moved out.
221. A number of submissions included reference to the location of a 700,000 PE WwTP adjacent to densely populated areas; and to the fact that 300m or 500m separation distance to receptors is inadequate for a large plant. It is stated in the submissions that large infrastructure should be on poorer value land 5km away from densely populated areas.

### **Applicant's Response**

222. The impact of the Proposed Project on Population is addressed in Section 6.4 and 6.5 of Chapter 6 Population in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). Community and Residential settlement is assessed at Section 6.5.2.
223. It is noted that Impacts on community and residential settlements are generally amenity related and are interrelated with other environmental topics. Impacts relating to Air Quality are addressed in Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of the EIAR.
224. The EIAR assessment takes full account of the scale of the facility as described in detail in the EIAR. The rationale for the scale of the WwTP is established in Chapter 3 The Need for the Proposed Project in Volume 2 Part A of the EIAR. In terms of potential impacts on the community, it is considered that the scale of plant does not impact upon sensitive receptors. This is on the basis that potential impacts are mitigated and confined a very restricted area within the site boundary of WwTP. Overall, the scale of the facility was fully considered as part of the EIA process, and was not considered to alter or extenuate the residual impact.
225. The Section 6.5.2 in Volume 2 Part A of the EIAR considers that there will be no additional significant impacts on the community during the Operational Phase of the Proposed Project. In general, the residual impacts identified in these chapters on population are considered as Slight and Not Significant following the implementation of the robust mitigation measures proposed. It is not considered that there will be a negative impact on residential communities or the usability of outdoor recreation and amenity facilities by reason of proximity to the WwTP. The EIAR also addresses potential impacts on residential amenity during the construction phase which is noted in the following paragraphs.
226. In Section 6.5.4 Tourism, Public Amenities and Community Infrastructure in Chapter 6 Population in Volume 3 Part A of the EIAR, it is stated that the residential amenity of the occupants of Emsworth House may be

affected as a result of the construction works taking place on the grounds and the presence of proposed temporary construction compound no. 7 on the lands immediately adjacent to the northern boundary of the house. A Moderate Negative Temporary Impact on residential amenity is anticipated as a result. This considered to comprise a Construction related impact only and not the operation phase.

227. Belcamp Hutchinson, situated approximately 1km to the south-east of the proposed WwTP, will not experience adverse impacts as a result of the Construction Phase. The impact on this heritage site is therefore assessed as Neutral and Imperceptible. The EIAR did not consider there to be any impact on residential amenity during the Operational Phase.
228. The sports grounds for Craobh Chiaráin GAA club are located 300m from the southern boundary of the proposed WwTP site. In the absence of appropriate mitigation measures, a Significant Negative Temporary Impact in relation to access to the GAA club would result during the Construction Phase. However, the construction works will provide for a permanent re-routing of the access road to ensure access to the club grounds remains undisrupted during the works. As such, a Neutral and Imperceptible Impact is anticipated in terms of accessibility. Both the NFS diversion sewer and the proposed access road to the proposed WwTP site from the R139 Road (Northern Cross Link) run along the western boundary of the playing grounds.
229. Darndale and Belcamp Parks are located 800m to the south-west and south-east respectively. Any impacts associated with the construction of the proposed WwTP on the amenity offered by these parks will be dissipated to a Neutral and Imperceptible level by reason of distance from the site and the main construction vehicles routes, and from the mitigation measures to be put in place to minimise the impact of noise.
230. Patrons of the Cumann Peil Innisfail GAA club at Carr's Lane situated approximately 900m from the south-east corner of the proposed WwTP are not likely to experience adverse impacts in terms of accessibility or other potential disruption as a result of the Construction Phase. As such, the impact is anticipated to be Neutral and Imperceptible. No negative impacts were identified on this recreational facility during the operational phase. It is considered that the operation of the WwTP would not give rise to any negative impacts that would restrict the continuing use and operation of the GAA facility.
231. Overall, it submitted that the EIAR has considered in detail the likely significant impacts of the proposed development in conjunction with Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of the EIAR. It is concluded that Chapter 14 presents a comprehensive assessment of the odour emitting potential from the facility and sets out the robust approach adopted for the containment, treatment and control of odours associated with the proposed facility. Chapter 14 concludes that the implementation of the very robust mitigation measures proposed for the WwTP facility will ensure that it does not cause odour nuisance beyond the site boundary. It is considered that there will be no significant negative impacts on the community, or their residential and recreational amenity during the Operational Phase by reason of proximity to the WwTP.

### **7.2.2 General Impact on Tourism**

232. The following submissions made a general objection that the Proposed Project will have a negative impact on tourism in Fingal, particularly in relation to recreational and amenity facilities in the area including coastal areas. It has been submitted that Fingal is being promoted as a tourist destination with emphasis on coastline and heritage. The historical location of first East-West Transatlantic flight was also referenced. Submissions from individuals on this issue included:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_4	Angela & Michael Callanan	LDG-007626-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_26	Catherine McMahon	LDG-007735-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_83	John Pepper	LDG-007560-18
GDD_SUB_87	Laurence & Geraldine Byrne	LDG-007553-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_94	Marie Hayes	LDG-007647-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18
GDD_SUB_102	Natalie Donoghue & Others	LDG-007594-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_129	Stephen and Theresa Walsh	LDG-007588-18
GDD_SUB_131	Susan Kavanagh	LDG-007615-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_165	Terri Gray and Paul Burke	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

233. The impact of the Proposed Project on Population is addressed in Section 6.4 and 6.5 in Chapter 6 Population in Volume 3 Part A of the EIAR. Tourism, Public Amenities and Community Infrastructure for WwTP is assessed at Section 6.5.4. Figure 6.10 in Volume 5 Part A of the EIAR comprehensively maps Tourism, Public Amenities, Sporting and Community Infrastructure. Impacts on Tourism, Public Amenities and Community Infrastructure are generally amenity related and are interrelated with other environmental topics, particularly Air Quality which is addressed in Chapter 14 Air Quality, Odour and Climate in Volume 2 Part A of the EIAR.
234. Section 6.5.4 states that as no tourism amenities/facilities of note were identified within the study area of the proposed WwTP, it will not give rise to adverse impacts on tourism attractions. Dublin Airport is the primary international access point nationally and to the region. As construction will not have a noticeable impact on access to and from Dublin Airport, the EIAR considered there will be a Neutral and Imperceptible Impact on the accessibility of the region or the local tourism base.
235. Section 6.6.4 of the EIAR identifies that the route in this area falls just outside the northern end of Portmarnock Golf Club and to the southern boundary of Portmarnock Golf Links course, which is part of the Portmarnock Hotel and Golf Links complex. Impacts in terms of noise, dust and visual impact are described in the relevant technical chapters of the EIAR. No restrictions to access to either golf course arises as road closures are not required (as microtunnelling will take place in this area).
236. This EIAR section notes that the proposed temporary construction compound no. 10 will encompass part of the public car park lands on the Golf Links Road. A section of the Velvet Strand Beach car parking area which is currently used by the public will be unavailable to the public for the duration of the marine related works – this area is located in the unpaved section of the carpark (a green area in which there are no formally marked out car parking spaces but on which an informal extension of the car park has occurred over time). It is estimated that approximately 12 spaces for cars in this area would be unavailable during the Construction Phase. However, the public pedestrian pathway will be unaffected and access to the beach will be maintained at all times. This will have a Moderate Negative Temporary Impact in terms of accessibility and amenity to the access to Velvet Strand Beach.
237. Section 6.6.4 of the EIAR duly notes that the coast is also popular for recreational sailing and organised events, including regattas. These events typically occur during the summer months when the proposed works on the proposed outfall pipeline route (marine section) are planned to take place. Mitigation measures proposed for the Construction Phase of the marine works seek to reduce, as far as practicable, any adverse impacts on the local sailing community. However, it is likely that Slight Negative Temporary Impacts on marine recreation will arise in this section of the shoreline and sea. Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR details construction methodology and operational procedures/requirements to ensure the marine habitat and recreational facilities are protected and sustained.
238. Overall, it is considered that the proposed WwTP is not likely to have a significant impact on the cultural heritage, recreation or tourism facilities within the study area in the Construction or Operational phases. No potential impacts were identified outside the study area defined in the EIAR and it is therefore concluded that the WwTP would not have any impact on Fingal's promotion as a tourist destination generally.

### 7.2.3 Impact on Hotels

239. The following submissions made reference to the potential impact of the Proposed Project on hotels in the area:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_17	Brendan Keegan & Others	LDG-007645-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_111	Philomena Fitzsimons	LDG-007710-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18
GDD_SUB_158	Eamonn Hart	Not assigned by ABP

240. Brendan Keegan & Others argue those staying in a hotel will be left with a 'smelly impression of Dublin. Submissions by Tom Brabazon (Cllr), Samanta Brown, Anthony Doyle, Philomena Fitzsimons and Eamonn Hart note that the Clayton and Hilton hotels are popular tourist spots. It is stated that WwTP location is between 2 hotels (less than 3km apart) and will impact on tourism. Dalata Hotel Group (Clayton Hotel) argue that the development will result in undue detrimental impacts on the operation and amenity of the established hotel.

### Applicant's Response

241. Section 6.3.6 in Chapter 6 Population in Volume 3 Part A of the EIAR notes the location of the Clayton Hotel on Clonsaugh Road and the location of the Carlton Hotel near Collinstown Cross. The Portmarnock Hotel and Golf Links are noted in Section 6.3.7 in Chapter 6 Population in Volume 3 Part A of the EIAR. The route in this area falls just inside the northern end of Portmarnock Golf Club and to the outside of the southern boundary of Portmarnock Golf Links course, which is part of the Portmarnock Hotel and Golf Links complex.

242. The EIAR Assessment under 6.5.3 Economic Activity (Construction Phase) finds that hotels are likely to incur a Slight Negative Temporary Impact as a result of the Construction Phase, due to potential traffic restrictions and the temporary reduction in amenity. The EIAR did not consider there to be a potential negative impact on local economic activity (including hotels) during the operational phase.

243. In the Operational Phase, the EIAR considers that in providing a critical infrastructure service to the catchment areas it serves in the Fingal, north City Dublin, south-east Meath and north-east Kildare areas, it (WwTP) will support economic development and the capacity of these areas to attract new investment. As such, a Significant Positive Long-term Impact on the wider economy is likely as a result of the operation of the proposed WwTP. It is not considered that there will be any negative impact on the operation and amenity of the Clayton Hotel.

### 7.2.4 Impact to Fisheries and Recreation Industries

244. The following submissions argue that Detrimental impact to tourism vulnerable tourism and water recreation industries will suffer consequences. It is highlighted that water should be treated to highest level and there are concerns about the impact on water quality, especially at Howth and the knock on impact on fisheries and tourism. It is stated that vulnerable businesses (sea fishing and water recreation industries) will suffer if

untreated wastewater is released in water. Groups, representatives and individuals making these points include:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_99	Michael O'Brien	LDG-007593-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP

245. The following submissions asserts that there are four designated shellfish production areas on the East Coast one of which is the Malahide production area and that the outfall for the Proposed Project will fall on the middle of the same. Malahide is currently at 'A' status as monitored by the Sea Fisheries Protection Authority meaning fish are fit for the live export market. Should this be changed the fishery will be significantly devalued. It contends that the razor clam fishery of vital importance providing much needed employment and sustaining local maritime communities and supplying multi million euro market for Ireland. Those making this point include:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_29	Charles Heasman	LDG-007700-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_94	Marie Hayes	LDG-007647-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_156	Peter Coyle	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	

### Applicant's Response

246. The impact of the Proposed Project on Population and Human Health: Population is addressed in Section 6.4 and 6.5 in Chapter 6 Population in Volume 3 Part A of the EIAR. The impact on Economic Activity for the proposed WwTP is assessed at section 6.5.3 in Volume 3 Part A of the EIAR and the impact of the proposed orbital sewer route and outfall pipeline route is assessed at section 6.6.3 in Volume 3 Part A of the EIAR.
247. In respect of fisheries, Section 6.6.3 in Volume 3 Part A of the EIAR notes that the dredging for the proposed outfall pipeline route (marine section) installation will take place over the period March to October (though it is likely that the appointed contractor(s) will mobilise between June and September). A safety advisory zone of 250m either side of the centreline of the outfall pipeline route will be maintained during the Construction Phase for health and safety purposes. The construction works will be on a phased basis to ensure that a large commercial fishing channel area will remain open at all times. While the offshore works are temporary in nature, there will be a Slight Negative Temporary Impact on the commercial fisheries sector in the locality as a result of the temporary loss of some trawling ground during the Construction Phase.
248. The proposed outfall pipeline route (marine section) is to discharge treated wastewater approximately 1km north-east of Ireland's Eye and south of the designated Malahide shellfish waters. The proposed discharge is designed to comply with Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC (Bathing Water Directive) and Council Directive 91/271/EEC concerning urban waste water treatment (Urban Wastewater Treatment Directive) and this is addressed in Chapter 8 Marine Water Quality and Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR in full. The stringent measures to secure water quality and the marine environment during Construction and Operational phases detailed in these sections, secure the habitat to sustain the razor clam industry and fisheries.
249. Overall, the impact on commercial fisheries is anticipated to be Neutral and Imperceptible once the proposed outfall pipeline route (marine section) is operational.
250. As a mitigation measure, a fisheries liaison officer to be appointed to minimise potential impacts on commercial and recreational fishing.

### 7.2.5 Impact on Local Business

251. Several submissions make the argument that there will negative impacts on local businesses. Submissions on this issue include those from:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_4	Angela & Michael Callanan	LDG-007626-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_18	Brendan Regan	LDG-007764-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_29	Charles Heasman	LDG-007700-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_38	Crystal Reid Perry & Others	LDG-007640-18
GDD_SUB_40	Daniel Shine	LDG-007698-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_56	daa	LDG-007762-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP

252. Therese Doyle submits that Circle K and other local shops in the area of the proposed WwTP will suffer greatly as visitors will not want to come to the area due to the smell.

253. Michael & Elaine Byrne & Others submit that several local businesses (incl. restaurants, cafes, shopping centre and hotels) all within 300m of the WwTP will be affected by construction

254. daa welcomes and supports the GDDP as an enabler of economic growth in the Fingal and Dublin City Area.

### Applicant's Response

255. The impact of the Proposed Project on Population and Human Health: Population is addressed in Section 6.4 and 6.5 in Chapter 6 Population in Volume 3 Part A of the EIAR. Economic Activity for the proposed WwTP is assessed at section 6.5.3 and the proposed orbital sewer route and outfall pipeline route at section 6.6.3 in Volume 3 Part A of the EIAR. Figure 6.7 in Volume 5 Part A of the EIAR identifies commercial clusters within the Proposed Project Study Area

256. Section 6.5.3 in Volume 3 Part A of the EIAR finds that there may also be an indirect Slight Positive Short-Term Impact from increased use of local services and retail outlets (located at Topaz Service Station) during the Construction Phase.

257. Section 6.6.3 in Volume 3 Part A of the EIAR (Economic Activity) demonstrates that businesses located in Kinsealy and the R107 Malahide Road area will not be adversely affected in terms of accessibility as the trenchless construction method will be used to cross the road resulting in a Neutral and Imperceptible Impact. The presence of proposed temporary construction compound no. 7 on the R107 Malahide Road at a site adjacent to the southern boundary of a retail centre accommodating uses including a garden centre, fruit and vegetable shop, café and a craft butchers is likely to give rise to a Slight Negative and Temporary Impact arising from construction related traffic and transfer and/or storage of construction materials.

258. Once fully operational, the proposed orbital sewer route, outfall pipeline route and Abbotstown pumping station (as part of the overall Proposed Project) will support economic growth and development, particularly in the catchment areas of Fingal, north Dublin, south-east Meath and north-east Kildare, as the infrastructural capacity to cater for new economic developments in these areas is greatly increased. As such, the operation of the proposed orbital sewer route and outfall pipeline route is considered to have a Significant Positive Long-term Impact on both the local economy of the catchment area it serves, and the economy of the wider Dublin area and the GDA.

### 7.2.6 Impact of the Construction Phase

259. The following submissions raised concerns about the potential for disruptive impacts as a result of the Construction Phase:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_46	Councillor Declan Flanagan	LDG-007693-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_168	Seán Lyons	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

260. The impact of the Proposed Project on Population and Human Health: Population is addressed in Section 6.4 and 6.5 of Chapter 6 Population in Volume 3 Part A of the EIAR. Figure 6.8 in Volume 5 Part A of the EIAR identifies Healthcare Facilities within the Proposed Project Study Area.
261. Section 6.6.5 in Volume 3 Part A of the EIAR demonstrates that the operation of the proposed orbital sewer route and Abbotstown pumping station will not impact adversely on the existing healthcare facilities in the locality, notably Connolly Hospital and St. Francis' Hospice in Blanchardstown. The impact is assessed as Neutral and Imperceptible.
262. The operation of the proposed Abbotstown pumping station, orbital sewer route and outfall pipeline route will not have any adverse impact on the day to day running of schools or to staff, students and parents attending the schools. The impact will therefore be Neutral and Imperceptible
263. It is considered that communities in the study area may experience some temporary impacts as a result of the construction phase (refer to section 6.6.2 in Volume 3 Part A of the EIAR).
264. Proposed temporary construction compound no. 10 will encompass part of the public car park lands on the Golf Links Road. A section of the Velvet Strand Beach car parking area which is currently used by the public will be unavailable to the public for the duration of the marine related works – this area is located in the unpaved section of the carpark (a green area in which there are no formally marked out car parking spaces but on which an informal extension of the car park has occurred over time). It is estimated that approximately 12 spaces for cars in this area would be unavailable during the Construction Phase. However, the public pedestrian pathway will be unaffected and access to the beach will be maintained at all times. This will have a Moderate Negative Temporary Impact in terms of accessibility and amenity to the access to Velvet Strand Beach. (6.6.4 Tourism, Public Amenities and Community Infrastructure)

## 7.3 Response to Specific Issues Raised in Observers' Submissions

### 7.3.1 Negative Perception, Image or Publicity Associated with the WwTP Leading to a Reduction in Tourism

265. Many of the submissions on the Proposed Project have made the case that there will be a negative impact on Tourism arising from a negative perception, image or publicity associated with the WwTP. Individuals, groups or representatives who have made this point include:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP

### Applicant's Response

266. The impact of the Proposed Project on Population is addressed in Section 6.4 and 6.5 in Chapter 6 Population in Volume 3 Part A of the EIAR. Tourism, Public Amenities and Community Infrastructure for the proposed WwTP is assessed in section 6.5.4. Figure 6.10 in Volume 5 Part A of the EIAR comprehensively maps tourism, public amenities, sporting and community infrastructure. Section 6.5.4 identifies that no tourism amenities/facilities of note were identified within the study area of the proposed WwTP and will, therefore, not give rise to adverse impacts on tourism attractions.

267. The EPA's Draft Guidelines on the Information to be included in an Environmental Impact Statement recognise that subjective, social concerns are relevant to the assessment of an impact's significance, but they must be weighed appropriately with objective, scientific impacts. The EIAR has sought to balance these concerns in its assessment of significance. In doing so, it has taken account of the effects of the project siting, design and mitigation measures which in many cases reduce the objective, scientifically quantifiable aspect of many impacts to zero or near zero. For example, odour will not be detectable beyond the site boundary. As such, it is important that the assessment distinguishes between subjective opinions on the effects of the proposed scheme, as distinct from the assessment subjectivity itself (perception or image).

### 7.3.2 Socio Economic and Community Gain

268. The following submissions make reference to socio-economic profiles and the issue of community gain:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_16	Breda Doyle	LDG-007718-18
GDD_SUB_31	Cian O'Callaghan	LDG-007713-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_67	Eugene Farrell	LDG-007761-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_101	Michael Salmon & Others	LDG-07636-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18
GDD_SUB_156	Peter Coyle	Not assigned by ABP
GDD_SUB_161	Orla O'Kane & Others	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP

269. Cian O Callaghan submits that given level of economic deprivation in the adjacent areas of Darndale and Belcamp the community benefits scheme that forms part of the application should be amended to better serve local community youth and sport.
270. Eugene Farrell submits that under the National spatial strategy there is a focus on relationship between people and the places where they live and work, to unlock potential, growth, progress and development. He argues that the location of WwTP in area that is disadvantaged socially and economically – is contrary to National Spatial Strategy.
271. Patricia Keogh states the plant will take away from the area and the homes and will add to the hardship trying to re-establish the area.
272. Elizabeth Sherlock submits the Proposed Project will impact community reputation (already overpopulated with socioeconomic issues).
273. John Lyons (Cllr), Richard Bruton, TD, Riverside Residents Association and Michael Salmon & Others submit that there is a Lack of local community gain from the project and that it will not benefit the community as the plant will be mainly treating sewage from other areas (Meath, Kildare etc.).
274. Portmarnock Community Association submit IW should commit to community schemes to enhance and improve the environment from Clonshagh to Ireland's Eye.
275. Peter Coyle submits that the local community needs to be offered local facilities as part of a community benefits scheme. A local sewage scheme such as for the houses at Baskin Lane, funding for local community projects and a local liaison committee should be applied.

### Applicant's Response

276. The impact of the Proposed Project on Population and Human Health: Population is addressed in Section 6.4 and 6.5 in Chapter 6 Population in Volume 3 Part A of the EIAR. Community and residential settlement is assessed at Section 6.5.2. The assessment of community and residential settlement (Section 6.5.2), and tourism, public amenities and community infrastructure (6.5.4) are noted above.

277. Under Section 6.8 Mitigation Measures in Volume 3 Part A of the EIAR it is confirmed that a Community Liaison Officer (CLO) shall be employed during the Construction Phase of the Proposed Project:

- The role of the CLO will be to maintain an open, transparent and positive relationship with members of the public, groups and organisations affected by the works;
- The CLO will work closely with the Applicant and the appointed contractor(s) to ensure that all efforts to address public concerns are made, and to ensure that information on the nature and duration of all works is provided; and
- The CLO will also act as a contact point for sporting clubs and community facilities in the area.

278. The Applicant response on community benefit is included in Paragraph 10 to 10.

279. The EIAR does not identify negative environmental impacts on the communities identified in the submissions arising from the operation of Proposed Project that require mitigation within the EIA process.

### 7.3.3 Impact on Property Value

280. Several submissions argue that the value of residential property will be negatively affected. Submissions include those by the following:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_5	Ann O'Keeffe	LDG-007688-18
GDD_SUB_8	Anthony Murphy	LDG-007657-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_12	Barbara Shelley	LDG-007667-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_21	Brian Union & Co.	LDG-007714-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_59	Eddie Larkin	LDG-007634-18
GDD_SUB_61	Elaine Taaffe	LDG-007660-18
GDD_SUB_62	Elizabeth McMahon	LDG-007629-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_84	John Walsh	LDG-007730-18
GDD_SUB_85	Kathleen O Reilly	LDG-007740-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18
GDD_SUB_100	Michelle & David O Connor	LDG-007731-18
GDD_SUB_101	Michael Salmon & Others	LDG-07636-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_105	Noel Conway	LDG-007726-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_111	Philomena Fitzsimons	LDG-007710-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_131	Susan Kavanagh	LDG-007615-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_135	Therese Gregg	LDG-007642-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	

### Applicant's Response

281. The impact of the Proposed Project on Population and Human Health: Population is addressed in Section 6.4 and 6.5 in Chapter Population in Volume 3 Part A of the EIAR. Tourism, public amenities and community infrastructure for the proposed WwTP is assessed in Section 6.5.4 and the outfall pipeline route in Section 6.6.4 in Volume 3 Part A of the EIAR.

282. It is considered that communities in the study area may experience some temporary impacts as a result of the Construction Phase (refer to Section 6.6.2 in Volume 3 Part A of the EIAR). In general, the residual impacts identified in these chapters are considered to be Slight and Not Significant with the implementation of the mitigation measures.

283. Particular concerns raised relating to the negative impact on property values are based on concerns about the impact the WwTP will have on residential amenity from odour. The through and comprehensive odour impact assessment undertaken in the EIAR (Chapter 14 – Air Quality, Odour and Climate), states that there will be no significant residual impacts from Odour from the Proposed Project.

284. There will be no additional significant impacts on the community during the Operational Phase.

285. There will be no significant negative impact on residential amenity or associated recreational amenity arising from the Proposed Project.

## 7.4 Response to Specific Issues Raised by Prescribed Bodies

### 7.4.1 Fáilte Ireland

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP

286. Fáilte Ireland has stated that It is essential that the quality, character and distinctiveness of our landscape be protected as this is one of the main tourist attractions in Ireland

287. Fáilte Ireland note that there will be an impact from the loss of public access to Velvet Strand during construction. Negative impact on those accessing and using the Golf Links Hotel and the 2 Golf Clubs in Portmarnock due to access restrictions and traffic caused during the construction phase.

### Applicant's Response

288. As noted above, the EIAR considers there will no negative impact arising from the Proposed Project on Tourism. Having regard to Fáilte Ireland's reference to protection of the landscape, it is noted that Landscape and Visual impacts are addressed in Chapter 12 Landscape and Visual in Volume 2 Part A of the EIAR.

289. A section of the Velvet Strand Beach car parking area which is currently used by the public will be unavailable to the public for the duration of the marine related works – this area is located in the unpaved section of the carpark (a green area in which there are no formally marked out car parking spaces but on which an informal extension of the car park has occurred over time). It is estimated that approximately 12 spaces for cars in this area would be unavailable during the Construction Phase. However, the public pedestrian pathway will be unaffected and access to the beach will be maintained at all times. This will have a Moderate Negative Temporary Impact in terms of accessibility and amenity to the access to Velvet Strand Beach. (6.6.4 Tourism, Public Amenities and Community Infrastructure).

290. Overall, it is considered that having regard to the Landscape and Visual Assessment section of the EIAR, the proposed development will not have a negative impact on the character and distinctiveness of our landscape will not have a negative impact on Tourism in the construction or operation phase

### 7.4.2 Dublin City Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_57	Dublin City Council	Not assigned by ABP

291. Councillors suggest that the proposed WwTP will be huge and detrimental to the amenity of residents of large suburbs within Dublin City a short distance away.

292. The Dublin City Council submission also notes Employment will be welcome.

**Applicant's Response**

293. As noted above, the impact of the WwTP has been fully assessed as part of the EIAR process having regard to its proximity to populations, communities, facilities and amenities. It is concluded that there will be no negative impacts on of residents of large suburbs within Dublin City.

294. As noted by DCC the Proposed Project will have a positive impact on employment during construction and operation

## 8. Human Health

### 8.1 Overview

295. 85 submissions raised the issue of human health in relation to the Proposed Project.

### 8.2 Response to General Issues Raised

296. The majority of issues raised in submissions relating to human health fall under common themes. These themes and the corresponding sections of the planning application documents.

#### 8.2.1 General Health and Wellbeing

297. The following submissions raised the issue of health, wellbeing and quality of life:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_2	Dr. Alex McDonnell	LDG-007539-18
GDD_SUB_4	Angela and Michael Callanan	LDG-007626-18
GDD_SUB_5	Ann O'Keeffe	LDG-007688-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_15	Betty Browne & Co	LDG-007549-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_61	Elaine Taaffe	LDG-007660-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_65	Emma Synnott & Others	LDG-007709-18
GDD_SUB_66	Ercolo & Grace Deloitte	LDG-007589-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_84	John Walsh	LDG-007730-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_130	Stephen Hickey	LDG-007661-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_137	Thomas Tolster	LDG-007699-18
GDD_SUB_138	Tom and Breda Treacy	LDG-007541-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_151	John Cuddy	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_161	Orla O'Kane & Others	Not assigned by ABP

### Applicant's Response

298. Human Health has been assessed in detail as part of Chapter 7 Human Health in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). Overall, the Proposed Project will have a positive impact on human health.

299. Chapter 7 of the EIAR deals extensively with the potential human health effects of the Proposed Project. The overriding purpose of the Proposed Project is to provide a long-term sustainable drainage solution that will cater for existing and future development in the Greater Dublin Area (GDA).

300. The Proposed Project will ensure that wastewater generated from the continued growth and economic development of the GDA is appropriately treated in order to safeguard human health and the environment and will be carried out in compliance with the relevant EU Directives and National regulations on water quality.

301. There is potential for socio-economic gain including economic growth and residential development. Improved socio-economic status is well recognised as resulting in a positive impact on health outcomes. There is potential for increased employment and reduced unemployment particularly long-term unemployment. If this is achieved, there will also be benefits in terms of social health including decreased social inequality.

302. From a community perspective, there are clear benefits in terms of health protection, opportunities for health improvements and access to services. There are however a limited number of individuals, primarily those living close to the construction of the Proposed Project for whom there may be a temporary slight adverse impact in terms of noise and air quality during the Construction Phase. These impacts will be minimised by use of mitigation measures.

303. Overall, the impacts in human health of the Proposed Project are assessed in the EIAR as positive.

### 8.2.2 Marine Water Quality

304. The following submissions are concerned with the potential effects on marine water quality particularly in relation to swimming in the sea adjacent to areas served by the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_144	Betty Ennis and Alvis Crawford	Not assigned by ABP

### Applicant's Response

305. Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR details extensive mitigation for both the Construction and Operational Phases which will ensure the maintenance of current water quality.

306. As presented in Section 7.7.3 of Chapter 7 Human Health in Volume 3 Part A of the EIAR, for the Operational Phase a modelling study was undertaken to assess the potential impacts of the proposed outfall pipeline route under three water quality modelling scenarios representing average daily flow conditions, flow to full conditions and a process failure scenario. The results of this modelling were analysed against environmental quality standards and bathing water standards. The modelling exercise concluded that the proposed outfall pipeline route discharge point will have an imperceptible impact on any designated bathing waters or the blue flag beach. This includes a process failure scenario where the *Escherichia coli* (*E. coli*) maximum values did not exceed the Bathing Water Quality Regulations 2008 (SI No. 79 of 2008) mandatory value of 500/100ml in 95% or more samples taken in the season to ensure 'good' classification of bathing water beaches. The modelling predicted no compliance failures at any of the designated bathing water beaches or blue flag beaches as a result of an *E. coli* plume caused by process failure. It is therefore considered that there will be no adverse human health effects in relation to marine water quality.

### 8.2.3 Odour

307. The following submissions are concerned with the issue of odour in relation to the Proposed Project, with a particular emphasis on the WwTP:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Alison Gilliland	LDG-007538-18
GDD_SUB_46	Councillor Declan Flanagan	LDG-007693-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

308. The impact of odour has been very extensively covered in Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of the EIAR. An extensive mitigation plan is also presented in Chapter 14. While odour is not in itself a health effect, this topic is also extensively covered in Sections 7.7.1, 7.7.2 and 7.8 in Chapter 7 Human Health in Volume 3 Part A of the EIAR. It is clear from the assessment that with the implementation of the odour control plans no adverse effects on human health are anticipated.

### 8.2.4 Air Quality

309. The following submissions are concerned with the issue of air quality and potential effects on air quality during the Construction and Operational Phases, with a particular emphasis on particulates:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_16	Breda Doyle	LDG-007718-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_42	Darren Maher	LDG-007568-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_105	Noel Conway	LDG-007726-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_109	Peter Daly	LDG-007689-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_131	Susan Kavanagh	LDG-007615-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP

### Applicant's Response

310. Air quality has been extensively assessed in Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of this EIAR. This Chapter assessed all emissions to air including dusts and particulate matters (PM).
311. In general, the Construction Phase, like virtually all construction activity, will give rise to some dust in the immediate vicinity of the works. However, the impact of this is assessed as no greater than medium.
312. The assessment shows that the most significant potential impacts are those associated with soil stripping and excavations, landscaping and construction traffic. A temporary slight adverse impact is predicted for the closest receptors during the Construction Phase with potential short-term impacts from traffic on the surrounding roads within about 50m of the proposed WwTP site. However, all dust levels will not exceed Air Quality Standards. This means that the potential effect on Human Health is slight or negligible. There will be no lasting impact and the short-term impact will be managed by means of effective mitigation measures.
313. For the Operational Phase, Appendix A14.5 presents the air quality predictions for every modelling scenario and meteorological year assessed for the proposed Abbotstown pumping station site, the Odour Control Unit at Dubber and the proposed WwTP.



314. Model executions were completed to assess the incremental additions to ground level concentrations of PM10, PM2.5, NO2, NOx, SO2 and CO over specified averaging intervals to allow comparison of the predictions with the relevant Air Quality Standards and Guidelines. The data for each of the assessed air quality parameters demonstrated that emissions from the facility will not cause air quality standards to be exceeded. As such, there will be no adverse human health effects from particulate matter or indeed any other aspect of air quality.

#### 8.2.5 Noise

315. The following submissions raised the issue of the impact of noise on health in relation to the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_16	Breda Doyle	LDG-007718-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18

#### Applicant's Response

316. A Programme of Noise & Vibration monitoring, both attended and unattended, will be carried out during the construction phase works. The Noise & Vibration Management Plan (NVMP) will form part of the overall Construction and Environmental Management Plan and will give the details of who will undertake the noise and vibration monitoring and the list of proposed monitoring locations during the construction works. The noise & vibration monitoring will be carried out by a competent person in accordance with the definition provided by the Environmental Protection Agency (EPA) in their Guidance Document NG4 [Environmental Protection Agency (2016). Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)].

317. There will be a dedicated contact appointed by the contractor(s) who will deal with all communications in relation to noise and vibration. All noise & vibration complaints will be fully investigated in a timely manner and appropriate action will be taken, including noise & vibration monitoring, where complaints arise.

#### 8.2.6 Sensitive Receptors and Individuals

318. The following submissions assert the presence of sensitive receptors and vulnerable individuals in the vicinity of the Proposed Project. These include hospitals and their patients such as Beaumont Hospital or those living in the area in nursing homes etc.:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_17	Brendan Keegan & Others	LDG-007645-18
GDD_SUB_120	Samanta Brown	LDG-07686-18
GDD_SUB_125	Sharon Hogan	LDG-007734-18
GDD_SUB_142	Winnie McDonnagh	LDG-007627-18
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP

## Applicant's Response

319. Sensitive receptors and individuals were extensively dealt with in Section 7.7.3 in Chapter 7 Human Health in Volume 3 Part A of the EIAR. The use of health-based standards such as Air Quality Standards (AQSS) is designed to protect the vulnerable. As previously stated there will be no breaches to air quality standards or guidelines and therefore there will be no health effects.

## 8.3 Response to Specific Issues Raised in Observers' Submissions

### 8.3.1 CPE and Other Infections

320. The following submissions suggest that there is a potential threat to public health due to the release of the CPE (gut bug) into the water through the marine outfall.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_152	Corina Johnston on Behalf of Donabate/ Portmarnock Community Council	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

## Applicant's Response

321. CPE is an antibiotic resistant bacteria which can particularly cause serious issues for hospital patients. The HSE have issued several useful documents on CPE which are easily accessible on the web.

322. E stands for Enterobacteriaceae. Enterobacteriaceae means a larger family of bugs that live in the gut. e. coli is one of this family of gut bugs but there are many others. C stands for Carbapenemase. The carbapenems are a very important group of antibiotics. The best known example in Ireland is an antibiotic called meropenem. A carbapenemase is an enzyme (a type of protein) that destroys meropenem and other antibiotics like meropenem. P stands for Producer.

323. So, CPE is a gut bug that produces a protein/enzyme that destroys meropenem. The biggest danger for spread of CPE right now is in hospitals and nursing homes. This is because people in hospitals and nursing homes are more likely to carry CPE.

324. It is spread by what is known as the oro-faecal route. Oro-faecal means faeces, sometimes tiny traces of faecal particles, find their way into another person's mouths either by directly contaminating the food as can happen in the developing world without adequate sewerage facilities or more likely here by contaminated (unwashed) hands. Sometimes these particles can be carried a short distance, a number of meters at most, by droplets but none of these infections has the ability to transmit through the air and cannot be carried by air any distance from the source. CPE is common with other infections also mentioned in submissions such as Typhoid, Hepatitis A. Polio, Cholera and others.

325. People in hospital and nursing homes are also more likely to catch CPE because a lot of them are already sick and may be taking antibiotics. Clean hands (hand hygiene) are the most important thing in stopping the spread of CPE.

326. The concern in the submissions is that these infections can spread either through outfall pipelines or through airborne means. They cannot travel through airborne means and far from being a potential cause of CPE and

other infections mentioned above, an efficient waste water transport and treatment system is a most essential means of prevention.

### 8.3.2 Vermin

The following submissions suggested that there was potential for an increase in vermin in the area.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_53	Dolores Higgins	LDG-007672-18
GDD_SUB_79	Jennifer Jones	LDG-007670-18
GDD_SUB_81	Joe and Elaine Jones	LDG-007382-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18

#### Applicant's Response

327. The appointed contractor will have a vermin management plan in place. This will be incorporated into the appointed contractor's construction environmental management plan and will be in accordance with best industry practice.

## 8.4 Response to Specific Issues Raised by Prescribed Bodies

### 8.4.1 Health Services Executive

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_76	Health Services Executive	LDG-007913-18

#### Applicant's Response

328. This submission asserts that it was "*concerned primarily with highlighting issues of Public Health and Environmental Health*". The submission was based on a review of relevant documentation including the EIAR, including Chapter 7 Human Health, Chapter 14 Air Quality, Odour & Climate and Chapter 15 Noise and Vibration in Volume 3 Part A of the EIAR.

329. Apart from suggested monitoring in relation to noise, vibration and air quality amongst others, it does not identify any potential health effects or indeed any deficiency in the EIAR in relation to the methodology and assessment of the potential impact on human health. It should be noted that the suggestions made by the Health Service Executive have been agreed for implementation by the Applicant.

330. The overall assessment of the impact on human health of the Proposed Project as detailed in Chapter 7 Human Health in Volume 3 Part A of the EIAR was positive in terms of human health.

331. This has been reflected in the conclusion of the Health Services Executive Report which asserts that:

*"Following review the EH service considers the EIAR addresses the above adequately and therefore have no additional comment so to make"*

## 9. Marine Water Quality

### 9.1 Overview

332. 104 submissions raised the issue of marine water quality in relation to the Proposed Project.

### 9.2 Response to General Issues Raised

#### 9.2.1 Impact of the Proposed Project on Local Beaches/ Coastal Water Quality

333. The following submissions raised concerns about the impact of the Proposed Project on local beaches and coastal water quality:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_2	Dr. Alex McDonnell	LDG-007539-18
GDD_SUB_3	Alison Gilliland	LDG-007538-18
GDD_SUB_4	Angela and Michael Callanan	LDG-007626-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_10	Aulden Grange Residents Association	LDG-007619-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_26	Catherine McMahon	LDG-007735-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_28	Chambers Ireland	LDG-007471-18
GDD_SUB_31	Cian O Callaghan	LDG-007713-18
GDD_SUB_33	Clare Daly TD	LDG-007590-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_38	Crystal Reid Perry & Others	LDG-007640-18
GDD_SUB_40	Daniel Shine	LDG-007698-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_45	Deborah Byrne	LDG-006735-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_53	Dolores Higgins	LDG-007672-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_59	Eddie Larkin	LDG-007634-18
GDD_SUB_60	Elaine Murray	LDG-007664-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_74	Gavin O Connor	LDG-007711-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_77	Inland Fisheries Ireland	LDG-007907-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_83	John Pepper	LDG-007560-18
GDD_SUB_85	Kathleen O Reilly	LDG-007740-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-07655-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_94	Marie Hayes	LDG-007647-18
GDD_SUB_102	Natalie Donoghue & Others	LDG-007594-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_120	Samanta Brown	LDG-070686-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_145	Jennifer Lyons on behalf of Portmarnock Triathlon Club	Not assigned by ABP
GDD_SUB_146	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_152	Corina Johnston on behalf of Donabate/ Portrane Community Council	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

## Applicant's Response

### Bathing Water Quality

334. The Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008), as amended, transposed the Bathing Water Directive into Irish Law on 24 March 2008. It established a new classification system for bathing water quality based on four classifications: 'Poor', 'Sufficient', 'Good' and 'Excellent'. The Regulations generally require that a classification of 'Sufficient' be achieved by 2015 for all bathing waters. The classification criteria are detailed in Table 3.

**Table 3: Quality of Bathing Water Regulations, 2008 (S.I. No. 79 of 2008)**

Parameter	Excellent	Good	Sufficient
Escherichia coliform (cfu/100ml)	250 <sup>1</sup>	500 <sup>1</sup>	500 <sup>2</sup>
Intestinal enterococci (cfu/100ml)	100 <sup>1</sup>	200 <sup>1</sup>	185 <sup>2</sup>
1 By 95% or more samples 2 By 90% or more samples Poor Quality values are any values worse than the 'Sufficient' quality value			

335. Under the Quality of Bathing Waters Regulations, the stretches of beach designated as bathing water protected areas along the north Co. Dublin coastline are:

- Balbriggan (classified as 'excellent')
- Skerries (classified as 'excellent')
- Claremont Beach (classified as 'excellent')
- Sutton Burrow Beach (classified as 'excellent')

- Portmarnock, Velvet Strand Beach (classified as 'excellent')
- Donabate, Balcarrick Beach (classified as 'excellent')
- Portrane, Brook Beach (classified as 'restricted')
- Rush, South Beach (classified as 'restricted')
- Rush, North Beach (classified as 'excellent')
- Loughshinny Beach (classified as 'restricted')

336. The Blue Flag programme is a voluntary programme to identify high-quality bathing water areas, administered in Ireland by An Taisce. For EU countries implementing the Blue Flag programme, it is imperative that a beach is classified as being 'Excellent'. These imperative Blue Flag standards are shown in the Table below.

**Table 4: Blue Flag Standards**

Parameter Limit	Value <sup>1</sup>
Escherichia coliform (cfu/100ml)	250
Intestinal enterococci (cfu/100ml)	100
(1) For the evaluation of an applicant beach the Blue Flag programme requires 95th percentile compliance of the above limit values. This is in accordance with the EU Bathing Water Directive 2006 as well as the recommendation of the World Health Organisation. The percentile must be calculated for each parameter and met for each parameter.	

337. Only one beach in north Dublin was awarded a Blue Flag Award for 2017, that being Portmarnock Velvet Strand Beach.

338. Issues relating to the quality of bathing water beaches and blue flag beaches have been addressed in Section 8.4.2 of Chapter 8 Marine Water Quality in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR) and results from the model simulations demonstrated no impact of the proposed discharge on any designated bathing waters nor Blue Flag beaches.

339. The Operational Phase of the proposed outfall pipeline route (marine section) modelled the continuous discharge of secondary treated wastewater into the receiving waters for two scenarios:

- average flow conditions; and
- flow to full treatment conditions.

340. A number of mitigation measures have been embedded into the design of the Proposed Project to mitigate against such conditions being exceeded (e.g. a total or partial failure event) at the proposed WwTP, including:

- Power supply at the proposed WwTP: the proposed WwTP will have three power supply sources (electricity, natural gas and biogas) and will be capable of running off any single one or off a combination of sources;
- Power supply at proposed Abbotstown pumping station: a standby/backup diesel generator will be provided;



- Planned maintenance: the proposed WwTP will be designed to accommodate a planned maintenance regime whereby individual treatment unit can be taken offline for maintenance without impacting treatment capacity;
- Backup equipment: all pumps will be installed in duty/standby configurations in case of pump failure;
- Telemetry system: a telemetry system will be installed within the control room located in the proposed WwTP. This will allow operators to control the flows passed forward from the proposed Abbotstown pumping station and the existing Ballymun pumping station. As a result, in the event of a problem arising at the proposed WwTP, flows from the two pumping stations can be slowed or stopped for a period of time, with the large storage volumes available in the network mobilised to retain flows; and
- Alarm system: all key items of mechanical plant will incorporate alarms to warn of malfunction/failure.

341. Notwithstanding these comprehensive mitigation measures, the Applicant modelled on a precautionary basis, a third scenario to assess the impacts of discharging untreated wastewater over a three-day period, simulating a process failure at the proposed WwTP.

342. None of the scenarios examined disclosed any significant impact.

#### General Water Quality

343. The European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2015 (S.I. No. 386 of 2015) came into effect in 2015 and apply to all surface waters and give effect to the measures needed to achieve the environmental objectives established for surface waterbodies by the Water Framework Directive (WFD). Wastewater Discharge Authorisations (WDAs) must set standards (emission limits) that will contribute to the receiving waters complying with the standards for environmental quality laid out in these regulations.

344. The water quality standards for the general physico-chemical conditions supporting the biological elements in transitional and coastal waters are listed in Table 5.

**Table 5: Environmental Quality Objectives from S.I. No. 386 of 2015**

Parameter	Transitional	Coastal
Biochemical Oxygen Demand (BOD) (mg/l O <sub>2</sub> )	Not assigned by ABP	Good Status ≤4.0 (95%ile)
Dissolved Inorganic Nitrogen (DIN) (mg/l N)		
0 psu <sup>1</sup>	Good Status ≤ 2.60	Good Status ≤ 2.60
34.5 psu	Good Status ≤ 0.25	Good Status ≤ 0.25
34.5 psu	High Status ≤ 0.17	High Status ≤ 0.17
Molybdate Reactive Phosphorus (MRP) (mg/l P)		Not assigned by ABP
0-17 psu	≤ 0.06	
35 psu	≤ 0.04	
psu: The practical salinity unit defines salinity in terms of a conductivity ratio of a sample to that of a solution of 32.4336g of KCL at 15°C in 1kg of solution. A sample of seawater at 15°C with a conductivity equal to this KCL solution has a salinity of exactly 35 psu		

345. The principal quality standard of concern in relation to wastewater discharges to Coastal Waters is for nutrients in the form of Dissolved Inorganic Nitrogen (DIN). DIN is considered to be the limiting nutrient in coastal waters and a breach of the environmental quality standard may lead to eutrophic conditions (algal blooms, etc) and consequently the only nutrient standards in place for coastal waters are for DIN (although the Applicant has also modelled the impact of MRP against the nutrient standards in place for transitional waters, as outlined at the end of this Section). However, eutrophic conditions are not an issue in the receiving waters associated with the Proposed Project.
346. The Environmental Objectives Regulations 2009 set a median concentration limit in coastal and transitional waters for dissolved inorganic nitrogen at  $\leq 0.17\text{mg/l N}$  to achieve high status and at  $\leq 0.25\text{mg/l N}$  to achieve good status.
347. The results from the modelling study presented in Chapter 8 Marine Water Quality in Volume 2 Part A of the EIAR show that there was predicted to be no impact on the receiving waters from the operation of the proposed outfall pipeline route (marine section) discharge point for average daily discharge conditions, with only a Slight impact on the receiving waters, immediate vicinity of the proposed outfall pipeline route (marine section) discharge point for flow to full treatment conditions. There was predicted to be a Slight impact on the receiving waters, in the immediate vicinity of the proposed outfall pipeline route (marine section) discharge point, from the operation of the outfall discharge during a simulated process failure in the plant. None of the scenarios examined predicted the likelihood of any significant impact on the receiving waters from the operation of the proposed outfall pipeline route (marine section).
348. The Environmental Objectives Regulations 2009 do not set a limit for molybdate reactive phosphorus in coastal waters. The transitional waters' median concentration limit of  $\leq 0.04\text{mg/l P}$  required to achieve good status has been applied in the absence of a coastal waters limit. The results from the modelling study presented in Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR show that there was predicted to be no impact on the receiving waters from the operation of the proposed outfall pipeline route (marine section) discharge point for average daily discharge conditions, with only a Slight impact on the receiving waters, in the immediate vicinity of the proposed outfall pipeline route (marine section) discharge point for flow to full treatment conditions. There was predicted to be a Slight impact on the receiving waters, in the immediate vicinity of the proposed outfall pipeline route (marine section) discharge point, from the operation of the outfall discharge during a simulated process failure in the plant. None of the scenarios examined predicted the likelihood of any significant impact on the receiving waters from the operation of the proposed outfall pipeline route (marine section).

## 9.2.2 Impact on Bathing Waters/ Water Quality due to Process Failure/ Breakdown

349. The following submissions raised concerns about the impact of process failure/ breakdown on bathing waters and water quality:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_42	Darren Maher	LDG-007568-18
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_85	Kathleen O'Reilly	LDG-007740-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_129	Stephen and Theresa Walsh	LDG-007588-18
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_147	Howth Sea Angling Club	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

350. A number of mitigation measures have been embedded into the design of the Proposed Project to mitigate against total or partial failure events at the proposed WwTP, including:

- Power supply at the proposed WwTP: the proposed WwTP will have three power supply sources (electricity, natural gas and biogas) and will be capable of running off any single one or off a combination of sources;
- Power supply at proposed Abbotstown pumping station: a standby/backup diesel generator will be provided;
- Planned maintenance: the proposed WwTP will be designed to accommodate a planned maintenance regime whereby individual treatment unit can be taken offline for maintenance without impacting treatment capacity;
- Backup equipment: all pumps will be installed in duty/standby configurations in case of pump failure;
- Telemetry system: a telemetry system will be installed within the control room located in the proposed WwTP. This will allow operators to control the flows passed forward from the proposed Abbotstown pumping station and the existing Ballymun pumping station. As a result, in the event of a problem arising at the proposed WwTP, flows from the two pumping stations can be slowed or stopped for a period of time, with the large storage volumes available in the network mobilised to retain flows; and
- Alarm system: all key items of mechanical plant will incorporate alarms to warn of malfunction/failure.

351. With the implementation of the above embedded mitigation measures, a discharge due to process failure is very unlikely.

352. However, a scenario to assess the impacts of discharging untreated wastewater over a three-day period, simulating a process failure at the proposed WwTP was undertaken. The outcome of this simulation is addressed Section 9.2.1 of this Response, specifically Paragraph 341 to Paragraph 342 in relation to bathing waters, and Paragraph 347 to Paragraph 348 in relation to nutrient concentrations.

### 9.2.3 Hormones, Antibiotics, Chemicals and Hazardous Materials

353. The following submissions raised concerns about hormones, antibiotics and other substances entering marine water as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_147	Howth Sea Angling Club	Not assigned by ABP

### Applicant's Response

354. Although antibiotics and hormones have been identified in the environment for a number of years, current EU legislation (including the Urban Wastewater Treatment Directive 91/27/EEC (as amended), Sewage Sludge Directive 86/278/EEC, the Bathing Water Directive 2006/7/EC and the Dangerous Substances Directive 2006/11/EC) does not include specific regulations in respect of either of these substances. Antibiotics and hormone products are also not subject to any requirement in waste water discharge licences issued by the EPA.

355. Whilst it is acknowledged at EU level that the presence of antibiotics and hormone products are a growing problem in the environment there are no current proposals to amend the above legislation. Further studies at EU and national level are required to better quantify the risks to the environment and human health and to decide on the best approach to be adopted in order to prepare appropriate guidelines or possible legislation.

356. A general conclusion that can be drawn from studies done to date is that steps should be taken to minimise the quantity of antibiotics and hormone products that currently enter the wastewater stream and that this is best done at source rather than by way of end of pipe treatment. Irish Water is supportive of such an approach.

357. Should legislation be introduced in the future which sets limits for antibiotics/hormone products in treated wastewater discharges, Irish Water will comply with any obligations imposed on it.

### 9.2.4 Proposed Project Design

358. The following submissions raised the below issues:

- To address public confidence in the project - need precise details of proposed treatment and exact minimum water standards - including removal of all nitrates should be attached as planning condition;
- Ensure that nitrates are removed to prevent potential algae bloom events and any other possible adverse outcome under normal operating conditions;
- The exact details regarding the design of the Proposed Project and processes to be used as not confirmed at this stage; and
- The proposed secondary treatment will not remove nutrients and phosphates from the wastewater resulting in eutrophication in the area of the WwTP outfall pipe.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_20	Councillor Brian McDonagh	LDG-007690-18
GDD_SUB_22	Carol Barr	LDG-007674-18
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

## Applicant's Response

359. The proposed design basis for the proposed WwTP is set out in Section 4.4.3 of Chapter 4 in Volume 2 Part A of the EIAR. The proposed treatment standards (subject to the granting of a wastewater discharge licence by the EPA) for the WwTP are set out in Section 4.4.4 of Chapter 4 in Volume 2 Part A of the EIAR. A range of different treatment processes as listed in Section 4.4.5 of Chapter 4 in Volume 2 Part A of the EIAR are currently available which would satisfy the proposed treated wastewater standards.

360. A requirement for the potential removal of nutrients was examined and addressed in this Section of the Response and therefore has provided further clarification in relation to this issue.

### 9.2.5 Shellfish

361. The following submissions raised concerns about the impact of the Proposed Project on shellfish.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_77	Inland Fisheries Ireland	LDG-007907-18
GDD_SUB_89	Louise Foley Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_146	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell	Not assigned by ABP
GDD_SUB_147	Howth Sea Angling Club	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

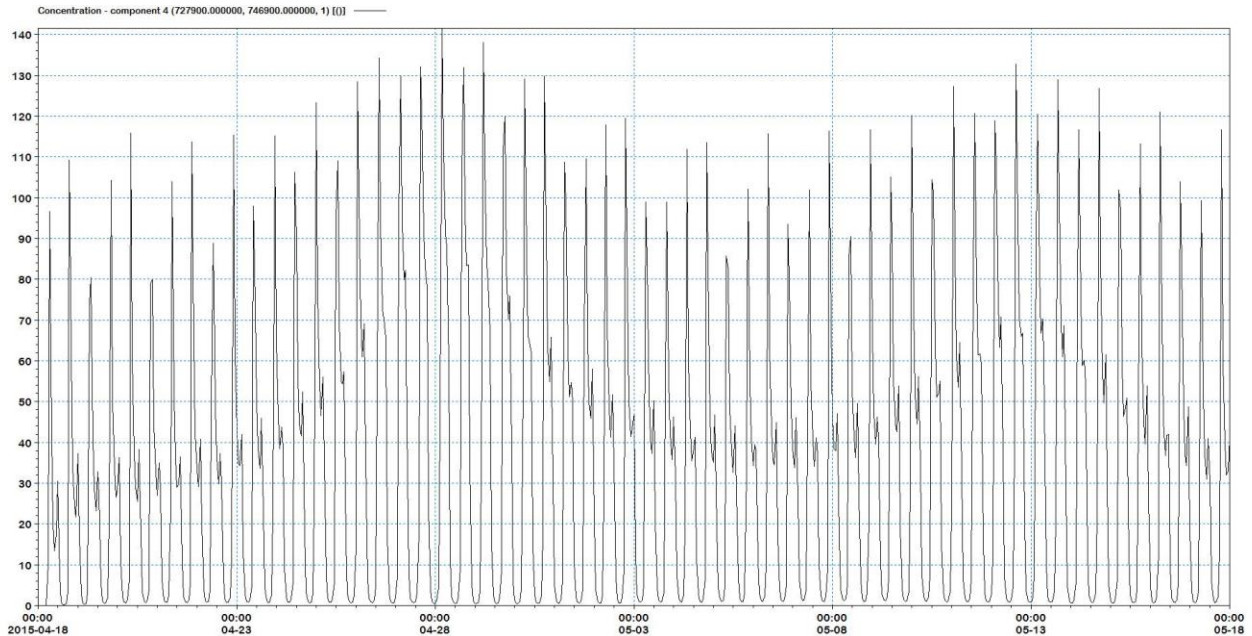
## Applicant's Response

362. Directive 2006/113/EC of the European Parliament and of the Council of 12 December 2006 on the quality required of shellfish waters (Shellfish Waters Directive) transposed into Irish Law through S.I. No. 268/2006 - EC (Quality of Shellfish Waters) Regulations requires Member States to designate waters that need protection to support shellfish life and growth. This legislation also prescribes quality standards for shellfish waters and requires that Member States set limit values corresponding to certain parameters.
363. Schedule II of S.I. No. 268/2006 does not set values for coliform concentrations in the water column. Schedule IV of S.I. No. 268/2006 sets a guide value for coliform concentrations equal to or less than 300 in the shellfish flesh and intervalvular liquid but does not set values for coliform concentrations in the water column.
364. The Classified Bivalve Mollusc Production Areas in Ireland<sup>2</sup> designates the production areas from which live bivalve molluscs may be taken. The Malahide razor clam shellfishery has a Class A classification requiring that samples of live bivalve molluscs from these areas must not exceed 230 E. coli per 100 g of flesh and intervalvular liquid.
365. There is no direct relationship between the concentration of coliforms in the overlying water and the concentration of coliforms in the shellfish flesh as both the uptake/accumulation and clearance/removal of coliforms by filter-feeding shellfish is a dynamic process affected by many variables (e.g. temperature, food availability, salinity, shellfish age, season, reproductive state, health of the shellfish and the impacts of toxins and other contaminants, etc).
366. The potential impacts on the Malahide shellfishery were examined using a revised modelling simulation examining the discharge of coliforms at a concentration of 300,000 cfu/100ml for both the proposed Average Daily Flow and Flow to Full Treatment scenarios.

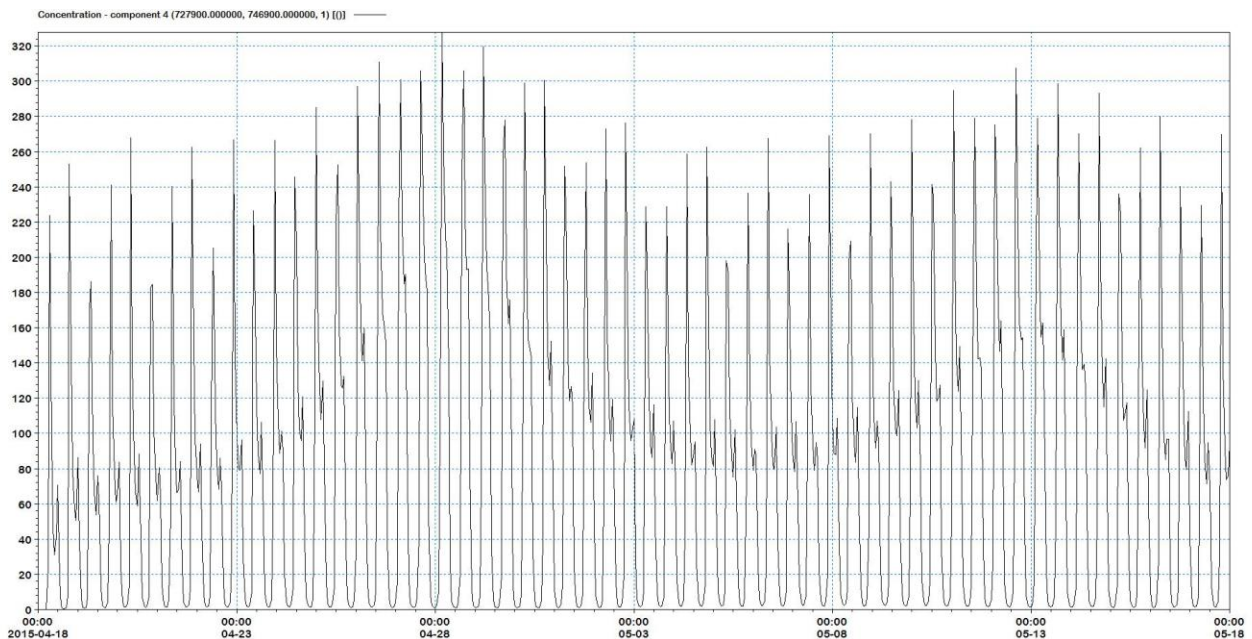
<sup>2</sup> <http://www.sfpa.ie/Seafood-Safety/Shellfish/Classified-Areas> accessed 10/01/2019.



367. The predicted evolution over time of coliform concentration levels at the designated shellfish sampling point located at 53° 27.394'N, 6° 4.457'W for the revised Average Daily Flow and Flow to Full Treatment scenario are presented in Diagram 8.21 and Diagram 8.22 respectively.



**Diagram 8 21: Predicted COLI concentrations over time at Malahide shellfishery sampling point for Average Daily Flow scenario discharging 300,000 cfu/100ml**



**Diagram 8 22: Predicted COLI concentrations over time at Malahide shellfishery sampling point for Flow to Full Treatment scenario discharging 300,000 cfu/100ml**

368. For Average Daily Flow scenario, the maximum predicted coliform concentration in the water near the seabed was 142 cfu/100ml. For 80% of the time the predicted concentrations were less than 62 cfu/100ml with the

average coliform concentration over the course of the simulation predicted to be 33 cfu/100ml. The coliform concentration fluctuates between a maximum value on flooding tides and zero concentration on ebbing tides. This provides equal time for uptake/accumulation and subsequent clearance/removal of any coliforms by the shellfish. There is not predicted to be any impact on the shellfish water quality as a result of the proposed discharge.

369. For Flow to Full Treatment scenario, the maximum predicted coliform concentration in the water near the seabed was 327 cfu/100ml. For 80% of the time the predicted concentrations were less than 147 cfu/100ml with the average coliform concentration over the course of the simulation predicted to be 78 cfu/100ml. The coliform concentrations fluctuate between a maximum value on flooding tides and zero concentration on ebbing tides. This provides equal time for uptake/accumulation and subsequent clearance/removal of any coliforms by the shellfish. There is not predicted to be any impact on the shellfish water quality as a result of the proposed discharge.

## 9.3 Response to Specific Issues Raised in Observers' Submissions

### 9.3.1 Current Water Quality Status at Balscadden Bay and Ireland's Eye

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_71	Friends of Balscadden Bay	LDG-007720-18

370. Submissions raised by Councillor David Healy and Friends of Balscadden Bay asserts that the current water quality at Balscadden Bay and Ireland's Eye is always at 'Excellent'. The also raise concern that the Applicant have wrongly assumed that standard is met at 500 cfu/100ml and they are not required to meet 'Excellent' status. The submission contends that the analysis has minimum graphical representation with no visible information about how plumes of effluent will move, thus representing an obvious omission of information. It is an obligation of the EIA to supply all information. The Malahide shellfishery is Class A shellfish waters requiring that shellfish contain <230 cfu/100mg flesh.

### Applicant's Response

371. The Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008), as amended, transposed the Bathing Water Directive into Irish Law on 24 March 2008. It established a new classification system for bathing water quality based on four classifications: 'Poor', 'Sufficient', 'Good' and 'Excellent'.
372. The Regulations require that the maximum values of Escherichia coliforms should not exceed the mandatory value of 500cfu/100ml in 95% or more of the samples taken in the season to ensure a 'Good' classification of bathing water beaches.
373. The Regulations require that the maximum values of Escherichia coliforms should not exceed the mandatory value of 250cfu/100ml in 95% or more of the samples taken in the season to ensure an 'Excellent' classification of bathing water beaches.
374. Section 8.4.2 in Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR assessed the impact of the Proposed Project on designated bathing waters along the north County Dublin coastline.
375. The tidal plots presented Section 8.4.2 in Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR presented the maximum extent of the predicted COLI plume from the proposed outfall pipeline route (marine

section) discharge point at high water, mid ebb, low water and mid flood on neap and spring tides for each of the three aforementioned scenarios.

376. None of the plots showed the predicted COLI plume from the proposed outfall pipeline route (marine section) discharge point exceeding the 500 cfu/100ml limit required to achieve “Good” status at any of the designated bathing waters beaches, Ireland’s Eye or Bascadden beach.
377. None of the plots showed the predicted COLI plume from the proposed outfall pipeline route (marine section) discharge point exceeding the 250 cfu/100ml limit required to achieve “Excellent” status at any of the designated bathing waters beaches, Ireland’s Eye or Bascadden beach.
378. Results from the model simulations demonstrated no impact of the proposed discharge on any designated bathing waters beaches, Blue Flag beaches, Bascadden beach nor Ireland’s Eye. No compliance failures were predicted at any of the designated bathing water beaches or Blue Flag beaches arising from the proposed discharge of treated wastewater.

### 9.3.2 Real Time Monitoring versus Computer Modelling

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

379. This submission suggested that real time monitoring in the marine environment would be more appropriate than computer modelling.

#### Applicant’s Response

380. Computer modelling has been used because the Proposed Project is only at the planning stage and the predicted impacts of the Proposed Project must be assessed to determine the potential for any impacts on the receiving waters.
381. Monitoring of the actual discharge will be undertaken in accordance with any conditions imposed by the relevant consenting authorities if the Proposed Project is approved.

### 9.3.3 Combined Loading of the Proposed Project and Ringsend

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

382. This submission by Peadar Farrell asserted that the loading for the Proposed Project and Ringsend should be read as one as these are in close proximity.

#### Applicant’s Response

383. Seven WwTPs were defined in the numerical model consisting of Shanganagh, Ringsend, Swords, Malahide, Portrane, Barnageeragh and the proposed GDD WwTP discharge under consideration in this study. The WwTPs were included in the modelling study to assess the potential in-combination effects with the proposed outfall pipeline route (marine section) discharge point.

#### 9.3.4 Shock Loads at the Proposed WwTP

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

384. The submission from Peadar Farrell submits that there is insufficient early storage capacity designed to cater for shock loads arriving at the proposed WwTP.

#### Applicant's Response

385. The majority of the flow arriving at the proposed WwTP will be pumped flows from the existing Ballymun pumping station and the proposed Abbotstown pumping station. Flow to the proposed WwTP is therefore controlled and will always be less than 3x DWF (dry weather flow) which is the standard accepted for flow to full treatment (FFT). As noted in Section 22.5 in Chapter 22 Risk of Major Accidents and/or Disasters in Volume 3 Part A of the EIAR, in the event of a total or partial failure at the proposed WwTP, a number of embedded measures have been included in the design of the Proposed Project to limit a discharge of untreated wastewater. These include:

- Power supply at the proposed WwTP: the proposed WwTP will have three power supply sources (electricity, natural gas and biogas) and will be capable of running off any single one or off a combination of sources;
- Power supply at proposed Abbotstown pumping station: a standby/backup diesel generator will be provided;
- Planned maintenance: the proposed WwTP will be designed to accommodate a planned maintenance regime whereby individual treatment unit can be taken offline for maintenance without impacting treatment capacity;
- Backup equipment: all pumps will be installed in duty/standby configurations in case of pump failure;
- Telemetry system: a telemetry system will be installed within the control room located in the proposed WwTP. This will allow operators to control the flows passed forward from the proposed Abbotstown pumping station and the existing Ballymun pumping station. As a result, in the event of a problem arising at the proposed WwTP, flows from the two pumping stations can be slowed or stopped for a period of time, with the large storage volumes available in the network mobilised to retain flows; and
- Alarm system: all key items of mechanical plant will incorporate alarms to warn of malfunction/failure.

#### 9.3.5 Marine Diffuser

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

386. The submission from Peadar Farrell submits that the marine diffuser image seems insufficient to deal with the volume of liquid and questions if there is there more detailing to be done for this diffuser area.

### Applicant's Response

268. The modelling study considered the proposed multi-port diffuser as a virtual, single port of similar discharge characteristics in order to ascertain dilution characteristics in the receiving waters at distance from the outfall, and hence the mixing zone extents. The virtual single port represented a 'worst-case scenario' as initial dilution for the actual multi-port diffuser will be greater than that for the modelled virtual, single port. The properties of the modelled single-port diffuser were equivalent to the combined area of the individual multi-port diameters and orientations. Therefore, a marine diffuser sufficient to deal with the volume of discharge has been assessed.

#### 9.3.6 Silt Issues in Dublin Bay

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_110	Philip Swan	LDG-007681-18

387. The submission from Philip Swan raised concerns about the impact of the volume of suspended solids predicted to be released and the potential for the Bay to silt up causing higher water levels. The submission also raised concerns that freshwater will float above the salt water carrying these sediments.

### Applicant's Response

388. The levels of suspended solids to be discharged through the proposed outfall are 35mg/l and are standard levels for all wastewater treatment plants (WwTPs). Section 9.5 in Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR cites observations of turbidity recorded at the proposed marine diffuser location throughout 2015 and 2016 by Techworks indicating a variable existing suspended sediment load ranging from 4mg/l to 120mg/l calculated from converted turbidity measurements or 15mg/l to 160mg/l from sampled water quality measurements taken throughout the same survey period. The proposed discharge of 35mg/l of suspended sediments will not cause the Bay to silt up and lead to higher water levels.

#### 9.3.7 Sediment Patterns

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18

389. The submission from Portmarnock Beach Committee asserts the potential impact of dredging to sediment patterns which have maintained sandy beaches due to disturbance of substrate.

### Applicant's Response

390. Section 9.4 of Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR specifically describes that the dredging will be undertaken using a combination of backhoe dredger in the shallower areas and trailer suction hopper dredger (TSHD) where the water depths are beyond the limits of the backhoe dredger. Excavated material from the backhoe dredger will be placed in a barge and subsequently deposited and stockpiled parallel to the proposed outfall pipeline route (marine section) trench, within the 250m wide proposed construction corridor. Where the TSHD is used it will deposit and stockpile the excavated material parallel to the proposed outfall pipeline route (marine section) trench, within the 250m wide proposed construction corridor. The stockpiled material will be subsequently reused to refill the trench over and around the pipe once it is installed in the trench resulting in no net removal of sediment or alteration of sediment transport patterns.



### 9.3.8 Outfall Location

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18
GDD_SUB_148	Arthur O'Kelly	Not assigned by ABP
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

391. These submissions raised concerns that local knowledge was not included when deciding the proposed outfall location.

#### Applicant's Response

392. The location of the outfall to the north east of Ireland's Eye was proposed following an Alternate Sites Assessment Study, a preliminary modelling study undertaken (MarCon 2011) to identify a range of potential outfall locations along the north Dublin coastline. That study showed that two discrete areas existed within the Proposed Project area where locating a proposed outfall would minimise the impact on the receiving marine environment.

393. A subsequent near-field modelling study (MarCon 2013) to determine the relative merits between the two locations off the coast of north Dublin for a new proposed outfall pipeline route (marine section) discharge point was undertaken. That study showed that the southern outfall study area exhibited more favourable coastal hydrodynamic characteristics (larger current speeds and greater water depths), which allows for faster and greater dilution of treated wastewater than the northern outfall study area.

394. The results from the calibrated and validated hydrodynamic computer model shows a high level of agreement with the maps produced by Howth Yacht Club. The computer model is a dynamic model, calculating changes in water surface level, tidal currents, water quality concentrations on a second by second basis as the dynamics of the system change. Although the maps from Howth Yacht Club indicate effluent will be washed ashore to Portmarnock and Baldoyle on flooding tides, the maps do not account for the dispersion or dilution of effluent, nor the ever-changing direction and the strength of the tidal currents over the course of a tidal cycle.

395. Comparing Fig 1(a) with Fig 1(b) for flood tide circulation patterns between Howth and Lambay Island it can be seen that; (i) both maps show the flooding tide to the north and east of Ireland's Eye stronger than the flooding tide between Ireland's Eye and the Baldoyle Estuary as well as showing the same direction for the tidal currents; (ii) to the north of Ireland's Eye both maps show the flooding tide on a north-westerly heading with a notable westerly component towards Portmarnock; (iii) both maps show the flooding tide diverging to the east and west around Lambay Island;

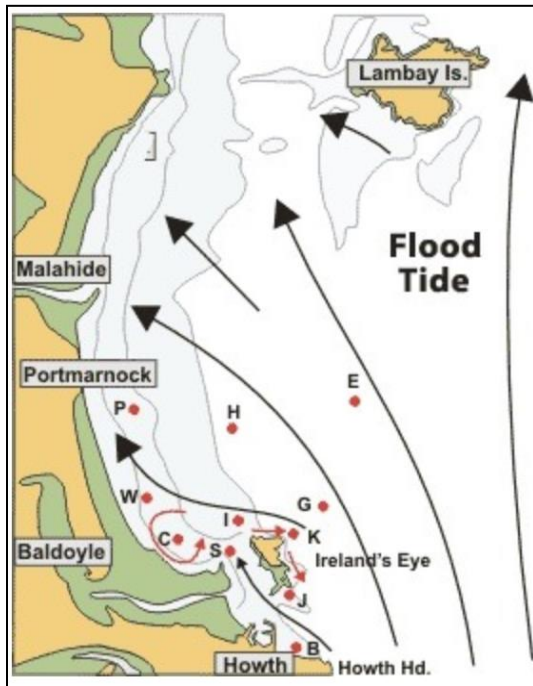


Fig 1(a): Howth Yacht Club: Flood Tide

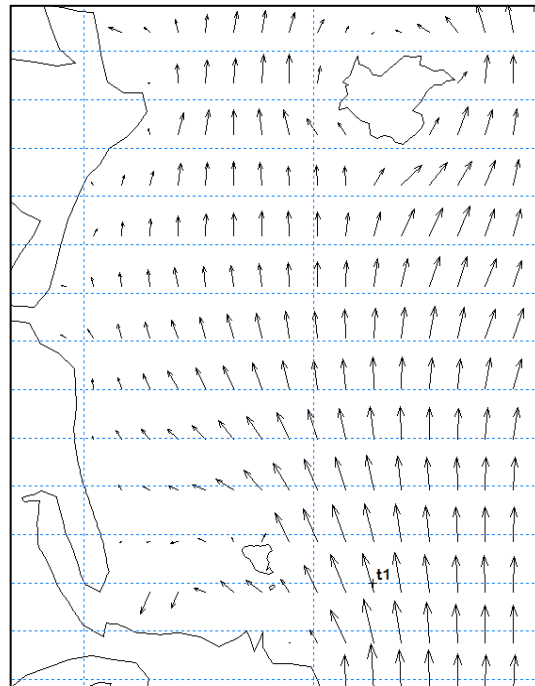


Fig 1(b): GDD model: Flood Tide

396. Comparing Fig 2(a) with Fig 2(b) for ebb tide circulation patterns between Howth and Lambay Island it can be seen that; (i) both maps show the ebbing tide between Ireland's Eye and Lambay Island on a south-south-easterly heading, with the 'offshore' ebbing tide to the east of Lambay Island on a southerly heading; (ii) both maps show the nearshore ebbing tide on a south-south-easterly heading meeting then turning due east off Baldoye Estuary.

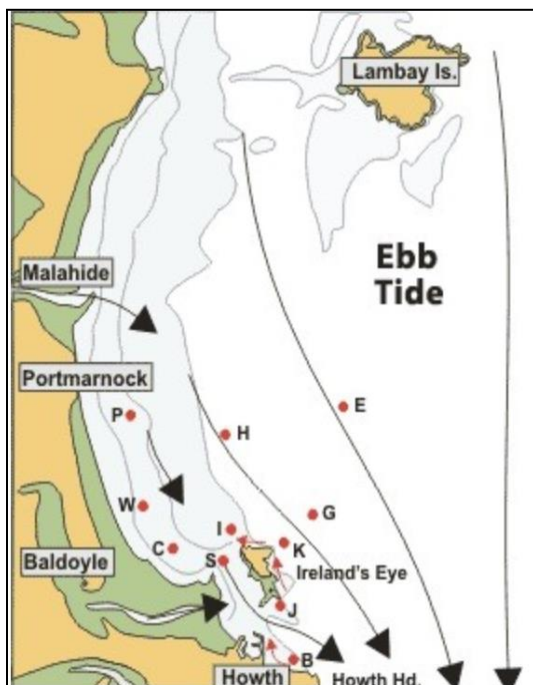


Fig 2(a): Howth Yacht Club: Ebb Tide

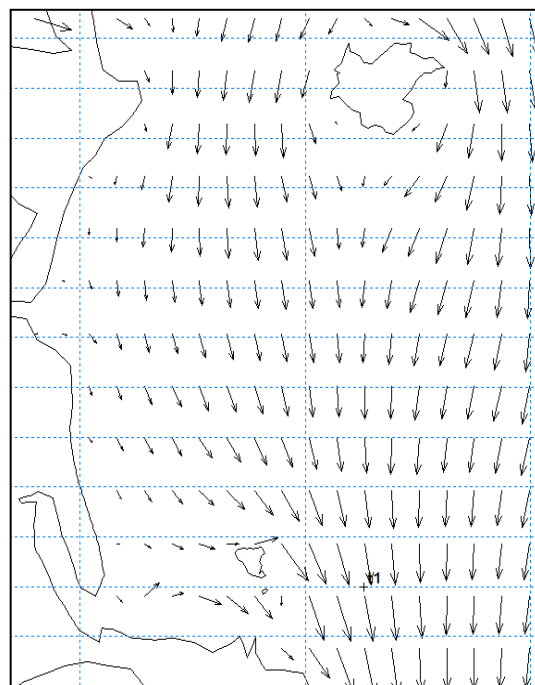


Fig 2(b): GDD model: Ebb Tide



397. Comparing Fig 3(a) with Fig 3(b) for flood tide circulation patterns around Ireland's Eye it can be seen that; (i) both maps show the flooding tide between Ireland's Eye and Howth on a north-westerly heading, with a much weaker tidal current immediately to the east of Howth Harbour; (ii) both maps show the magnitude of the flooding current to the east and west of Ireland's Eye to be almost equal; (iii) both maps show an anti-clockwise re-circulation / gyre structure to the west of Ireland's Eye and to the north of Baldoyle Estuary; (iv) both maps show an anti-clockwise re-circulation / gyre structure immediately north of Ireland's Eye at a much lesser magnitude than that of the predominant north-westerly flooding tide.

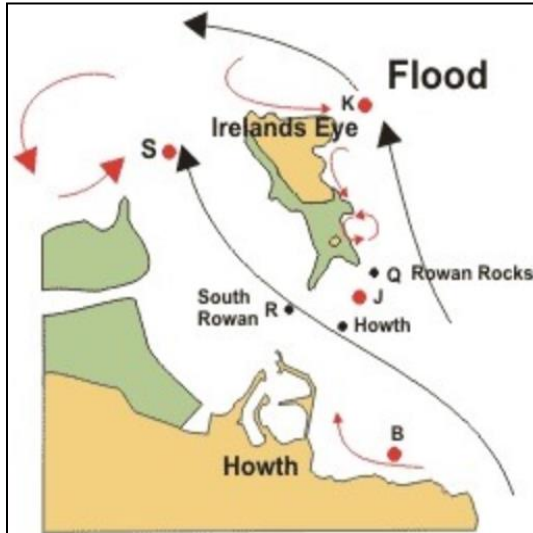


Fig 3(a): Howth Yacht Club: Flood Tide

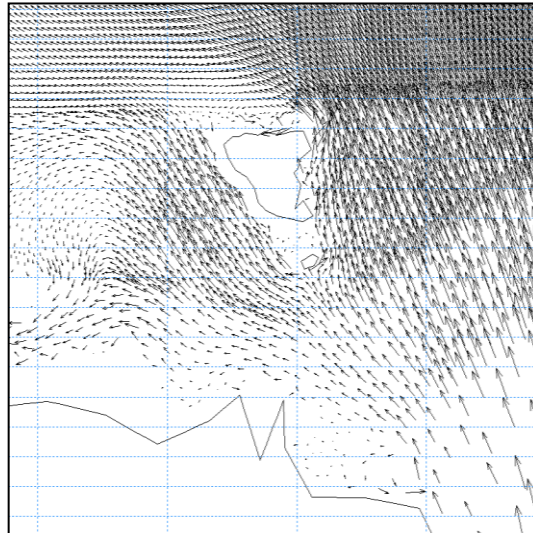


Fig 3(b): GDD model: Flood Tide

398. Comparing Fig 4(a) with Fig 4(b) for ebb tide circulation patterns around Ireland's Eye it can be seen that; (i) both maps show the ebbing tide between Ireland's Eye and Howth on a south-easterly heading, with a counter current immediately to the east of Howth Harbour heading in a northerly direction; (ii) both maps show the magnitude of the ebbing current to the north, east and west of Ireland's Eye to be almost equal; (iii) both maps show a weak counter current immediately to the east of Ireland's Eye; (iv) both maps show a weak clockwise re-circulation / gyre structure immediately north of Ireland's Eye.

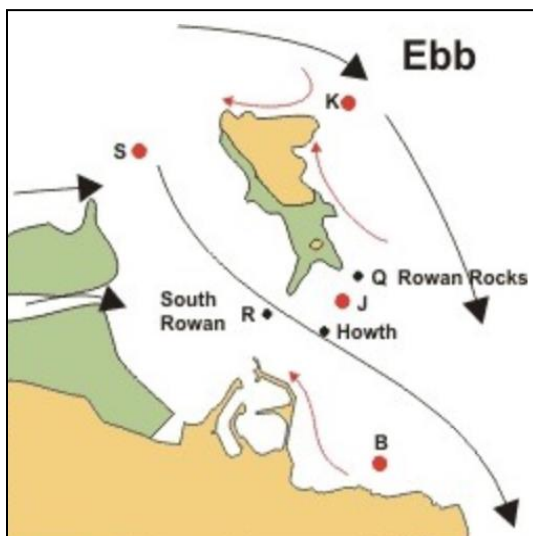


Fig 4(a): Howth Yacht Club: Ebb Tide

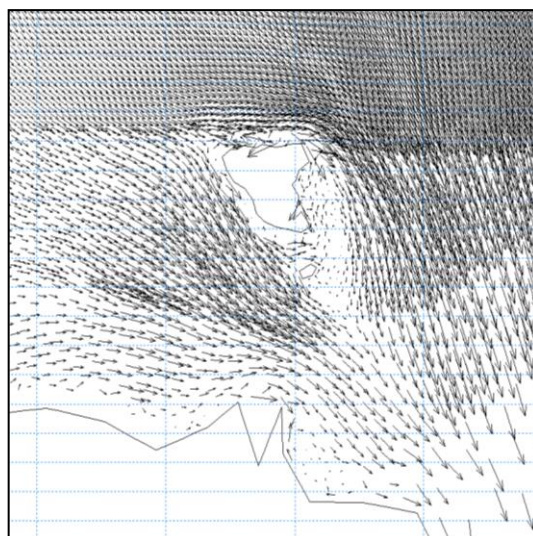


Fig 4(b): GDD model: Ebb Tide

399. The above analyses contribute additional evidence that the calibrated model as detailed Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR. Section 8.2.3 provides an accurate representation of the hydrodynamics within the study region.

400. Therefore, the Applicant is satisfied that local knowledge was adequately taken into account when deciding the outfall location. Having regard to the above and to the extensive public consultation outlined in Section 3 of this Response

## 9.4 Response to Specific Issues Raised by Prescribed Bodies

### 9.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

401. The submission from Fingal County Council (which includes the Chief Executive's Report and Councillor comments) raised a number of concerns in relation to:

- the design of the Proposed Project and the need for tertiary treatment;
- the impact of the Proposed Project on local beaches and coastal water quality;
- the impact of dredging; and
- the proposed outfall location.

### Applicant's Response

#### *Proposed Project Design*

402. The proposed outfall pipeline route (marine section) modelled the continuous discharge of secondary treated wastewater into the receiving waters for two scenarios:

- average flow conditions; and
- flow to full treatment conditions.

403. At Fingal County Council's request, an additional model of the above two scenarios to simulate Ringsend levels of effluent coliform concentrations (300,000 cfu/100ml) discharging through the Proposed Project outfall.

#### *Impact on Local Beaches and Coastal Water Quality*

404. This concern was addressed in Section 9.2.1 of this Response in relation to nutrient concentrations.

405. The impact on local beaches arising from the revised modelling simulation examining the discharge of 300,000 cfu/100ml are presented below.

406. The Bathing Water Quality Regulations 2008 (SI No. 79 of 2008) require that the maximum values of *Escherichia coli* forms should not exceed the mandatory value of 250 /100ml in 95% or more samples taken in the season to ensure 'excellent classification of bathing water beaches.
407. For the revised Average Daily Flow scenario, the tidal plots showing the maximum extent of the predicted COLI plume from the proposed outfall at high water, mid ebb, low water and mid flood on neap tides are presented in Diagram 8.1 to Diagram 8.4 and on spring tides in Diagram 8.5 to Diagram 8.8. None of the diagrams show the COLI plume from the outfall exceeding the 250 /100ml limit required to achieve Excellent Status in any bathing waters areas
408. The predicted evolution over time of coliform concentration levels at both Velvet Strand and Claremont bathing water beaches for the revised Average Daily Flow scenario are presented in Diagram 8.9 and Diagram 8.10 respectively. Both diagrams show that there was predicted to be no compliance failures at the designated bathing water beaches arising from the proposed discharge of treated effluent containing higher coliform concentration levels (300,000 cfu/100ml).

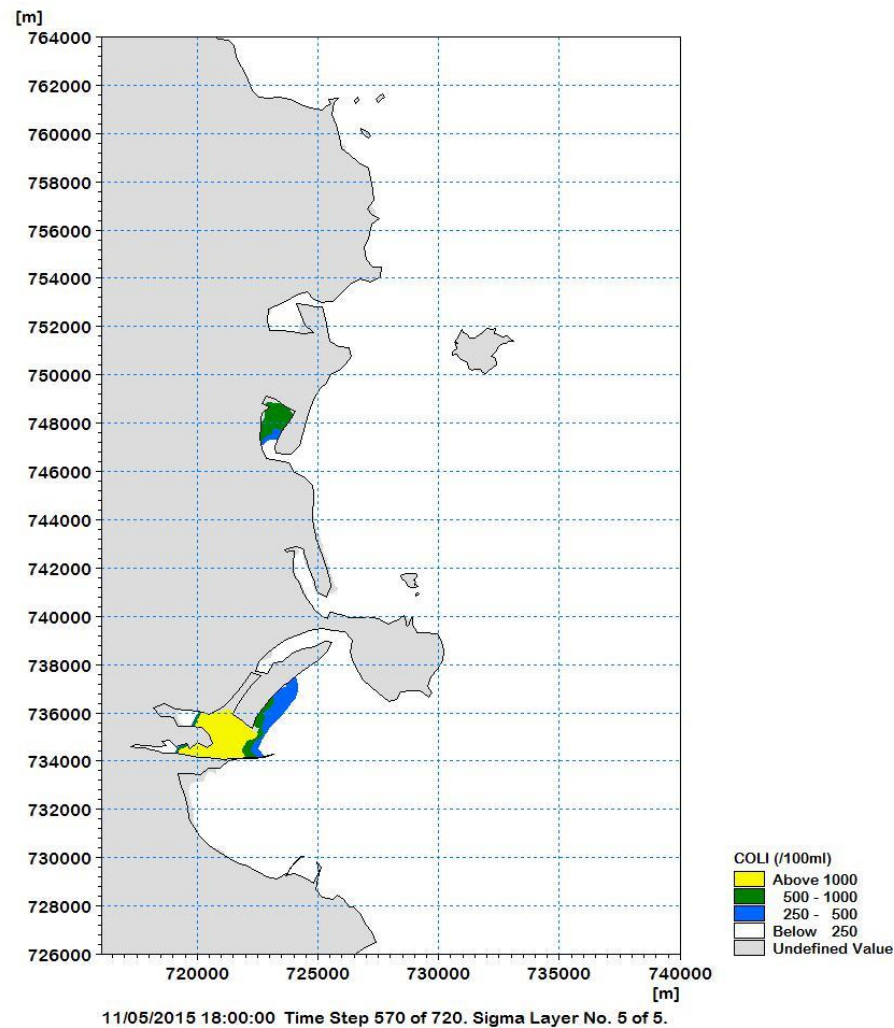


Diagram 8.1: COLI concentration at High Water on Neap Tide

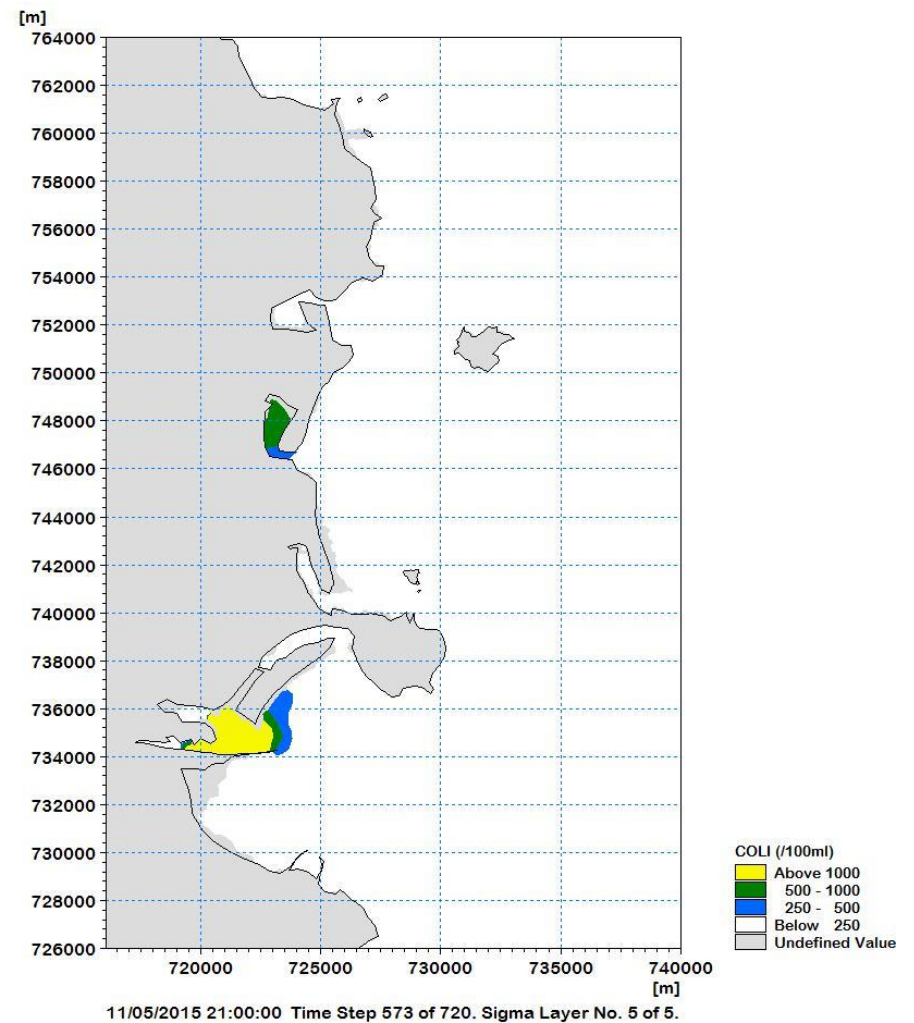


Diagram 8 2: COLI concentration at Mid Ebb on Neap Tide



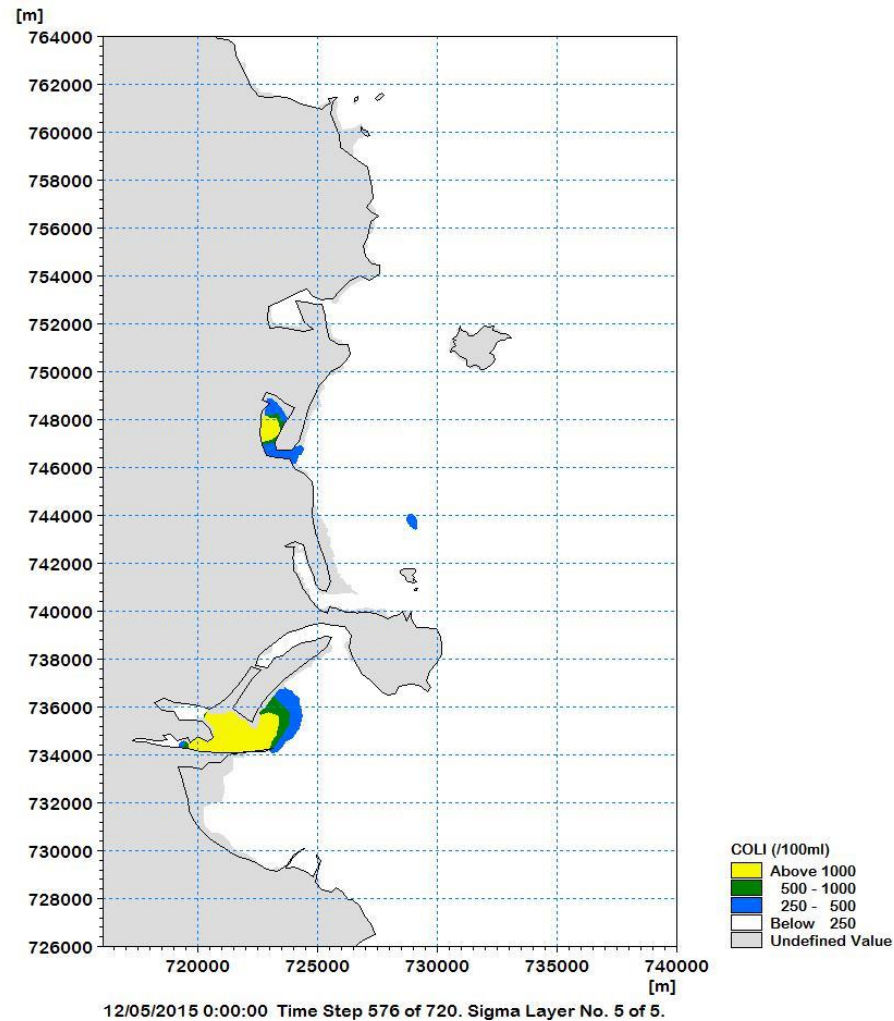


Diagram 8 3: COLI concentration at Low Water on Neap Tide

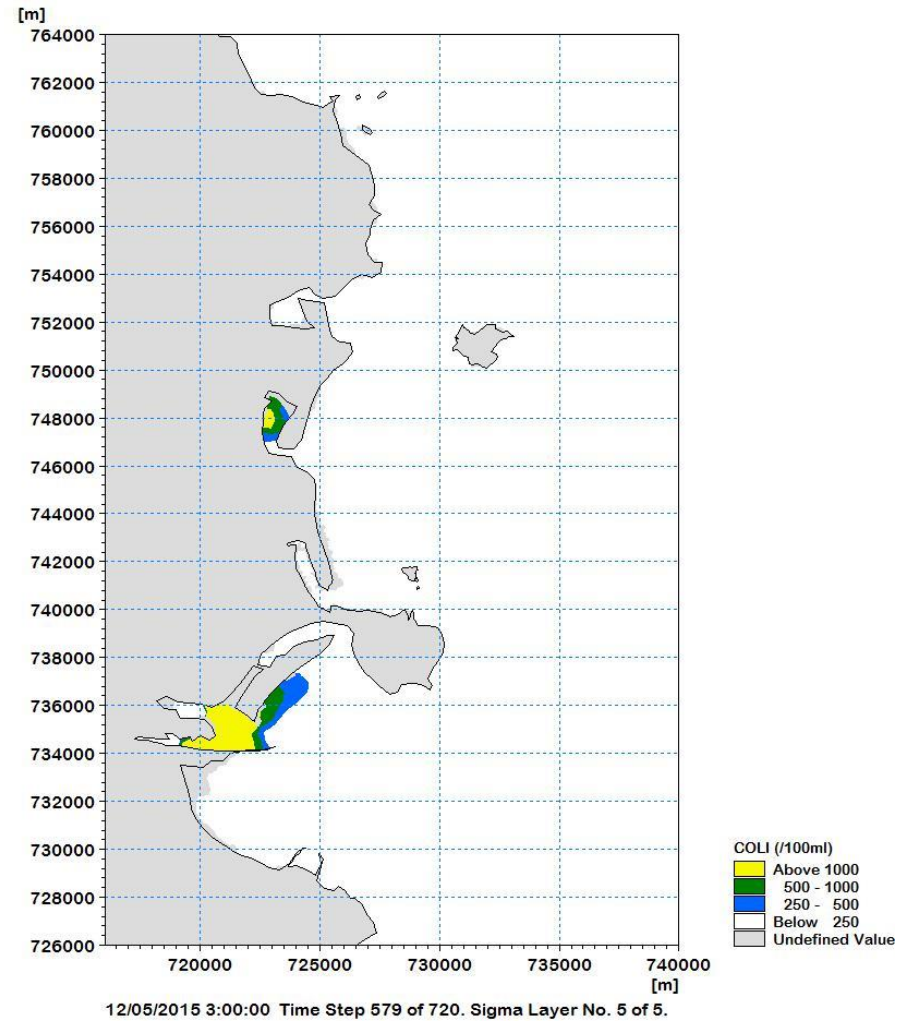


Diagram 8 4: COLI concentration at Mid Flood on Neap Tide

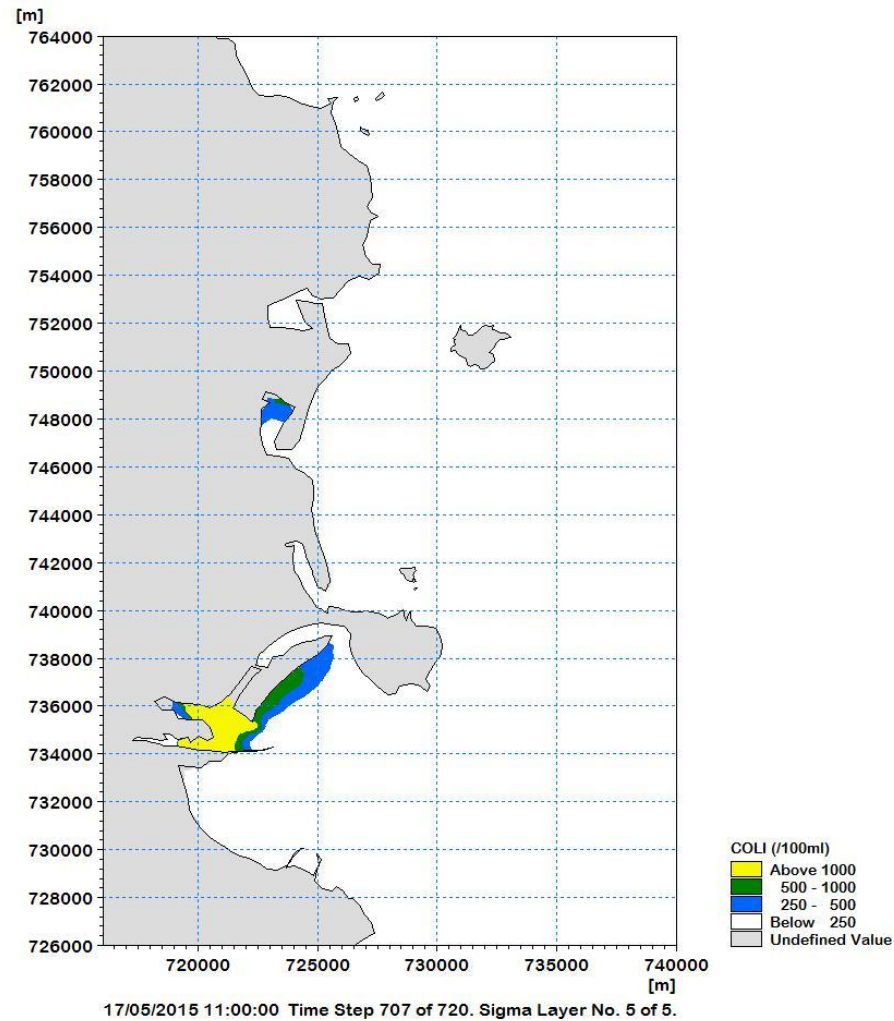


Diagram 8 5: COLI concentration at High Water on Spring Tide

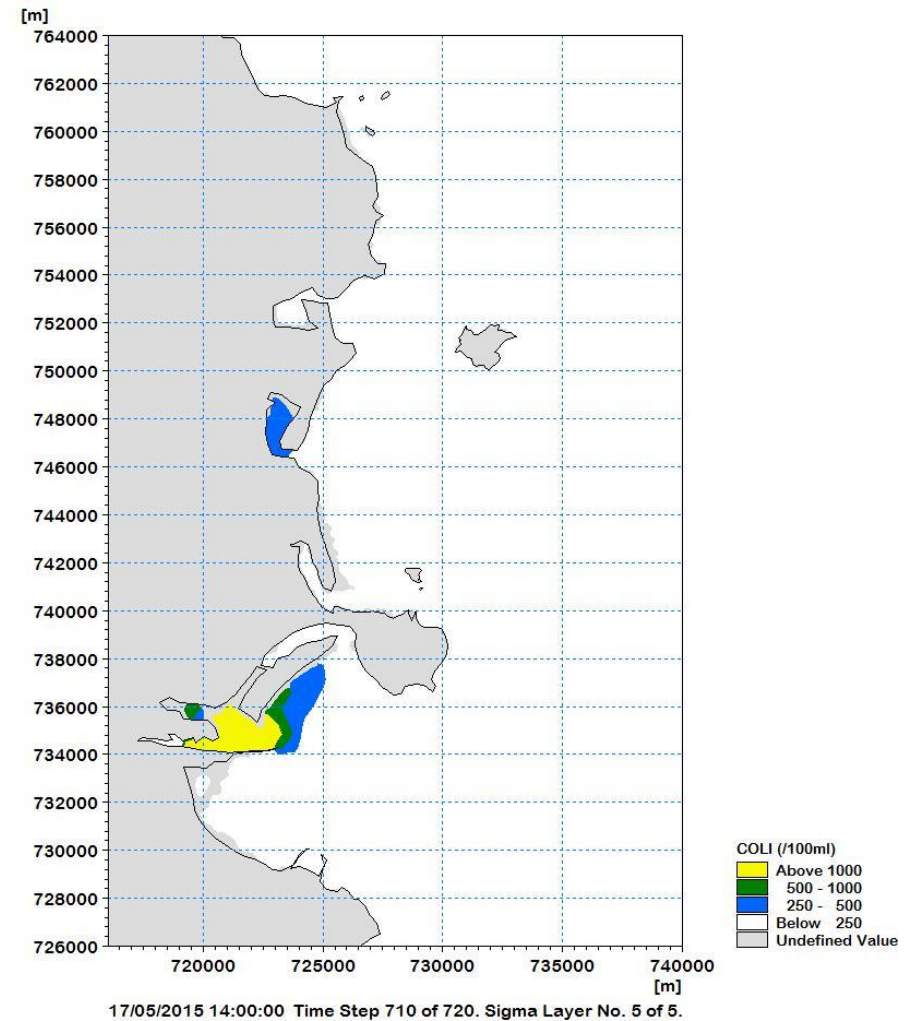


Diagram 8 6: COLI concentration at Mid Ebb on Spring Tide

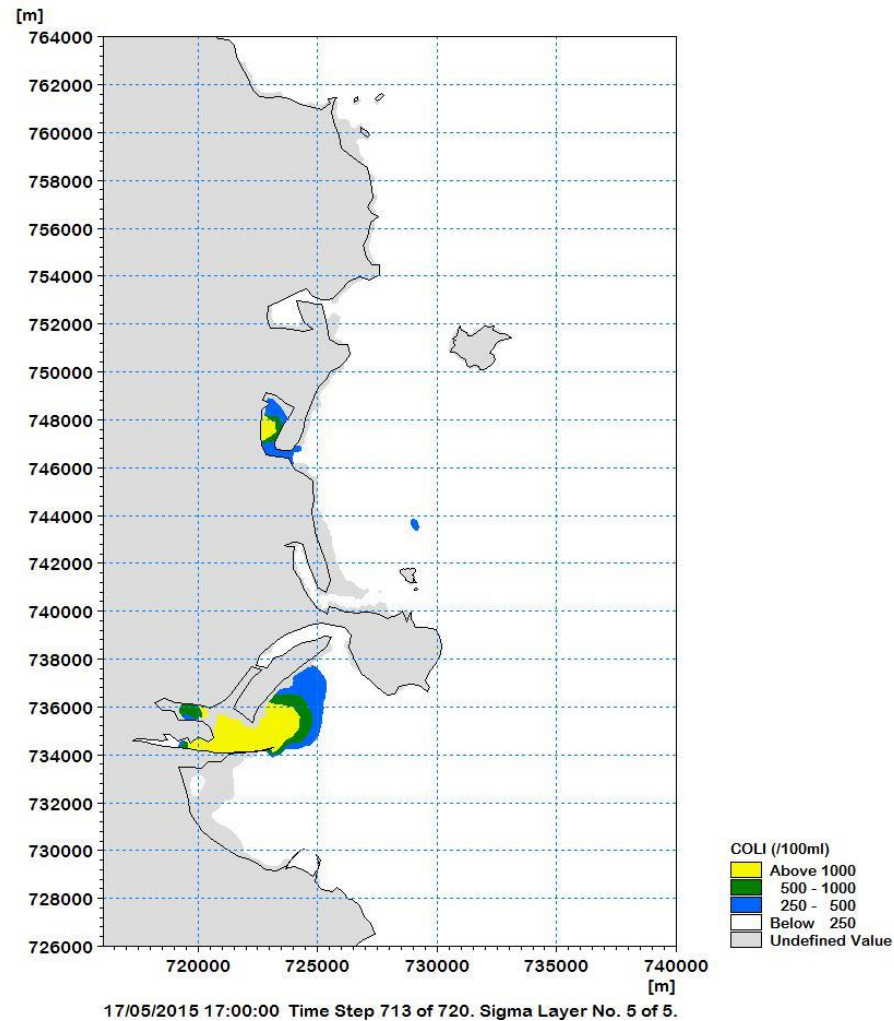


Diagram 8 7: COLI concentration at Low Water on Spring Tide

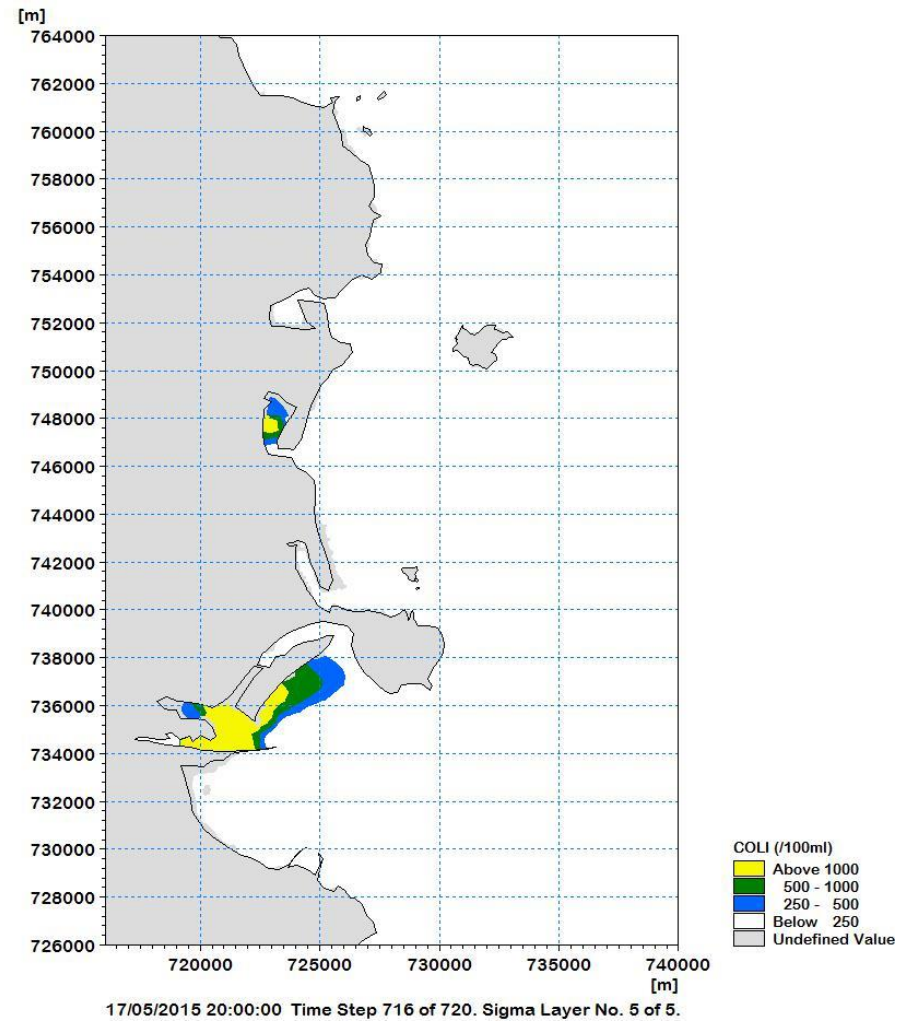
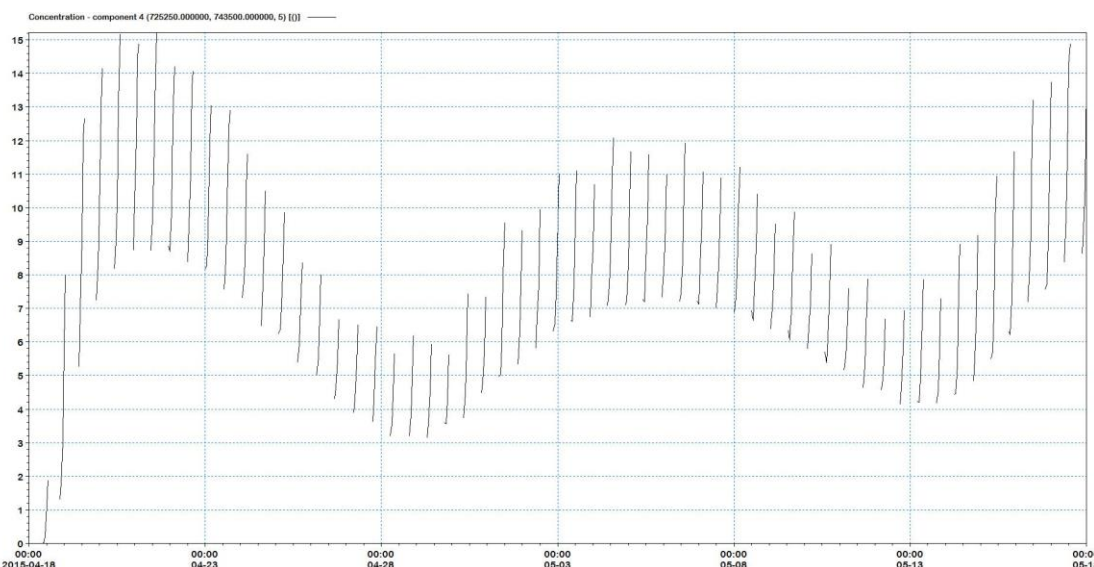
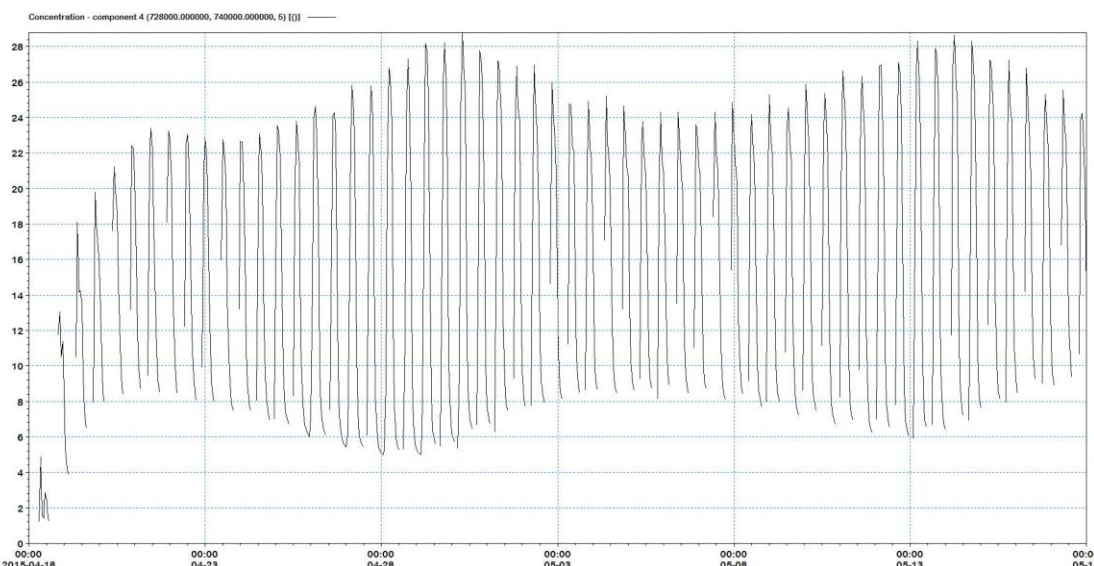


Diagram 8 8: COLI concentration at Mid Flood on Spring Tide





**Diagram 8 9: Predicted COLI concentrations over time at Velvet Strand Beach, Portmarnock for Average Daily Flow scenario discharging 300,000 cfu/100ml**

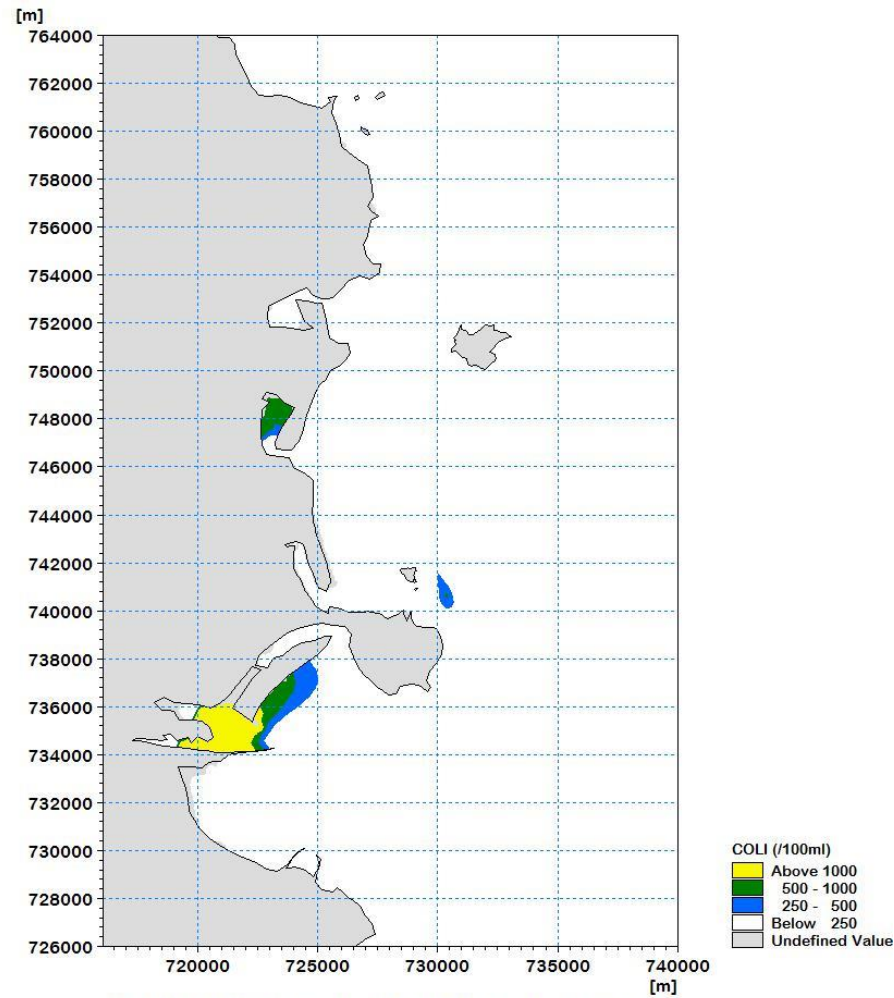


**Diagram 8 10: Predicted COLI concentrations over time at Claremont Beach for Average Daily Flow scenario discharging 300,000 cfu/100ml**

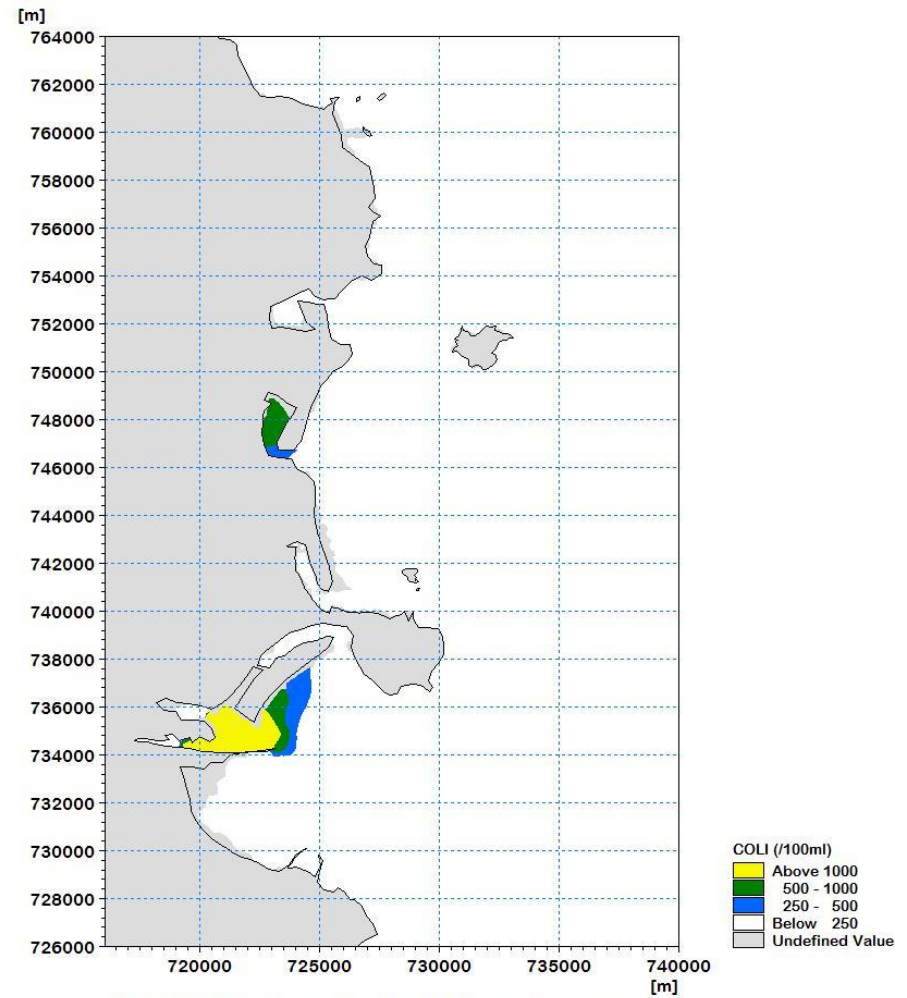
409. For the revised Flow to Full Treatment scenario, the tidal plots showing the maximum extent of the predicted COLI plume from the proposed outfall at high water, mid ebb, low water and mid flood on neap tides are presented in Diagram 8.11 to Diagram 8.14 and on spring tides in Diagram 8.15 to Diagram 8.18. None of the diagrams show the COLI plume from the outfall exceeding the 250 /100ml limit required to achieve Excellent Status in any bathing waters areas

410. The predicted evolution over time of coliform concentration levels at both Velvet Strand and Claremont bathing water beaches for the revised Flow to Full Treatment scenario are presented in Diagram 8.19 and Diagram 8.20 respectively. Both diagrams show that there was predicted to be no compliance failures at

the designated bathing water beaches arising from the proposed discharge of treated effluent containing higher coliform concentration levels (300,000 cfu/100ml)



**Diagram 8.11: COLI concentration at High Water on Neap Tide**



**Diagram 8.12: COLI concentration at Mid Ebb on Neap Tide**

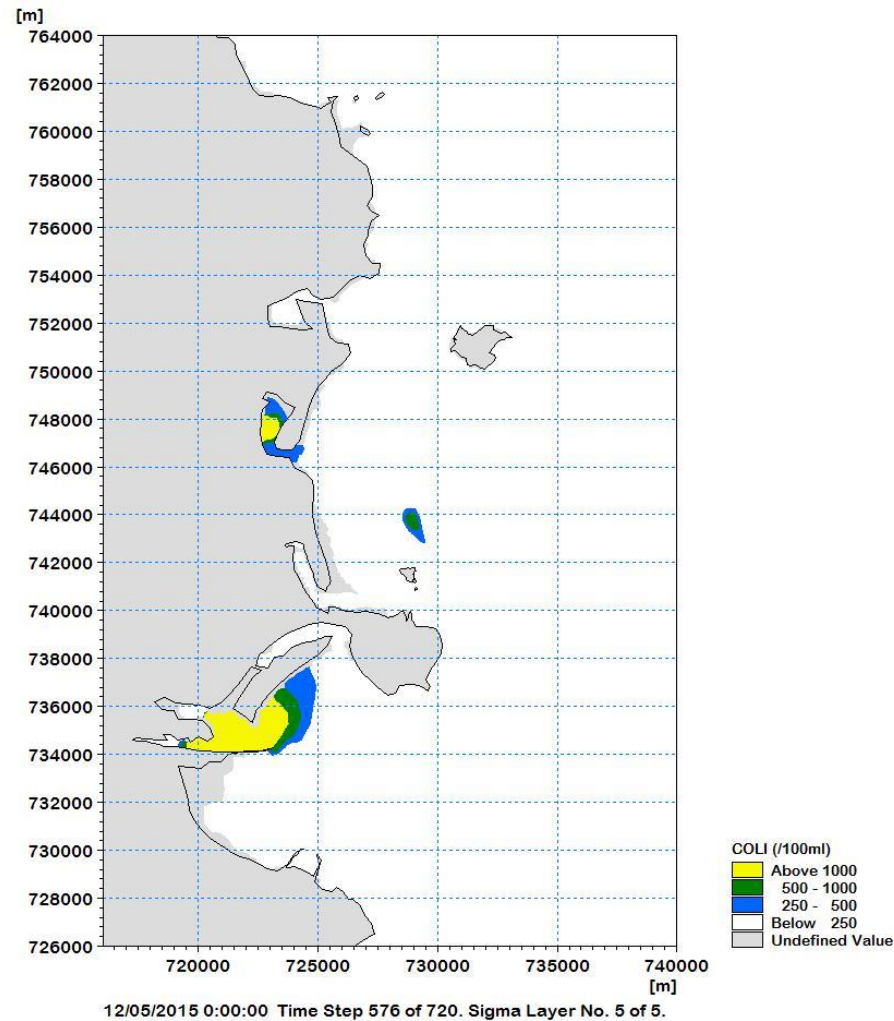


Diagram 8.13: COLI concentration at Low Water on Neap Tide

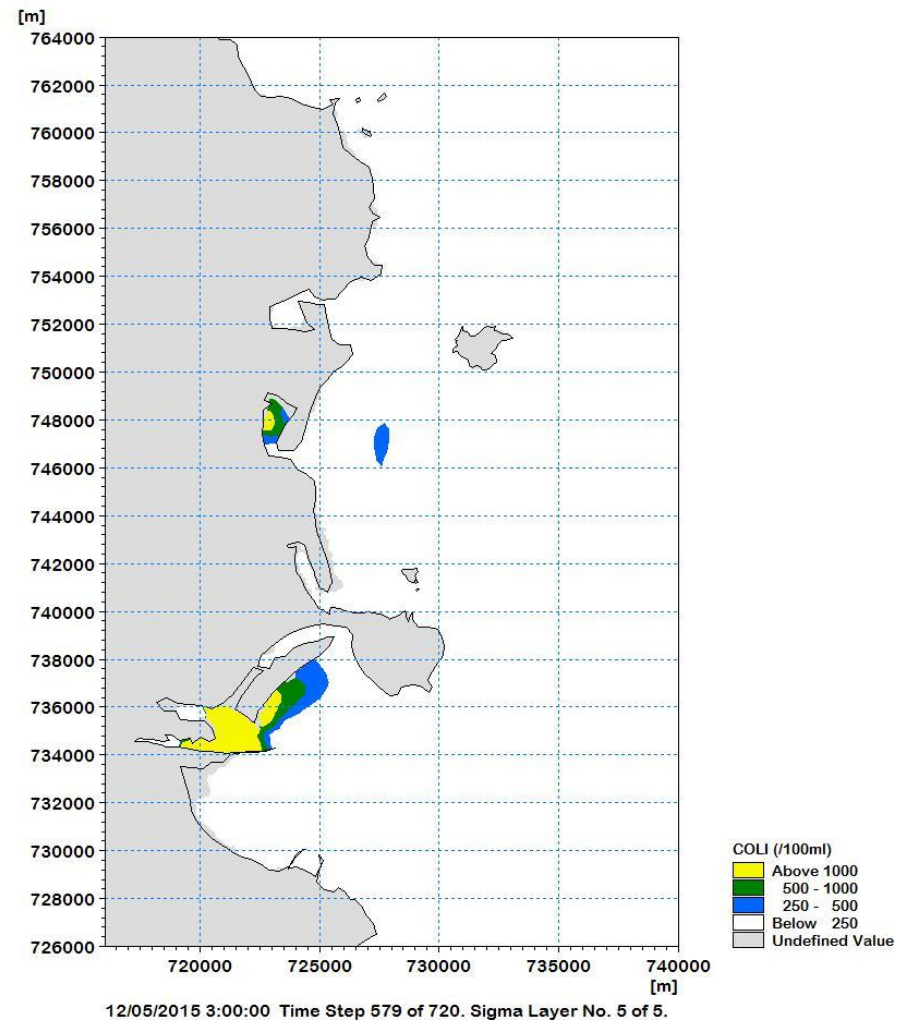
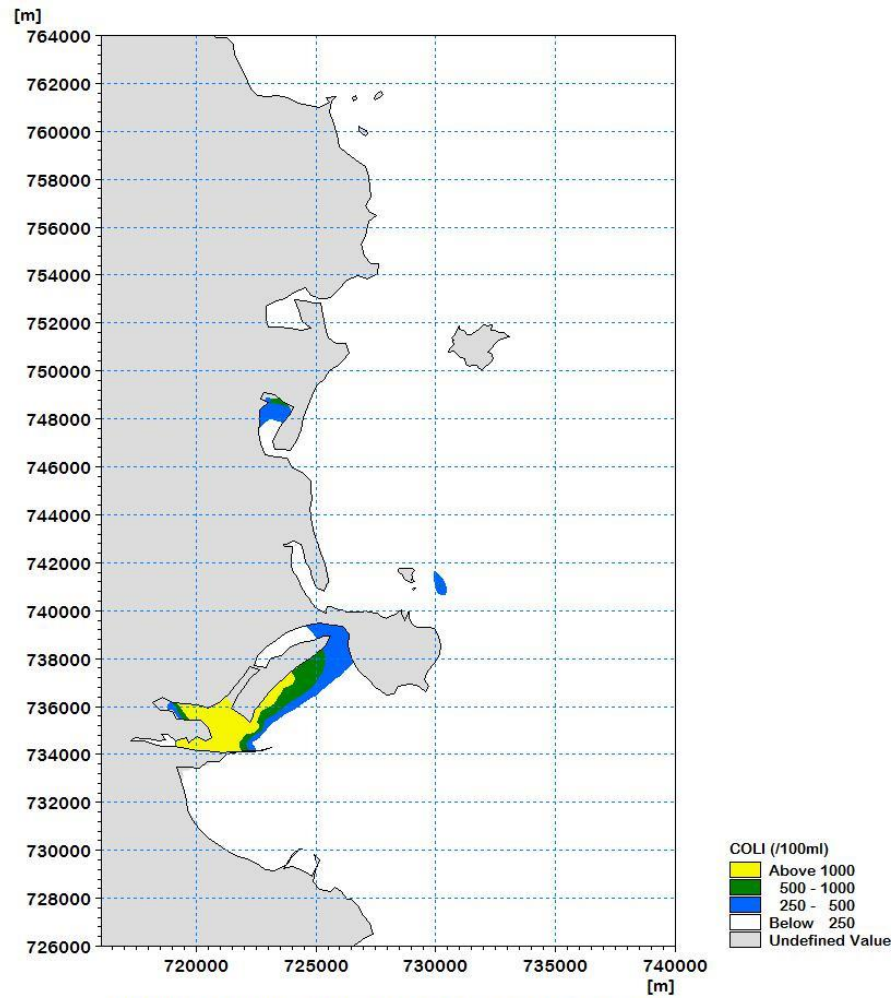


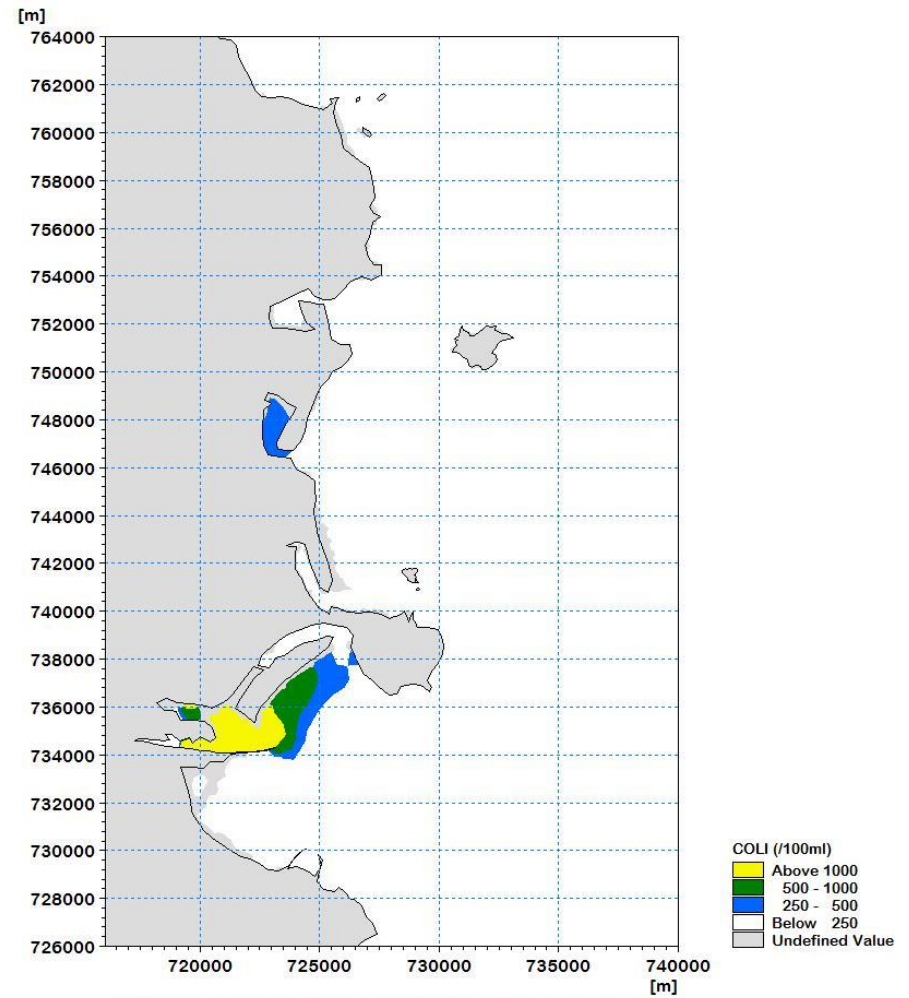
Diagram 8 14: COLI concentration at Mid Flood on Neap Tide





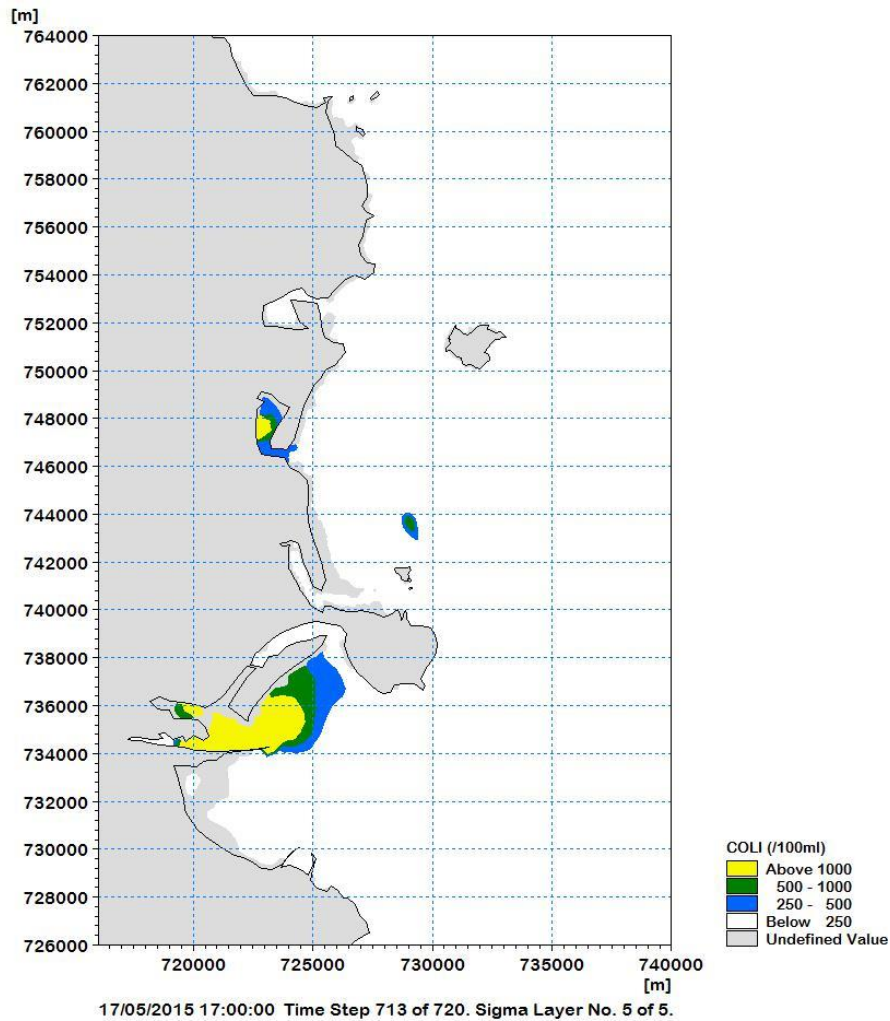
17/05/2015 11:00:00 Time Step 707 of 720. Sigma Layer No. 5 of 5.

**Diagram 8.15: COLI concentration at High Water on Spring Tide**

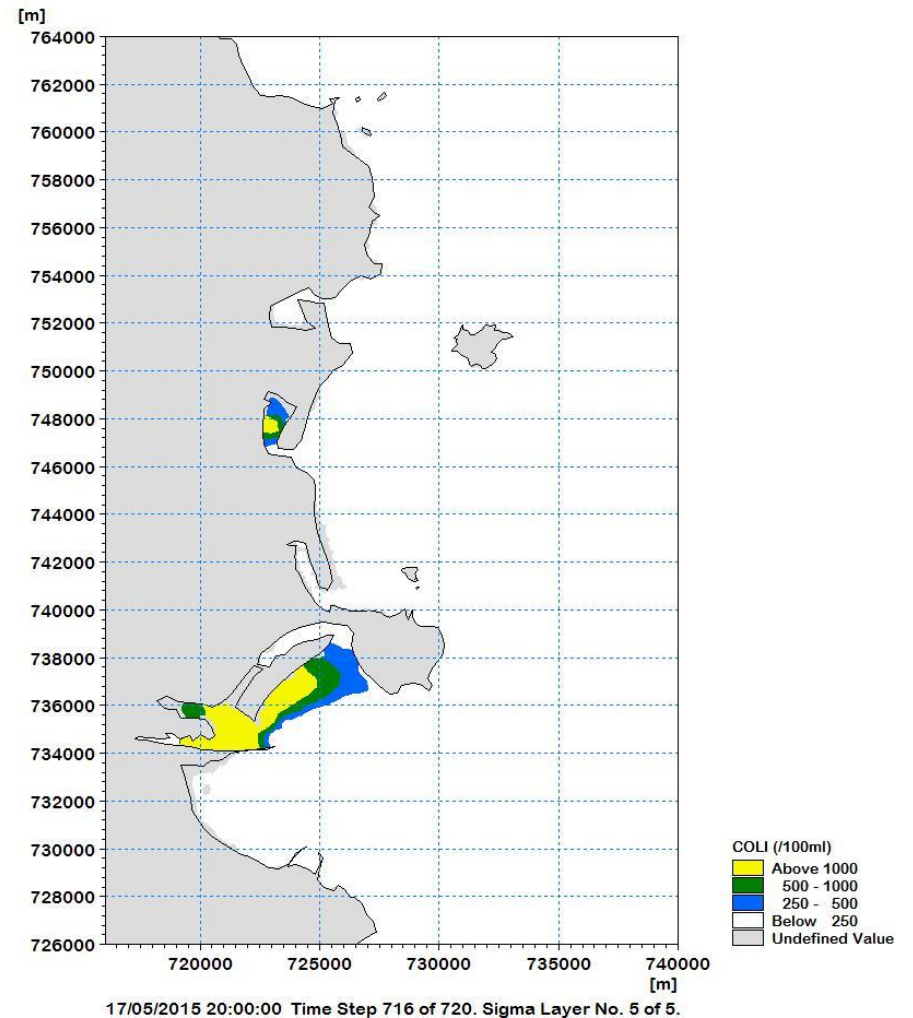


17/05/2015 14:00:00 Time Step 710 of 720. Sigma Layer No. 5 of 5.

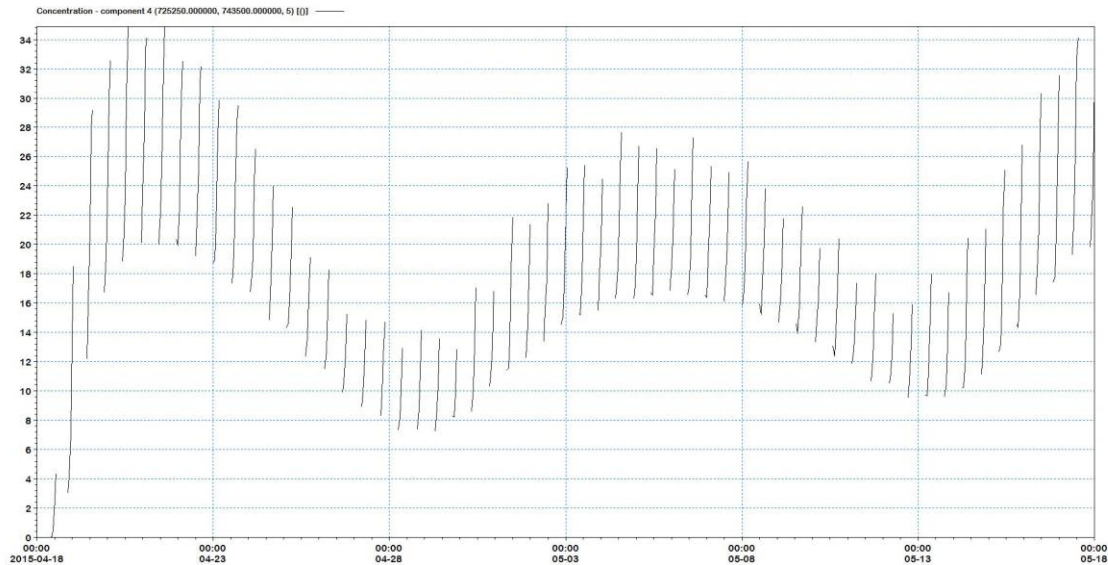
**Diagram 8 16: COLI concentration at Mid Ebb on Spring Tide**



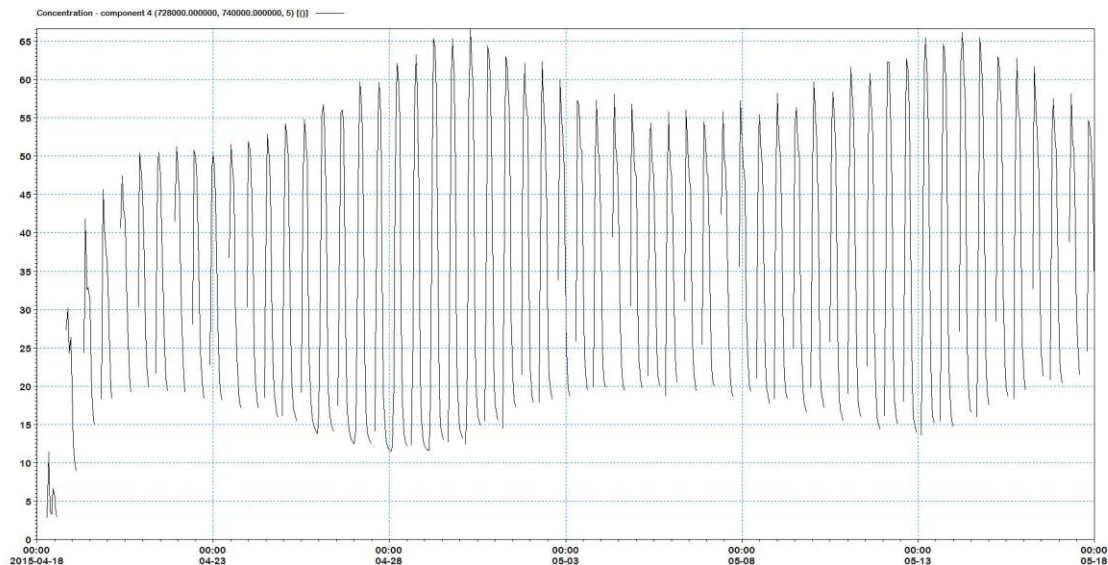
**Diagram 8.17: COLI concentration at Low Water on Spring Tide**



**Diagram 8 18: COLI concentration at Mid Flood on Spring Tide**



**Diagram 8 19: Predicted COLI concentrations over time at Velvet Strand Beach, Portmarnock for Flow to Full Treatment scenario discharging 300,000 cfu/100ml**



**Diagram 8 20: Predicted COLI concentrations over time at Claremont Beach, for Flow to Full Treatment scenario discharging 300,000 cfu/100ml**

411. The assessments of potential impacts of the project on Ireland's Eye SAC/SPA were presented in Chapter 6 of the Natura Impact Statement "Assessment of Implications for European Sites.", specifically Section 6.2.4.2 Modelling of the operational discharge shows that the discharge from the marine diffuser will disperse and dissipate over a large area so the dispersed discharge will not impact the reefs features within the Ireland's Eye SAC which is approximately 900m from the marine diffuser location. Therefore, the overall impact is predicted to be none or negligible and have no impact on the conservation objectives of the Reefs within the SAC. On this basis, it is judged there will be no impact on the prey species of the Ireland's Eye SPA Special Conservation Interests (SCIs) through this impact pathway. These impact pathways therefore do not



compromise any of the conservation objectives of the Irelands Eye SPA SCIs. It is considered the conservation objectives of all SCIs of the Ireland's Eye SPA will be unaffected and there is no adverse effect on the integrity of the site.

#### *Impact of Dredging*

412. Section 8.4.1 in Volume 3 Part A of the EIAR:(pages 24-31) details the modelling study undertaken to determine where the silt and effluent would flow to during and after construction.
413. The dredging of the proposed outfall pipeline route and casting of the spoil within the route corridor was assessed over a 78-day period. The simulated placement of dredged material from split-hull hopper barges was defined as a discrete discharge on flood tides (at intervals of approximately 12.25hrs).
414. The physical processes governing the discharge of dredged spoil material followed a three-step process: convective descent, during which the material falls under the influence of gravity; dynamic collapse, occurring when the descending cloud impacts the bottom; and passive transport-dispersion, commencing when the material transport and spreading are determined more by ambient currents than by the dynamics of the placement operation.
415. The near instantaneous simulated placement of dredged material in the relatively shallow waters along the proposed pipeline route produces a rapid convective descent of the material. During the convective descent phase, it was found that the bulk of the dredged material fell in a dense jet directly to the bottom with only minor losses to the water column as the released dredged material possessed an initial downward momentum and a density greater than that of the surrounding water.
416. The suspended sediments from each individual placement operation were predicted to dissipate to background levels within the 12.25hr period between the placement operations on flooding tides. The diagrams showed that there was predicted to be a brief but recurring effect during the course of the dredging operations but that it would be of negligible impact when compared to the natural variability of total suspended solid concentrations in the receiving waters. (Measurements of background total suspended solids made between 2015 and 2017 in the receiving waters were between 15mg/l and 50mg/l for the majority of the time.)

#### *Outfall Location*

417. Section 8.2.1: "in Volume 3 Part A of the EIAR (pages 24-31) presents the modelling studies undertaken to select the site for the outfall location.
418. Alternative Sites Assessment: A preliminary modelling study was undertaken (MarCon 2011) to identify a range of potential outfall locations along the north Dublin coastline. That study showed that two discrete areas existed within the Proposed Project area where locating a proposed outfall would minimise the impact on the receiving marine environment. The results from that preliminary modelling study identified the preferable location(s) for the proposed outfall pipeline route (marine section) discharge point and portrayed the dispersion patterns and concentrations of treated wastewater discharges from each potential outfall pipeline route (marine section) discharge point option.
419. Alternative Sites Assessment – Near-Field Mixing: A subsequent near-field modelling study (MarCon 2013) to determine the relative merits between the above two locations off the coast of north Dublin for a new proposed outfall pipeline route (marine section) discharge point was undertaken. That study showed that the southern outfall study area exhibited more favourable coastal hydrodynamic characteristics (larger current

speeds and greater water depths), which allows for faster and greater dilution of treated wastewater than the northern outfall study area.

## 10. Biodiversity (Marine)

### 10.1 Overview

420. 95 submissions raised the issue of marine ecology in relation to the Proposed Project.

### 10.2 Response to General Issues Raised

421. The following submissions raised general concerns about the potential for impacts to marine ecology as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_2	Dr Alex McDonnell	LDG-007539-18
GDD_SUB_4	Angela & Michael Callanan	LDG-007626-18
GDD_SUB_5	Ann O'Keeffe	LDG-007688-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_12	Barbara Shelley	LDG-007667-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_26	Catherine McMahon	LDG-007735-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_29	Charles Heasman	LDG-007700-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_33	Clare Daly TD	LDG-007590-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_45	Deborah Byrne	LDG-006735-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_52	Development Applications Unit	LDG-007909-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_57	Dublin City Council	Not assigned by APB
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_60	Elaine Murray	LDG-007664-18
GDD_SUB_61	Elaine Taaffe	LDG-007660-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_69	Fiona Mills	LDG-007637-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_79	Jennifer Jones	LDG-007670-18
GDD_SUB_81	Joe and Elaine Jones	LDG-007382-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_94	Marie Hayes	LDG-007647-18
GDD_SUB_96	Meakstown Community Council	LDG-007712-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18
GDD_SUB_100	Michelle & David O Connor	LDG-007731-18
GDD_SUB_102	Natalie Donoghue & Others	LDG-007594-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_109	Peter Daly	LDG-007689-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_126	Siobhan Hyde	LDG-007555-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_139	Tom Brabazon	LDG-007583-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_144	Betty Ennis and Alvis Crawford	Not assigned by ABP
GDD_SUB_145	Jennifer Lyons on behalf of Portmarnock Triathlon Club	Not assigned by ABP
GDD_SUB_146	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_158	Eamonn Hart	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_161	Orla O'Kane & Others	Not assigned by ABP
GDD_SUB_163	Seán Haughey TD	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

422. The following general themes were raised in the submissions:

- Impact to SACs and SPAs and associated protected species;
- Impact of malfunction and release of untreated wastewater on marine ecology;
- Impact to harbour porpoise;
- Impact to fish species;
- Impact of tunnelling on marine ecology.

## Applicant's Response

### *Impact to SACs and SPAs and Associated Protected Species*

423. Impacts on ecology and designated areas including SACs and SPAs are addressed in the ecology impact assessments provided in Chapter 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 Biodiversity (Terrestrial and Freshwater Aquatic) of the Environmental Impact Assessment Report (EIAR). An Appropriate Assessment Screening and a Natura Impact Statement, which examines the likely significant effects of the Proposed Project on European Sites was also prepared and included as part of the planning application. The NIS concludes:

*"It is concluded, beyond reasonable scientific doubt, that the Proposed Project with the implementation of the prescribed mitigation measures will not give rise to significant impacts, either individually or in combination with other plans and projects, in a manner which adversely affects the integrity of any designated site within the Natura 2000 network."*

### *Impact of Malfunction and Release of Untreated Wastewater on Marine Ecology*

424. In the unlikely event of a release of untreated wastewater, there will be no short-term increase in suspended solids that would have a significant impact on marine ecology. Marine mammals are routinely recorded in areas of high suspended sediment loads and therefore no significant impact is predicted. In relation to impact on reefs at Ireland's eye, an increased plume of suspended material would flow away from the outfall in a seaward direction and therefore there will be no significant impact on the reefs located to the south of Ireland's Eye.

### *Impact to Harbour Porpoise*

425. Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR addresses potential impacts on marine ecology, including protected and sensitive species such as harbour porpoises. A negligible to minor residual impact is predicted for harbour porpoises once appropriate mitigation is in place to avoid impacts associated with elevated noise during dredging.

### Impact to Fish Species

426. The findings of the hydrodynamic model indicate that the nutrient enrichment levels anticipated, and the modelled rate of dispersion offshore, are likely to have a negligible impact both locally and regionally upon fish and shellfish populations.

### Impact of Tunnelling on Marine Ecology

427. The use of microtunnelling has been proposed to avoid direct impact on Baldoyle Bay and to preserve this environment within its current state. The use of this type of construction technology is well understood. The potential impacts in relation to disturbance from noise, pollution and construction activities are discussed in Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR and will be of Negligible to Minor significance.

## 10.3 Response to Specific Issues Raised in Observers' Submissions

### 10.3.1 Dredging and Sediment Impact on Reefs

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_43	Councillor David Healy	LDG-007716-18

428. This submission from Councillor David Healy raised concerns regarding the existing impact of sediment on the reefs at Rockabill to Dalkey Island SAC along the coast of Ireland's Eye and the further impact dredging will have on the reefs.

### Applicant's Response

429. Section 9.4.3 of Chapter 9 Biodiversity (Marine) in Volume 3 Part A and Figure 9.6 in Volume 5 Part A of the EIAR detail the results of assessment which show that "none of the discharged sediment is predicted to impact the qualifying Annex I habitats of littoral and sublittoral reef features of the Rockabill to Dalkey Island SAC along the north and eastern coastline of Ireland's Eye". To ensure this the following mitigation measures, as presented in Section 9.7.1 of Chapter 9 Biodiversity (Marine) of the EIAR will be put in place:

*"turbidity will be monitored using a buoy-mounted turbidity meter with telemetering back to the dredger to monitor potential impacts from dredging activity. As the reef is only prone to sedimentation during slack water periods, a slightly elevated level of Total Suspended Solids (TSS) up to 40mg/l (the natural standard deviation for the year) above a daily background will be permitted off the northern coastline of Ireland's Eye. If this level increases above this threshold as a result of dredging activity, then the discharge of material will be temporarily halted to allow the resulting plume to disperse. This is particularly important 30 minutes before and after slack water where increased suspended sediments can settle within the SAC."*

430. As presented in Section 9.3.4 in Volume 3 Part A of the EIAR, a detailed assessment of the subtidal reefs was carried out in 2015 and it recorded that "*natural siltation levels were high in the sublittoral environment, a fact that has not appeared to have had a significant impact on the biological diversity in this area*".

431. Following a tidal restricted discharge, the modelled impact of the dredging spoil has shown that the plume will not impact these reefs. Further monitoring will also be employed to ensure that this remains the case during the construction works. The overall conclusion is that there will be no impact to the SAC reefs from suspended sediments during dredging.



### 10.3.2 Operational Phase Discharges following Malfunction

432. The following submission raised a concern regarding the impact of discharges on the reefs and harbour porpoises at Ireland's Eye as a result of a malfunction during operation.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007716-18

#### Applicant's Response

433. Please see response to risk of malfunctions in Section 23 of this Response which describes the safeguards that will be in place to prevent malfunction.

434. As presented in Section 9.5 in Volume 3 Part A of the EIAR, *"Discharge modelling shows that the resulting suspended sediment plume discharged from the proposed marine diffuser will disperse away from the site following a trajectory north and east of the Ireland's Eye coastline. This will therefore not impact on the sublittoral reef area recorded on the northern and eastern parts of this island within the Rockabill to Dalkey Island SAC"*.

435. Section 9.5 in Volume 3 Part A of the EIAR states the following regarding impacts during the Operational Phase on marine mammals:

*"Owing to possible enhancement of fish life around the proposed marine diffuser location (attracted by the seabed structure and/or possible increased productivity), the impact is likely to be slightly beneficial to the marine mammals, particularly the seals, with a long-term duration (the lifetime of the proposed outfall pipeline route (marine section)) but generally negligible magnitude. This would result in a Negligible Beneficial impact for pinnipeds, but a Minor Beneficial impact to harbour porpoises in magnitude. However, as this area represents only a very small proportion of their foraging range, this significance of this impact is expected to be Negligible."*

436. The results presented in Chapter 22 Risk of Major Accidents and/or Disasters in Volume 3 Part A of the EIAR assess the water quality parameters that would be affected in the event of a three day malfunction within the processing discharge. The modelled water quality parameters show that natural dispersion qualities of the outfall diffuser continue to operate in the prevailing oceanographic conditions and continues to provide high dispersion and diffusion of the discharge during this period. No suspended solids concentrations were modelled but it would be expected that these concentrations would increase slowly over the period of the malfunction, with the main suspension components being removed from the effluent during this period. An increased plume of suspended material would be expected to move away from the outfall in a seaward direction.

437. The impact of this on the harbour porpoise population within the SAC would be expected to be subtle and short lived. This species is routinely recorded in areas of high suspended sediment loads, so an elevated turbidity is unlikely to have a significant impact on this species. However, the species may be indirectly affected by an increased plume where a behaviour change is recorded in a prey species. It is uncertain if a short period malfunction will enhance fish activity around the outfall diffuser or reduce it, as both could occur subject to season and resulting plume structure. However, in either case, this will have a negligible impact on the distribution of harbour porpoises for the duration of the impact.

438. To conclude, in the unlikely event of a release of untreated wastewater, a short-term increase in suspended solids will not have a significant impact on marine ecology. Furthermore, the qualifying features (subtidal and intertidal reef habitats and Annex II species) found at Rockabill to Dalkey Island SAC will not be compromised, the favourable conservation condition of the features will not be compromised, and there will be no adverse effect on the integrity of the site.

### 10.3.3 Impact of Dredging Plume

439. The following submission from Peadar Farrell raised a concern regarding the impact of the dredging plume on marine wildlife especially harbour porpoises. The submission states that all marine wildlife will be damaged when the dredged material is returned to the trench:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007716-18

### Applicant's Response

440. Regarding the potential for impact on the harbour porpoise, Section 9.7.1 in Volume 3 Part A of the EIAR describes the mitigation measures that will be implemented to minimise the impacts on marine mammals during the Construction Phase. These include among others:
441. *“Following appropriate guidelines from the regulatory authorities, the NPWS (2014), the following measures are proposed to remove the risk of direct injury to marine mammals in the area of operations: A trained and experienced MMO will be put in place during piling, dredging and pipeline laying. The MMO will scan the surrounding area to ensure no marine mammals are in a pre-determined exclusion zone in the 30-minute period prior to operations. It is proposed that this exclusion zone is 500m for dredging activities and 1,000m for piling activities. No works will take place should mammals be recorded in the exclusion zone”.*
442. Dredging operations will follow guidelines ensuring that the harbour porpoise is not impacted during dredging and removes the risk of injury to this species during these operations. No impact is expected during the dredging works.
443. On this basis, the qualifying features of Annex II species found at Rockabill to Dalkey Island SAC will not be compromised, the favourable conservation condition of the features shall not be compromised, and there will be no adverse effect on the integrity of the Rockabill to Dalkey Island SAC.
444. Section 9.4.3 in Volume 3 Part A of the EIAR describes the impacts arising from the dredging operation on marine benthos:
- “Disturbance to the marine benthos and the sand dwelling shellfish (such as the razor clam) are expected to be high, although this will be limited to a relatively small area directly relating to the trenched route (approximately 0.16km<sup>2</sup>), or neighbouring sediments (approximately 1km<sup>2</sup>) affected by localised smothering of stored or plume-dispersed material. The area is routinely disturbed by clam dredgers and routinely repopulates the substrates within the short-term.*
445. *The benthos may be impacted by dredging activities as a result of the physical removal of substratum and associated organisms from the seabed along the path of the dredge head, and the subsequent deposition of material through side casting or settlement of a dispersed plume of suspended sediment. A review of the impact of aggregate dredging in European coastal waters suggests that marine communities conform to well-*

*established principles of ecological succession, and that these allow some realistic predictions on the likely recovery of benthic communities following cessation of dredging (Newell et al. 1998). In general, communities living in fine mobile deposits, such as that occur in estuaries, are characterised by large populations of a restricted variety of species that are well adapted to rapid recolonisation of deposits that are subject to frequent disturbance. Recolonisation of dredged deposits is initially by these 'opportunistic' species, and the community is subsequently supplemented by an increased species variety of long-lived and slow-growing 'equilibrium' species that characterise stable undisturbed deposits such as coarse gravels and reefs. Rates of recovery reported in the literature suggest that a recovery time of six to eight months is characteristic of many estuarine muds where frequent disturbance of the deposits precludes the establishment of long-lived components. In contrast, the community of sands and gravels may take two to three years to establish, depending on the proportion of sand and level of environmental disturbance by waves and currents, and may take even longer where rare slow-growing components were present in the community prior to dredging. As the deposits get coarser along a gradient of environmental stability, estimates of five to 10 years are probably realistic for development of the complex biological associations between the slow-growing components of equilibrium community characteristic of reef structures.*

*The benthos along the proposed outfall pipeline route (marine section) are based predominantly on sands, particularly in the western inshore section of the proposed outfall pipeline route (marine section). Here, the water depth is very shallow and subject to continuous reworking by wave induced currents. The central part of the proposed outfall pipeline route (marine section) is a silty sand, becoming increasingly coarser towards a muddy sandy gravel near the proposed marine diffuser location. There is an absence of any developed biogenic or geogenic features with any significant epifaunal component. The physical recovery of the surface sediments along the proposed outfall pipeline route (marine section) is expected to show recovery within a few months, with a Recolonisation by the benthos to occur within six months for the majority of species, but possibly one to two years for some the of larger slower-growing taxa."*

446. Overall the deposition depth of dredged material is greatest in the immediate vicinity (within 8m) of the trench (>300mm) with deposition depths reducing to less than 3mm within a few hundred meters of the trench route. A significant proportion of the benthos will survive the dredging process and will also be able to migrate back to the surface after deposition, although the smothering effect will impact some sedentary and suspension feeding species in areas directly beneath the discharged material. The overall impact will be localised and short term.
447. Disturbance to the benthos during the dredging works will generally be limited to a small surface area running along the proposed outfall pipeline route (marine section). A significant proportion of the benthos recovered during the dredging will survive the process of dredging and resettlement. This area of the seabed is routinely re-worked from storms through natural sediment mobility within shallow waters and surface sediment from fisheries activities and would be expected to establish and recolonise within 6 months of the operation or following the annual larval repopulation. This means that any impact to the benthos is considered to be temporary and not significant.

#### 10.3.4 Impact of Microtunnelling on European Sites

448. The following submission asserted that activities associated with the microtunnelling such as removal of materials offsite have not been considered.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007716-18

## Applicant's Response

449. Chapter 4 Description of the Proposed Project in Volume 2 Part A of the EIAR and the Outline Construction Environmental Management Plan provides details regarding the construction of the tunnelling compounds and activities associated with microtunnelling. All such activities have been considered in the ecology impact assessments included in Chapters 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 Biodiversity (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR. All materials generated during the tunnelling will be removed off site to an authorised facility and therefore will not impact on European Sites.

### 10.3.5 Impact of Proposed Project on Shellfish Waters

450. The following submission raises concerns regarding the impact of the Proposed Project on designated shellfish waters.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_29	Charles Heasman	LDG-007700-18
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

## Applicant's Response

451. The proposed marine outfall is located outside the Designated Shellfish Waters for Malahide as shown in Figure 9.5 of the EIAR. However, the route will pass through other areas recognised as active shellfish fishery production. The impact from the construction of the marine outfall will be limited to a physical disturbance to the surface sediments and a localised impact along the pipeline itself as presented in Section 9.3.4 in Volume 3 Part A of the EIAR.

452. Section 9.3.4 in Volume 3 Part A of the EIAR states the following:

*“Disturbance to the marine benthos and the sand dwelling shellfish (such as the razor clam) are expected to be high, although this will be limited to a relatively small area directly relating to the trenched route (approximately 0.16km<sup>2</sup>), or neighbouring sediments (approximately 1km<sup>2</sup>) affected by localised smothering of stored or plume-dispersed material. The area is routinely disturbed by clam dredgers and routinely repopulates the substrates within the short-term”.*

453. Section 9.5 in Volume 3 Part A of the EIAR describes the impact of the plume to the surrounding waters during the Operational Phase and the dilution rates and area of plotted plume dispersion are discussed in detail in Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR. The dispersion of the treated wastewater discharge from the proposed outfall is expected to be significant in the near field mixing zone. The water quality will reach standards set out in the Water Framework Directive, European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272 of 2009) and Directive 2006/7/EC of 15 February 2006 concerning the management of bathing water quality (Bathing Waters Directive) to maintain an ‘excellent’ water quality status set out for ‘coastal’ waters and to prevent impact to nearby bathing waters or protected areas (such as shellfish waters).

454. The proposed outfall is designed to enhance the dilution of the treated wastewater into the receiving waters on discharge. A numerical model of the expected dilution was produced based on the Cornell Mixing Zone Expert System (CORMIX) to predict the near-field dilution characteristics of a proposed outfall discharging to the receiving waters. The CORMIX model predicted the plume development, dilution and treated wastewater

concentrations within the plume. Simulations over the full tidal cycle for both neap and spring tidal scenarios, with results indicating a consistent 20-fold dilution recorded within the near field (50m) from the discharge point on both neap and spring tidal streams and 33 to 100-fold dilution during mid flood or ebb tidal streams in Far field (500m). The findings of the hydrodynamic model indicate that the nutrient enrichment levels anticipated, and the modelled rate of dispersion offshore, are likely to have a negligible impact both locally and regionally upon fish and shellfish populations.

455. The output from the hydrodynamic model indicates that the nutrient enriched plume will not affect inshore water quality as it disperses offshore. A 20-fold dilution will occur within 50m of the proposed marine diffuser. No negative impact on fish or shellfish species is expected at the site, or within the surrounding environment. The potential impacts on water quality, primarily as a result of elevated DIN levels, may impact on primary productivity in the immediate vicinity of the proposed marine diffuser, which in turn will pass up the food chain through increased zooplankton, although water quality is expected to increase in the area overall as a result of the Proposed Project.

456. Section 9.5 in Volume 3 Part A of the EIAR states:

*“The findings of the hydrodynamic model indicate that the nutrient enrichment levels anticipated, and the modelled rate of dispersion offshore, are likely to have a negligible impact both locally and regionally upon fish and shellfish populations”.*

457. In summary the plumes arising from the dredging during construction and the outfall discharge fall outside the designated shellfish waters. Furthermore, the modelled data for the discharge during the Operational Phase indicates that the impact plume has a limited spatial impact and will disperse significantly into the prevailing oceanography at the site. This fact coupled with the discharge parameters will ensure there will be no impact to shellfish waters.

### 10.3.6 Impact on Sea Bass

458. The following submission raises a concern that waste and suspended solids could endanger Sea Bass in an area used by local anglers at the end of Velvet Strand at the entrance to Baldoyle Bay.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_110	Philip Swan	LDG-007681-18

### Applicant's Response

459. Figure 9.6 in Volume 5 Part A of the EIAR shows the Maximum Suspended Sediment Plume Concentrations Arising from Dredging over the Duration of Dredging Works for the Proposed Outfall Pipeline Route. As presented in Sections 9.4 and 9.8 in Volume 3 Part A of the EIAR, the impact from pollution during dredging on immediate marine ecology (marine mammals, passing fish species and surrounding benthos) will be short-term and of negligible impact significance. Therefore, the impact at the entrance to Baldoyle Estuary is predicted to be imperceptible.

460. As addressed in Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR a numerical model of the expected dilution was produced to predict the near-field dilution characteristics of a proposed outfall discharging to the receiving waters. Simulations over the full tidal cycle for both neap and spring tidal scenarios, indicate consistently high dilution rates and a dominant migration of the discharge out to sea.

Therefore, the impact to inshore waters at the mouth of the Baldoyle Estuary are predicted to be imperceptible and Negligible.

461. The information provided in the EIAR demonstrates that the impact from both the dredging construction (through modelled discharge) and the plume from the operational period (based on water quality and modelled dispersion) will not impact the waters within close vicinity of Velvet Sand or the mouth to Baldoyle Bay. No impact is expected during construction or operation of the Proposed Project.

### 10.3.7 Impact of Dredging on Beaches and Sediment Patterns

462. The following submission raised concerns on the impact of dredging during the Construction Phase on sediment patterns at Velvet Strand and requested that the entire route be tunnelled.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18

#### Applicant's Response

463. As presented in Section 9.4.3 in Volume 3 Part A of the EIAR, the outfall will be installed using a tunnel beneath Baldoyle Bay and will run for approximately 2km below Velvet Strand out to 600m from the coast. A backhoe dredger will then be used for trenching in the shallower waters to the outfall north of Ireland's Eye. The impact from the sediment plume dispersion model is presented in Figure 9.6 in Volume 5 Part A of the EIAR. This data shows that there will be no impact to Portmarnock beach or Velvet Strand from dredging during the Construction Phase.

### 10.3.8 Protection of Saltmarsh

464. The following submission raised concerns that the construction of the Proposed Project would impact on the saltmarsh at Baldoyle Bay.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_55	Portmarnock Beach Committee	LDG-007470-18

#### Applicant's Response

465. The sensitivity of the Saltmarsh community within the Baldoyle Bay SAC is well understood and has been described in Section 9.3.6 in Volume 3 Part A of the EIAR. The proposed construction method will use microtunnelling techniques to avoid any direct impact to the estuary and to preserve the saltmarsh within its current state. The potential impacts on Baldoyle Bay are detailed in Section 9.4.2 in Volume 3 Part A of the EIAR.

466. In summary, the construction method for the outfall pipeline has been designed to avoid impacts on the saltmarsh.

### 10.3.9 Disturbance to Wildlife via Impacts on Food Sources

467. The following submission raised concerns that the NIS or EIAR did not assess the impact of the Proposed Project on food sources in particular sandeels for protected bird and wildlife species.



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

### Applicant's Response

468. The importance of fish and shellfish species is discussed in Section 9.3.8 in Volume 3 Part A of the EIAR. The EIAR identifies that sandeels and juvenile fish species are ecologically and commercially important species in shallow waters and are likely to be recorded within the sandy substrates found along the proposed marine outfall route. Relatively few numbers were recorded in the vicinity of the pipeline route by benthic and fisheries surveys in 2012 and 2017, respectively, although the species was common in very shallow areas off Velvet Strand in 2015 recorded by beach seine netting. The importance of sandeels is covered in Section 9.3.9 in Volume 3 Part A of the EIAR and is assessed as constituting a low but important food source for avian and mammal predators. Impacts from the dredging of the proposed outfall pipeline route, along with the proposed plume during disposal has been assessed to cover a relatively limited area compared to the foraging range of most avian and mammal species. The impact from dredging will be short term with the overall impact assessed as of Negligible significance.
469. Overall, the EIAR demonstrates that whilst the presence of sandeels within the corridor of the proposed outfall is important and well understood, evidence on the population is not considered to show particularly rich or consistent numbers. Whilst sandeels are an important food group to many of the seabirds in the region of the outfall, their temporary impact, if encountered during the dredging phases of the construction, are not expected to have a significant impact on the bird population, or that of marine mammals. Sandeels, as with other inshore fish species, would be temporarily displaced away from the worksite during the Construction Phase but would be followed by their respective predatory species. As dredging is expected to be short term and of limited geographical impact, the impact to sensitive or important protected species is expected to be negligible. The outfall discharge during the Operational Phase of the Proposed Project will not impact on sandeels.
470. It can be concluded that the construction or operation of the Proposed Project will not impact on food sources that would result in an indirect significant impact on the harbour porpoises or protected bird species. Therefore, the qualifying features (Annex II species) found at Rockabill to Dalkey Island SAC or the qualifying SPA features (surrounding SPAs including Ireland's Eye SPA, Baldoyle Bay SPA) will not be compromised, the favourable conservation condition of the features will not be compromised, and there will be no adverse effect on the integrity of the site.

#### 10.3.10 Disturbance to Harbour Porpoise during Construction and Operation

471. The following submission raised concerns that the impacts of noise from dredging and tunnelling on harbour porpoise were not considered in the EIAR and concerns that the discharge during operation will impact on the harbour porpoise.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP



## Applicant's Response

### Construction

472. The impacts of construction of the marine outfall on the harbour porpoise from noise associated with tunnelling, piling and dredging are detailed in Section 9.4 in Volume 3 Part A of the EIAR. Piling at the tunnel interface and the cable crossing located outside of the Rockabill to Dalkey Island SAC will require additional mitigation procedures to prevent a significant impact to harbour porpoises. Details of all mitigation procedures to be employed are presented in Section 9.7 in Volume 3 Part A of the EIAR. A summary of residual impacts, including those affecting harbour porpoises, are given in Section 9.8 in Volume 3 Part A of the EIAR. Overall impacts are negligible from noise and vibration, once mitigation processes are fully implemented with only a minor residual impact from a localised and short-term foraging displacement expected during the dredging works.
473. Overall the EIAR considered the noise produced during the construction of the outfall through micro-tunnelling, dredging and piling for the length of the marine outfall. Examples and literature datasets showed that the impact on these populations from tunnelling and dredging would be negligible, based on the noise levels expected during construction. A particularly noisy operation is expected through piling at the tunnel interface and cable crossings (both outside of the Rockabill to Dalkey Island SAC) and these were additionally assessed on a transient population. Mitigation is proposed to ensure that no injury or significant impact could occur to the harbour porpoise during these two brief construction periods.
474. To conclude, potential direct impacts from noise during the Construction Phase on marine mammals will be insignificant once the mitigation measures are implemented. Behavioural responses to noise from dredging and construction are considered to be temporary and limited to the duration of the works and will be reduced for the duration of the works through mitigation measures (see Section 7.4 of the NIS). The qualifying interest of Annex II species found in Rockabill to Dalkey Island SAC will not be compromised, the favourable conservation condition of the features shall not be compromised, and there will be no adverse effect on the integrity of the site.

### Operation

475. Section 9.5 in Volume 3 Part A of the EIAR describes the impact of the plume to the surrounding waters during the Operational Phase, while the dilution rates and area of plotted plume dispersion are discussed in detail in Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR. The dispersion rate of the treated wastewater discharge from the proposed outfall is expected to be significant in the near field mixing zone. The water quality is expected to reach standards set out in the Water Framework Directive, European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272 of 2009) and Directive 2006/7/EC of 15 February 2006 concerning the management of bathing water quality (Bathing Waters Directive) to maintain a 'good' water quality status set out for 'coastal' waters and to prevent impact to nearby bathing waters or protected areas (such as shellfish waters).
476. A numerical model of the expected dilution was produced to predict the near-field dilution characteristics of a proposed outfall discharging to the receiving waters. Simulations over the full tidal cycle for both neap and spring tidal scenarios, indicating consistently high dilution rates and a dominant migration of the discharge out to sea.
477. Section 9.5 in Volume 3 Part A of the EIAR describes the impact on marine mammals as follows:

478. *Owing to possible enhancement of fish life around the proposed marine diffuser location (attracted by the seabed structure and/or possible increased productivity), the impact is likely to be slightly beneficial to the marine mammals, particularly the seals, with a long-term duration (the lifetime of the proposed outfall pipeline route (marine section)) but generally negligible magnitude. This would result in a Negligible Beneficial impact for pinnipeds, but a Minor Beneficial impact to harbour porpoises in magnitude. However, as this area represents only a very small proportion of their foraging range, this significance of this impact is expected to be Negligible.*
479. Overall the EIAR considered the noise produced during the construction of the outfall through micro-tunnelling, dredging and piling for the length of the marine outfall. Examples and literature datasets showed that the impact on these populations from tunnelling and dredging would be negligible, based on the noise levels expected during construction. A particularly noisy operation is expected through piling at the tunnel interface and cable crossings (both outside of the Rockabill to Dalkey Island SAC) and these were additionally assessed on a transient population. Mitigation is proposed to ensure that no injury or significant impact will occur to the harbour porpoise during these two brief construction periods.
480. A further assessment of the modelled discharge during the operational period of the outfall described the high-water quality standards that are to be maintained during the discharge and the expected performance of the discharge into the receiving waters at all states of the tide. The model indicated a high natural dispersion rate and a low physical plume impact throughout the year. These conditions are not expected to impact either harbour porpoises directly or the distribution of any significant prey species within the vicinity of the outfall diffuser.
481. The multiport diffuser is located in an average depth of water of approximately 23m, as surveyed during the environmental studies carried out for the Proposed Project. This depth cannot be classed as an unusually shallow depth for this type of discharge, as asserted by the submission from Sabrina Joyce Kemper.
482. Whilst the plume from the effluent discharge is located within the SAC, the concentration of suspended sediments is predicted during the operational phase to be below that detectable by this Annex II species and no impact to this qualifying species is expected. On this basis, the qualifying interest of Annex II species found in Rockabill to Dalkey Island SAC will not be compromised, the favourable conservation condition of the features will not be compromised, and there will be no adverse effect on the integrity of the site.

### 10.3.11 Eutrophication Impacts on the Estuarine System

483. The following submission raised concerns that the impact of the outfall discharge is not examined for Baldoyle Bay SAC.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

### Applicant's Response

484. As presented in Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR a numerical model of the expected dilution was produced to predict the near-field dilution characteristics of a proposed outfall discharging to the receiving waters. Simulations over the full tidal cycle for both neap and spring tidal scenarios, indicating consistently high dilution rates and a dominant migration of the discharge out to sea. Therefore, the impact to inshore waters at Baldoyle SAC are predicted to be imperceptible and Negligible.

485. The EIAR and the model demonstrated that the dispersion of the operational outfall does not impact on the water quality within the Baldoyle Bay estuary. Therefore, no eutrophication will occur within the estuary and on this basis the qualifying features for Baldoyle Bay SAC will not be compromised, the favourable conservation condition of the features shall not be compromised, and there will be no adverse effect on the integrity of the Baldoyle Bay SAC.

### 10.3.12 . Impact of Tunnelling on Baldoyle Bay

486. The following submission raised concerns that tunnelling will impact on the wildlife at Baldoyle Bay.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

#### Applicant's Response

487. The sensitivity of Baldoyle Bay SPA and SAC is well understood and has been described in Section 9 and 10 in Volume 3 Part A of the EIAR relating to marine ecology and ornithology, respectively. The proposed outfall pipeline route (marine section) will be constructed under the Estuary using microtunnelling techniques to avoid any direct impact to the estuary and to preserve this environment within its current state. The use of this type of construction technology is well understood with the potential impacts to sensitive and qualifying species in relation to disturbance through noise, pollution and construction activities discussed throughout these two chapters of the EIAR.

488. The EIAR describes the sensitive nature of the Baldoyle Bay SAC and SPA so that sensitivities of the estuary are well understood. The construction method for the marine outfall has been designed to avoid any direct impact to these areas.

489. Baldoyle Bay SAC will be unaffected for this habitat as a result of operational stage suspended sediment plumes. On this basis the qualifying features for Baldoyle Bay SAC will not be compromised, the favourable conservation condition of the features shall not be compromised, and there will be no adverse effect on the integrity of the Baldoyle Bay SAC.

## 10.4 Response to Specific Issues Raised by Prescribed Bodies

### 10.4.1 Development Applications Unit (DAU) of the Department of Culture, Heritage & the Gaeltacht

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_52	Development Applications Unit	LDG-007909-18

490. The submission from the DAU asserts that the '*proponent*' must ensure that the Operational Phase mitigation is in compliance with the "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters".

#### Applicant's Response

491. Operations will be carried out in compliance with "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters" (NPWS 2014) as addressed in Section 9.7.1 in Volume 3 Part A of the EIAR.

#### 10.4.2 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

492. The submission from Fingal County Council (which includes the Chief Executive's Report and Councillor comments) requested that the impact on Shellfish during the operational stage be clarified.

#### Applicant's Response

493. Section 9.5 in Volume 3 Part A of the EIAR refers to the operational impact on shellfish:

494. The proposed marine outfall and diffuser outlet is located outside the Designated Shellfish Waters for Malahide as shown in Figure 9.5 of the EIAR. However, the route will pass through other areas recognised as active shellfish fishery production. The impact from the construction of the marine outfall will be limited to a physical disturbance to the surface sediments and a localised impact along the route itself.

495. As presented in Section 9.5 in Volume 3 Part A of the EIAR the impact of the plume to the surrounding waters during the operational phase the dilution rates and area of plotted plume dispersion are discussed in detail in Chapter 8 Marine Water Quality in Volume 3 Part A of the EIAR. The dispersion of the treated wastewater from the proposed marine diffuser when discharged is expected to be significant in the near field mixing zone. The water quality is expected to reach standards set out in the Water Framework Directive, European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272 of 2009) and Directive 2006/7/EC of 15 February 2006 concerning the management of bathing water quality (Bathing Waters Directive) to maintain an 'excellent' water quality status set out for 'coastal' waters and to prevent impact to nearby bathing waters or protected areas (such as shellfish waters).

496. The proposed outfall marine diffuser is designed to enhance the dilution of the treated wastewater into the receiving waters on discharge. A numerical model of the expected dilution was produced based on the Cornell Mixing Zone Expert System (CORMIX) to predict the near-field dilution characteristics of a proposed outfall discharging to the receiving waters. The CORMIX model predicted the plume development, dilution and treated wastewater concentrations within the plume. Simulations over the full tidal cycle for both neap and spring tidal scenarios, with results indicating a consistent 20-fold dilution recorded within the near field (50m) from the discharge point on both neap and spring tidal streams and 33 to 100-fold dilution during mid flood or ebb tidal streams in Far field (500m). The findings of the hydrodynamic model indicate that the nutrient enrichment levels anticipated, and the modelled rate of dispersion offshore, are likely to have a negligible impact both locally and regionally upon fish and shellfish populations.

497. In summary, the operation of the Proposed Project will have a negligible impact both locally and regionally upon fish and shellfish populations.

## 11. Biodiversity (Marine Ornithology)

### 11.1 Overview

498. 65 submissions raised the issue of marine ornithology in relation to the Proposed Project.

### 11.2 Response to General Issues Raised

499. The following submissions raised general concerns about the potential for impacts to marine ornithology as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_10	Aulden Grange Residents Association	LDG-007619-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_12	Barbara Shelley	LDG-007667-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_52	Development Applications Unit	LDG-007909-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_87	Laurence & Geraldine Byrne	LDG-007553-18
GDD_SUB_88	Linda Brady	LDG-007655-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_100	Michelle & David O Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_144	Betty Ennis and Alvis Crawford	Not assigned by ABP
GDD_SUB_146	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_152	Corina Johnston on behalf of Donabate/ Portrane Community Council	Not assigned by ABP
GDD_SUB_154	Bette Browne	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_161	Orla O'Kane & Others	Not assigned by ABP
GDD_SUB_163	Seán Haughey TD	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

500. The following general themes were raised in submissions in relation to marine ornithology:

- Impact on SPAs and protected bird species;
- Seabird colonies and the proposed marine outfall pipeline;
- Impact of malfunction on bird species;
- Impact of tunnelling on birds;

## Applicant's Response

### *Impact on SPAs and Protected Bird Species*

501. Impacts on SPAs and protected species are addressed in the ecology impact assessments provided in Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 Biodiversity (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). An Appropriate Assessment Screening and a Natura Impact Statement, which examines the project's implications on European Sites including SPAs was also prepared and included as part of the application. The NIS concludes:

*"It is concluded, beyond reasonable scientific doubt, that the Proposed Project with the implementation of the prescribed mitigation measures will not give rise to significant impacts, either individually or in combination with other plans and projects, in a manner which adversely affects the integrity of any designated site within the Natura 2000 network."*

### *Seabird Colonies and the Proposed Marine Outfall Pipeline*

502. Due to the nature of the Proposed Project and its operation, which does not require the routine presence of significant surface activities in or near Baldoyle Bay or Ireland's Eye, there are no impacts predicted on ornithological interests from the outfall pipeline discharge during the Operational Phase.

### *Impact of Malfunction on Bird Species*

503. In the unlikely event of a release of untreated discharge, there will be no short-term increase in suspended solids that would have a significant impact on marine birds. These species have extensive foraging ranges, so any effect would occupy only a small fraction of their potential foraging area for a short time. Fish, as a key part of seabird prey, would also be able to disperse from any area of increased suspended solid, further reducing the risk of any impact.

### *Impact of Tunnelling on Birds*

504. All sources and potential implications of disturbance from tunnelling activities have been fully addressed in Chapter 10 Biodiversity (Marine Ornithology) in Volume 3 Part A of the EIAR. Once the embedded mitigation of suitable screening at each of the proposed temporary construction compounds is in place prior to construction, no impacts due to disturbance are predicted.

## **11.3 Response to Specific Issues Raised in Observers' Submissions**

### **11.3.1 Impact on Baldoye Bay SPA**

505. The following submission raised concerns of the impacts from disturbance associated with the tunnelling construction compounds (including noise and lighting) on roosting and foraging birds and the fact that the only mitigation proposed is to fence and shield the construction compound.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

### **Applicant's Response**

506. It should be noted that the ornithology assessment was completed by experienced ornithologists who have in excess of 20 years' experience conducting ornithological impact assessments in coastal, estuarine and marine settings, providing robust information to inform the appropriate assessment process. In addition to specific expertise on wildfowl, wader and seabird ecology, this experience includes working closely with noise modelling specialists and engineers, to predict, assess and manage disturbance risk to breeding, roosting and foraging birds. Furthermore, the ornithologists also benefit from many years of insights from work on construction sites, including as Ecological Clerks of Works, observing, understanding and mitigating disturbance effects. This practical knowledge, combined with the use of scientific published research on individual and population-level implications of disturbance, have all fed in to the EIAR and NIS.

507. It is also worth highlighting that the project itself is far from unique in its characteristics. As a result, there is considerable experience of linear construction projects and construction adjacent to estuaries, and in coastal and offshore areas, from which to base the impact assessment and mitigation design. Therefore, through the combination of the above ornithological expertise, practical construction insights and assessment experience, the ornithological impact assessment in the EIAR and the NIS provides a robust and rigorous assessment of effects.

508. Section 10.6 in Volume 3 Part A of the EIAR provides details on the assessment of the following impacts on Baldoye Bay:

- Disturbance/Displacement due to Visual Impacts at Proposed Microtunnelling Compounds; and
- Disturbance/Displacement due to Direct Land-Take of Proposed Microtunnelling Compounds.

509. "Disturbance/Displacement due to General Noise, Construction Activity and Vehicle Traffic at Proposed Microtunnelling Compounds impact" was excluded from further consideration in the EIAR (see Section 10.4.3 in Volume 3 Part A of the EIAR) for the reasons set out below:

*“The baseline environment around Baldoyle Bay contains numerous sources of potential disturbance stimuli for birds. The Baldoyle Bay Estuary lies on the approach to Dublin Airport’s main runway. Observations made during ornithological surveys revealed that aircraft overfly the northern section of Baldoyle Bay very frequently. The R106 Coast Road, running down the western side of the bay, passes between the SPA boundary and the proposed temporary construction compound no. 9 for microtunnelling. A cycle path runs parallel to the road.*

*The Baldoyle residential area to the south-west of Baldoyle Bay, and the Portmarnock and Sutton Golf Clubs on the eastern and south-eastern sides of the bay are other sources of disturbance. Velvet Strand Beach to the east is also frequented by a range of recreational users.*

*In general, this suggests that many of the birds using the Baldoyle Bay SPA and surrounding area are habituated, to a degree, to a range of general visual and/or noise stimuli, including the presence of vehicles. In consultation with published advice on the typical types and magnitudes of visual and noise sources associated with construction activities (Cutts et al. 2013), it is considered that general construction activities, the presence of a crane and the presence of vehicle traffic associated with the microtunnelling compounds will result in a Negligible impact significance to all bird species.*

*For the construction or operation of the Proposed Project to result in disturbance to the birds in the area, the noise/visual stimuli would have to substantially exceed those that are already present in some way. For this reason, piling noise during the construction of jacking shafts in the microtunnelling compounds is considered in the assessment” (see Section 10.6.1 of Chapter 10 Biodiversity (Marine Ornithology) in Volume 3 Part A of the EIAR).*

510. The sources and potential implications of disturbance referred to in this submission are standard considerations for this type of development and have therefore been fully taken into account. The respondent’s comment (last paragraph, page 4) *“The significant of the impact that results from even a short-term displacement should not be underestimated”* is noted, however, it is the Applicant’s submission that no impacts have been under-estimated. It is equally important not to over-estimate the significance of any disturbance and displacement, especially short term and reversible, and in an environment where birds are habituated to background noise levels in any case (see baseline results in Section 10.3 in Volume 3 Part A of and Appendix A10.1 in Volume 3 Part B of the EIAR). Both the Habitats and Birds Directives, and the associated designations are concerned with conservation of bird populations, i.e. population effects, and short-term displacement, even if it did take place, has been shown to have limited impact on over-wintering survival rates, for which the estuary is important (see NIS Section 6 of the NIS which lists the Conservation Objectives for Baldoyle Bay SPA and SAC).

### 11.3.2 Impact of Tunnelling and Associated Compounds on Ornithology

511. The following submission raised concerns that the tunnelling compounds and the tunnelling activities under the estuary will cause disturbance to birds and wildlife:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant’s Response

512. See Section 10.3.1 above for the Applicant’s response to the issue of disturbance from the tunnelling compounds.

513. Regarding the tunnelling activities, it should be noted that the use of microtunnelling will avoid direct impacts on Baldoyle Bay as the pipeline will be installed underneath the bay. The risk of a bentonite leak and the potential impact of noise associated with the microtunnelling were considered in Section 10.4.3 in Volume 3 Part A of the EIAR but excluded from further ornithology assessment due to the negligible impact significance these activities would have on all bird species.

### 11.3.3 Impact of the Proposed Project on Ireland's Eye Seabird Colonies

514. The following submission refers to the nature of Ireland's Eye and lists seabird species in the area. Specifically, the submission goes on to state that 'As Ireland's Eye is only 1km from the proposed outfall it should be strongly considered when making any decisions as it is an area of ecological significance, an SPA and SAC'.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

515. As part of the work for the EIAR and NIS, the seabirds present on and around Ireland's Eye have been comprehensively examined, using a combination of desk studies and field work. This is in recognition of the ornithological interests present in the area. From the outset, the approach taken has therefore been to ensure a robust assessment of baseline marine birds and possible impacts of the outfall on these interests (with consideration of their habitats and the food-chain on which the seabirds depend).

516. In addition to desk studies to identify and consider pre-existing data on seabirds in the Ireland's Eye area, bird surveys were undertaken between 2014 and 2018 to assess the bird populations using the areas in which the proposed outfall pipeline route (marine section) will be constructed and their surroundings. Monitoring at the Ireland's Eye auk colony in summer 2016 and 2017 was also carried out (as noted in Section 10.2.3, 10.2.4, 10.3.4 and 10.3.5 in Volume 3 Part A of the EIAR).

517. Drawing on this comprehensive baseline data, detailed consideration has been given to the potential effects of construction and operation of the proposed project (marine section and diffuser) on seabirds. This information is presented in Section 10.6.1 in Volume 3 Part A of the EIAR.

518. In light of the baseline bird interest on and around Ireland's Eye, and drawing on extensive experience of managing construction effects on seabirds, it is concluded that there will be no significant effects on these interests or adverse effects on the integrity of any seabird SPAs, including Ireland's Eye.

### 11.3.4 Impact of Microtunnelling on Wildlife

519. This submission raises a concern that activities associated with the microtunnelling such as increase in traffic and removal of materials offsite will be disruptive to wildlife and have not been considered in the EIAR.

GDD Submission ID	Name	ABP Submission ID
	Peadar Farrell	

520. Chapter 4 Description of the Proposed Project in Volume 2 Part A of the EIAR and the Outline Construction Environmental Management Plan of the EIAR provides details regarding the construction of the tunnelling compounds and activities associated with micro-tunnelling. All such activities and in particular those that give rise to the potential for disturbance have been considered in the ecology impact assessments included in Chapter 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and

Freshwater Aquatic) in Volume 3 Part A of the EIAR. Furthermore, all materials generated from the tunnelling will be removed off site to an authorized facility.

521. Furthermore, the points raised by this submission mirror those already considered above (see Section 10.3.1 in Volume 3 Part A regarding response to the issue of disturbance from the tunnelling compounds). Two considerations are of particular note in relation to the main points made by this submission (truck movements), firstly that birds using the estuary are already habituated to background traffic noise and movement, and secondly, sensitivity of birds to vehicle movements is limited so impacts are not significant.

522. Contrary to the submission's suggestion, detailed consideration has been given in the EIAR and NIS to potential disturbance of SPA and other bird species. This robust assessment has been based on comprehensive field surveys and practical expertise of construction in and close to estuarine and coastal locations of importance for birds.

## 11.4 Response to Issues Raised by Prescribed Bodies

### 11.4.1 Development Applications Unit (DAU) of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_52	Development Applications Unit	LDG-007909-18

523. The submission from the DAU is concerned with:

- the potential cumulative impacts that may occur if construction for proposed construction compound no. 9 and a proposed residential development were to take place during the same period of time; and
- The potential for disturbance/ displacement to birds.

524. The submission refers to the Portmarnock South Local Area Plan and the lands zoned as a 'quiet zone' for Brent Geese and wader species, 20% of which will be used for the temporary construction compound number 9. The Department of Culture, Heritage and the Gaeltacht must assess if the loss of these 20% of lands will negatively impact on wintering birds when considered cumulatively with other construction activities associated with residential development (the Department refer to Ref ABP-300514-17 Strategic Housing Development application for residential accommodation at Station Road, Portmarnock, Townlands of Maynetown and Portmarnock, Co. Dublin) that have and will be taking place in the LAP lands.

525. The submission notes that it will need to determine what other quiet areas will be available for wintering birds in the absence of the 20% and how the phasing of the residential building might coincide with the construction of compound number 9.

## Applicant's Response

### SPA Conservation Objectives

526. In response to the submission, the Baldoyle Bay SPA conservation objective for Brent Goose and other wintering birds is to maintain the favourable conservation condition of feature species in the SPA.

527. NPWS has published a supporting document to accompany the SPA's objective, which elaborates that:-

- To be favourable, the long-term population trend for each waterbird Special Conservation Interest species should be stable or increasing.
- To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.

528. That same document also helpfully expands on factors that can adversely affect the achievement of the above conservation objective:

*Habitat modification:* activities that modify discreet areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (e.g. as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers.

*Disturbance:* anthropogenic disturbance that occurs in or near the site and is either singular or cumulative in nature could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers.

*Ex-situ factors:* several of the listed waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas outside of the SPA but ecologically connected to it. The reliance on these habitats will vary from species to species and from site to site. Significant habitat change or increased levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers.

529. Habitat modification and disturbance relate to “areas within the SPA”, and so it is only ex-situ factors that are relevant here. The conservation objectives supporting document notes that some species such as Brent Geese switch their habitat preference as food supplies become depleted, exploiting grasslands when intertidal seagrass and algae become depleted.

#### *Baseline Data Relevant to Cumulative Impacts from Compound 9*

530. Detailed consideration was given in the EIAR to baseline bird interests of the SPA. Appendix A10.1 of the EIAR ‘Estuarine Ornithological Surveys’ provides a series of figures illustrating the distribution of these feature species in long term estuarine surveys conducted between 2014 and 2018 and extending out to 1km from the location of the proposed development. Figure A10.2 shows Brent Goose records in the survey area throughout this period. It shows that one record for this species occurs in the location of proposed compound No.9, and that very few records (single figures) for this species occur lands to be managed as a quiet zone or under arable cultivation. This part of the survey area has one of the lowest distribution densities of all parts of the survey area outside of the SPA for this species. By contrast, a much higher distribution density occurs in grassland habitat outside of the SPA to the south of Strand Road at the northern end of the estuary. This site is located 900m from the proposed GDD Project. Much higher numbers of birds were consistently observed here throughout the survey period.

531. Referring back to the conservation objectives supporting document, a map on p55 of that document shows a distribution dot density diagram for Brent goose from 2011/2012 surveys. That map shows a similar occurrence of the species in grassland habitat outside of the SPA to the south of Strand Road at the northern end of the estuary to the GDD surveys. It also indicates a significant foraging site at Seagrang Park, 1.5km to the south of the proposed GDD Project.

#### *Assessment of GDD Impacts*



*Potential Disturbance/ Displacement to Birds*

532. The Department notes that there is potential for disturbance and/or displacement to birds from nearby SPAs and in particular Baldoyle Bay SPA and Ireland's Eye SPA and such impacts could result from construction compound 9

533. Section 10.4 and 10.5 in Volume 3 Part A of the EIAR provide an assessment of the impacts arising from the construction of the compound, while Section 10.9 in Volume 3 Part A of the EIAR presents the necessary mitigation measure.

534. Regarding "Disturbance/Displacement due to Direct Land-Take of Proposed Microtunnelling Compounds", the assessment concludes (see Section 10.6.1 in Volume 3 Part A of the EIAR):

*"The magnitude of impact of land-take of proposed temporary construction compounds no. 9 and no. 10 is considered to be negligible. This results in a Minor impact significance for any species of very high ecological value associated with the proposed microtunnelling compound sites (i.e. SCIs and Natura 2000 species of the Baldoyle Bay SPA and Ireland's Eye SPA) and a Negligible impact significance for all other species. This prediction is of near-certain confidence. There is no requirement for additional mitigation measures."*

535. Regarding "Disturbance/Displacement due to Visual Impacts at Proposed Microtunnelling Compounds", the assessment concludes:

*"The magnitude of impact of visual disturbance will be medium due to the relatively large spatial (between 50m and 500m from each compound, depending on the species in question) and temporal (duration of construction activities at microtunnelling compounds) extent of activities at the microtunnelling compounds. This results in a Major impact significance for any species of very high ecological value associated with these small areas of habitat (i.e. SCIs and Natura 2000 species of the Baldoyle Bay SPA and Ireland's Eye SPA) and a Moderate or Minor impact significance for other species. This prediction is of near-certain confidence. Mitigation is required to reduce the impact significance for these species throughout the construction period and is detailed in Section. "*

536. Section 10.9.1 in Volume 3 Part A states the following regarding mitigation through the installation of hoarding:

*A 2.4m high hoarding will be used for the duration of the construction works at both microtunnelling compounds (proposed temporary construction compounds no. 9 and 10). Compound construction will not proceed without the installation of hoarding around the entire perimeter of each compound and any associated access track. The deployment of this hoarding will mean that works within the microtunnelling compounds will occur out of sight of birds in the Baldoyle Bay SPA, meaning that disturbance impacts on birds are reduced to a very low level (Cutts et al. 2013). Ikuta and Blumstein (2003) found that protective barriers allow birds to behave as they would in an undisturbed environment. To avoid disturbance to wintering birds, the hoarding will only be erected and uninstalled between April and August under supervision by a professional ecologist.*

537. The assessment concludes (see Section 10.10.1 in Volume 3 Part A of the EIAR):

*The installation of appropriate hoarding will mitigate the Major impact significance for any species of very high ecological value and Moderate impact significance for a range of other species. The impact magnitude will be reduced from medium to negligible. This results in an impact significance of Minor for species of very*

*high ecological value and Negligible for all other species. In both cases, the residual level of impact significance is considered not significant.*

538. To conclude in relation to the GDD Project, no bird surveys have shown the field where compound No.9 is proposed, to be used in any significant numbers by Special Conservation Interests of Baldoye Bay SPA. Construction of the proposed GDD Project will not displace Special Conservation Interests of Baldoye Bay SPA from this area (either by land take or visual disturbance) and will not cause a significant decrease in the range, timing or intensity of use of areas of the SPA by its feature species.

*The Portmarnock South Local Area Plan (LAP), Associated Residential Development, Its Phasing and Ornithological Mitigation Measures*

539. In relation to the residential developments at Station Road relating to the quiet area referred to in DAU's submission, An Bord Pleanála's Inspector Report specifies the following re the scale and phasing of the development:
540. *It is proposed that the development would be carried out in two phases. The first phase consists of the apartments along Station road and phase two consists of the remaining units and the linear park/inter monumental route.*
541. The residential development site has a stated site area of 7.59ha (according to the ABP Inspector's Report). The site has frontage along Station Road and is located immediately east of an existing residential development known as St. Marnock's Bay located in the north west of the LAP lands. Based on this information, it is understood that the most southern part of the development will be located approximately 500m away from compound number 9 in the north of the LAP lands and outside the lands zoned as a 'quiet zone'. No information is available on the timing of the construction of the residential development, however planning was received in April 2018. A copy of the NIS for the residential development is available at the Department of Housing, Planning and Local Government website([https://www.housing.gov.ie/sites/default/files/foreshore-applications/application\\_documents/6312\\_portmarnock\\_1b\\_nis\\_final\\_report.pdf](https://www.housing.gov.ie/sites/default/files/foreshore-applications/application_documents/6312_portmarnock_1b_nis_final_report.pdf)) and has been reviewed to understand the proposed mitigation measures for over wintering birds. The NIS states that there will be no impacts on the bird species of Baldoye Bay SPA arising from the residential element of the Proposed Project due to the location of the Proposed Project and the significant mitigation measures (which include the bird quiet zone and an ecological buffer zone habitat) which have been implemented as part of an earlier phase of the development (currently under construction). The associated development of a regional wetland and outfall to Baldoye Bay (located approximately 750m north of compound no.9) will not be permitted between the months of November and March inclusive and therefore this will avoid any potential for cumulative impacts;
542. The Green Infrastructure and Landscape Strategy envisaged in the Portmarnock South LAP incorporates a low intervention landscape approach to certain ecological buffer zone lands in proximity to Baldoye Bay SAC and SPA in order to retain the supporting ecological functions this landscape provides to the estuary habitats including a quiet zone for migratory birds and arable crop areas for native bird species.
543. Habitat protection measures proposed within the Ecological Buffer Zone include:
- The Ecological Buffer Zone within the plan lands being maintained as amenity grassland, semi-natural meadow, natural grassland and scrub, pasture and arable land use including wintering crops such as linnet mix.

- A 'quiet zone' being established to the south of the residential development area to cater for Brent Geese and wader species. The 'quiet zone' is to consist of grassland pasture and be enclosed by a fence and hedge to prevent disturbance during the winter migratory bird season. The enclosure must be dog proof but can permit overlooking of the 'quiet zone' e.g. 1.2 metre high fence with hedge planting of native species.
- Retention of a field within the southern section of the plan lands to be managed under arable cultivation. This will support and encourage food production through community and contract farming initiatives.
- The extensive open space within the ecological buffer zone to be managed as meadows. The meadows will support a wider diversity of native grass and wildflower species than traditional mown amenity grass and will thus support a greater number and variety of insect life, which in turn supports the bird population. The seeds produced by grass and flower species also provide a direct food source for birds.

544. Lands including those to be managed under arable cultivation and as a quiet zone were transferred to Fingal County Council in 2018, but Fingal County Council has yet to implement the prescriptive conservation management measures envisaged under the Portmarnock South LAP Green Infrastructure and Landscape Strategy for this parcel of land.

545. The intention of the Portmarnock South LAP Green Infrastructure and Landscape Strategy is, in part, to manage certain lands positively for birds. That objective is compatible with the proposed GDD Project. None of the lands are currently being managed positively for birds, but it is intended to do so in the next available window. During construction phase of the GDD Project, the remaining lands to be managed positively for birds can be fenced off and managed in accordance with the regime intended under the Green Infrastructure and Landscape Strategy. After the 18 month GDD construction phase, that part of the proposed quiet zone where compound No.9 was located will also fall under the management regime of the Green Infrastructure and Landscape Strategy. In the long term, the full extent of the lands to be managed positively for birds will indeed be managed that way.

546. The residential development approved under ABP Strategic Housing Development Ref: 300514-17 is located 620m to the northwest of proposed Compound No.9.

#### *Potential Cumulative Impacts*

547. The Department refers to the Portmarnock South Local Area Plan (LAP) and the lands zoned as a 'quiet zone' for Brent Geese and wader species, 20% of which will be used for the temporary construction compound number 9. As noted in its submission, the Department must assess if the loss of these 20% of lands will negatively impact on wintering birds when considered cumulatively with other construction activities associated with residential development (the Department refer to Ref ABP-300514-17 Strategic Housing Development application for residential accommodation at Station Road, Portmarnock, Townlands of Maynetown and Portmarnock, Co. Dublin) that have and will be taking place in the LAP lands.

548. The Department notes that it will need to determine what other quiet areas will be available for wintering birds in the absence of the 20% and how the phasing of the residential building might coincide with the construction of compound number 9. Regarding other quiet areas that would be available during the construction and 18 month presence of compound no. 9, the lands just north of the quiet area would be available and have been shown to be utilised by birds (see Figure 10.2 which shows the distribution of birds in the area surrounding compound no. 9).

549. Figures A10.1 – A10.53 show that there is no significant use of proposed Compound No.9 and as such no significant displacement can occur. With the application of measures intended to avoid or reduce the harmful effects of the proposed GDD Project on Baldoyle Bay SPA, no significant decrease in the range, timing and intensity of use of areas of the SPA by its Special Conservation Interests will occur alone or in combination with ABP Strategic Housing Development Ref: 300514-17.
550. Therefore, should the construction of the residential development coincide with the construction and 18 month presence of compound no. 9, cumulative impacts will not arise due to low value of the area for Special Conservation Interests of Baldoyle Bay SPA, the fact that compound no. 9 will be screened to minimise impacts on the SPA, and the mitigation measures proposed for the residential development.

## 12. Biodiversity (Terrestrial and Freshwater Aquatic)

### 12.1 Overview

551. 66 submissions raised the issue of terrestrial and freshwater aquatic biodiversity in relation to the Proposed Project.

### 12.2 Response to General Issues Raised

552. The following submissions raised general concerns about the potential for impacts to terrestrial ecology as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_5	Ann O Keeffe	LDG-007688-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_12	Barbara Shelley	LDG-007667-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_21	Brian Union & Co.	LDG-007714-18
GDD_SUB_22	Carol Barr	LDG-007674-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_38	Crystal Reid Perry & Others	LDG-007640-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_40	Daniel Shine	LDG-007698-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_52	Development Applications Unit	LDG-007909-18
GDD_SUB_53	Dolores Higgins	LDG-007672-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_59	Eddie Larkin	LDG-007634-18
GDD_SUB_60	Elaine Murray	LDG-007664-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_69	Fiona Mills	LDG-007637-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_79	Jennifer Jones	LDG-007670-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_81	Joe and Elaine Jones	LDG-007382-18
GDD_SUB_85	Kathleen O Reilly	LDG-007740-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_87	Laurence & Geraldine Byrne	LDG-007553-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Marie Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_94	Marie Hayes	LDG-007647-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18
GDD_SUB_102	Natalie Donoghue & Others	LDG-007594-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_105	Noel Conway	LDG-007726-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_112	Portmarnock Community Association	LDG-007662-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_134	Therese Doyle	LDG-007754-18



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_139	Councillor Tom Brabazon	GDD_SUB_139
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_163	Seán Haughey TD	Not assigned by ABP
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

553. The following general themes were raised in submissions in relation to terrestrial and freshwater aquatic biodiversity:

- Impact to wildlife and their habitats
- Impact to surface waters;
- Impact of aerosols on local wildlife;
- Impact on SPAs/ SACs; and
- Noise impact on bird species.

## Applicant's Response

### *Impact to Wildlife and their Habitats*

554. Impacts on ecology are addressed in the ecology impact assessments provided in Chapter 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR. Construction Phase effects are generally temporary, with the exception of the permanent loss of terrestrial habitats of site-level or local importance at the proposed Abbotstown pumping station and the proposed WwTP. Mitigation measures will be implemented to reduce these localised impacts and no significant residual impacts on terrestrial biodiversity features are predicted. The proposed mitigation measures are set out in Section 11.7 and 11.14 in Volume 3 Part A of the EIAR and included the appointment of an Ecological Clerk of Works (ECoW) by the Applicant to advise on effective implementation of biodiversity mitigation specified in the EIAR, NIS and the Outline CEMP, and to act as a liaison between Irish Water and ABP in the discharge of planning conditions relating to biodiversity.

### *Impact to Surface Waters*

555. Impacts on surface water ecology are addressed in the freshwater ecology impact assessment provided in Chapter 11 Biodiversity (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR. The discharge from the proposed WwTP will be to the marine environment. All surface water courses will be traversed using trenchless techniques to avoid direct impacts on water courses. Mitigation measures will be implemented to reduce any potential impacts and no significant residual impacts on freshwater biodiversity features are expected. Mitigation measures include the appointment of an Ecological Clerk of Works (ECoW) by the Applicant to advise on effective implementation of biodiversity mitigation specified in the EIAR, NIS and the

Outline CEMP, and to act as a liaison between the Applicant and ABP in the discharge of planning conditions relating to biodiversity.

556. *Impact on SPAs/ SACs*

557. Impacts on ecology and designated areas such as SACs and SPAs are addressed in the ecology impact assessments provided in Chapter 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR. An Appropriate Assessment Screening and a Natura Impact Statement, which examines likely significant effects of the Proposed Project on European Sites was also prepared and included as part of the application. The NIS concludes:

"It is concluded, beyond reasonable scientific doubt, that the Proposed Project with the implementation of the prescribed mitigation measures will not give rise to significant impacts, either individually or in combination with other plans and projects, in a manner which adversely affects the integrity of any designated site within the Natura 2000 network."

*Noise Impact on Bird Species*

558. Chapter 10 Biodiversity (Marine Ornithology) in Volume 3 Part A of the EIAR addresses the potential for disturbance/displacement impacts arising from construction noise on coastal and estuarine ornithology. In order to ensure that the Ireland's Eye SPA and the seabirds it supports, particularly auks, are not disturbed during the Construction Phase, and to ensure that the SPA is not disturbed unnecessarily, a Vessel Management Plan for marine ornithology will be implemented. Farmland bird surveys were also undertaken (see Section 11.3.5 in Volume 3 Part A of the EIAR). As the great majority of habitat comprises highly modified and intensively farmed agricultural landscapes, these open fields support bird interests of local significance throughout the year. Any disturbance impacts resulting from noise arising from construction activities will be localised and short term and therefore will not result in significant impacts on farmland birds.

559. Response to Specific Issues Raised in Observers' Submissions

**12.2.1 Impact on Aquatic Communities**

560. The following submission raises concern regarding the impact on water quality from antibiotics and hormones and subsequent effects on animals.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_27	Celia Herbert	LDG-007684-18

**Applicant's Response**

561. Although antibiotics and hormones have been identified in the environment for a number of years, current EU legislation (including the Urban Wastewater Treatment Directive 91/27/EEC (as amended), Sewage Sludge Directive 86/278/EEC, the Bathing Water Directive 2006/7/EC and the Dangerous Substances Directive 2006/11/EC) does not include specific regulations in respect of either of these substances. Antibiotics and hormone products are also not subject to any requirement in waste water discharge licences issued by the EPA.

562. Whilst it is acknowledged at EU level that the presence of antibiotics and hormone products are a growing problem in the environment there are no current proposals to amend the above legislation. Further studies

at EU and national level are required to better quantify the risks to the environment and human health and to decide on the best approach to be adopted in order to prepare appropriate guidelines or possible legislation.

563. A general conclusion that can be drawn from studies done to date is that steps should be taken to minimise the quantity of antibiotics and hormone products that currently enter the wastewater stream and that this is best done at source rather than by way of end of pipe treatment. Irish Water is supportive of such an approach.
564. Should legislation be introduced in the future which sets limits for antibiotics/hormone products in treated wastewater discharges, Irish Water will comply with any obligations imposed on it.

### 12.2.2 No Assessment of Wildlife

565. The following submission raises a concern that environmental impacts of the Proposed Project may be widespread as it is proposed to pump treated wastewater into the sea 1km northeast of Ireland's Eye and that no impact assessment was undertaken of the wildlife in the area surrounding Ireland's Eye or at Portmarnock Beach.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_27	Celia Herbert	LDG-007684-18

### Applicant's Response

566. Chapter 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR and the Natura Impact Statement (NIS) present in detail the surveys and assessments that were undertaken along the entire length of the Proposed Project. Sections 9.2, 10.2 and 11.2 in Volume 3 Part A of the EIAR list the biodiversity surveys that were undertaken and Figure 10.in Volume 5 Part A of the EIAR shows the study area covered by surveys in this part of the study area, which includes the area north of Ireland's Eye and Portmarnock Beach. Chapter 9 Biodiversity (Marine) in Volume 3 Part A of the EIAR provides details on the marine ecology impact assessment that was completed which addresses the potential impacts on the benthos (animals living on or within the seafloor), marine mammals, fish, plankton and water quality along the length of the outfall pipeline route. Figures 11.5-11.10 in Volume 5 Part A of the EIAR provides the results of the terrestrial habitat assessments completed in respect of the Proposed Project. Chapter 4 of the NIS establishes whether or not the proposed Project is likely to have significant effects on European sites in view of their conservation objectives, and Chapter 6 of the NIS contains an assessment of the implications of the Proposed Project on European sites. Chapter 7 of the NIS prescribes the necessary measures to avoid adverse effects upon European sites.
567. A full ecological impact assessment of the entire proposed Project has been undertaken. Chapter 9 Biodiversity (Marine), Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR identify, describe and assess the likely significant effects of the Proposed Project on wildlife; and the Natura Impact Statement contains an assessment of the implications of the Proposed Project on European sites.

### 12.2.3 Extent of Bat Surveys

568. The following submission raised concern regarding the extent of bat surveys.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_110	Philip Swan	LDG-007681-18

### Applicant's Response

569. Figure A11.2 of the EIAR shows the extent of the bat surveys undertaken along the Golf Links Road, which extends up to Strandmill Road. No bat activity was recorded in this area. The bat survey did not extend to the entrance to the Portmarnock Golf Club or onto Strandmill Road, because these areas are outside the study area for the assessment of bats on the basis that there is no possibility of activities associated with the Proposed Project adversely impacting bats in these areas.

#### 12.2.4 Annex I Habitat at Construction Compound No. 10

570. The following submission raised concern regarding the results of the habitat survey completed at the area where Compound No. 10 is located and referred to the Fingal County Development Plan Sheet 15 Green Infrastructure 2, which shows Annex I habitat in the area of the compound.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

571. A habitat survey was completed along the entire length of the Proposed Project. Figure 11.5 of the EIAR presents the results of the habitat survey in the area of Compound No. 10 and shows Annex 1 habitat occurring outside the area of Compound No. 10. Construction Compound No. 10 is located in an area that is classified as 'recolonizing bare ground'. A botanical survey was completed for this Compound and is contained in Appendix A11.2 of the EIAR. A comprehensive suite of bird surveys was also undertaken in this area as described in Chapter 10 Biodiversity (Marine Ornithology) in Volume 3 Part A of the EIAR and Figure 10.3 in Volume 5 Part A of the EIAR shows the results of bird surveys in the area around and including Compound No. 10.

572. Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR identify, describe and assess the likely significant effects of the proposed Project on biodiversity at and around Compound No. 10. There is no Annex I habitat in the area of Construction Compound No. 10.

#### 12.2.5 Light Bellied Brent Geese Observed at Clonshagh

573. The following submission stated that Light Bellied Brent Geese have been observed feeding at proposed WwTP:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_123	Seán Haughey TD	LDG-007484-18

574. The following submission stated that the area of the proposed WwTP is a migration path for Brent Geese and this will cease if the Proposed Project goes ahead:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP

### Applicant's Response

575. Section 11.2.3 in Volume 3 Part A of the EIAR presents the type and number of field surveys that were completed along the entire length of the Proposed Project including the Clonshagh area where the proposed WwTP is proposed to be located. This included wintering farmland surveys. Section 11.2.3 states that *"Three sets of visits were carried out, in late winter 2014/2015, in early winter 2015/2016 and in late winter 2016/2017."*

576. Section 11.3.5 in Volume 3 Part A of the EIAR states that *"There were no agglomerations of winter birds, such as geese or other wildfowl, or species reliant on farmland. The Proposed Project study area is therefore of no more than local importance for wintering birds"*.

577. The concern raised in these submissions is misplaced. Chapter 10 Biodiversity (Marine Ornithology) and Chapter 11 (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR identify, describe and assess the likely significant effects of the Proposed Project on birds at and around the proposed WwTP and there is no likely significant effect predicted on foraging grounds or migration of Light Bellied Brent Geese.

### 12.2.6 Impact of Proposed Temporary Construction Compound No. 9 on the Mayne River

578. This submission asserts that compound no. 9 will impact on the Mayne River.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

579. Compound no. 9 will be located approximately 100m north of the Mayne River and will be in place for 18 months. Section 11.4.1 in Volume 3 Part A of the EIAR lists a number of mitigation measures which will ensure that there will be no significant impacts on the Mayne River. These include the following specific measures along with implementation of best practice mitigation measures for the control of suspended solid pollution and adherence to the Project Surface Water Management Plan:

- Sites for storage areas, machinery depots, site offices, construction of temporary access roads or the disposal of spoil will be located at least 50m from any watercourse;
- All materials will be stored in compounds and shall be stored in a manner that is safe and in line with best industry practice. Fuels and chemicals will be stored in an appropriately bunded area/with double skinned tanks. All potential harmful substances will be stored in accordance with the manufacturer's guidelines;
- All aspects of the works will be watertight, which will include the pipelines, tanks, storage containers and pump sumps;
- Wheel washing facilities will be installed at the entrance to the proposed WwTP site and other locations deemed appropriate;
- Invasive species biosecurity measures will be installed at the entrance to the proposed WwTP site, proposed Abbotstown pumping station site and all proposed temporary construction compounds. This will adhere to the *Biosecurity Protocol for Field Survey Work* (IFI 2010); and

- Foul drainage from compounds will be disposed of through the provision of a direct connection to a local sewer or be serviced by means of a waste water storage tank, which will be emptied by means of a suction tanker and the wastewater shall be disposed of to a licenced facility.
580. The implementation of these measures and best practice, and the temporary nature of proposed temporary construction compound no. 9 (being 18 months) will ensure that there will be no significant impact on the River Mayne.

## 12.3 Response to Specific Issues Raised by Prescribed Bodies

### 12.3.1 Development Applications Unit (DAU)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_52	Development Applications Unit	LDG-007909-18

581. The submission from the DAU raised a number of issues including:

- Habitat restoration for construction compound no. 10;
- Badger;
- Newt; and
- Timing of tree felling.

### Applicant's Response

#### *Habitat Restoration at Construction Compound No. 10*

582. The Department requested that consideration be given to attempting to restore some of the habitat at Compound No. 10 as fixed dune habitat.

583. The Applicant confirms that it will consider the restoration of habitat at Construction Compound No. 10 to its previous fixed dune habitat status. The Applicant proposes that plans and options for restoration be discussed with the Fingal County Biodiversity Officer and NPWS prior to works commencing.

#### *Badger*

584. The Department recommends that a wildlife licence application be made in advance of planning.

585. Section 11.7.5 in Volume 3 Part A of the EIAR states the following regarding mitigation for badgers:

586. *In order to ensure there are no significant changes to the badger territories identified in the EIAR and the mitigation measures specified, a pre-construction badger survey should be undertaken prior to the commencement of any works.*

587. *A wildlife disturbance licence will be obtained from NPWS for the exclusion and closure (two temporarily and three permanently) of five badger setts identified within the Proposed Project boundary.*



588. *The licence application will be made by the appointed ECoW, who will conduct or otherwise supervise all licensed activities.*
589. *All works under licence will be monitored as necessary by the appointed ECoW throughout the Construction Phase.*
590. *Setts closed for the duration of the Construction Phase shall be re-opened at the earliest opportunity in consultation with the licencing authority.*
591. As construction of the Proposed Project is not scheduled to commence until two years after the submission of a planning application, the identity of the ECOW is not yet known. Furthermore, any licence granted would likely expire within the intervening period requiring a further licence application to be made and would need to be supported by an up to date badger survey. For these reasons, the Applicant submits that the correct and most appropriate process is for a licence application to be made by the appointed ECOW prior to commencement construction This will allow the licence application to be informed by an up-to date survey.

#### *Newts*

592. The Department recommends that a wildlife licence application be made in advance of planning for the proposed relocation of newts. The Department also requests that consideration be given to reconstructing ponds lost during construction.
593. Similar to badger licencing as noted above, the Applicant could have submitted a licence application in advance of the submission of a planning application, however as construction is not scheduled to commence until two years after the submission of a planning application, the identity of the ECOW is not yet known and in all probability any licence granted would expire within in the intervening period requiring a further licence application to be made. A further licence application would need to be supported by an up to date smooth newt survey. For these reasons, the applicant believes that a licence application being made by the appointed ECOW prior to construction and informed by an up-to date survey is the most appropriate solution.
594. Regarding pond construction the Applicant notes the Department's request to consider pond creation but in this instance, where there are many more ponds at Site 1 than will be removed (Appendix A11.3 of the EIAR shows that up to 16 ponds were recorded at site 1), and in circumstances where newts were only recorded in some ponds, the applicant is of the opinion that new pond creation is unnecessary as there are sufficient ponds to accommodate the relocation of the extant newt population.

#### *Timing of Tree Felling*

595. The Department recommends that tree felling take place during August/September period instead of the August-October period to avoid impact on bat roosts. The Applicant will amend the tree felling mitigation in its Contract Documents in accordance with the Department's recommendation.

### **12.3.2 Fingal County Council**

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

596. The submission from Fingal County Council (which includes the Chief Executive's Report and Councillor comments) raised a number of issues including:

- A biodiversity plan for construction compound no. 10;
- Mitigation for hedgerow removal, retention and replacement and the associated impacts on bats;
- The impact of lighting at the proposed WwTP on bats; and
- The effects of mitigation on freshwater.

## Applicant's Response

### *Biodiversity Plan for Construction Compound No. 10*

597. Fingal County Council submit that reinstatement works at Compound No. 10 require a biodiversity plan that will seek to establish diversity of species during reinstatement.

598. As addressed in Section 9.4.1.1 in Volume 3 Part A of the EIAR, the Applicant will consider the restoration of habitat at Compound No. 10 to its previous fixed dune habitat status and to address diversity of species. The Applicant proposes that plans and options for restoration be discussed with the Fingal County Council Biodiversity Officer and NPWS prior to works commencing so that any restoration requirements can be incorporated into the contract documents.

### *Mitigation for Hedgerow Removal, Retention and Replacement and Associated Impact on Bats*

599. Fingal County Council have stated that more effective mitigation should be provided for the protection of bats regarding hedgerow removal, retention and replacement.

600. Section 11.4.2 in Volume 3 Part A of the EIAR states that: normal practice is not to strip hedgerow sections from the full proposed construction corridor width, but instead to remove only what is required to facilitate the pipeline trench, haul route and any topsoil strip storage area beside the trench (approximately 20m). This ensures that the minimal feasible amount of hedgerow will be removed, and the maximum feasible amount will be retained. Works will be supervised by the EcOW. Mitigation specifies that hedgerows will be re-planted.

601. The EIAR also states in Section 11.7.4 in Volume 3 Part A that “*Depending on the season in which construction work takes place, it may be possible to store and replace sections of dormant hedgerows once work in a particular section is complete. Where this is not practicable, new planting will take place utilising advanced nursery stock*”. Also, Section 11.7.4 states that “*any existing mature trees adjacent to the Proposed Project or construction areas which will not be removed shall be protected from root damage in accordance with BS 5837:2012 Trees in relation to design, demolition and construction*” (British Standards Institution, 2012) as part of the construction contract.

602. It is considered that the above measures provide appropriate mitigation for hedgerows in light of the fauna recorded utilising this habitat across the study area.

### *Impact of Lighting at the WwTP on Bats*

603. Fingal County Council raised a concern regarding the lighting at the WwTP and its potential to impact on bats. Section 11.5.3 in Volume 3 Part A of the EIAR states that for the proposed WwTP:

604. *Landscaping treatment for the proposed WwTP includes planting of hedgerow, specimen trees and wildflower meadow to the north, east and west of the proposed WwTP site. Lighting will be minimised in these areas, and the times during which the lighting is on will be limited to provide some dark periods. Should security lighting be necessary, directional lighting will be used to prevent overspill.*

#### *Effects of Mitigation on Freshwater*

605. Fingal County Council contends that effects of mitigation in terms of reducing impact during the Operational Phase are not set out in the EIAR.

606. Table 11.22 in Chapter 11 Biodiversity (Terrestrial and Freshwater Aquatic) in Volume 3 Part A of the EIAR provides a “Summary of Residual Impacts During the Construction and Operational Phases”, which notes the effects of mitigation on the potential impacts described during the construction and operational stages (see Sections 11.10 to 11.12 in Volume 3 Part A of the EIAR). All residual impacts are not significant.

#### **12.3.3 Fáilte Ireland**

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP

607. This submission raised a concern that the dune system would be affected during the initial Operational Phase of the Proposed Project.

#### **Applicant's Response**

608. No operational activities will impinge on the dune system as the pipeline will exist in a tunnel beneath this section of the Proposed Project. Therefore, the dune system will not be affected during the Operational Phase of the Proposed Project.

## 13. Landscape and Visual

### 13.1 Overview

609. There were 40 submissions relating to landscape and visual elements of the Proposed Project.

### 13.2 Response to General Issues Raised

610. The following submissions raised general concerns about the potential for landscape and visual impacts as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_111	Philomena Fitzsimons	LDG-007710-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP

611. The following general themes were raised in submissions in relation to landscape and visual elements of the Proposed Project:

- Visual obstruction as a result of the Proposed Project;
- Views from Dublin Airport;
- Height and size of the proposed WwTP;
- Visual impact;
- Landscape impact; and
- Visual impact on tourism.

## Applicant's Response

612. These issues have been addressed in Chapter 12 Landscape and Visual in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). Precise references are provided below.
613. In respect of 'Visual obtrusion as a result of the Proposed Project', 'Height and size of the proposed WwTP and the more general issue of 'Visual Impact', relevant assessment can be found in Section 12.4.4 and also section 12.5.3 in Volume 3 Part A of the EIAR. Residual visual impacts, following the establishment of proposed mitigation screen planting, are then assessed in Section 12.8 in Volume 3 Part A of the EIAR where a comparison table (Table 12.13) of pre-mitigation and post-mitigation establishment effects is provided. These sections of Chapter 12 Landscape and Visual in Volume 3 Part A of the EIAR collate and summarise the individual visual impact assessments carried out from a range of 14 representative viewpoints, which are contained in-full in Appendix A12.1 in Volume 3 Part B of the EIAR and supported by photomontages contained in Volume 6 of the EIAR. Much of the Operational Phase visual impact assessment is focused on the effects of the proposed WwTP as this is the main above-ground feature of the Proposed Project. It is considered that these general issues relating to visual impact, which is central to any Landscape and Visual Impact Assessment, have been comprehensively assessed in accordance with the relevant GLVIA-2013 Guidance.
614. 'Views from Dublin Airport' and 'Visual impacts on tourism' are principally addressed using representative viewpoints, which include; VP2 – Top storey of Clayton Hotel Dublin Airport; VP7 M1 Motorway airport interchange, and; VP8 - Glazed skyway between sections of Dublin Airport Terminal 2. These WwTP related assessments can be found in Appendix A12.1 and are summarised within Section 12.4.4, Section 12.5.3 and Section 12.8 in Volume 3 Part A of the EIAR. The relevant photomontages are contained in Volume 6 of the EIAR. Section 12.4.4 also addresses Construction Phase visual impacts in respect of coastal tourism related receptors including Baldoyle Estuary and Baldoyle Bay, Portmarnock Golf Club and Portmarnock Hotel and Golf Links as well as Velvet Strand. In addition to the assessment contained within the EIAR, a specific response is provided to the Fáilte Ireland submission, which raises tourism related concerns in respect of Dublin Airport and the coastal environs of Baldoyle Estuary. This specific response is contained in Section 13.4.1 below and whilst it provides clarification and expansion of the assessment contained within Chapter 12 Landscape and Visual in Volume 3 Part A of the EIAR, it does not introduce any new information not otherwise contained in the EIAR. Therefore, it is considered that visual impacts in respect of tourism generally and Dublin Airport specifically, are comprehensively assessed within the EIAR.
615. In respect of the general concern of 'Landscape Impact' the assessment of such impacts is integral to the Landscape and Visual Impact Assessment contained in Chapter 12. In accordance with the relevant GLVIA-2013 guidance, landscape impacts and visual impacts are assessed separately. The Sections of Chapter 12 Landscape and Visual in Volume 3 Part A of the EIAR that address landscape impacts include all of Section 12.4 (Construction Phase) and all of Section 12.5 (Operational Phase). Consequently, it is considered that each aspect and each phase of the Proposed Project is comprehensively assessed in respect of Landscape Impacts.

## 13.3 Response to Specific Issues Raised in Observers' Submissions

616. The responses below relate to specific submissions on landscape and visual matters that have not otherwise been addressed by reference back to the planning documentation in the above Section.

### 13.3.1 Thomas P. Broughan TD

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18

617. On page 9 of his submission, Thomas Broughan TD states that “*locals residents have profound environmental concerns including the visual impact on the landscape of the WwTP ...*”. The submission then states, amongst other environmental matters, that “*although the height of the new structures are said to be a maximum of 18m, the tallest buildings will be placed on the southern part of the 30 ha. site, easily visible from Caragh Park and Moatview estates*”.
618. The Thomas Broughan TD submission also states that the “*photomontages in vol. 6 of the EIAR are completely useless*” in the context of understanding the proposed WwTP structures. This part of the submission further states that “*Normally a clear visual design of a future structure is provided in a planning application. Here all we can see are barely visible yellow lines indicating major changes to the Clonshagh landscape.*”

### Applicant's Response

619. By way of response to this aspect of the Thomas Broughan TD submission, it is important to note that the comments in respect of the visual impact of the proposed WwTP are multifaceted. They reflect a degree of misunderstanding as to the purpose of the photomontages which is to aid the visual impact assessment, including those receptors (roads / residential estates / parks) to the south of the WwTP site.
620. In order to fully address the concerns raised in this submission, it is necessary to deal with each in order, beginning with the rationale for placing the tallest buildings on the southern side of the proposed WwTP site. This was done in consultation with planners from Fingal County Council in order to present a ‘campus style’ arrangement of buildings to squarely and unapologetically front the planned new road dividing the WwTP from the Technology Park zoning on the basis that it would provide consistency and cohesion with future technology park road frontage buildings. Furthermore, by placing the tallest buildings along the southern side of the site, it deliberately moved them further from the rural interface of the site where a more subtle transition of scale and blended design approach of woodland planted berms will more readily fuse with surrounding treelines and hedgerows of the agricultural hinterland to the north.
621. The consequence of placing the tallest buildings along the southern side of the WwTP site (as opposed to the northern side) is extremely minor in terms of potentially increasing visual impacts on residential estates such as Caragh Park and Moatview, beyond the R139 road to the south of the site. This is because scheme visibility is a function of height versus distance of not only the structures in question, but also intervening screen elements such as vegetation and buildings. In this case the potential view of the proposed 18m high buildings within the southern side of the WwTP site is at a distance from the nearest portion of these residential estates of approximately 500m - rather than 650m if they were placed along the northern side. This differential is of little consequence in the context of generally enclosed urban / residential estate views, which tend not to extend further than approximately 50m due to enclosure by buildings and vegetation. Depending on proximity to the viewer, these intervening screen elements need not be particularly tall (4-5m) to preclude visibility of more distant structures – even those that may be considerably taller (18m).
622. The relationship of distance and screening in respect of southerly receptors is presented in the VP11 and VP13 Photomontages, which were both assessed to experience ‘Imperceptible’ visual impact significance due to screening. The fact that ‘yellow outlines’ of the proposed WwTP structures had to be used to illustrate where the scheme would be present in these views, if not for intervening screening, reinforces the lack of visibility. However, the yellow outlines (wirelines) were never intended to present a 3D illustration of the scheme design as sought by the submission. Their purpose was to simply inform a visual impact assessment from a variety of representative viewpoints.



623. To better illustrate the limited scheme visibility afforded to visual receptors around the entire WwTP site (including those to the south), high resolution Digital Surface Model (DSM) data has been sourced for the purposes of this response to submissions. This data can be used to map scheme visibility based on a combination of terrain and surface elements such as trees and buildings. It should be noted that this high quality DSM data has only become available since the planning application was lodged, as it was only captured (Bluesky aerial surveys) during the summer of 2018 and processed even more recently. Figure 10.1 below, indicates from where in the surrounding landscape potential views of the 18m tall structures from the proposed WwTP might be visible. Even where visibility is apparent from beyond the nearest surrounding fields, it mainly accounts for a view of the roof profile and little of the structure below. To further illustrate this point, similar visibility maps have also been prepared in respect of the lower WwTP structures. It should be noted that the DSM based visibility mapping relates to ground level receptors. Increasing levels of visibility will likely occur from the upper levels of two storey dwellings and then taller office buildings / hotels such as that represented by VP2 in the original Landscape chapter from the top floor of the Clayton Airport Hotel.



Figure 10.1 – Digital Surface Model (DSM) based visibility map indicating from where in the surrounding landscape any part of the tallest potential structure (18m) will be visible for ground-based receptors once existing screening is accounted for

624. Figure 10.1 illustrates that aside from surrounding fields and a section of the Clonsaugh Road to the west of the WwTP site, visibility of even the tallest potential structures (18m) will be very limited. Indeed, in the context of visual receptors (local residents and road users) only shards of visibility tend to be presented. These will most likely present as glimpses of the tallest structures above and between intervening treetops at distances in excess of 500m. Although more extensive visibility patterns occur between approximately 500 – 1000m to the east and northeast, such visibility remains substantially within the farmland context. There is a small patch of partial visibility shown within the locality of the duck pond in Darndale Park at distances in



excess of 1.2km to the southeast of the site. This represents the only notable visibility beyond the R139 to the south of the site and there is almost no potential visibility from residential estates to the south.

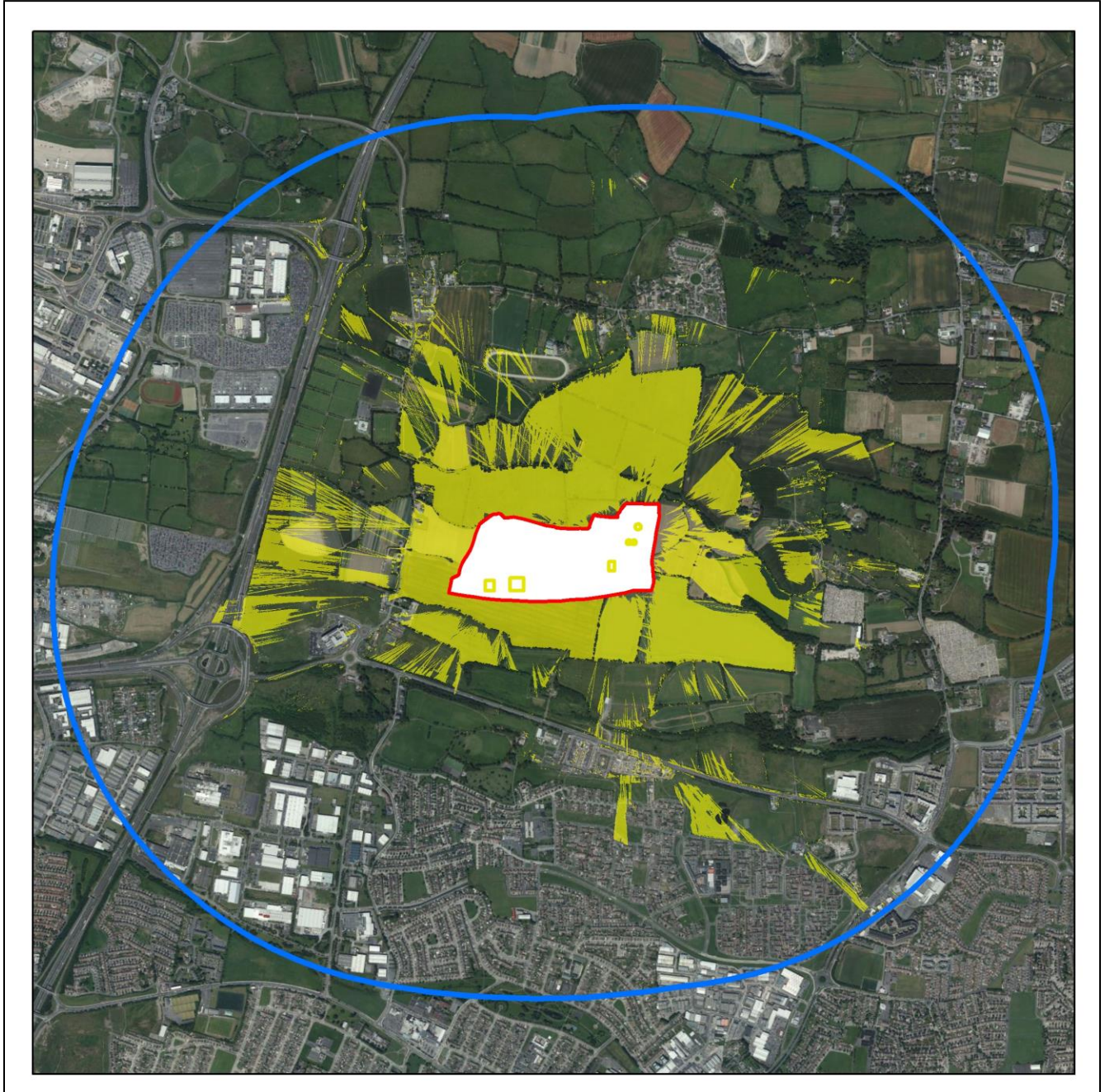


Figure 10.2 – Digital Surface Model (DSM) based visibility map indicating from where in the surrounding landscape any part of the tallest potential structures (15m+) will be visible for ground-based receptors once existing screening is accounted for

625. Figure 10.2, which represents visibility of structures extending to at least 15m tall, now includes the Coarse Screen building (17m) at the western end of the site as well as the Biogas Dome and Anaerobic Digester tanks (all 15m) in the north-eastern corner of the site. This visibility map has a denser visibility pattern, which reflects the greater number of structures in different parts of the site that contribute to visibility. However, the extents of visibility are similar to that for the single 18m structure (Fine Screen Building) with the main increase



in visibility occurring in the rural context within approximately 750m east of the WwTP site. This increased visibility relates to the structures in the northeast corner of the site and not a combination of all 15m+ structures.



Figure 10.3 – Digital Surface Model (DSM) based visibility map indicating from where in the surrounding landscape any part of the structures of 10m+ in height will be visible for ground-based receptors once existing screening is accounted for

626. Figure 10.3, which represents visibility of structures extending to at least 10m tall, now includes around eight of the tallest proposed structures. In this case visibility has become much more consolidated to the farmland context within 750m of the site and a lesser distance to the south. This indicates that where visibility is

afforded from beyond this distance threshold, it will tend to be of only the uppermost portion of structures. Furthermore, proposed mitigation screen planting on perimeter embankments will eventually reach heights of over 12m above internal site levels, thereby considerably reducing the extent of visibility of even the tallest structures and almost eliminating visibility of the vast majority of structures.

627. Based on the visual impact assessment contained within the EIAR supported by photomontages and now reinforced by the results of DSM based visibility mapping, it is considered that even the tallest 18m structures **will not** be ‘easily visible from Caragh Park and Moatview estate’ nor any other residential housing estates to the south, or indeed, in any direction. Furthermore, when visible, the proposed colour scheme for the upper-most sections of the taller structures contained within the WwTP site is a light grey, intended to recede against the light tone of the sky, which will be the backdrop for all ground-based receptors.

### 13.3.2 Portmarnock Community Association

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18

628. The Portmarnock Community Association submission requests that the WwTP site should be landscaped to ensure that untreated sewage will not exit the site and should include mounding around the entire site, screen planting etc.

### Applicant's Response

629. As stated in response to the Thomas Broughan TD submission, there are two approaches to landscape and visual mitigation proposed for the WwTP. Around the eastern, western and northern perimeters of the site woodland planted berms are proposed, which are in line with the Portmarnock Community Association submission. However, the southern boundary of the WwTP scheme is intended to front a planned road through a future Technology Park and the landscape treatment is more urban in order to blend with this likely future context and does not include mounding. It is not considered necessary to fully enclose the site with landscape berms to form a failsafe measure against future spillages as other more visually subtle forms of engineering contingency including backup generators, telemetry systems and backup equipment will be in place to avoid such occurrences. Please refer to Section 22.5.1 of Chapter 22 Risk of Major Accidents and/or Disasters in Volume 3 Part A of the EIAR.

## 13.4 Response to Specific Issues Raised by Prescribed Bodies

### 13.4.1 Fáilte Ireland

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP

630. There are two main landscape and visual related concerns raised in this submission. The first is that *“the Landscape and Visual, Archaeological, Architectural and Cultural Heritage assessments contained in the Environmental Impact Assessment Report (EIAR) show that significant visual impacts will occur in the surrounding areas of Dublin Airport, St. Doolagh's and the immediate demesne, house and gardens located around the proposed WWTP at least in the short to medium term (0 to 10 years)”*.
631. The second concern is the impact of increased traffic on the highly sensitive coastal location, especially on visual amenities of Baldoyle Estuary SAC/SPA and including views of Howth, Irelands Eye and Lambay Island



from two designated scenic routes along the Coast Road and Golf Links Road due to construction traffic accessing and exiting the nearby construction compounds.

### Applicant's Response

632. It is erroneous to suggest that the Landscape and Visual assessment from the EIAR shows that significant visual impacts will occur in the surrounding areas of Dublin Airport or St Doolagh's at any stage of the development or period of mitigation establishment. The CFI submission cites Section 12.4.1(c) in Volume 3 Part A of the EIAR. This relates to the 'Landscape Sensitivity' of the enclave of connected demesne landscapes that line the western side of the R107 Malahide Road (including St Doolagh's), which are subject of a High Sensitivity Landscape (HSL) zoning in the Fingal County Development Plan. The last sentence of the cited text highlights that *"this HSL will be primarily impacted by the proposed WwTP site and the western end of the proposed outfall pipeline route (land-based section)"*. However, this final comment is only intended to indicate which aspects of the Proposed Project are potentially relevant to this receptor. It is by no means a judgement of landscape impact magnitude or the overall significance of landscape impacts in respect of this receptor – both of which are made later in the chapter, along with the visual impact assessment of a viewpoint at St Doolagh's Church (VP10).
633. For clarity, the landscape impact significance judgements that are actually made in respect of the Malahide Road Demesnes HSL are 'Slight' at Construction Phase (see table 12.9) and 'Imperceptible' at Operational Phase (see table 12.11). Viewpoint 'VP10' is from St Doolagh's Church and the visual impact significance at this location will be 'Imperceptible' at all stages of mitigation establishment (including pre-mitigation) as the WwTP will not be visible due to existing intervening screening. Mitigation planting and its establishment over time will only ensure that visual impacts in relation to St Doolagh's remain Imperceptible into the future.
634. Other viewpoints (VP3 – local road at Springhill and VP5 - Springhill House) were also used to assess visual impacts from within the Malahide Road HSL zoning. At VP3 the pre-mitigation visual impact significance will be 'Slight-imperceptible' reducing to 'Imperceptible' once mitigation becomes established. At VP5 pre-mitigation visual impact significance will be 'Moderate-slight' reducing to 'Slight' once mitigation becomes established.
635. In respect of Dublin Airport and its environs, there were also two representative viewpoints selected (VP7 – M1 Motorway airport interchange and VP8 - Glazed skyway between sections of Dublin Airport Terminal 2). At VP7 the visual impact significance will be 'Imperceptible' before and after mitigation establishment due to foreground screening. At VP8, both pre-mitigation and residual visual impact significance will be 'Slight-imperceptible'.
636. The second issue, of construction stage visual impacts around Baldoyle Estuary and in respect of offshore coastal features due to increased traffic and construction compounds, is addressed in Sections 12.4.4 (c) and 12.4.5 (para 3) in Volume 3 Part A of the EIAR where it is concluded that a 'Slight' significance of visual impact will occur during the construction phase. This significance judgement acknowledges the sensitivity of visual receptors in this scenic coastal area, but balances this against the modest scale of construction activities and the temporary / short term duration of such effects. It should be further noted that Construction Compound 9 is placed on the western (inland) side of the Coast Road scenic route where it will not obstruct views across Baldoyle Estuary in the opposite direction. Likewise, Construction Compound 10 is located on the eastern side of the Golf Links Road scenic route where it will not obstruct views across Baldoyle Estuary and easterly seaward views are not afforded from this side of the sand spit. This is not intended to suggest that the construction compounds and associated traffic will not impact on visual amenity, but rather it further



illustrates why construction phase visual impacts are only considered to be of 'Slight' significance in the vicinity of Baldoyle Estuary and the coastline.

## 14. Traffic and Transport

### 14.1 Overview

637. 85 submissions raised the issue of traffic and transport in relation to the Proposed Project.

### 14.2 Response to General Issues Raised

638. The majority of issues raised in submissions relating to traffic and transport fall under common themes. These themes and the corresponding sections of the planning application documents that deal with these issues are presented in this Section.

#### 14.2.1 Traffic Volume

639. The following submissions raised the issue of traffic volume:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_10	Aulden Grange Residents Association	LDG-007619-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_33	Clare Daly TD	LDG-007590-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_42	Darren Maher	LDG-007568-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_49	Deirdre Smyth	LDG-007682-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_60	Elaine Murray	LDG-007664-18
GDD_SUB_61	Elaine Taaffe	LDG-007660-18
GDD_SUB_62	Elizabeth McMahon	LDG-007629-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_69	Fiona Mills	LDG-007637-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_72	Gannon Properties	LDG-007747-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_76	Health Service Executive	LDG-007913-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_83	John Pepper	LDG-007560-18
GDD_SUB_84	John Walsh	LDG-007730-18
GDD_SUB_85	Kathleen O Reilly	LDG-007740-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_87	Laurence & Geraldine Byrne	LDG-007553-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18
GDD_SUB_99	Michael O'Brien	LDG-007593-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_111	Philomena Fitzsimons	LDG-007710-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_125	Sharon Hogan	LDG-007734-18
GDD_SUB_126	Siobhan Hyde	LDG-007555-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_135	Therese Gregg	LDG-007642-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_155	Siobhan Hyde	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicant's Response

640. The assessment of traffic has been undertaken with respect to the requirements of the Traffic and Transportation Assessment Guidelines, National Roads Authority 2014, and in accordance with the assessment requirements of Fingal County Council and Dublin City Council, as detailed in Section 13.2 of Chapter 13 Traffic and Transport in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR).

641. Details relating to existing traffic volumes, Construction and Operational Phases traffic volumes, impacts and associated mitigation measures are detailed in Sections 13.3 to 13.12 in Volume 3 Part A of the EIAR.

642. The issues raised have been addressed in the EIAR as part of the requirements for traffic and transportation assessments.

### 14.2.2 Traffic Management

643. The following submissions raised the issue of traffic management:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_96	Meakstown Community Council	LDG-007712-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_139	Councillor Tom Brabazon	<b>LDG-007583-18</b>
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP

### Applicant's Response

644. The assessment of traffic has been undertaken with respect to the requirements of the Traffic and Transportation Assessment Guidelines, National Roads Authority 2014, and in accordance with the assessment requirements of Fingal County Council and Dublin City Council, as detailed in Section 13.2 in Volume 3 Part A of the EIAR.
645. Details relating to existing traffic volumes, construction and operational traffic volumes, impacts and associated mitigation measures are detailed in Sections 13.3 to 13.12 in Volume 3 Part A of the EIAR.
646. Haul routes proposed as part of the Proposed Project have been agreed with Fingal County Council and Dublin City Council as part of the scoping process undertaken between 2013 and 2016 as detailed in Appendix A13.1 - Scoping Documentation in Volume 3 Part B of the EIAR. Haul route maps are detailed in Appendix A of Appendix 2 Traffic Management Plan of the Outline Construction Environmental Management Plan.
647. The Outline Construction Traffic Management Plan will be further developed by the appointed contractor. This plan will minimise traffic disruption using measures to be agreed with the relevant Local Authority, including measures at sensitive locations such as schools and hospitals and for public events such as sports, parades etc. The requirements of this plan will be to minimise traffic disruption with measures to be agreed with the Local Authority, this will include at sensitive locations such as schools and hospitals and for public events such as sports, parades etc.

## 14.3 Response to Specific Issues Raised in Observers' Submissions

648. There were no specific issues raised in the observer's submissions relating to traffic and transport that were not already addressed in Section 14.2 above.

## 14.4 Response to Specific Issues Raised by Prescribed Bodies

### 14.4.1 Dublin City Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_57	Dublin City Council	Not assigned by ABP

649. The submission by Dublin City Council suggested a number of additional conditions to be included in the planning permission:

- Any alterations to existing public road networks e.g. new left turn to access WwTP need to be agreed to in writing with the Environment and Transportation Department;

- A detailed Construction Management Plan with detailed traffic management should be submitted for written agreement with Dublin City Council;
- Construction and operation related HGV trips will comply with Dublin City Councils HGV Management Strategy and no HGVs will use local roads;
- Where abnormal load units arise an abnormal load, permit will be made to Dublin City Council (and should be restricted to evening or night-time);
- During construction and operation traffic to and from the site should operate to minimise impact on local community;
- Developer must comply with requirements of Code of Practice;
- All costs incurred by Dublin City Council e.g. repairs of public road and services necessary to the development shall be at the expense of the developer; and
- Traffic both during construction and in operation will put a huge strain on the local road network.

#### Applicant's Response

650. Please refer to Paragraph 646 to 647 for the Applicant's Response.

651. The Contractor appointed under this project will be required to liaise with the relevant Local Authorities in the further development of the Traffic Management Plan. This will include the requirements relating to Abnormal Loads and associated permits.

652. The items raised by Dublin City Council have been addressed in Chapter 13 Traffic and Transport in Volume 3 Part A of the EIAR.

#### 14.4.2 Fáilte Ireland

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP

653. Fáilte Ireland's submission contends that increases in traffic on Snugborough and Waterville Roads will result in a limited impact on access to the National Sports Campus which is used by tourists and visitors. The submission also submitted that the impact of construction traffic and increased traffic near the coast area during the Construction Phase will lead to impacts on heritage sites and recreational sites.

#### Applicant's Response

654. The assessment of traffic has been undertaken with respect to the requirements of the Traffic and Transportation Assessment Guidelines, National Roads Authority 2014, and in accordance with the assessment requirements of Fingal County Council and Dublin City Council, as detailed in Section 13.2 in Volume 3 Part A of the EIAR.

655. Details relating to existing traffic volumes, construction and operational traffic volumes, impacts and associated mitigation measures are detailed in Section 13.3 to 13.12 in Volume 3 Part A of the EIAR.



656. The items raised by Fáilte Ireland are deemed to be addressed in Chapter 13 Traffic and Transport in Volume 3 Part A of the EIAR with results detailed in Table 13.14 which presents a temporary increase in degree of saturation of 0.007 on arm A (R483 Snugborough Road North) for the Construction Phase. Snugborough Road is not proposed to be utilised during operation.

## 15. Air Quality, Odour and Climate

### 15.1 Overview

657. 132 submissions raised the issues of air quality and odour. Odour was raised as a concern in 123 submissions and air quality was raised as a concern in 29 submissions. The vast majority of the issues raised related to concern that unwelcome nuisance odours would be released into the community, and some concern was expressed about how the facilities would be monitored when operational.

### 15.2 Response to General Issues Raised

658. The following submissions raised general concerns about the potential for air quality and odour impacts as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_2	Dr Alex McDonnell	LDG-007539-18
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18
GDD_SUB_4	Angela & Michael Callanan	LDG-007626-18
GDD_SUB_5	Ann O Keeffe	LDG-007688-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_8	Anthony Murphy	LDG-007657-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_10	Aulden Grange Residents Association	LDG-007619-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_12	Barbara Shelley	LDG-007667-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_16	Breda Doyle	LDG-007718-18
GDD_SUB_17	Brendan Keegan & Others	LDG-007645-18
GDD_SUB_19	Brian Gibbons	LDG-007703-18
GDD_SUB_20	Councillor Brian McDonagh	LDG-007690-18
GDD_SUB_21	Brian Union & Co.	LDG-007714-18
GDD_SUB_22	Carol Barr	LDG-007674-18
GDD_SUB_23	Carol Kamtoth	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_25	Carolyn Finn	LDG-007643-18
GDD_SUB_27	Celia Herbert	LDG-007684-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_31	Cian O'Callaghan	LDG-007713-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_33	Clare Daly TD	LDG-007590-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_38	Crystal Reid Perry & Others	LDG-007640-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_40	Daniel Shine	LDG-007698-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_42	Darren Maher	LDG-007568-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_46	Councillor Declan Flanagan	LDG-007693-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_50	Denise Mitchell TD & Others	LDG-007624-18
GDD_SUB_51	Derek Clifford	LDG-007567-18
GDD_SUB_53	Dolores Higgins	LDG-007672-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_56	daa	LDG-007762-18
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_59	Eddie Larkin	LDG-007634-18
GDD_SUB_60	Elaine Murray	LDG-007664-18
GDD_SUB_61	Elaine Taaffe	LDG-007660-18
GDD_SUB_62	Elizabeth McMahon	LDG-007629-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_69	Fiona Mills	LDG-007637-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_72	Gannon Properties	LDG-007747-18
GDD_SUB_73	Gary Crawford	LDG-007537-18
GDD_SUB_74	Gavin O'Connor	LDG-007711-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_76	Health Service Executive	LDG-007913-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_79	Jennifer Jones	LDG-007670-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_81	Joe and Elaine Jones	LDG-007382-18
GDD_SUB_82	Councillor John Lyons	LDG-007441-18
GDD_SUB_83	John Pepper	LDG-007560-18
GDD_SUB_84	John Walsh	LDG-007730-18
GDD_SUB_85	Kathleen O'Reilly	LDG-007740-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_87	Laurence & Geraldine Byrne	LDG-007553-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18
GDD_SUB_96	Meakstown Community Council	LDG-007712-18
GDD_SUB_99	Michael O'Brien	LDG-007593-18
GDD_SUB_100	Michelle & David O Connor	LDG-007731-18
GDD_SUB_101	Michael Salmon & Others	LDG-07636-18
GDD_SUB_102	Natalie Donoghue & Others	LDG-007594-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_105	Noel Conway	LDG-007726-18
GDD_SUB_106	Patricia Keogh	LDG-007675-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_109	Peter Daly	LDG-007689-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18
GDD_SUB_120	Samanta Brown	LDG-007686-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_125	Sharon Hogan	LDG-007734-18
GDD_SUB_126	Siobhan Hyde	LDG-007555-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_129	Stephen and Theresa Walsh	LDG-007588-18
GDD_SUB_131	Susan Kavanagh	LDG-007615-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_135	Therese Gregg	LDG-007642-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_142	Winnie McDonnagh	LDG-007627-18
GDD_SUB_143	Woodland Residents Association	LDG-007618-18
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_151	John Cuddy	Not assigned by ABP
GDD_SUB_155	Siobhan Hyde	Not assigned by ABP
GDD_SUB_156	Peter Coyle	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP
GDD_SUB_168	Séan Lyons	Not assigned by ABP
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP
GDD_SUB_170	Siobhan O'Brien	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP
GDD_SUB_173	Health Services Executive	Not assigned by ABP
GDD_SUB_174	Fingal County Council	Not assigned by ABP

659. The following general themes were raised in submissions in relation to air quality and odour:

- Odour impacts to local residents, businesses and tourism;
- Potential for similar issues as experienced at Ringsend;
- Release of gases;
- Potential odour impacts in the event of a malfunction;
- Impact on air quality
- Construction dust;
- Impact on Dublin Airport and aircraft;
- Recreational impact;
- Climate change and rising sea levels.

### Applicant's Response

660. These issues have been addressed in Chapter 14 Air Quality, Odour and Climate in the Environmental Impact Assessment Report (EIAR) in Volume 3 Part A, particularly in Section 14.4 which identified potential impacts, Section 14.5 which identified construction impacts and Section 14.6 which identified operational impacts to ensure that impacts remain well within acceptable thresholds.

661. A thorough and comprehensive odour and air quality impact assessment was carried out by a highly experienced specialist with over 25 years of experience of carrying out odour and air quality impact assessments, odour monitoring, control and management projects. A particular interest and specialisation of the principal odour consultant has been and will continue to be dedication to the pursuit of an exceptionally high standard of performance, generally achieved through attention to detail with the design and Construction Teams, and in the setting of high performance targets. This extensive and wide-ranging experience, together



with a strong commitment to achieving the highest possible performance standards, provides a solid foundation for a robust assessment and lends confidence to the assurances provided in the assessment conclusions. The potential odour and air quality impacts associated with the proposed project are well known and understood and have been fully considered in the extensive studies reported in the EIAR.

662. Modern wastewater infrastructure is designed to minimise the risk of odour emissions. In particular, there have been significant engineering advances in the technology employed at wastewater treatment plants. Modern plants have extensive odour, emissions and noise controls in place and this will be the case with the Greater Dublin Drainage project.
663. The design of the proposed treatment plant and pumping station has incorporated several mitigation measures to minimise the impact of the proposed project. These include the following measures:
- All buildings at the proposed Abbotstown pumping station will be fully enclosed to contain all process activities;
  - All gases at the proposed Abbotstown pumping station will be contained, abstracted and treated in Odour Control Units;
  - Stack height will be optimised for all emission sources to ensure that Air Quality Standards are met;
  - All tanks and structures will be covered at the proposed WwTP and, as such, the ability to contain, abstract and treat gases is optimised;
  - Layout of the site of the proposed WwTP in Clonshagh has been optimised to promote effective dispersion of emissions;
  - All activities in buildings at the proposed WwTP, including sludge intake in the SHC, will be fully enclosed;
  - Odours at the proposed WwTP will be contained at source and will be treated in Odour Control Units; and Two-stage and three-stage Odour Control Units will be used, where necessary.
664. The comprehensive mitigation and management proposals for the proposed Abbotstown pumping station and the proposed WwTP will ensure that there are no significant residual impacts.
665. The performance of the Odour Control Units will be monitored during a comprehensive Process Proving Phase at commissioning and at regular intervals throughout the operation of the facility.
666. Monitors will be installed which monitor key elements of performance for the abatement systems over the full life of the GDD facility.
667. In addition, independent performance checks will be carried out by an ISO17025 accredited testing laboratory at quarterly intervals during the first two years of operation to verify the effectiveness of control measures and ongoing compliance with the required performance targets.

## 15.3 Response to Specific Issues Raised in Observers' Submissions

### 15.3.1 Meakstown Community Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_96	Meakstown Community Council	LDG-007712-18

668. The submission from Meakstown Community Council asks questions about the height of the odour control unit at Dubber and monitoring and control of these systems.

#### Applicant's Response

669. The height of the odour control unit was selected based on site specific considerations as presented in Section 14.6.2 in Volume 3 Part A of the EIAR. Specifically, the optimum height for the system was determined from dispersion modelling and the height selected is optimum for this application. Further increases in height would have no benefit due to the specific characteristics of the odours and the odour sources. There is therefore no concern about the selected height as addressed in the EIAR. As detailed in Section 14.8 in Volume 3 Part A of the EIAR, a comprehensive programme of continuous as well as random independent monitoring will be undertaken to demonstrate and assure the ongoing effective performance of the facility. The assessments reported in the EIAR, and especially in Section 14.6.2 in Volume 3 Part A of the EIAR, took account of the local circumstances and topography and determined the optimum or correct stack height for the odour control unit.

### 15.3.2 Councillor Alison Gilliland

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18

670. Councillor Gilliland notes that the key concern of local communities is the potential for emitting unpleasant and unwelcome odours into the community, and that these concerns apply in particular to residents living within approximately 2km of the facility.

#### Applicant's Response

671. Chapter 14 in Volume 3 Part A of the EIAR presents a comprehensive assessment of the odour emitting potential from the facility and sets out the robust approach adopted for the containment, treatment and control of odours associated with the proposed facility. The performance standards, expressed as the air quality standards that must be achieved are the most stringent available and are applied at the site boundary which means that the highest possible levels of protection, including a margin of safety, have been factored into the design of the facility. The Applicant is confident that the implementation of the very robust mitigation measures proposed for the facility will ensure that the facility does not cause odour nuisance beyond the site boundary. In practice, this means that residents living beyond the site boundary will not experience nuisance odours because the performance standard of no nuisance odour is applied at the site boundary and as distance increases, impacts are further reduced.

### 15.3.3 daa

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_56	daa	LDG-007762-18

672. The daa submission noted the assessment and particularly the dispersion modelling assessment presented in Chapter 14 in Volume 3 Part A of the EIAR. daa requested that the design measures proposed in this for the containment and treatment of odour should be implemented in full.

#### Applicant's Response

673. As the recommendation is proposed to be undertaken, no response is necessary.

#### 15.3.4 Gannon Properties

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_72	Gannon Properties	LDG-007747-18

674. Conroy Crowe Kelly Architects prepared a detailed submission on behalf of Gannon Properties who own an 87 hectare site adjacent to the proposed Clonshagh WwTP which is zoned and has capacity for 3000 dwellings and associated mixed uses. This submission expresses concern about the buffer zone around the proposed WwTP due to concerns that there could be a potentially significant adverse impact on the Belcamp development lands. In particular the submission questions the potential impact of the proposed WwTP on the Belcamp lands, which are located at a distance of 197m from the closest boundary of the proposed WwTP.

#### Applicant's Response

675. Section 14 of the EIAR also clearly states that for assessment purposes all of the assessments are based on the impact at the site boundary and not at the extremities of the buffer distance. Since the EIAR demonstrates that there will be no detectable odour from the odour-producing units and no significant adverse impact at the site boundary, the precise extent of the buffer distance is not relevant to the determination of odour impact., Objective WT11 of the development plans requires the establishment of a *“buffer zone around all wastewater treatment plants suitable to the size and operation of each plant. The buffer zone should not be less than 100m from the odour-producing units.”* This buffer distance is more than sufficient to protect the amenity of the adjoining lands in circumstances where there will be no detectable odour beyond the site boundary. There will be no adverse impact from odour on the development potential of the Gannon Lands which are located at least 197m from the nearest boundary of the proposed WwTP. This reaffirmation that there will be no nuisance odour at or beyond the site boundary as shown in Section 14.6 demonstrates that there will be no significant adverse odour impact on the surrounding lands.

#### 15.3.5 Séan Lyons

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_168	Séan Lyons	Not assigned by ABP

676. Mr Lyons has expressed concern about the adverse impact of odours on the patients and staff at Connolly Hospital as well as on the school, Hospice and the surrounding population, and appears also to incorrectly understand ventilation as consisting of direct ventilation to the atmosphere, when it in fact refers to the ventilation following comprehensive treatment in odour control units. Mr Lyons is also concerned that tankers carrying debris from the tanks will present a risk of foul smells and odours

### Applicant's Response

677. It is important to note that the extracted air will be treated in an odour control system and will not be released directly into the atmosphere. There will be one ventilation shaft from the odour control system which will discharge the treated odorous air at an effective height above the ground for dispersion. The assessment as outlined in Chapter 14 Air Quality Odour and Climate in Volume 3 Part A of the EIAR showed that there will be no adverse odour impact on the surrounding environment, and Connolly Hospital, or the surrounding areas, will not suffer adverse odour impact as a result of the proposals. The design of the odour control system takes account of the volume of sewage and ensures that there is more than sufficient treatment capacity to meet the required performance standards.
678. In relation to Mr Lyons' concerns regarding tankers, they would only be required infrequently, if at all, and would be fully enclosed to contain all odours and gases thereby ensuring that odour nuisance does not occur. The assessment reported in Section 14.6.2 in Volume 3 Part A of the EIAR has demonstrated that there will be no adverse odour impact in the area as a result of the proposed Pumping Station because the treatment of the odours will be to such a high standard that nuisance odours will not occur at or beyond the site boundary.

#### 15.3.6 Peter Daly

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_109	Peter Daly	LDG-007689-18

679. Mr Daly expresses concern that the 300m buffer zone, which it is acknowledged is greater than the 100m specified in the development plan, is insufficient and that odours will not dissipate in 300m thereby exerting an adverse impact.

### Applicant's Response

680. Dissipation of odours across the buffer zone is neither envisaged or required as part of the design of the proposed WwTP. Instead, the odour management principle adopted is effective containment and treatment of any odours generated at the facility to a very high degree so that dissipation is not required to achieve the required performance standard of no detectable odour from the treatment systems at the site boundary. The buffer zone is an added protective measure which provides added assurance to interested parties rather than being a formal requirement to achieve the required standards.
681. Concern was expressed that odour from a coffee roastery and chocolate factory located up to 1.6km away can be detected at the appellant's house. It is noted that these types of facilities are operated and regulated in a manner appropriate for those facilities and in a manner, which is very different from that proposed for the proposed WwTP. The expected performance standards are much more stringent for the proposed WwTP than they are for food facilities and therefore much higher performance standards are expected and are achieved. Section 14.2.3 in Volume 3 Part A of the EIAR explains the stringent performance criteria that have been applied and Section 14.6 in Volume 3 Part A presents the results of the assessments that demonstrate that the required standards will be achieved.

#### 15.3.7 Velvet Strand Sea Swimmers and Beach Users

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

682. This submission refers to the use of chemicals and organic filters to mask odours.

#### Applicant's Response

683. Chapter 14 in Volume 3 Part A of the EIAR sets out the measures that will be employed for treatment and management of odours and there is no mention anywhere in the EIAR of the use of chemicals to mask odours and nowhere is there a statement that organic filters will be used to mask odours.

684. The submission asserts that it was stated at the Fingal County Council full member meeting in September 2018 that chemicals would be used to deal with the odours. There is no such statement included in the report of the Chief Executive Officer to the Council meeting nor is this statement included in the EIAR. It is not correct to state that “chemicals would be used to deal with the odours” and this is not an accurate description of the detailed approach set out in the EIAR. Section 14.8 in Volume 3 Part a of the EIAR summarises the approach and clearly states that Odour Control Units will be used to treat odour and that two-stage and three-stage odour control systems will be used where necessary to give the required treatment efficiency, and examples of the types of systems which could be employed are given in Appendix 14.6 of the EIAR. While chemicals can be used in some odour control systems, these are not the only types of systems that would be used for the proposed WwTP and most of the systems proposed will not use any chemicals.

#### 15.3.8 Therese Doyle

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_134	Therese Doyle	LDG-007754-18

685. A submission was made by Therese Doyle on behalf of various Residents Associations in Clonshagh and surrounding areas. A number of issues relating to air quality and odour concerns were raised.

#### Applicant's Response

686. The submission states that a waste water treatment plant is a major source of aerosols, that bacteria are emitted and carried large distances with the wind. The design of the waste water treatment plant ensures full containment and hence there is no potential for release of aerosols from the proposed facility nor is there potential for large-scale emissions of bacteria. Full containment prevents the release of aerosols and / or bacteria into the atmosphere.

687. Concern is expressed that opening of vents to release gases will lead to large scale significant emissions of odours. Emissions of odours and vented gases will be treated in Odour Control Units which the assessment presented in Chapter 14 in Volume 3 Part A of the EIAR has shown will be highly effective and will ensure, with a significant spare capacity, that nuisance odours are not detectable beyond the site boundary. Even under maximum operating and emission conditions, and considering potential abnormal incidents, the odour after treatment will not exceed the stringent air quality standards applied to the assessment.

### 15.4 Response to Specific Issues Raised by Prescribed Bodies

#### 15.4.1 Health Service Executive (HSE) Environmental Health Department

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_76	Health Service Executive (HSE) Environmental Health Department	LDG-007913-18

688. The Principal Environmental Health Officer of the Health Service Executive (HSE) made a submission dealing with air quality and odour aspects of the Proposed Project. The Environmental Health Service recommends that monitoring should be carried out during and after construction to ensure that air quality standards are achieved, and the Environmental Health Section review concluded that the EIAR had addressed the requirements adequately.

#### Applicant's Response

689. Monitoring will be provided as set out in the EIAR. No further clarifications are required in response to the HSE submission.

#### 15.4.2 Health Service Executive (HSE) Estates Office for Connolly Hospital

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_173	Health Service Executive (HSE) Estates Office for Connolly Hospital	Not assigned by ABP

690. HSE Estates Office made a submission which was prepared by consultants Roughan & O'Donovan acting on their behalf which specifically addressed concerns relating to the sections of the works that impact on Connolly Hospital in Blanchardstown.

#### Applicant's Response

691. The following clarifications are provided in response to the HSE Estates Office submission.

692. The submission states that the EIAR does not make any allowance for the proposed Community Nursing Unit (CNU) on the site of Unit 8 at Connolly Hospital. While the final detailed drawings for the proposed CNU were not available at the time of preparing the EIAR, the available design detail shows that the CNU will be approximately overlaying the existing out-patient unit. The out-patient unit has been considered in the EIAR, and we are satisfied that the potential impact on the CNU has therefore been considered and will be effectively and satisfactorily controlled. This clarification fully addresses the concern raised.

693. The submission specifically recommends that active dust suppression shall be included within the Works Requirements at all construction compounds and this will form part of the Construction Environmental Management Plan. The submission also recommends that aspergillosis protection measures shall be put in place at the CNU if completed during the construction works. As noted in Chapter 14 in Volume 3 Part A of the EIAR, all works will be carried out in accordance with the National Guidelines for the Prevention of Nosocomial Invasive Aspergillosis During Construction/Renovation Activities (Health Protection Surveillance Centre 2018) which deals specifically with construction works occurring within or adjacent to hospitals. Section 14.8 in Volume 3 Part A of the EIAR specifically addresses mitigation measures where active dust suppression measures have been specified.

#### 15.4.3 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

694. A submission from Fingal County Council (FCC) (which includes the Chief Executive's Report and Councillor comments) which included the Chief Executives Report to the County Council Meeting that considered the



Planning Application and submissions made by the Councillors to the meeting was reviewed to consider issues raised in respect of air quality and odour impacts of the Proposed Project. The submission found that the assessments undertaken in the EIAR were robust, that the proposed mitigation and management measures would ensure that air quality standards will be achieved and recommends that the proposed mitigation and control measures should be included in conditions for any permission.

### **Applicant's Response**

695. The following clarifications are provided in response to the Council submission.

696. A number of Councillors raised matters relating to odour impacts at the Council meeting that considered the application. The following clarifications are provided in respect of those submissions.

- Councillors Waine, Ni Laoi, O'Leary, Mahony and Butler expressed concern about the ability to deal with odours partly due to past experiences with plants in Skerries, Ringsend and Co Meath. The proposed plant is very different from other plants largely due to technological advances and the use of state-of-the-art design approaches and we are confident that the proposed works are well capable of meeting the required standards to ensure protection of the community from malodours.
- Councillor Stewart queried the emissions from the Dubber Odour Control Unit which have been comprehensively discussed in Section 14.4.3 and Table 14.10 in Volume 3 Part A of the EIAR. Potential for malfunction was also considered and the assessment showed that there was no meaningful potential for adverse impact on the local community arising from malfunctions.

697. It is considered that the concerns raised have been fully addressed in Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of the EIAR.

## 16. Noise and Vibration

### 16.1 Overview

698. 44 submissions raised the issue of noise and vibration in relation to the Proposed Project.

### 16.2 Response to General Issues Raised

699. The following submissions raised general concerns about the potential for noise and vibration impacts as a result of the Proposed Project:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_5	Ann O Keeffe	LDG-007688-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_32	Ciara McGowan	LDG-007687-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_39	Dalata Hotel Group PLC	LDG-007706-18
GDD_SUB_42	Darren Maher	LDG-007568-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_54	Donna Brazil	LDG-007680-18
GDD_SUB_55	Donna Cooney	LDG-007470-18
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_76	Health Service Executive	LDG-007913-18
GDD_SUB_78	Jane Gribbin & Others	LDG-007644-18
GDD_SUB_82	John Lyons (Cllr)	LDG-007441-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_95	Mary Glacklin	LDG-007724-18
GDD_SUB_96	Meakstown Community Council	LDG-007712-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18
GDD_SUB_103	Niall Reid	LDG-007705-18
GDD_SUB_111	Philomena Fitzsimons	LDG-007710-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_129	Stephen and Theresa Walsh	LDG-007588-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP
GDD_SUB_168	Séan Lyons	Not assigned by ABP
GDD_SUB_169	Fáilte Ireland	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

700. The following general themes were raised in submissions in relation to noise and vibration:

- General noise pollution;
- Construction and Operational noise impacts on local community;
- Health issues as a result of noise impact;
- Monitoring;
- Noise from trucks; and
- Cumulative noise impact with aircraft.

### Applicant's Response

701. These issues have been addressed in Chapter 15 Noise and Vibration in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). The Assessment Team draws on a very extensive experience in carrying out assessments of this type and a very thorough assessment of potential impacts has been carried out and reported in the EIAR.

## 16.3 Response to Specific Issues Raised in Observers' Submissions

702. There were no specific issues raised in the observer's submissions relating to noise and vibration that were not already assessed as part of the GDD SID planning documentation.

## 16.4 Response to Specific Issues Raised by Prescribed Bodies

### 16.4.1 Health Service Executive (Environmental Health Department)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_76	Health Service Executive	LDG-007913-18

703. The Principal Environmental Health Officer of the Health Service Executive (HSE) made a short submission dealing with noise and vibration aspects of the Proposed Project. The submission recommended that regular noise and vibration monitoring be carried out during construction and operational phases particularly at vibration sensitive locations. The HSE also requested that information should be provided in the Construction Management Plan regarding who would undertake the noise and vibration monitoring, what sensitive locations would be monitored along the route, and asked whether monitoring would be carried out at locations of complaints if any were received. The submission also recommended that the mitigation and monitoring measures proposed in the EIAR should be implemented.

#### Applicant's Response

704. The following clarifications are provided in response to the HSE submission.

705. A Programme of Noise & Vibration monitoring, both attended and unattended, will be carried out during the construction phase works. The Noise & Vibration Management Plan (NVMP) will form part of the overall Construction and Environmental Management Plan and will give the details of who will undertake the noise and vibration monitoring and the list of proposed monitoring locations where monitoring will be completed during the construction works. The noise & vibration monitoring will be carried out by a competent person in accordance with the definition provided by the Environmental Protection Agency (EPA) in their Guidance Document NG4 [Environmental Protection Agency (2016). Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)].

706. There will be a dedicated contact appointed by the contractor who will deal with all communications in relation to noise and vibration. All noise & vibration complaints will be fully investigated in a timely manner and appropriate action will be taken, including noise & vibration monitoring, where complaints arise.

707. Operational Phase noise and vibration will be monitored and will meet all licensing condition requirements.

708. It is considered that the questions raised were fully addressed in Chapter 15 Noise and Vibration in Volume 3 Part A of the EIAR.

### 16.4.2 Health Service Executive (Estates Office for Connolly Hospital)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_173	Health Service Executive	Not assigned by ABP

709. The submission from the HSE Estates Office was prepared by consultants Roughan & O'Donovan acting on their behalf and specifically addressed concerns relating to the sections of the works that impact on Connolly Hospital in Blanchardstown. The HSE Estates Office submission agrees with the conclusions drawn Chapter 15 Noise and Vibration in Volume 3 Part A of the EIAR but request that they are transferred into the Works Requirements at the detailed design stage.

## Applicant's Response

710. The following clarifications are provided in response to the HSE Estates Office submission.
711. The recommendations made in Chapter 15 Noise and Vibration in Volume 3 Part A of the EIAR took account of the existing noise climate at Connolly Hospital and the nature, duration and extent of the proposed works during construction and operation phases. The recommendations should be and will be incorporated into the Works Requirements.
712. The HSE Estates Office request that a pre- and post-construction stage condition survey be carried out for all roads and buildings within 50m of the proposed works. It is agreed that such a survey should be completed by the contractor which will serve as a reference guide to both Connolly Hospital and the Contractor.
713. Maximum noise & vibration levels will be agreed with HSE Estates & Connolly Hospital prior to any works commencing. Noise and vibration monitoring will be carried out in situ and locations will be in agreement with Connolly Hospital, but as a minimum at all buildings and/or receptors closer than 50m to the works. Monitoring equipment will be set to follow the green / amber / red traffic light system and will be linked to a real time alert system as addressed in Chapter 15 Noise and Vibration in Volume 3 Part A of the EIAR.
714. The submission states that the EIAR does not make any allowance for the proposed Community Nursing Unit (CNU) on the site of Unit 8 at Connolly Hospital. While the final detailed drawings for the proposed CNU were not available at the time of preparing the EIAR, the available design detail shows that the CNU will be approximately overlaying the existing out-patient unit. The out-patient unit has been considered in the EIAR, and we are satisfied that the potential impact on the CNU has therefore been considered and will be effectively and satisfactorily controlled. Once the final detailed drawings for the CNU are available these will be reviewed and the maximum noise & vibration levels agreed with Connolly Hospital will be met at the CNU for all GDD works.
715. It is considered that the questions raised about the CNU in particular have been addressed in this clarification and that all other questions were addressed in Chapter 15 in Volume 3 Part A of the EIAR.

### 16.4.3 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

716. The submission from Fingal County Council (which includes the Chief Executive's Report and Councillor comments) raised a number of concerns in relation to:
- the duration of the launch shaft construction which was noted to be the most significant element of the works with respect to potential noise impact;
  - the longer-term construction works i.e. tunnelling at Connolly Hospital and night time assessment of impact;
  - the predicted vibration levels at the West Wing of Connolly Hospital; and
  - the general impact of noise and vibration on patients at Connolly Hospital.

## Applicant's Response

### *Duration of Launch Shaft Construction*

717. The launch shaft construction works will be of a very short duration and any impacts will be of a brief to temporary duration. It is anticipated that the launch shaft construction works will be completed at the majority of locations where these works are required in under 3 days. The larger launch shafts will be completed in under two weeks. It is important to note that the maximum noise levels predicted in Chapter 15 Noise and Vibration in Volume 3 Part A of the EIAR associated with the launch shaft construction works will be for a much shorter time as the predicted noise levels account for the worst-case noise which will only occur for a small fraction of the time the launch shaft construction works are occurring. The predicted maximum impacts would only occur for a portion of the works and would decrease as the depth of the shaft increases.

### *Long Term Construction Works and Night Time Assessment*

718. The internal room noise levels generated by the external works can be estimated inside the nearest buildings to the Tunnel Boring Machine (TBM) tunnelling works. The windows at Connolly Hospital will be required to be closed at all times during construction works as part of the Aspergillus control measures which have been discussed in Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of the EIAR. It is important to note that closing the hospital windows is not a noise & vibration mitigation measure but part of the Air Quality mitigation requirements, and this is the recommended standard practice as specified in the National Guidelines for the Prevention of Nosocomial Invasive Aspergillosis During Construction/Renovation Activities (Health Protection Surveillance Centre 2018) which deals specifically with construction works occurring within or adjacent to hospitals. The National Guidelines report notes that the fundamental requirements in respect of eliminating Aspergillus infection from construction works is, first, to minimise the dust generated during construction and, second, to prevent dust infiltration into patient care areas. All construction works on the grounds of and in the immediate vicinity of Connolly Hospital and St. Francis' Hospice will be carried out in accordance with the requirements of the National Guidelines, and one element of the Guidance is closure of the windows to prevent infiltration of dust.

719. The fact that the windows will be closed to prevent pollutants entering the hospital areas will have an added noise attenuation benefit but the closure is not being prescribed as a noise mitigation measure. A closed window will provide a noise reduction value of between 25dB and 40dB depending on the type and quality of window installed. Using the most conservative reduction value of 25dB, the internal noise that will be experienced due to external construction works associated with the TBM is estimated to be 26dB LAeq,1hr. This is well within the Health Technical Memorandum criteria and is also lower than the 45dB(A) threshold for residential accommodation, and the night-time TBM works will not adversely impact on the sensitive receptors at this location. It is therefore concluded that the overall noise and vibration emissions at the Connolly Hospital site will be effectively controlled and the overall noise and vibration impact has been assessed as Not Significant.

720. The questions raised have been addressed specifically in this clarification where it is noted that window closure is for the purpose of controlling dust ingress and not specifically for noise attenuation although such attenuation will also occur due to the closure.

### *Predicted Vibration Levels at the West Wing of Connolly Hospital*

721. It is noted that the British Standard 5228-2 as quoted in Table 15.7 of the EIAR actually notes that while vibration levels above 1mm/sec are likely to cause complaint in residential settings that the levels can be



tolerated if prior warning and explanations are provided. The duration of such exposures is also relevant to the assessment and as noted in the EIAR the duration of the maximum vibration levels at each of these locations is short. Section 15.4.4 in Volume 3 Part A of the EIAR specifically notes that in order to mitigate the impact of vibration on these receptors consideration will be given to carrying out works at the closest points to the hospital wing during day time only thereby ensuring that vibration levels will not exceed 0.8mm/sec outside daytime hours, and the works close to the school will be carried out where possible during school holidays. The duration of impact at all three locations will be short with at most 8 days at the residence on the golf links road, and much shorter time in the other locations, when the vibration level would exceed 1mm/sec.

*The General Impact of Noise and Vibration at Connolly Hospital*

722. It is noted that these concerns were thoroughly addressed in the EIAR and in the clarifications presented above.

## 17. Archaeological, Architectural and Cultural Heritage

### 17.1 Overview

723. Six submissions raised the issue of archaeological, architectural and cultural heritage in relation to the Proposed Project.

### 17.2 Response to General Issues Raised

724. The historical importance of Portmarnock Beach was a general theme raised in relation to archaeological, architectural and cultural heritage in the following submissions:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_38	Crystal Reid Perry & Others	LDG-007640-18

#### Applicant's Response

725. The assessment carried out in relation to archaeological, architectural and cultural heritage concludes that there will be no residual impacts on the archaeological, architectural and cultural heritage resource with the implementation of the mitigation measures proposed in Section 16.6.1 in Volume 3 Part A of the EIAR.

### 17.3 Response to Specific Issues Raised in Observers' Submissions

#### 17.3.1 Belcamp House

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_51	Derek Clifford	LDG-007567-18

726. This submission highlighted that the area has historical significance. In the 17th century the Lord Major of Dublin, Sir Humphrey Jervis, built a house on the property, Belcamp House, where Henry Grattan lived, and Dean Swift open visited. Countess Markievicz rented the property in 1909, and it was also used as a centre for the Fianna Eireann. It is asserted that the building of the proposed plant will completely remove all reference to this historical location.

#### Applicant's Response

727. Belcamp Park (which is misidentified as Belcamp House in the submission from Derek Clifford) is designated as AH 20 within Chapter 16 Archaeological, Architectural and Cultural Heritage in Volume 3 Part A of the EIAR and identified in Appendix A16.1 in Volume 3 Part B of the EIAR. The main house is no longer extant and the site of same is listed as a recorded monument, the classification of which is 'House - 16th/17th century' (RMP Ref.: DU015-061). The site of the house is located c. 670m south of the proposed WwTP. The construction of the scheme will not impact on the site of the house, nor its associated landscape, a large portion of which is covered by modern residential development.

728. The Proposed Project will not impact on the site of Belcamp Park or any of its historical associations.

### 17.3.2 Historical Shipwrecks at Portmarnock Beach

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18

729. This submission asserted that there are 16 historical wrecks documented in the National Archives buried under the sands on Portmarnock Beach and that these should not be disturbed.

#### Applicant's Response

730. All proposed marine works have been subject to underwater archaeological geophysical survey, archaeological dive inspections and an intertidal survey. Shipwreck sites are listed in Table 16.3 of Chapter 16 Archaeological, Architectural and Cultural Heritage in Volume 3 Part A of the EIAR and detailed in Appendix A16.2 in Volume 3 Part B of the EIAR.

731. No recorded or previously unrecorded shipwrecks will be impacted upon by the Proposed Project. However, all works will be subject to archaeological monitoring as laid out within the suite of mitigation measures.

## 17.4 Response to Specific Issues Raised by Prescribed Bodies

### 17.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

732. The submission from Fingal County Council (FCC) noted that the Conservation Officer and Community Archaeologist raised concerns about the location of Compound 1 due to the proximity of a recorded church and graveyard, which is an archaeological monument and protected structure (AH 2/ BH 2). It is requested that the compound be relocated in agreement with Fingal County Council.

#### Applicant's Response

733. The compound will be set back from the recorded church and graveyard, in consultation with FCC, in order to maintain an appropriate buffer during construction.

734. On page 64 (para 1) it is noted that FCC does not agree with the predicted 'neutral' impact at AH 2/ BH 2 (church and graveyard). This is due to the proximity of the proposed compound.

735. As noted above, the proposed compound will be set back from the church and graveyard and this will be agreed with FCC prior to the commencement of construction. These proposals will result in a slight negative (indirect) impact during construction and a neutral impact during operation.

736. There will be no direct, negative impacts upon the recorded church and graveyard site as a result of the proposed development.

**17.4.2 Development Applications Unit (DAU) of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht)**

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_52	Development Applications Unit	LDG-007909-18

737. The submission from the DAU recommended that all archaeological mitigation measures be carried out as per the assessment.

**Applicant's Response**

738. No further clarifications are required in response to the DAU submission.

739. It is evident from its submission that the DAU is satisfied with the mitigation measures identified in Volume 3 Part A of 6; Chapter 16 Archaeological, Architectural and Cultural Heritage in Volume 3 Part A of the EIAR.

## 18. Hydrology and Hydrogeology

### 18.1 Overview

740. 11 submissions raised the issue of hydrology and hydrogeology in relation to the Proposed Project.

### 18.2 Response to General Issues Raised

#### 18.2.1 Possible Contamination of Water Bodies and Flooding Issues

741. The following submissions addressed were concerned with possible contamination of water bodies:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_53	Dolores Higgins	LDG-007672-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_76	Health Service Executive	LDG-007913-18

742. The following submissions were concerned with the general issue of flooding:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

#### Applicant's Response

743. Impacts and mitigation relating to hydrogeology and hydrology for the terrestrial elements of the GDD excluding the Regional Biosolids Storage Facility (RBSF) are addressed in Volume 3 Part A Chapter 17 Hydrology and Hydrogeology in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR).

744. Impacts and mitigation relating to flooding and surface water for the RBSF are addressed in Section 4 Water.in Volume 4 Part A of the EIAR.

745. Impacts and mitigation relating to groundwater for the RBSF are addressed in Section 7 Land and Soils in Volume 4 Part A of the EIAR.

746. Flood Risk Assessments (FRA) have been carried out and were submitted as part of the planning application.

747. Other documents submitted as part of the planning application relevant to Hydrology and Hydrogeology include:

- Greater Dublin Drainage Project - Outline Construction Environmental Management Plan;
- RBSF - Outline Construction Environmental Management Plan; and

- Greater Dublin Drainage -Outline Construction Environmental Management Plan. Appendix 3: Surface Water Management Plan.

748. The planning application documents have addressed the general issues of groundwater body contamination and flooding, and with the implementation of the mitigation measures presented in the above documents there will be no increase in the risk of flooding and no discernible impact on groundwater bodies.

## 18.3 Response to Specific Issues Raised in Observers' Submissions

### 18.3.1 Biosolids Entering Water Supply

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_18	Brendan Regan	LDG-007764-18

749. This submission from Brendan Regan inter alia expresses concern that Biosolids spread through farming can enter the water supply.

#### Applicant's Response

750. The Applicant wishes to clarify that the environmental and human health impacts of landspreading were assessed in the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) carried out for the National Wastewater Sludge Management Plan (NWSMP), which was the subject of two stages of public consultation during 2016 prior to its publication in September 2016.

751. In relation to landspreading, it is explained in Section 19 (specifically section 19.6) in Volume 4 Part A of the EIAR that there are a significant number of important environmental controls on the use of biosolids in agriculture. Contractors used by the Applicant will be obliged to ensure that biosolids are only spread in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 as amended in 2001; the EU (Good Agricultural Practice for the Protection of Waters) Regulations 2017 as amended; and the Code of Good Practice for Use of Biosolids in Agriculture. Nutrient Management Plans (NMPs) must be prepared by the relevant contractor, covering each of the spread lands that are proposed to be used. All contractors collecting the biosolids must be licensed to do so, using authorised vehicles with valid waste collection permits. In preparing the NMP for the receiving spread lands, a comprehensive soil analysis of the entire landholding will be carried out. Soil samples will be submitted for analysis to an accredited laboratory.

### 18.3.2 The Flood Risk Assessment and Surrounding Areas

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_110	Philip Swan	LDG-007681-18

752. The submission from Philip Swan asserted that flooding is an issue in the area already and many could not get house insurance in the past due to living on a flood plain. Flooding stops cars entering Portmarnock from Station Road and Baldoyle Road. The submission also states that the FRA only refers to areas where construction will be carried and does not consider surrounding areas including Baldoyle Bay SPA and SAC.

#### Applicant's Response

753. The planning application addresses the issues raised in the following documents:



- Chapter 17 Hydrology and Hydrogeology (Volume 3 Part A of the EIAR): Section 17.5, 17.6, 17.7.2 and Table 17.7;
- Section 4 Water (Volume 4 Part A of the EIAR): Section 4.5.2.1, 4.5.3.1 and 4.6.1.1;
- Greater Dublin Drainage Flood Risk Assessment Report; and
- Greater Dublin Drainage -Outline Construction Environmental Management Plan. Appendix 3: Surface Water Management Plan.

754. The Applicant wishes to clarify that the EIAR and flood risk assessment was focused on whether the construction of the Proposed Project would result in any perceptible impact on the existing Hydrological Environment. It is acknowledged that there are localised areas that are prone to flooding. The Proposed Project (proposed WwTP, Abbotstown pumping station, RBSF Site and temporary construction compounds 1 -10) are all sited in Fluvial Flood Zone C (above the 1000yr flood level) and consequently will not affect the conveyance channel or flood plain storage during a flood event. SuDS principles will be implemented for the appropriate management of surface water runoff. Attenuation will restrict the runoff to the existing greenfield rate and consequently the Proposed Project will not exacerbate flooding in the surrounding area.

755. Compound 10 (Portmarnock) is located in an area that is subject to coastal flooding. The construction compounds are temporary and will only be used for 12 months. The excavation of the tunnel drive/receptor shaft at the FCC public car park in Portmarnock will be excavated using piling techniques which will hydraulically seal off the shaft from the water bearing sands/gravels. In order to prevent flooding of the receptor shaft the piles will be cut off at the 0.1% AEP level (3.44 mOD). This will prevent flood waters entering the shaft.

756. The storage of Bentonite, solvents fuel and hydrocarbons on the compound 10 site will strictly comply with CIRIA's (2006) Control of water pollution from linear construction projects. Technical Guidance (C648), Outline Construction Environmental Management Plan. Appendix 3: Surface Water Management Plan and all the mitigation measures in Section 17.7.1 and Table 17.7 in Chapter 17 Hydrology and Hydrogeology in Volume 3 Part A of the EIAR. In addition, all Bentonite, solvents fuel and hydrocarbons will be stored above the 0.1% AEP level. Raised areas for storage will be created if required.

757. The construction of the compound within the coastal flood plain will not exacerbate coastal flooding in the vicinity. Coastal flooding is dictated by sea level in extreme events. Removal of coastal flood storage will not increase the flood levels.

758. SuDS principles will be implemented for the appropriate management of surface water runoff. Attenuation will restrict the runoff to the existing greenfield rate and consequently the Proposed Project will not exacerbate flooding in the surrounding area which includes the Baldoyle SAC and SPA. The planning application and EIAR has fully addressed the concerns raised and it is concluded that there will be no significant adverse flooding impacts as a result of the proposed development.

### 18.3.3 Flooding and the Proposed WwTP

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18

759. The submission from Thomas P. Broughan TD submits that the

*“Flood Risk Assessment agrees at Chapter 3.2 that the area 'immediately east of (the WwTP) site is a region which ranges from a moderate to an extreme vulnerability classification'. Chapter 3.3 also agrees that the National Flood Hazard Mapping Website shows that seven locations of historic flooding were recorded in areas close to the WwTP. These sites astonishingly include Stockhole Lane and Balgriffin a few hundred metres north east and directly east of the proposed WwTP. The 26 km of land-based pipeline route of course crosses 3 rivers, the Santry, the Mayne and the Cuckoo. It is little reassuring to local residents that the J.B. Barry and Partners report states that 'the portion of the site within the 100-year fluvial and 200 years tidal will be used for landscaping purposes' and that the WwTP site itself is in Flood Zone C (low risk probability of tidal flooding). The J.B Barry/Jacobs Tobin Flood Risk Assessment concludes that the 'main potential source of flood risk to the proposed WwTP is from fluvial flooding from the Cuckoo stream'. But as the report notes, the Cuckoo is a tributary of the Moyne River which has flooded every few years during the past 3 decades, sometimes westwards as far as Balgriffin and further west. There is thus no basis for the conclusion in Chapter 5.2 that 'there will be indiscernible impacts from the Proposed Project on the existing flood regimes of the area'. Much local hydrology concern is focused also on the installation of the Marine Outfall under Baldoyle Estuary and the Portmarnock peninsula out to the Irish Sea. The construction compounds listed in appendices B and C include a location at Portmarnock Beach Car Park at a significant ecologically fragile site”.*

760. The submission contends that the Mayne River catchment is already prone to flooding and that sites marked for historical flooding incl. Stockhole Lane and Balgriffin are only a few hundred metres north east and directly east of the WwTP site. The submission does not agree with the conclusion that no discernible impacts will result from the Proposed Project on the existing flood regime as the Cuckoo Stream and the Mayne River are hydrological linked.

### Applicant's Response

761. The planning application addresses the issues raised in the following documents:

- Chapter 17 Hydrology and Hydrogeology (Volume 3 Part A of the EIAR): Section 17.5, 17.6, 17.7.2 and Table 17.7;
- Section 4 Water (Volume 4 Part A of the EIAR): Section 4.5.2.1, 4.5.3.1 and 4.6.1.1;
- Greater Dublin Drainage Flood Risk Assessment; and
- Greater Dublin Drainage -Outline Construction Environmental Management Plan. Appendix 3: Surface Water Management Plan.

762. The moderate to extreme vulnerability classification in Chapter 3.2 of the Flood Risk Assessment refers to the vulnerability of the underlying groundwater to potential contamination and not to flooding.

763. The Applicant wishes to clarify that the EIAR and flood risk assessment was focused on whether the construction of the Proposed Project would result in any perceptible impact on the existing Hydrological Environment. It is acknowledged that Stockhole Lane and Balgriffin are only a few hundred metres north east and directly east of the WwTP site and that are prone to flooding and that the Cuckoo Stream and the Mayne River are hydrologically linked. However, development on the WwTP site itself is restricted to Fluvial Flood Zone C (above the 1000-year flood level) and consequently will not affect the conveyance channel or flood plain storage during a flood event. Note that Flood Zone C is where the probability of flooding from

ivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding). Zone C is all parts of the country that lie outside Zones A and B.

764. SuDS principles will be implemented for the appropriate management of surface water runoff. Attenuation will restrict the runoff to the existing greenfield rate and consequently the Proposed Project will not exacerbate flooding in the surrounding area. There will be no discernible impacts from the Proposed Project on the existing flood regimes. The response of the Cuckoo Stream and the Mayne River to specific storm events will be the same in the future as it is now.

765. The planning application and EIAR has fully addressed the concerns raised and it is concluded that there will be no significant adverse flooding impacts as a result of the Proposed Project.

#### 18.3.4 Flooding and the Proposed Construction Compounds

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

766. The submission from Sabrina Joyce Kemper states that the areas where it is proposed to place the construction compounds at the coast will be built are subject to flooding. The flood prediction maps in the event of a 0.1% AEP and 0.5% AEP, the area where the compounds will be, would be subject flooding during a storm surge during high tide. In this event compound 10 which is extensive in size would become flooded.

#### Applicant's Response

767. All compounds and storage areas with the exception of Compound 10 (Portmarnock Beach Car Park) are located in Flood Zone C – probability of flooding is low risk and above the 1000-year flood level. Compound 10 (Portmarnock) is located in an area that is subject to coastal flooding. The construction compounds are temporary and will only be used for 12 months. The excavation of the tunnel drive/receptor shaft at the FCC public car park in Portmarnock will be excavated using piling techniques which will hydraulically seal off the shaft from the water bearing sands/gravels. In order to prevent flooding of the receptor shaft the piles will be cut off above the 0.1% AEP level (3.44 mOD). This will prevent flood waters from an extremely low probability event) entering the shaft.

768. The storage of Bentonite, solvents fuel and hydrocarbons on the compound 10 site will strictly comply with CIRIA's (2006) Control of water pollution from linear construction projects. Technical Guidance (C648), Outline Construction Environmental Management Plan. Appendix 3: Surface Water Management Plan and all the mitigation measures in Section 17.7.1 and Table 17.7 in Volume 3 Part A of the EIAR. In addition, all Bentonite, solvents fuel and hydrocarbons will be stored above the 0.1% AEP level. Raised areas will be created if required.

769. Proposed temporary construction compound no. 10, within the coastal flood plain will not exacerbate coastal flooding in the vicinity. Coastal flooding is dictated by sea level in extreme events. Removal of coastal flood storage will not increase the flood levels. Predicted flood levels will remain the same.

770. The mitigation measures in the Section, 17.6.1 and Table 17.7 of Chapter 17 Hydrology and Hydrogeology in Volume 3 Part A of the EIAR and those presented in Paragraph 769 above will ensure the protection of the water quality in surrounding water bodies.

## 18.4 Response to Specific Issues Raised by Prescribed Bodies

### 18.4.1 Health Service Executive (HSE)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_76	Health Services Executive	LDG-007913-18

771. The submission from the HSE states that the possibility of accidental spillage needs to be considered, particularly of fuel and oil that can enter the groundwater system and that mitigation measures for such spillages should be included in the EIAR.

772. The HSE also submitted a review report by Roughan O'Donovan in which they state that:

- The FRA has not made any allowance for the Abbotstown Stream. 2 confirmed flood events at the location of the Unit 8 centre and proposed construction compound. The compound and access shaft are therefore vulnerable to flooding during the approx. 1-year period of construction. When St. Francis' was constructed this stream was diverted through 2 sharp bends which has constricted it. Previous modelling has shown that the levels of the stream will exceed bank levels at a number of locations resulting in flooding to adjacent lands during the 1 in 1000-year fluvial event;
- A I-D hydraulic model of the Abbotstown Stream previously assessed by ROD indicates that the water levels in the stream will exceed the bank levels at a number of locations resulting in flooding to the adjacent lands during the 1 in 1000-year fluvial event, including a 20% allowance for climate change. Due to the limitations of I-D modelling and the complex nature of the floodplain within the hospital campus. the full extent and depth of flooding in the campus; and
- Prior to any development on this location, a detailed 2-D flood risk assessment should be carried out as noted above or the culvert should be significantly upgraded.

### Applicant's Response

773. Accidental spillages are addressed in the EIAR. The mitigation measures are listed in Table 24.13 in Chapter 24 Mitigation Measures in Volume 3 Part A of the EIAR. An Outline Construction Environmental Management Plan (CEMP) has been submitted with the planning application. Proposals to manage surface water and groundwater are described in Section 4.2 of the Outline CEMP and Appendix 3: Surface Water Management Plan to the Outline CEMP. Site operation will conform strictly to CIRIA's (2006) Control of water pollution from linear construction projects. Technical Guidance (C648).

774. With regard to the flooding concerns identified, the Applicant confirms that trenchless techniques will be employed and that the proposed works will not exacerbate flooding in the vicinity.

775. However, the Applicant would not object to undertaking a 2D flood risk assessment as a planning condition prior to the commencement of construction (as suggested in the submission from the HSE).

### 18.4.2 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

776. The Fingal County Council submission (which includes the Chief Executive's Report and Councillor comments) recommended conditions relating to Hydrology and Hydrogeology and these are listed below:

777. 16) The applicant shall submit the following for the written agreement of the planning authority:

- The Proposed Projects at Abbotstown PSI OCU @ MH07 and the treatment works at Clonshagh shall incorporate SUDS (Sustainable Urban Drainage Systems) in the surface water design. Applicants are referred to the "Greater Dublin Region Code of Practice for Drainage Works. Version 6.0, April 2006", Section 16. Prior to construction, the applicant shall submit details of the proposal, including details of the SUDS devices (soakaways, swales, permeable paving, filter drains, storage ponds, roof gardens, etc.), drainage pipework details, with calculations as appropriate.
- All culverts shall be designed in accordance with "Culvert Design Guide" Report 168 by CIRIA, latest revision or its replacement, and shall also comply with the recommendations of the OPW. Design calculations are to be submitted.
- The Developer shall apply to the OPW to obtain permission under Section 50, Arterial Drainage Act 1945, for culverting of any watercourse.
- The applicant will examine his proposals for the River Mayne crossing headwalls and submit revised details which include safety features.
- No surface water/rainwater shall discharge into the foul sewer system under any circumstances.
- The surface water drainage shall be in compliance with the "Greater Dublin Regional Code of Practice for Drainage Works Version 6.0" FCC April 2006.

### **Applicant's Response**

778. The Applicant would have no objection if the conditions above were imposed.

## 19. Soils and Geology

### 19.1 Overview

779. One submission raised the issue of soils in relation to the Proposed Project.

### 19.2 Response to General Issues Raised

780. There were no generic issues raised in submissions/ observations in relation to soils and geology.

### 19.3 Response to Specific Issues Raised in Observers' Submissions

#### 19.3.1 Mass Movement of Soil

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18

781. Councillor Alison Gilliland's submission raised concern about the potential impacts that mass movement of soil on the site and along the sewer route could cause.

#### Applicant's Response

782. Mass movement has been assessed as part of Chapter 18 Soils and Geology in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR) and mitigation measures have been put in place in relation to movement monitoring and ground settlement control as per Section 18.7.2 of Chapter 18 Soils and Geology.

### 19.4 Response to Specific Issues Raised by Prescribed Bodies

783. There were no specific issues raised in submissions/ observations by prescribed bodies in relation to soils and geology.



## 20. Agronomy

### 20.1 Overview

784. 27 submissions raised the issues of agronomy in relation to all aspects of the Proposed Project, with the exception of the proposed Regional Biosolids Storage Facility (RBSF). (Please note that issues raised relating to agronomy and the RBSF aspect of the Proposed Project are addressed in Section 25 of this Response).

### 20.2 Response to General Issues Raised

#### 20.2.1 Agricultural Land and Compulsory Purchase Order

785. The following 21 submissions addressed the issue of whether the land which has been selected for the proposed Wastewater Treatment Plant (WwTP) is better suited to agriculture:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_13	Barbra and Niall Connolly	LDG-007617-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007465-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP

786. The following six submissions raised concerns about the potential impact on the farmer whose land is proposed to be purchased by CPO for the proposed WwTP site and the potential impact to agricultural land surrounding the Proposed Project, particularly to farms neighbouring the proposed WwTP site at Clonshagh:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_117	Riverside Residents Association	LDG-007481-18
GDD_SUB_118	Riverside Residents Association	LDG-007648-18
GDD_SUB_124	Senator Lorraine Clifford-Lee	LDG-007708-18
GDD_SUB_134	Therese Doyle	LDG-007754-18
GDD_SUB_139	Councillor Tom Brabazon	LDG-007583-18

### **Applicant's Response**

787. The impact of the Proposed Project has been assessed in Chapter 19 Agronomy in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR) This assessment has identified that the construction of the Proposed Project will not result in the removal of any significant lands from agricultural production and that any land take impacts will be reduced by only taking the minimum amount of land required for the Proposed Project. All mitigation measures to reduce the impact of the Proposed Project on agronomy are presented in Section 19.6 of Chapter 19 Agronomy in the EIAR. An assessment of each individual farm and farm specific mitigation measures are included in Appendix A19.1 in Volume 3 Part B of the EIAR.

## **20.3 Response to Specific Issues Raised in Observers' Submissions**

788. There were no specific issues raised in the observer's submissions relating to agronomy that were not already assessed as part of the GDD SID planning documentation.

## **20.4 Response to Specific Issues Raised by Prescribed Bodies**

789. There were no specific issues raised in submissions/ observations by prescribed bodies in relation to agronomy.

## 21. Waste

### 21.1 Overview

790. One submission raised the issue of waste in relation to the Proposed Project.

### 21.2 Response to General Issues Raised

791. There were no generic issues raised in submissions/ observations in relation to waste.

### 21.3 Response to Specific Issues Raised in Observers' Submissions

#### 21.3.1 Excavation of Materials during Tunnelling and Spoil Heaps

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

#### Applicant's Response

792. Peadar Farrell's submission raised concern about the lack of detail on what is proposed for dealing with the materials excavated during tunnelling and queried how leaching from spoil heaps is proposed to be prevented.

793. The excavation of materials during tunnelling has been assessed under Sections 20.4.2, 20.4.3 and the relevant mitigation measures are presented in Section 20.6.1 of Chapter 20 Waste in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR).

794. Site investigations along the pipeline route do not indicate the presence of any contaminated soil. The stored soil will be stockpiled in a manner that will encourage rain water to run off rather than infiltrate the soil. Waste will be stored and managed in accordance with the CIRIA Guidance Document: "Control of Water Pollution from Construction Sites (C532)". Stockpiles greater than 2m in height will be avoided and silt fences of geofabric or similar material will be placed around open or exposed ground and stockpiles. Coverings on the stockpiles may also be incorporated to reduce the potential for infiltration through the stockpile. It will also be in the contractor's interest to reduce the infiltration through the stockpiles of soil as infiltration would lead to additional costs.

### 21.4 Response to Specific Issues Raised by Prescribed Bodies

795. There were no specific issues raised in submissions/ observations by prescribed bodies in relation to waste.

## 22. Material Assets

### 22.1 Overview

796. Three submissions raised the issue of material assets in relation to the Proposed Project.

### 22.2 Response to General Issues Raised

797. There were no generic issues raised in submissions/ observations in relation to material assets.

### 22.3 Response to Specific Issues Raised in Observers' Submissions

#### 22.3.1 Consultation with Iarnród Éireann

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_36	Commission for Railway Regulation	LDG-007419-18

798. The Commission for Railway Regulation's submission suggested that Iarnród Éireann should be consulted to ensure risks associated with railway trespass are not increased in the vicinity during construction and operation. The submission also suggested that the party undertaking construction should ensure future works which can affect the safe operation of railway are undertaken with the consultation of Iarnród Éireann in accordance with RSC Guideline (RSC-G-010-A) In particular this is required for the location where the proposed outfall pipeline shall cross under the Dublin-Belfast line.

#### Applicant's Response

799. During the detailed design phase of the Proposed Project, the Applicant will consult with Iarnród Éireann and any requirements from Iarnród Éireann will be included in the contract documents.

### 22.4 Response to Specific Issues Raised by Prescribed Bodies

#### 22.4.1 Transport Infrastructure Ireland

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_140	Transport Infrastructure Ireland	Not assigned by ABP

800. Transport Infrastructure Ireland's submission raised the issue of motorway crossings and the requirements under Section 53 of the Roads Act 1993. This has been assessed and mitigated for under Section 21.2.6 of Chapter 21 Material Assets in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). Section 21.2.3 in Volume 3 Part A of the EIAR states that existing best practices in design, construction and operation will be employed.

801. This submission also submits that further matters in relation to Metro Link are to be consulted to the National Transport Authority.

#### Applicant's Response

802. This has been noted and will apply to all future consultation.

#### 22.4.2 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

803. The Fingal County Council submission (which includes the Chief Executive's Report and Councillor comments) submitted that no details were provided for the crossing of the Dublin to Southend Fibre Optic Cable.

#### Applicant's Response

804. The methodology proposed for crossing the Fibre Optic cable is detailed and illustrated in Section 8.5 of the Outline Construction Environmental Management Plan which forms part of the planning application documentation submitted as part of the Proposed Project planning application.

## 23. Risk of Major Accidents and/ or Disasters

### 23.1 Overview

805. 78 submissions raised the issue of Risk of Major Accidents and/or Disasters in relation to the Proposed Project.

### 23.2 Response to General Issues Raised

806. The following submissions raised concerns under the common themes of pump/ plant/ system failure and the resultant release of untreated wastewater into the marine environment:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_1	Aileen Murphy	LDG-007565-18
GDD_SUB_2	Dr. Alex McDonnell	LDG-007539-18
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18
GDD_SUB_6	Anne Murphy	LDG-007483-18
GDD_SUB_7	Anthony Doyle	LDG-007668-18
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_11	Barbara Delaney	LDG-007676-18
GDD_SUB_12	Barbara Shelley	LDG-007667-18
GDD_SUB_14	Bernadette Walsh	LDG-007685-18
GDD_SUB_15	Betty Browne & Co.	LDG-007549-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585-18
GDD_SUB_26	Catherine McMahon	LDG-007735-18
GDD_SUB_27	Celia Herbert	LDG-007684-18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_35	Clontarf Residents Association	LDG-007748-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_42	Darren Maher	LDG-007568-18
GDD_SUB_44	Dean (Gene) Sinclair	LDG-007744-18
GDD_SUB_46	Councillor Declan Flanagan	LDG-007693-18
GDD_SUB_47	Deirdre McGovern	LDG-007673-18
GDD_SUB_48	Deirdre Seery	LDG-007737-18
GDD_SUB_54	Donna Brazil	LDG-007680-18



GDD Submission ID	Name	ABP Submission ID
GDD_SUB_57	Dublin City Council	Not assigned by ABP
GDD_SUB_58	Eamonn Hart	LDG-007558-18
GDD_SUB_62	Elizabeth McMahon	LDG-007629-18
GDD_SUB_63	Elizabeth Sherlock	LDG-007547-18
GDD_SUB_64	Emma Kavanagh	LDG-007717-18
GDD_SUB_65	Emma Synnott and Others	LDG-007709-18
GDD_SUB_66	Ercolo & Grace Dettorre	LDG-007589-18
GDD_SUB_68	Finian McGrath TD	LDG-007697-18
GDD_SUB_70	Freddie Snowe	LDG-007729-18
GDD_SUB_75	Gillian Cleary	LDG-007519-18
GDD_SUB_80	Joe White	LDG-007738-18
GDD_SUB_85	Kathleen O'Reilly	LDG-007740-18
GDD_SUB_86	Kayleigh Hone	LDG-07669-18
GDD_SUB_88	Linda Brady	LDG-007655-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_91	Mandy McGuinness	LDG-007587-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_93	Maria Murphy	LDG-007482-18
GDD_SUB_96	Meakstown Community Council	LDG-007712-18
GDD_SUB_98	Michael & Elaine Byrne & Others	LDG-007659-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_108	Peadar Farrell	LDG-007704-18
GDD_SUB_110	Philip Swan	LDG-007681-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_115	Residents of Newtown Court	LDG-007727-18
GDD_SUB_116	Richelle Bailey	LDG-007544-18
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_122	Sarah Kernan	LDG-007679-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_123	Seán Haughey TD	LDG-007484-18
GDD_SUB_127	Stacey Kelly	LDG-007658-18
GDD_SUB_128	Stephanie Moore	LDG-007666-18
GDD_SUB_129	Stephen and Theresa Walsh	LDG-007588-18
GDD_SUB_132	Susan Norton	LDG-007649-18
GDD_SUB_133	Terri Gray & Paul Burke	LDG-007701-18
GDD_SUB_135	Therese Gregg	LDG-007642-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_147	Howth Sea Angling Club	Not assigned by ABP
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP
GDD_SUB_165	Terri Gray & Paul Burke	Not assigned by ABP
GDD_SUB_166	Richard Bruton TD	Not assigned by ABP
GDD_SUB_168	Séan Lyons	Not assigned by ABP
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

### Applicants Response

807. Risk of Major Accidents and/or Disasters was addressed in Chapter 22 in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). Specifically risk of discharge of untreated wastewater during Commissioning and Operational Phase was identified as a potential risk and therefore entered on the Risk Register with a Risk ID of 'F'.

808. Section 22.5 in Volume 3 Part A of the EIAR assessed the likelihood and potential consequence of this risk after implementation of the mitigation measures that have been embedded into the design of the Proposed Project elements as 'unlikely' and 'limited'.

809. A number of mitigation measures have been embedded into the design of the Proposed Project to mitigate against total or partial failure events at the proposed WwTP, including:

- Power supply at the proposed WwTP: the proposed WwTP will have three power supply sources (electricity, natural gas and biogas) and will be capable of running off any single one or off a combination of sources;

- Power supply at proposed Abbotstown pumping station: a standby/backup diesel generator will be provided;
- Planned maintenance: the proposed WwTP will be designed to accommodate a planned maintenance regime whereby individual treatment unit can be taken offline for maintenance without impacting treatment capacity;
- Backup equipment: all pumps will be installed in duty/standby configurations in case of pump failure;
- Telemetry system: a telemetry system will be installed within the control room located in the proposed WwTP. This will allow operators to control the flows passed forward from the proposed Abbotstown pumping station and the existing Ballymun pumping station. As a result, in the event of a problem arising at the proposed WwTP, flows from the two pumping stations can be slowed or stopped for a period of time, with the large storage volumes available in the network mobilised to retain flows; and
- Alarm system: all key items of mechanical plant will incorporate alarms to warn of malfunction/failure.

### 23.3 Response to Specific Issues Raised in Observers' Submissions

810. There were no other specific issues raised in observer's submissions in relation to the Risk of Major Accidents and/ or Disasters.

### 23.4 Response to Specific Issues Raised by Prescribed Bodies

#### 23.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

811. The submission by Fingal County Council (which includes the Chief Executive's Report and Councillor comments) states that there was no mention of storage on site of untreated material in case of breach at the proposed WwTP or Abbotstown pumping station.

#### Applicant Response

812. The majority of flows arriving at the proposed WwTP will be pumped via the proposed Abbotstown pumping station and the existing Ballymun pumping station. In the event of a problem arising at the proposed WwTP, the telemetry system that is proposed to be installed within the control room located in the proposed WwTP will. allow operators to control the flows passed forward from the pumping stations. As a result, in the event of a problem arising at the proposed WwTP, flows from the two pumping stations can be slowed or stopped for a period of time, with the large storage volumes available in the network mobilised to retain flows.

## 24. Cumulative Impacts and Environmental Interactions

### 24.1 Overview

813. Four submissions raised the issue of cumulative impacts in relation to the Proposed Project.

### 24.2 Response to General Issues Raised

814. There were no generic issues raised in submissions/ observations in relation to cumulative impacts.

### 24.3 Response to Specific Issues Raised in Observers' Submissions

#### 24.3.1 Cumulative Impact (Fumes)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_16	Breda Doyle	LDG-007718-18

815. Breda Doyle's submission raised the concern that the impact of a combination of aviation fumes and fumes associated with the Proposed Project had not been assessed.

#### Applicant's Response

816. Throughout the process, the Applicant has consulted with daa and have also met daa on a number of occasions, as addressed in the Public Stakeholder Participation Report which forms part of the planning documentation for the planning application. This concern has not been raised by daa during consultation meetings or in its submission.

817. The Proposed Project has been subjected to rigorous air quality assessment, as presented in Chapter 14 Air Quality, Odour and Climate in Volume 3 Part A of the Environmental Impact Assessment Report (EIAR). This assessment took into account current baseline air quality in the vicinity of the Proposed Project, which includes air quality in the vicinity of Dublin Airport. The Proposed Project will meet its Air Quality Standards (AQs) during its Operational Phase therefore there is no cumulative impact.

#### 24.3.2 Cumulative Impact (Airport Noise Regulation and Dublin City Development Plan)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

818. Sabrina Joyce Kemper's first submission raised the issue that the upcoming Airport Noise Regulation Bill, the increase in the number of outfall pipes releasing surface water into the Mayne and Sluice rivers from current and proposed residential developments and the NIS for Dublin City Development Plan 2016- 2022 (which indicates that this plan will have no impact on Baldoyle Bay SAC) were not considered.

#### Applicant's Response

819. The scope of the cumulative assessment includes Proposed Projects and development plan land allocations (refer to Section 23.1 in Chapter 23 Cumulative Impacts and Environmental Interactions in Volume 3 Part A of the EIAR). In addition, due to the nature of environmental impact assessment, a cut-off date was required to be set for developments and land allocations before the submission of the final EIAR. This cut-off date was

set at 15 March 2018. The Airport Noise Regulation Bill (the Bill) does not fall under the scope of the cumulative impact assessment as it does not entail a specific project or development and was only initiated in November 2018 so therefore was not included in the assessment. However, the Bill, once implemented will work to reduce noise at Dublin Airport further which will not result in any cumulative impact with the Proposed Project.

820. The Proposed Project does not involve the discharge of sewage to any watercourses. As the Proposed Project will discharge to the marine environment, it will not have an impact in relation to surface water outfalls. As a result, there is no potential for a cumulative impact. Any other development which discharges to surface waters will be subject to its own planning process and environmental assessment.
821. The appropriate assessment for the Dublin City Development Plan 2016 – 2022 states that the plan could potentially impact, either directly or indirectly, on Baldoyle Bay SAC. The Dublin City Development Plan 2016 -2022 does not list any specific developments or land allocations that could potentially cause an impact. As a result, there is no specific element of the plan that could have been assessed as part of the cumulative impact assessment.

#### 24.3.3 Cumulative Impact (Dublin Port Masterplan and Doldrum Bay)

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

822. Sabrina Joyce Kemper's second submission raised the issue that the EIAR and NIS fail to consider several in combination projects including the Dublin Port Masterplan 2040 and the Doldrum Bay outfall.
823. The Dublin Port Masterplan 2040 was considered as part of the cumulative impact assessment. As addressed in Chapter 23 Cumulative Impacts and Environmental Interactions in Volume 3 Part A of the EIAR, the scope of the cumulative assessment includes proposed developments and development plan land allocations. The developments were either registered in a planning system (ABP, County Council etc.), future Irish Water developments that the client and Project Team Members were aware of or formed land allocations in a Development Plan. Any development of land allocation whose impact could foreseeably overlap with the Construction Phase or Operational Phase of the Proposed Project were included in the final list of developments. The Dublin Port Masterplan 2040 was assessed, and the aspect brought forward for assessment was 44 hectares of lands near Dublin Airport which have been acquired in order to develop Dublin Inland Port to facilitate the relocation of non-core activities from the port on the basis that these fell under '*land allocations in Development Plans*'.
824. 39 houses are currently connected to the Doldrum Bay outfall by a 1.7km foul sewer network. Currently the wastewater is not treated. In October 2016, the Applicant completed works to replace the wastewater pipeline at Doldrum Bay as part of a short-term solution to address the discharge of wastewater to the beach. This project included the construction of a replacement pipeline on the beach and upgrade works to the distribution chamber.
825. The Applicant is currently working towards compliance with Schedule A.3 of the Ringsend Wastewater Discharge Licence to discontinue a discharge of wastewater to the sea at Doldrum Bay, Howth. The Applicant is currently progressing the detailed design and planning phase and will, subject to no planning, environmental or land acquisition issues, issue tender documents to the market in Q4 2019. Following completion of the tender phase IW expect to appoint a contractor to commence construction in Q2/Q3 2020.

For a project of this scale and complexity, the timeframe for completion is presently early 2021. It is however possible that the timeframe for completion could be late 2021 if there are any delays in statutory approvals.

826. The Doldrum Bay Sewerage Scheme would have 'screened in' in Stage 1 of the cumulative assessment due to its location within the zone of influence of the Proposed Project. However, this would have been 'screened out' at Stage 2 as there is no potential for a temporal overlap due to a commitment by the Applicant to complete this scheme by 2021 under the Urban Wastewater Treatment Directive.

## 24.4 Response to Specific Issues Raised by Prescribed Bodies

### 24.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

827. Fingal County Council's submission (which includes the Chief Executive's Report and Councillor comments) contended that the Dublin Array on the Kish Bank is not noted nor the proposed works in Howth Fishery Harbour.

### Applicant's Response

828. The Dublin Array Project will be located on the Kish and Bray Banks in the Irish Sea. At its most northern point, the offshore wind farm will be located offshore from Dún Laoghaire, approximately 13km from the proposed marine outfall pipeline discharge location. The associated offshore cable route will make landfall near the Shankill area in South County Dublin. The possibility of any cumulative impacts from the Dublin Array Project was ruled out on the basis of its distance from the zone of influence. In addition, there is no set date for construction for the Dublin Array Project.
829. The Howth Fishery Harbour application was granted permission on 10 July 2018 and was therefore not included in the Proposed Project Planning Application which was lodged on 20 June 2018.



## 25. Regional Biosolid Storage Facility (RBSF)

### 25.1 Overview

830. Eight submissions raised specific issues relating to the RBSF aspect of the Proposed Project.

### 25.2 Response to General Issues Raised

1. The following submissions raised general concerns about RBSF:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_96	Meakstown Community Council	LDG-007712-18
GDD_SUB_150	Meakstown Community Council	Not assigned by ABP

831. The second submission from Meakstown Community Council states that Meakstown is already used for another proposed biosolid facility. Kilshane is in close proximity and it is therefore unacceptable for one area to be used for both.

#### Applicant's Response

832. The RBSF which forms an element of this planning application, has also been submitted as an element of the planning application for the Ringsend Wastewater Treatment Plant Upgrade Project (Case Ref: PL29S.301798). It is assumed that the biosolids facility referred to in this submission is that RBSF and therefore, the same RBSF proposed in this planning application.

### 25.3 Response to Specific Issues Raised in Observers' Submissions

#### 25.3.1 Storage and Transport of Biosolids – Odours

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_3	Councillor Alison Gilliland	LDG-007538-18

833. Councillor Alison Gilliland's submission raised concern in relation to odours emitted from the storage and transport of biosolids and associated impacts on the health and wellbeing of the surrounding community.

#### Applicant's Response

834. With respect to concerns regarding odours at the RBSF, the Applicant refers to the environmental impact assessment for the RBSF component of the Proposed Project. The assessment is described in Section 10 Odour in Volume 4 Part A of the Environmental Impact Assessment Report (EIAR).

835. Section 10.4 of Volume 4 Part A of the EIAR describes the operation of the facility. Haulage vehicles bringing biosolids to and from the storage facility will be covered. They will enter and exit the buildings at separate points. Fast closing entry and exit doors for vehicles will be located at each end of each building. Separate doors will be provided for pedestrian access. The vehicles will tip biosolids inside the buildings during operation and a loader will move the biosolids to the nearest storage bay, also inside.

836. An odour control system will be provided to ensure that odour does not give rise to any nuisance beyond the boundary of the RBSF. The system will involve extracting air from within the storage buildings on a continuous basis. Fans located outside, between the storage buildings, will draw air through ducting to an outside odour control unit comprising an organic filter media to remove odour. The treated air will be emitted to the atmosphere through vertical stacks which will extend to a height of approximately 3 m above the roof level of the storage buildings. Each building will be split into two zones, which can be operated independently. This results in a total of four separate stacks. The indicative location of the stacks are shown in Drawing Y17702-PL-022, provided in Volume 5, Part B of the EIAR.

837. Section 10.6 of Volume 4 Part A of the EIAR describes the mitigation for potential odour impacts. The proposed physical measures to ensure adequate odour control are summarised as follows:

- Duty and standby fans for each odour control unit to protect against any individual fan failures or planned maintenance (please refer to planning drawing Y17702-PL-022);
- A variable fan motor will be fitted to allow increased air extraction in the event of an elevated build-up of odour within the building;
- A modern building fabric with no passive louvres or vents into the storage areas to prevent fugitive emissions;
- A traffic light vehicle entry system which prevents the doors being open during material disturbance activities; and
- All worker access points to the storage areas will be fitted with separate self-closing doors with an audible alarm if doors are open.

838. An important part of controlling odour is the odour management regime. This will be a requirement of the Certificate of Registration that must be obtained from Fingal County Council. An Odour Management Plan (OMP) will be prepared in accordance with this requirement and as stated in Section 10.6 of Volume 4 Part A of the EIAR, it will detail best operational practices, identification of all odour sources, specified mitigation measures, good housekeeping principles and guidance on effective operation of the odour control system.

839. As stated in Section 10.5.4 in Volume 4 Part A of the EIAR, with effective implementation of the proposed odour mitigation infrastructure, it is considered unlikely that no significant odour impact (such as to give rise to nuisance) would occur.

### 25.3.2 Impact of Landspreading

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_18	Brendan Regan	LDG-007764-18
GDD_SUB_113	Portmarnock Community Association	LDG-007566-18
GDD_SUB_167	Brendan Regan	Not assigned by ABP

840. These submissions by Brendan Regan questioned the need to store biosolids. The submission stated that biosolids should be incinerated and used for energy as opposed to being stored at the RBSF. It also raised concern about the potential health risks to the surrounding community from the spread of biosolids on

farmland and the potential environmental impacts resulting from toxins in biosolids intended for landspreading.

841. The submission by Portmarnock Community Association raised the issue that land where sewage sludge is spread should be tested to ensure that elements found in sewage do not build up in soils and cause an adverse environmental impact.

### Applicant's Response

842. As explained in the EIAR (Section 2.2.3 in Volume 4 Part A), the National Sludge Waste Management Plan (NWSMP), adopted by Irish Water in 2016, addresses Irish Water's strategy to ensure a nationwide standardised approach for managing wastewater sludge over the next 25 years.
843. The NWSMP states that wastewater sludge is considered to be a valuable product with potential benefits in terms of nutrients, organic and energy content. In particular, wastewater sludge is a source of phosphorus which is a limited diminishing resource essential for all plant growth. When appropriately treated and managed it does not present a risk to the environment or human health and it can be safely recycled to provide a benefit to society and the environment.
844. The NWSMP identifies reuse on land as the preferred outlet in the short to medium term. Research and EU policy supports this option in the light of economic and environmental benefits.
845. Irish Water accepts that a policy based on a single reuse or disposal option is susceptible to policy, regulatory and/or perception changes.
846. The NWSMP sets out that alternative options, including thermal treatments such as incineration, will be investigated on an ongoing basis in order to reduce the current dependence on agricultural reuse and that further research into alternative reuse outlets will be undertaken to assess options, including a financial evaluation and consideration of wider environmental impacts including biodiversity, water, soils, human health and food safety.
847. In response to concerns raised in relation to the environmental and health risks of spreading of biosolids, the Applicant wishes to clarify that the potential impacts of landspreading were assessed in the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) carried out for the National Wastewater Sludge Management Plan (NWSMP), which was the subject of two stages of public consultation during 2016 prior to its publication in September 2016.
848. The human health aspects of the RBSF component of the project are assessed in Section 3 in Volume 4 Part A of the EIAR. In this section it is explained that biosolids is the treated sludge product arising from wastewater treatment processes. The treatment process results in 'biosolids', a biologically stable product with pathogens reduced to the extent that renders it safe for use in agriculture, and containing high levels of plant nutrients, e.g. nitrogen and phosphorus. This treatment of wastewater sludge to produce biosolids happens before the biosolids are transported to a storage facility. Most of the biosolids produced in Ireland (about 98%) is currently reused on agricultural lands, primarily on land used for animal fodder production, as a soil conditioner and as a fertiliser.
849. In relation to landspreading, it is explained in Section 19.6 in Volume 4 Part A, of the EIAR that there are a significant number of important environmental controls on the use of biosolids in agriculture. Contractors used by the Applicant will be obliged to ensure that biosolids are only spread in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 as amended in 2001; the EU (Good

Agricultural Practice for the Protection of Waters) Regulations 2017 as amended; and the Code of Good Practise for Use of Biosolids in Agriculture. Nutrient Management Plans (NMPs) must be prepared by the relevant contractor, covering each of the spread lands that are proposed to be used. All contractors collecting the biosolids must be licensed to do so, using authorised vehicles with valid waste collection permits. In preparing the NMP for the receiving spread lands, a comprehensive soil analysis of the entire landholding will be carried out. Soil samples will be submitted for analysis to an accredited laboratory.

850. Additionally, this submission raised concerns about odour control discharge flues not being shown on drawings at public consultation. The Applicant notes the observation that odour control discharge flues were not shown on drawings at public consultation. In response, the Applicant wishes to clarify that during the three-stage non-statutory public consultation process for the RBSF, the most recent information from the evolving preliminary design of the RBSF was presented in the published reports, drawings, and graphics including posters and video provided at public open days.

851. The rationale for the preliminary design of the RBSF is presented in the RBSF Engineering Design Report and drawings, submitted with the planning application. In terms of odour control, the first step in the design to address potential nuisance odour is the provision of buildings large enough for vehicles to load and unload internally while the external doors are closed. A mechanical system is also incorporated into the building design which will extract air at the rate of 2 changes per hour from within the storage buildings on a continuous basis. Fans located outside, between the storage buildings, will draw air through ducting to outside odour control units containing a proprietary organic filter media. The treated air will be emitted to the atmosphere through vertical stacks which will extend to a height of approximately 3m above the roof level of the storage buildings. Accordingly, there will be a total of four separate odour control units each with its own stack. The location of the stacks is shown in Drawing Y17702-PL-004 and outline details of the odour control units as shown in Drawing Y17702-PL-022. Further measures for the management of odour is presented in Section 25.3.1 of this Report. The objective of the management system will be to reduce odour to an imperceptible level at the RBSF site.

## 25.4 Response to Specific Issues Raised by Prescribed Bodies

### 25.4.1 Transport Infrastructure Ireland

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_140	Transport Infrastructure Ireland	Not assigned by ABP

852. Transport Infrastructure Ireland's submission acknowledged that the RBSF is included in a concurrent SID application alongside a revised upgrade of Ringsend WWTP.

### Applicant's Response

853. This has been noted by the Applicant and no further response is considered necessary.

### 25.4.2 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal County Council	Not assigned by ABP

854. The submission by Fingal County Council (which includes the Chief Executive's Report and Councillor comments) includes 15 conditions relating to the RBSF. The Applicant has considered the proposed

conditions and comment/clarification has been provided in this Response where the Applicant considers it necessary.

### **Applicant's Response**

855. In response to Condition 5, the Applicant confirms that it is committed to liaising with the adjoining landowner regarding the transition of the public footpath but suggests that the alignment of the public footpath and verge should be agreed between the Applicant and the Planning Authority as is recommended in Condition 4 (iii).

856. In response to Condition 7, the Applicant accepts the principle of the condition and suggests that, if permission is granted for the Proposed Project, the final sum for the special contribution be agreed between the Applicant and FCC, and that the standard wording be also provided whereby in default of agreement the matter can be referred to ABP.

857. The Applicant considers that the other 13 conditions are reasonable.

## 26. Natura Impact Statement (NIS)

### 26.1 Overview

858. Five submissions raised issues about the NIS.

### 26.2 Response to General Issues Raised

859. There were no generic issues raised in submissions/ observations in relation to the NIS.

### 26.3 Response to Specific Issues Raised in Observers' Submissions

#### 26.3.1 Impact of Dredging on Wildlife Including Porpoise

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

860. This submission refers to the Figure 5.4 on page 62 of the NIS which shows the maximum suspended solids plume concentration arising from dredging over the duration of the dredging works. The submission states that the plume flow direction is incorrect

#### Applicant's Response

861. This plume shown in Figure 5.4 in Volume 5 Part A of the Environmental Impact Assessment Report (EIAR) is based on water quality monitoring undertaken by Marcon Computations International. The plume is based on controlled discharges during a flooding tide, which will support a northerly flow only. There will be no discharge on the ebbing tide. Therefore, the plume flow direction shown on Figure 5.4 is correct.

#### 26.3.2 Impact of Dredging on Natura Sites

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_108	Peadar Farrell	LDG-007704-18

862. This submission refers to the impact of sediment plumes from dredging on European Sites.

#### Applicant's Response

863. Section 6.2 of the NIS considers the potential for impact on European Sites arising from suspended sediment from Dredging or Piling. Specific mitigation measures to prevent impacts arising from the increase in suspended sediments on Rockabill to Dalkey Island SAC are presented in Section 7 of the NIS.

864. A detailed assessment of the littoral and sublittoral reefs recorded within the SAC highlighted the current conditions of these features and that they display a diverse biodiversity despite significant natural variability in suspended sediments throughout the year. Following a tidal restricted discharge, the modelled impact of the dredging spoil has shown that the plume will not impact these reefs. Further monitoring will also be employed to ensure that this remains the case during the construction works.

865. The assessment contained in the NIS concludes that the conservation objectives of the Qualifying Interests and Special Conservation Interests of the 18 SACs and SPAs considered shall not be compromised, the



favourable conservation condition of the features shall not be compromised, and there is no adverse effect on the integrity of any of the sites.

### 26.3.3 Impact of Bentonite Leak

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

866. This submission states that a bentonite leak has the potential to impact on estuarine habitats.

#### Applicant's Response

867. The control and management of air pressures during the microtunnelling processes will be undertaken to prevent air and bentonite breakouts. This requires that all bentonite usage is monitored through materials balance calculations and pressure monitoring. These controls minimise the risk of bentonite leakage and, if a leak occurs, these controls will ensure that only a limited quantity of bentonite would be released.

868. Section 6.2.1 of the NIS addresses the potential for a bentonite breakout as part of the micro-tunnelling operations beneath the Baldoyle SAC. The risk of this cannot be negated completely and therefore has been addressed in relation to possible impacts to the site in this unlikely event. Mitigation by managing the use of bentonite during the operations is proposed so as to remove the possibility and/or reduce the amount of material that may escape to the surface in the event of an incident.

869. The NIS describes the different habitats and dominant marine species that could be affected by an accidental release of bentonite. All of these impacts would be short term and would cover a very limited area, with the risk-profile changing relative to the position of the release on the foreshore. Mitigation procedures including a measured clean-up for an incident high up on the shoreline where natural dispersion is unlikely, was also assessed.

870. The assessment contained in the NIS concludes that as the nature and scale of possible contamination to the site from a bentonite release to the surface is deemed to be rare, minor and very short lived. It is concluded that the resilience of the receiving habitat is such that that this occurrence would result in no more than a de minimis effect on the Qualifying Interests of Baldoyle Bay SAC and would have no effect on their conservation objective targets and would not adversely affect the integrity of the SAC.

### 26.3.4 In-Combination Effects

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

871. Sabrina Joyce Kemper's first submission raised the issue that the upcoming Airport Noise Regulation Bill, the increase in the number of outfall pipes releasing surface water into the Mayne and Sluice rivers from current and proposed residential developments and the NIS for Dublin City Development Plan 2016- 2022 were not considered in the cumulative assessment.

#### Applicant's Response

872. Please refer to Section 24.3.3 of this Response for the Applicant's response.

### 26.3.5 Article 6(4) and Alternatives

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_171	Sabrina Joyce Kemper	Not assigned by ABP

873. This submission asserts that consent cannot be granted under Article 6(4) as there are other alternative solutions available.

#### Applicant's Response

874. This application has been accompanied by an NIS which has conducted an assessment for the purpose of Article 6(3) and has concluded as follows:

*"It is therefore concluded, beyond reasonable scientific doubt, that the Proposed Project with the implementation of the prescribed mitigation measures will not give rise to significant impacts, either individually or in combination with other plans and projects, in a manner which adversely affects the integrity of any designated site within the Natura 2000 network".*

875. In those circumstances, Article 6(4) has no application.

### 26.3.6 Proposed Project will Impact on Baldoyle Bay SAC, Ireland's Eye SAC, Rockabill to Dalkey Island SAC

876. The following submission asserts that the project will impact on Baldoyle Bay SAC, Ireland's Eye SAC and Rockabill to Dalkey Island SAC.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

#### Applicant's Response

877. Chapter 4 of the NIS establishes whether or not the proposed Project is likely to have significant effects on European sites in view of their conservation objectives, and Chapter 6 of the NIS contains an assessment of the implications of the proposed Project on European sites. This assessment takes the implications of the proposed Project on Baldoyle Bay SAC, Ireland's Eye SAC and Rockabill to Dalkey Island SAC fully into account. Chapter 7 of the NIS prescribes the necessary measures to avoid adverse effects upon European sites.

878. The assessment contained in the NIS concludes that the conservation objectives of the Qualifying Interests and Special Conservation Interests of these shall not be compromised, the favourable conservation condition of the features shall not be compromised, and there is no adverse effect on the integrity of any of the sites.

### 26.3.7 Disturbance to Bird Species (Tunnelling and Proposed Temporary Construction Compounds, Presence of Machinery e.g. Cranes, Lighting of Compounds)

879. The following submission asserts that the Proposed Project will impact on bird species in Baldoyle Bay:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

## Applicant's Response

880. Please see response to Section 10.3.1 which addresses the issues raised by this submission.

### 26.3.8 Eutrophication Impacts on the Estuarine System

881. The following submission asserts that the impact of the discharge during operation is not examined for Baldoye Bay SAC and that it will result in impacts on the saltmarsh.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18

882. As presented in Chapter 9 a numerical model of the expected dilution was produced to predict the near-field dilution characteristics of a proposed outfall discharging to the receiving waters. Simulations over the full tidal cycle for both neap and spring tidal scenarios, indicating consistently high dilution rates and a dominant migration of the discharge out to sea. Therefore, the impact to inshore waters at Baldoye SAC are predicted to be imperceptible and Negligible.

883. The EIAR and the model demonstrated that the dispersion of the operational outfall does not impact on the water quality directly within the Baldoye Bay estuary. No eutrophication will occur within the estuary and therefore there will be no impact on the saltmarsh.

884. Operational discharge arising from the proposed development will not adversely affect the integrity of Baldoye Bay SAC.

### 26.3.9 Impact of Malfunction on European Sites

885. The following submissions assert that a malfunction during operation of the proposed WwTP will impact on European Sites.

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_119	Sabrina Joyce Kemper	LDG-007622-18
GDD_SUB_149	Michelle Burnett/ Conor O'Malley	Not assigned by ABP

886. Please refer to Section 23 of this Response for details regarding risk of malfunction.

887. Please also refer to the Applicant's response under Section 10.3.2 of this Response.

888. Should there be a malfunction that results in a release of untreated discharge, there will be no significant impact on the Rockabill to Dalkey Island SAC for the following reasons:

889. Discharge modelling shows that the resulting suspended sediment plume discharged from the proposed marine diffuser will disperse away from the site following a trajectory north and east of the Ireland's Eye coastline. This will therefore not impact on the sublittoral reef area recorded on the northern and eastern parts of this island within the Rockabill to Dalkey Island SAC".

890. The conservation objectives for the harbour porpoise relate to the prevention of permanent access to suitable habitat or activities that introduce man-made energy (i.e. noise, light etc.) that could result in a significant negative impact or operations that may result in the deterioration of key resources (e.g. water quality, feeding,

etc.). The harbour porpoise often inhabits turbid environments and evidence that turbidity affects these species directly is not evident in the literature. Should a sediment plume arise from a discharge related to a malfunction, then it may present habitat disturbance to local cetacean foraging in the area. If a discharge were to occur by reason of a malfunction, it would be limited due to the controls in place mitigate the impact of such an occurrence. As the harbour porpoise covers a very large foraging range, there would not be a significant deterioration of their resources, due to the limited extent of a plume arising from any unlikely malfunction. Therefore, no significant impact on harbour porpoises is expected from a malfunction.

891. Discharge arising from a malfunction associated with the proposed Project will therefore not adversely affect the integrity of Rockabill to Dalkey Island SAC.

## 26.4 Response to Specific Issues Raised by Prescribed Bodies

### 26.4.1 Fingal County Council

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_174	Fingal City Council	Not assigned by ABP

### Appropriate Assessment -Screening Out of Ireland's Eye SAC

892. This submission (which includes the Chief Executive's report and Councillor comments) requested clarification on the reasons for screening out Ireland's Eye SAC.

### Applicant's Response

893. Section 4.3 of the NIS lists the European Sites with the Study Area of the Proposed Project. Table 4-2 lists the European Sites potentially affected by the Proposed Project and summarises the potential pathways for Likely Significant Effects (LSE). Ireland's Eye SAC is listed in this table and under the heading 'Potential for Likely Significant Effects' the following was stated:

- Designated for coastal and not marine habitats; and
- There is no hydrological link and no open pathway of effect, thus there is no real possibility of LSEs.

894. Therefore, it was not considered further in the screening assessment as there was no possibility of LSEs.

895. The qualifying interests for Ireland's Eye SAC relate to vegetative sea cliffs. As the island is fundamentally based on a bedrock outcrop, the aquifer that supports surface soils will be isolated from the marine section of the works by this underlying formation. No construction operations are proposed for the island and therefore there is no potential pathway for LSE.

### In-Combination Effects

896. Fingal County Council's submission raised the issue that the following projects were not considered in the in-combination assessment of the NIS:

- The Alexandra Basin Redevelopment Project;
- The Dublin Array on the Kish Bank; and

- The proposed Howth Harbour Extension.

### **Applicant's Response**

897. Section 6.6 of the NIS considered a range of projects in terms of their potential to have in-combination effects with the Proposed Project. Those projects are also identified in Chapter 23 Cumulative Impacts and Environmental Interactions in Volume 3 Part A of the EIAR.
898. The Alexandra Basin Redevelopment Project was not considered to have potential for in-combination effects because the Proposed Project is not due to commence until 2021 at the earliest and the EPA permit only allows for dumping to occur up to March 2021 for the Alexandra Basin Redevelopment Project (see Table 23.2 in Chapter 23 in Volume 3 Part A of the EIAR).
899. The Dublin Array Project will be located on the Kish and Bray Banks in the Irish Sea. At its most northern point, the offshore wind farm will be located offshore from Dún Laoghaire, approximately 13km from the proposed marine outfall pipeline discharge location. The associated offshore cable route will make landfall near the Shankill area in South County Dublin. The Dublin Array Project was not included in the in-combination assessment due to its distance from the Zone of Influence. In addition, there is no set date for construction for the Dublin Array Project.
900. The Howth Harbour Development Project is discussed in Section 24.

### **Proposed Mitigation Measures**

901. The submission requested that all mitigation measures referenced in the NIS but included in other reports be also included in the NIS as a single document.

### **Applicant's Response**

902. The mitigation measures required to ensure that the Proposed Project does not impact on the integrity of European Sites are presented in Section 7 of the NIS. The NIS also refers to mitigation measures in the Construction Environmental Management Plan and the Surface Water Management Plan, both of which are included as Appendices to the EIAR. Due to sheer size of these documents, they were not included as Appendices to the NIS, however they are clearly referenced in the NIS.
903. Section 4.2 and Appendix 3 of the Outline CEMP list the mitigation most relevant to the NIS.

### **National Parks and Wildlife Service Guidance**

904. The submission requested that the Applicant confirm that NPWS Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (January 2014) will be adhered to as it is not clearly stated with the NIS.

### **Applicant's Response**

905. Reference to this document is included in Section 7 of the NIS (see pages 121 and 122 of the NIS).
906. The applicant confirms that operational procedures and mitigation measures will be undertaken in accordance with the "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters" (NPWS 2014).

## Statutory Consultation Feedback

907. The submission referred the competent authority to consider if concerns and issues raised by NPWS, BWI, IFI and IWDG during consultation on the Proposed Project address the issues relevant to Appropriate Assessment.

## Applicant's Response

908. The following Table provides a response to this issue as it presents the issues raised by these bodies and where it has been addressed in the NIS.

**Table 6: Responses to Consultation Feedback**

Consultee	AA related issues raised (see Appendices A2.1 and A2.2 for all issues raised)	Relevant Section of NIS, where issues are addressed
BirdWatch Ireland	<ul style="list-style-type: none"> <li>Concerns regarding activities in the vicinity of Baldoyle Bay SPA(004016).</li> <li>Concerns regarding the proximity of the outfall pipe to Ireland's Eye SPA(004117).</li> <li>Issues with disturbance relating to breeding seabirds and wintering waterbirds.</li> <li>Location of the WwTP site boundary proposed at 50m from Cuckoo stream, Tributary of the Mayne river – struggling with ecological status).</li> </ul>	<p>Section 6 <i>Assessment of Implications for European Sites in the NIS</i> examines the following impact pathways as identified in the screening assessment (see Section 4 of NIS):</p> <ul style="list-style-type: none"> <li>Water quality and habitat deterioration;</li> <li>Airborne noise and visual disturbance;</li> <li>Underwater noise and disturbance; and</li> <li>Habitat Loss.</li> </ul> <p>This includes an assessment of Baldoyle Bay SPA, Ireland's Eye SPA and other SPAs within the vicinity.</p> <p>The location of the WwTP and the Cuckoo stream were considered in the context of the AA screening (see Section 4.1 and 4.2.1 <i>Water Catchments Traversed by the proposed Project</i> of the NIS).</p>
NPWS	<ul style="list-style-type: none"> <li>Mitigation measures for proposed drilling under Baldoyle Bay SAC to include avoidance of the wintering bird season, if construction is likely to disturb wintering birds.</li> <li>Mitigate against changes to hydrology of dune habitats.</li> <li>The impact of the development on the flora, fauna and habitats present should be assessed. In particular, the impact of the proposed development should be assessed, where applicable, with regard to legislation relating to habitats and species.</li> <li>Project should be subject to Appropriate Assessment (AA) Screening and, where</li> </ul>	<p>Section 6 <i>Assessment of Implications for European Sites in the NIS</i> examines the following impact pathways as identified in the screening assessment (see Section 4 of NIS):</p> <ul style="list-style-type: none"> <li>Water quality and habitat deterioration;</li> <li>Airborne noise and visual disturbance;</li> <li>Underwater noise and disturbance; and</li> <li>Habitat Loss.</li> </ul> <p>Changes to hydrology on dune habitats were not addressed in the NIS because no impact pathway exists between the dune system and the tunnelling. (see also Chapter 17 Hydrology and Hydrogeology of the EIAR).</p> <p>Section 6.5 provides an assessment of in combination effects.</p>



Consultee	AA related issues raised (see Appendices A2.1 and A2.2 for all issues raised)	Relevant Section of NIS, where issues are addressed
	<p>necessary, AA as per Article 6.3 of the Habitats Directive.</p> <ul style="list-style-type: none"> <li>Consultation with the relevant Local Authorities is recommended to determine if there are any projects or plans which alone or in combination could impact on any Natura 2000 sites.</li> </ul>	
IWDG	<ul style="list-style-type: none"> <li>Scoping document makes no provision to assess the use of the marine area influenced by the Proposed Project by harbour porpoise.</li> <li>Concerns raised over the proposed marine outfall location as the area is frequently used by harbour porpoise and is adjacent to the cSAC designated for harbour porpoise (Rockabill to Dalkey Island cSAC)</li> <li>Recommend static acoustic monitoring using CPODS be carried out for a minimum of 12 months or 24 months as per best practice.</li> </ul>	<p>Section 6 <i>Assessment of Implications for European Sites</i> in the NIS examines the following impact pathways as identified in the screening assessment (see Section 4 of NIS):</p> <ul style="list-style-type: none"> <li>Water quality and habitat deterioration;</li> <li>Airborne noise and visual disturbance;</li> <li>Underwater noise and disturbance; and</li> <li>Habitat Loss.</li> </ul> <p>This includes an assessment of harbour porpoises as a qualifying interest of Annex II species found in Rockabill to Dalkey Island SAC.</p> <p>Section 5.1.6 provides details of the passive acoustic monitoring recorders deployed at three mooring sites along the proposed outfall pipeline between March 2015 and March 2017. The recovered data was interpreted by the IWDG. IWDG further supported the project by providing regular observations from both sea and land-based surveys for cetaceans over the same survey period.</p>
IFI	Not assigned by ABP	<p>The issues raised by IFI relate to the EIS/EIAR only. Such issues included baseline assessment, modelling requirements. It should be noted that the specialist studies such as water quality modelling completed for the EIAR were also used to inform the NIS and the mitigation presented in the NIS.</p>

## 27. Additional Topics

### 27.1 Microplastics

909. The following submission raised concerns about the release of microplastics into the marine environment as Wastewater Treatment Plants (WwTPs) are not capable of screening for these:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_112	Portmarnock Beach Committee	LDG-007662-18

#### Applicant's Response

910. The Irish Government invited Public Consultation on the 'General Scheme of the Prohibition of Certain Products Containing Plastic Microbeads Bill 2018' in November 2018. In their submission to the invitation for public consultation the Applicant welcomed the proposals to prohibit the manufacture, import, export, supply, sale or exposure for sale of certain products that contain plastic microbeads and to provide for the safe disposal of waste products containing plastic microbeads.

911. Irish Water is supportive of the approach to address the microbeads issue at source rather than by way of end of pipe treatment as it is neither practically nor economically feasible to remove plastic microbeads during water or waste water treatment.

912. This is consistent with the approach now proposed by the EU Commission in their proposals for updating the Drinking Water Directive requiring Member States to take measures to ensure that polluters take preventative measures to reduce or avoid the level of treatment required and to safeguard water quality. This principle is equally applicable to waste water discharges and is already implemented in the commercial/industrial sector through trade effluent discharge licensing.

### 27.2 Cost Benefit Analysis

913. A number of submissions raised issues which do not fall under the Environmental Impact Assessment Report chapter structure as follows:

914. The following submissions raised the issue that a cost benefit analysis (CBA) was not carried out for the site selection process:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_23	Carol Kamto	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585 - 18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_136	Thomas P. Broughan TD	LDG-007037-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP
GDD_SUB_172	Velvet Strand Sea Swimmers and Beach Users	Not assigned by ABP

## Applicant's Response

915. A CBA was not undertaken during the site selection process as the need for the Proposed Project had been established by the Greater Dublin Strategic Drainage Study and its Strategic Environmental Assessment and the benefit to the Greater Dublin Area from constructing a new wastewater treatment plant in North County Dublin was similar for all the shortlisted sites. Instead preliminary cost estimates were prepared for each of the three emerging preferred site options (i.e. the WwTP site, its associated orbital sewers and outfall pipeline). These cost estimates were summarised in Table 8.16 of the GDD - Alternative Sites Assessment and Route Selection Report (Phase 4): - Final Preferred Site and Routes (June 2016) with full details provided in Appendix 10 of that report. The preliminary cost estimates indicated that the Clonshagh site option was €80 million less than the other two site options considered.

## 27.3 Design, Build and Operate

916. The following submissions raised the issue that the design, build and operate (DBO) contract for the proposed WwTP is a flawed model:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_9	Ashling & Others	LDG-007586-18
GDD_SUB_23	Carol Kamtoh	LDG-007743-18
GDD_SUB_24	Caroline Purdy	LDG-007585 - 18
GDD_SUB_30	Chris Byrne	LDG-007591-18
GDD_SUB_34	Clare Hall Residents Association	LDG-007554-18
GDD_SUB_37	Coolock Residents Association	LDG-007464-18
GDD_SUB_41	Darragh O'Brien TD	LDG-007552-18

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_89	Louise Foley-Cusack	LDG-007653-18
GDD_SUB_90	Maire Dunne	LDG-007651-18
GDD_SUB_92	Margaret Furlong	LDG-007739-18
GDD_SUB_100	Michelle & David O'Connor	LDG-007731-18
GDD_SUB_104	Niamh Dunne	LDG-007733-18
GDD_SUB_107	Paul & Paula Fegan	LDG-007559-18
GDD_SUB_114	Rachel Wynne	LDG-007746-18
GDD_SUB_121	Sandra Whelan	LDG-007692-18
GDD_SUB_141	Vanessa Hoare	LDG-007732-18
GDD_SUB_157	Maire Dunne	Not assigned by ABP
GDD_SUB_160	Niamh Dunne	Not assigned by ABP

### Applicant's Response

917. DBO is a form of Public Private Partnerships (PPPs). PPP are partnerships between the public and private sectors for the purpose of delivering a project or service traditionally provided by the public sector. In the case of the water sector, the PPP model has been integrated into the water services sector since the legislative framework for PPPs was enacted<sup>3</sup>. In the case of works involving the provision of treatment plants the DBO model is the preferred procurement route<sup>4</sup>.

## 27.4 Doldrum Bay

918. The following submissions raised the issue of untreated wastewater release at Doldrum Bay:

GDD Submission ID	Name	ABP Submission ID
GDD_SUB_31	Cian O'Callaghan	LDG-007713-18
GDD_SUB_43	Councillor David Healy	LDG-007716-18
GDD_SUB_162	Karen Yeates & Others	Not assigned by ABP

### Applicant's Response

919. 39 houses are currently connected to the Doldrum Bay outfall by a 1.7km foul sewer network. Currently the wastewater is not treated. In October 2016, Irish Water completed works to replace the wastewater pipeline at Doldrum Bay as part of a short-term solution to address the discharge of wastewater to the beach. This project included the construction of a replacement pipeline on the beach and upgrade works to the distribution chamber.

<sup>3</sup> The State Authorities (Public Private Partnership Arrangements) Act 2002

<sup>4</sup> Department of Environment, Community and Local Government, Report on the Value for Money Review of the Water Services Investment Programme 2007-2009, section 5.5 10 Minister for Public Reform

920. Irish Water is currently working towards compliance with Schedule A.3 of the Ringsend Wastewater Discharge Licence to discontinue a discharge of wastewater to the sea at Doldrum Bay, Howth. Irish Water are currently progressing the detailed design and planning phase and will, subject to no planning, environmental or land acquisition issues, issue tender documents to the market in Q4 2019. Following completion of the tender phase IW expect to appoint a contractor to commence construction in Q2/Q3 2020. For a project of this scale and complexity, the timeframe for completion is presently early 2021. It is however possible that the timeframe for completion could be late 2021 if there are any delays in statutory approvals.
921. As the Proposed Project will not have any significant negative effect on water quality in Dublin Bay, it will not give rise to any negative effects cumulatively or in-combination with Doldrum Bay.

## Appendix A1.1 – Submission Identification Table



## Appendix A1.1 - GDD Submission Identification Numbers

GDD ID	ABP ID	Name
GDD_SUB_1	LDG-007565-18	Aileen Murphy
GDD_SUB_2	LDG-007539-18	Alex McDonnell (DR)
GDD_SUB_3	LDG-007538-18	Alison Gilland <b>(CIlr)</b>
GDD_SUB_4	LDG-007626-18	Angela & Michael Callanan
GDD_SUB_5	LDG-007688-18	Ann O Keeffe
GDD_SUB_6	LDG-007483-18	Anne Murphy
GDD_SUB_7	LDG-007668-18	Anthony Doyle
GDD_SUB_8	LDG-007657-18	Anthony Murphy
GDD_SUB_9	LDG-007586-18	Ashling & Others
GDD_SUB_10	LDG-007619-18	Aulden Grange Residents Association
GDD_SUB_11	LDG-007676-18	Barbara Delaney
GDD_SUB_12	LDG-007667-18	Barbara Shelley
GDD_SUB_13	LDG-007617-18	Barbra and Niall Connolly
GDD_SUB_14	LDG-007685-18	Bernadette Walsh
GDD_SUB_15	LDG-007549-18	Betty Browne & Co.
GDD_SUB_16	LDG-007718-18	Breda Doyle
GDD_SUB_17	LDG-007645-18	Brendan Keegan & Others
GDD_SUB_18	LDG-007764-18	Brendan Regan
GDD_SUB_19	LDG-007703-18	Brian Gibbons
GDD_SUB_20	LDG-007690-18	Brian McDonagh <b>(CIlr)</b>
GDD_SUB_21	LDG-007714-18	Brian Union & Co.
GDD_SUB_22	LDG-007674-18	Carol Barr
GDD_SUB_23	LDG-007743-18	Carol Kamto
GDD_SUB_24	LDG-007585-18	Caroline Purdy
GDD_SUB_25	LDG-007643-18	Carolyn Finn
GDD_SUB_26	LDG-007735-18	Catherine McMahon
GDD_SUB_27	LDG-007684-18	Celia Herbert
GDD_SUB_28	LDG-007471-18	Chambers Ireland
GDD_SUB_29	LDG-007700-18	Charles Heasman
GDD_SUB_30	LDG-007591-18	Chris Byrne
GDD_SUB_31	LDG-007713-18	Cian O Callaghan
GDD_SUB_32	LDG-007687-18	Ciara McGowan
GDD_SUB_33	LDG-007590-18	Clare Daly <b>TD</b>
GDD_SUB_34	LDG-007554-18	Clare Hall Residents Association
GDD_SUB_35	LDG-007748-18	Clontarf Residents Association
GDD_SUB_36	LDG-007419-18	Commission for Railway Regulation
GDD_SUB_37	LDG-007464-18	Coolock Residents Association
GDD_SUB_38	LDG-007640-18	Crystal Reid Perry & Others
GDD_SUB_39	LDG-007706-18	Dalata Hotel Group PLC
GDD_SUB_40	LDG-007698-18	Daniel Shine
GDD_SUB_41	LDG-007552-18	Darragh O'Brien <b>TD</b>
GDD_SUB_42	LDG-007568-18	Darren Maher
GDD_SUB_43	LDG-007716-18	David Healy <b>(CIlr)</b>
GDD_SUB_44	LDG-007744-18	Dean (Gene) Sinclair
GDD_SUB_45	LDG-006735-18	Deborah Byrne
GDD_SUB_46	LDG-007693-18	Declan Flanagan <b>(CIlr)</b>
GDD_SUB_47	LDG-007673-18	Deirdre McGovern
GDD_SUB_48	LDG-007737-18	Deirdre Seery

GDD_SUB_49	LDG-007682-18	Deirdre Smyth
GDD_SUB_50	LDG-007624-18	Denise Mitchell <b>TD</b> & Others
GDD_SUB_51	LDG-007567-18	Derek Clifford
GDD_SUB_52	LDG-007909-18	Development Applications Unit
GDD_SUB_53	LDG-007672-18	Dolores Higgins
GDD_SUB_54	LDG-007680-18	Donna Brazil
GDD_SUB_55	LDG-007470-18	Donna Cooney
GDD_SUB_56	LDG-007762-18	Dublin Airport Authority
GDD_SUB_57	ABP-301908-18	Dublin City Council
GDD_SUB_58	LDG-007558-18	Eamonn Hart
GDD_SUB_59	LDG-007634-18	Eddie Larkin
GDD_SUB_60	LDG-007664-18	Elaine Murray
GDD_SUB_61	LDG-007660-18	Elaine Taaffe
GDD_SUB_62	LDG-007629-18	Elizabeth Mc Mahon
GDD_SUB_63	LDG-007547-18	Elizabeth Sherlock
GDD_SUB_64	LDG-007717-18	Emma Kavanagh
GDD_SUB_65	LDG-007709-18	Emma Synnott and Others
GDD_SUB_66	LDG-007589-18	Ercolo & Grace Dettorre
GDD_SUB_67	LDG-007761-18	Eugene Farrell
GDD_SUB_68	LDG-007697-18	Finian McGrath <b>TD</b>
GDD_SUB_69	LDG-007637-18	Fiona Mills
GDD_SUB_70	LDG-007729-18	Freddie Snowe
GDD_SUB_71	LDG-007720-18	Friends of Balcaddan Bay
GDD_SUB_72	LDG-007747-18	Gannon Properties
GDD_SUB_73	LDG-007537-18	Gary Crawford
GDD_SUB_74	LDG-007711-18	Gavin O Connor
GDD_SUB_75	LDG-007519-18	Gillian Cleary
GDD_SUB_76	LDG-007913-18	Health Service Executive
GDD_SUB_77	LDG-007907-18	Inland Fisheries Ireland
GDD_SUB_78	LDG-007644-18	Jane Gribbin & Others
GDD_SUB_79	LDG-007670-18	Jennifer Jones
GDD_SUB_80	LDG-007738-18	Joe White
GDD_SUB_81	LDG-007382-18	Joe and Elaine Jones
GDD_SUB_82	LDG-007441-18	John Lyons (Cllr)
GDD_SUB_83	LDG-007560-18	John Pepper
GDD_SUB_84	LDG-007730-18	John Walsh
GDD_SUB_85	LDG-007740-18	Kathleen O Reilly
GDD_SUB_86	LDG-07669-18	Kayleigh Hone
GDD_SUB_87	LDG-007553-18	Laurence & Geraldine Byrne
GDD_SUB_88	LDG-007655-18	Linda Brady
GDD_SUB_89	LDG-007653-18	Louise Foley-Cusack
GDD_SUB_90	LDG-007651-18	Maire Dunne
GDD_SUB_91	LDG-007587-18	Mandy McGuinness
GDD_SUB_92	LDG-007739-18	Margaret Furlong
GDD_SUB_93	LDG-007482-18	Maria Murphy
GDD_SUB_94	LDG-007647-18	Marie Hayes
GDD_SUB_95	LDG-007724-18	Mary Glacklin
GDD_SUB_96	LDG-007712-18	Meakstown Community Council
GDD_SUB_97	LDG-007911-18	Meath County Council
GDD_SUB_98	LDG-007659-18	Michael & Elaine Byrne & Others
GDD_SUB_99	LDG-007593-18	Michael O Brien
GDD_SUB_100	LDG-007731-18	Michelle & David O Connor

GDD_SUB_101	LDG-07636-18	Michael Salmon & Others
GDD_SUB_102	LDG-007594-18	Natalie Donoghue & Others
GDD_SUB_103	LDG-007705-18	Niall Reid
GDD_SUB_104	LDG-007733-18	Niamh Dunne
GDD_SUB_105	LDG-007726-18	Noel Conway
GDD_SUB_106	LDG-007675-18	Patricia Keogh
GDD_SUB_107	LDG-007559-18	Paul & Paula Fegan
GDD_SUB_108	LDG-007704-18	Peadar Farrell
GDD_SUB_109	LDG-007689-18	Peter Daly
GDD_SUB_110	LDG-007681-18	Philip Swan
GDD_SUB_111	LDG-007710-18	Philomena Fitzsimons
GDD_SUB_112	LDG-007662-18	Portmarnock Beach Committee
GDD_SUB_113	LDG-007566-18	Portmarnock Community Association
GDD_SUB_114	LDG-007746-18	Rachel Wynne
GDD_SUB_115	LDG-007727-18	Residents of Newtown Court
GDD_SUB_116	LDG-007544-18	Richelle Bailey
GDD_SUB_117	LDG-007481-18	Riverside Residents Association
GDD_SUB_118	LDG-007648-18	Riverside Residents Association
GDD_SUB_119	LDG-007622-18	Sabrina Joyce Kemper
GDD_SUB_120	LDG-007686-18	Samanta Brown
GDD_SUB_121	LDG-007692-18	Sandra Whelan
GDD_SUB_122	LDG-007679-18	Sarah Kernan
GDD_SUB_123	LDG-007484-18	Sean Haughey <b>TD</b>
GDD_SUB_124	LDG-007708-18	Senator Lorraine Clifford-Lee
GDD_SUB_125	LDG-007734-18	Sharon Hogan
GDD_SUB_126	LDG-007555-18	Siobhan Hyde
GDD_SUB_127	LDG-007658-18	Stacey Kelly
GDD_SUB_128	LDG-007666-18	Stephanie Moore
GDD_SUB_129	LDG-007588-18	Stephen and Theresa Walsh
GDD_SUB_130	LDG-007661-18	Stephen Hickey
GDD_SUB_131	LDG-007615-18	Susan Kavanagh
GDD_SUB_132	LDG-007649-18	Susan Norton
GDD_SUB_133	LDG-007701-18	Terri Gray & Paul Burke
GDD_SUB_134	LDG-007754-18	Therese Doyle
GDD_SUB_135	LDG-007642-18	Therese Gregg
GDD_SUB_136	LDG-007037-18	Thomas P. Broughan
GDD_SUB_137	LDG-007699-18	Thomas Tolster
GDD_SUB_138	LDG-007541-18	Tom and Breda Tracey
GDD_SUB_139	LDG-007583-18	Tom Brabazon ( <b>CIlr</b> )
GDD_SUB_140	ABP-301908-18	Transport Infrastructure Ireland
GDD_SUB_141	LDG-007732-18	Vanessa Hoare
GDD_SUB_142	LDG-007627-18	Winnie McDonnagh
GDD_SUB_143	LDG-007618-18	Woodland Residents Association
GDD_SUB_144	Not individually Assigned by ABP	Betty Ennis and Alvis Crawford
GDD_SUB_145	Not individually Assigned by ABP	Jennifer Lyons on behalf of Portmarnock Triathlon Club
GDD_SUB_146	Not individually Assigned by ABP	Nicki Gilliland/ Maurice Mullen/ Eileen Cantwell
GDD_SUB_147	Not individually Assigned by ABP	Howth Sea Angling Club
GDD_SUB_148	Not individually Assigned by ABP	Arthur O'Kelly
GDD_SUB_149	Not individually Assigned by ABP	Michelle Burnett/ Conor O'Malley
GDD_SUB_150	Not individually Assigned by ABP	Meakstown Community Council

GDD_SUB_151	Not individually Assigned by ABP	John Cuddy
GDD_SUB_152	Not individually Assigned by ABP	Corina Johnston on behalf of Donabate/ Portrane Community Council
GDD_SUB_153	Not individually Assigned by ABP	Annabella Rushe
GDD_SUB_154	Not individually Assigned by ABP	Bette Browne
GDD_SUB_155	Not individually Assigned by ABP	Siobhan Hyde
GDD_SUB_156	Not individually Assigned by ABP	Peter Coyle
GDD_SUB_157	Not individually Assigned by ABP	Maire Dunne
GDD_SUB_158	Not individually Assigned by ABP	Eamonn Hart
GDD_SUB_159	Not individually Assigned by ABP	Transport Infrastructure Ireland
GDD_SUB_160	Not individually Assigned by ABP	Niamh Dunne
GDD_SUB_161	Not individually Assigned by ABP	Orla O'Kane & Others
GDD_SUB_162	Not individually Assigned by ABP	Karen Yeates & Others
GDD_SUB_163	Not individually Assigned by ABP	Sean Haughey TD
GDD_SUB_164	Not individually Assigned by ABP	Dr. Alex McDonnell
GDD_SUB_165	Not individually Assigned by ABP	Terri Gray & Paul Burke
GDD_SUB_166	Not individually Assigned by ABP	Richard Bruton TD
GDD_SUB_167	Not individually Assigned by ABP	Brendan Regan
GDD_SUB_168	Not individually Assigned by ABP	Sean Lyons
GDD_SUB_169	Not individually Assigned by ABP	Failte Ireland
GDD_SUB_170	Not individually Assigned by ABP	Siobhan O'Brien
GDD_SUB_171	Not individually Assigned by ABP	Sabrina Joyce Kemper
GDD_SUB_172	Not individually Assigned by ABP	Catherine McMahon on behalf of Velvet Strand Sea Swimmers and Beach Users
GDD_SUB_173	Not individually Assigned by ABP	Health Service Executive (originally submitted as part of CPO submissions)
GDD_SUB_174	Not individually Assigned by ABP	Fingal County Council