MAKING COMPLEX EASY

ENVIRONMENTAL REPORT

Greater Dublin Drainage Benthic Survey

IE000258RP0001
F01
28 September 2022

rpsgroup.com

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1 INTRODUCTION

1.1 The Proposed Development

1.1.1 Background and Need

Irish Water previously commissioned benthic survey assessments to inform the Environmental Impact Assessment Report (EIAR) for the Greater Dublin Drainage Project. Benthic survey assessments were carried out, *inter alia*, around the outfall pipeline proposed as part of the Project and aimed to identify and describe the benthic ecological environment, including sub-tidal habitats, macro-invertebrate communities, sediment types and water quality in the vicinity of the planned construction operations.

The benthic surveys were undertaken over four survey periods as follows:

- Broad survey assessment of benthic conditions between Dublin Bay and Skerries in August 2012 (29 sampling stations);
- Repeat of the August 2012 survey in December 2012 (29 sampling stations);
- Assessment of eight sampling stations focused along the proposed outfall pipeline in July 2013;
- A repeat of the 2013 survey over the same eight sampling stations in August 2017.

These studies were undertaken to inform the EIAR for the Greater Dublin Drainage project. The benthic surveys undertaken included an assessment of the macro-invertebrate communities and habitat types at all selected locations, along with water quality profiling and sampling. Physicochemical parameters of the shallow marine sediments were recorded during each of these surveys using grab sampling (Jacobs, 2018a).

In order to ensure that the up-to-date baseline information for the benthic environment is maintained, Irish Water are proposing a repeat of the surveys undertaken in 2017 at the abovementioned eight sampling stations along the proposed outfall pipeline.

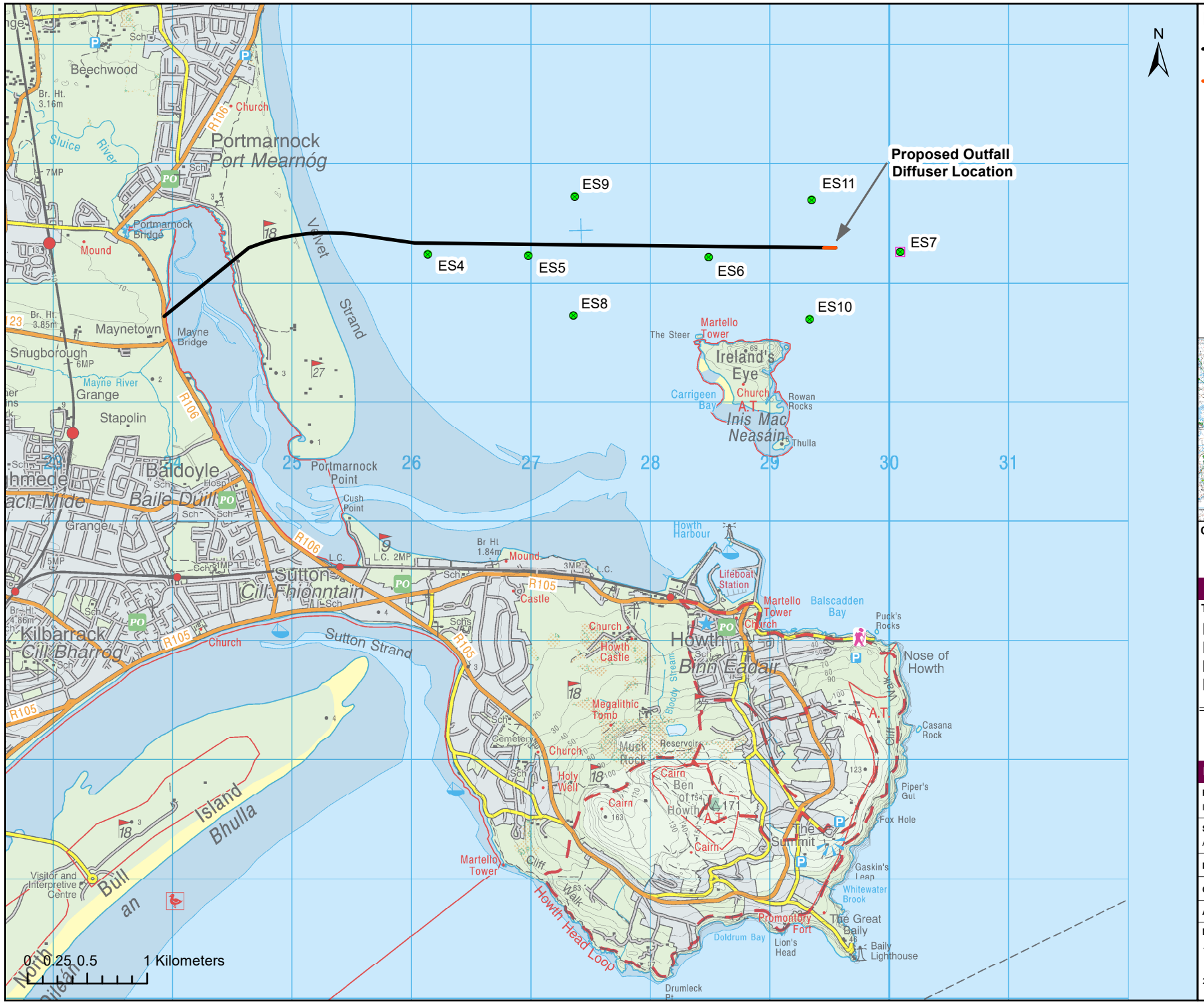
1.1.2 Overview of the Proposed Works

The proposed works will comprise a benthic survey, undertaken at eight sampling locations along the proposed GDD outfall pipeline in 2022. The objective is to supplement and update data already collected in the vicinity of the proposed outfall pipeline and outfall. All proposed sampling locations are located within 12 nautical miles of the coast. This section describes the surveys to be undertaken.

The sampling locations are listed in **Table 1-1** and illustrated in **Figure 1-1**. The survey will comprise benthic grab sampling, water quality sampling and drop-down video (DDV) transects as detailed in **Table 1-1**.

Table 1-1: Proposed sampling locations

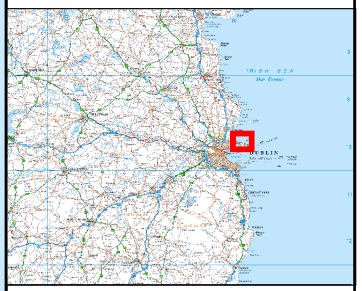
Expected Sampling Location ID	Location		Depth (m)	Sample		
	Easting	Northing		Grab	DDV	Water
ES4	326134	242237	2	✓	✓	
ES5	326979	242226	5	✓	✓	
ES6	328489	242214	10	✓	✓	
ES7	330095	242257	20	✓	✓	✓
ES8*	327355	241722	5	✓	✓	
ES9**	327366	242722	5	✓	✓	
ES10	329337	241694	10	✓	✓	
ES11	329351	242694	10	✓	✓	



Legend

- Proposed Outfall Pipeline
- Proposed Outfall Diffuser Location
- Grab Sampling Stations
- DDV Sampling Stations
- Water Sampling Stations

Data Sources:



Client

Irish Water

Greater Dublin Drainage Benthic Survey

Title

Figure 1.1
Location of the proposed benthic, water and DDV samples

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Issue Details

File Identifier:
IE000258-RPS-00-XX-DR-Z-AG0001

Status:	Rev:	Model File Identifier:
A1	C01	n/a

Drawn: [redacted]	Date: 28/09/2022
Checked: [redacted]	Scale: 1:42,000 @A4
Approved: [redacted]	Projection: [redacted]

NOTE:

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Benthic sampling will be undertaken at all eight sampling locations. Benthic samples will be acquired using a day grab sampler with a sampling area of 0.1m^2. Three replicate benthic samples will be obtained at each sampling locations. The total surface area (for all sampling locations combined) that will be the subject of grab sampling with therefore be approximately 2.4 m^2.

Two benthic samples from each sampling location will be processed for macro-invertebrate benthos larger than 500 µm. All samples will be processed on-board using a Wilson autosiever and the recovered residues fixed and stained using a 10% formal saline solution and Rose Bengal dye (and later transferred to 70% alcohol at a laboratory during taxonomic analysis). Samples will be sorted under a microscope and identified to species level, where possible.

The third benthic sample will be used for:

- sedimentological analyses (granulometry and chemical determination) - Samples will be acquired in the field directly from the undisturbed surface of the grab sampler and the top 5 cm will be assessed for full particle size distribution; and
- contamination – samples will be analysed for total hydrocarbons, heavy and trace metals, volatile organic compounds, organic carbon, polychlorinated biphenyls and organo tins.

Water sampling and profiling will take place at one location (Station ES7 – see **Figure 1-1**). Water profiling will involve the use of a probe that will allow the conductivity, temperature, depth, pH, dissolved oxygen and turbidity at that station to be recorded. A Niskin bottle (or similar) will be used to obtain a sufficient sample of water at the surface (< 1m depth) and a second sample just above the seabed (~1m) for subsequent chemical analysis.

Drop down video transects will take place at all eight locations in close proximity to the grab sampling stations, prior to grab sampling.

Sampling will likely be carried out over a two-day period during daylight hours using an appropriately licenced and crewed inshore survey vessel. Although the vessel to be used is yet to be determined, it is highly likely that a local vessel (approximately 12 m in length) will be used such as those used regularly for deep sea fishing, wildlife surveys or passenger carrying. Such vessels are used in the area on a day-to-day basis and are familiar with the survey area.

1.2 Purpose of the Report

The purposes of this Environmental Report are to (i) undertake Environmental Impact Assessment (EIA) screening in order to determine if EIA is required for the proposed works and (ii) provide a consideration of the likely environmental effects of the proposed works.

To determine in the first instance if EIA is a mandatory requirement for the proposed works. Thereafter, the report will consider if non-mandatory (sub-threshold) EIA is required. This will have regard to the type or class of development proposed, the likely effects of the proposed works on the environment and whether there are likely to be significant effects. Where the screening determines that the development is likely to have significant effect(s) on the environment, EIA will be deemed necessary and an EIAR will be prepared.

Following EIA Screening, the report will provide a brief, non-statutory assessment of the potential environmental impacts of the proposed works and, where needed, propose appropriate best practice or mitigation measures.

1.3 Relevant Legislation and Guidance

This Environmental Report has been prepared with reference to the following texts:

- The Foreshore Act 1933, as revised (2021).
- Directive 2014/52/EU amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.
- Planning and Development Act, 2000, as amended.
- Planning and Development Regulations, 2001, as amended.
- Environmental Impact Assessment Screening OPR Practice Note PN02, OPR 2021.
- Environmental Impact Assessment of Projects Guidance on Screening, European commission, 2017.

2 SCREENING FOR MANDATORY AND SUB-THRESHOLD EIA

2.1 Legislative Context

In accordance with Directive 2011/92/EU, as amended by Directive 2014/52/EU (hereafter, the EIA Directive), projects that are likely to have significant effects on the environment by virtue, *inter alia*, of their nature, size or location must be subject to an EIA.

EIA Screening is the process of deciding whether a development requires an EIA to be carried out. The EIA Screening exercise first assesses the development to ascertain if it is subject to Mandatory EIA, using classifications defined in the EIA Directive (projects listed in Annex I of the EIA Directive are subject to an EIA).

If the project is not listed in Annex I, and no mandatory EIA is required, the EIA Screening process progresses to sub-threshold development assessment. Projects listed in Annex II of the EIA Directive are subject to an EIA if (i) they exceed certain thresholds (set out in Annex II and by each Member State); or (ii) if they do not meet or exceed the threshold, but where the project is deemed likely to have significant environmental effects, with regards to the project's scale, nature, location and context[1]. Such projects need to be assessed on a case-by-case basis. EU Guidance on EIA Screening[2] states that whilst Member States may set thresholds or criteria for the purpose of determining which projects are to be assessed on the basis of their environmental effects, they "should not be required to examine projects below those thresholds or outside those criteria on a case-by-case basis".

Annexes I and II of the EIA Directive have been transposed to Irish legislation through the Planning and Development Regulations 2001, as amended, in Schedule 5 Parts 1 and 2, with national thresholds added to some Part 2 developments[3]. In line with the EU Guidance on EIA Screening, the Office of the Planning Regulator (OPR) Practice Note PN02 Environmental Impact Assessment Screening states that if a project "is not of a class of development in Schedule 5, Parts 1 and 2, it is not "sub-threshold" development, and no EIA or EIA Screening is required"[4].

It is important to bear in mind, however, that Section 4(4) of the Planning and Development Act 2000 (as amended) states:

4(4) Notwithstanding paragraphs (a), (i), (ia) and (l) of subsection (1) and any regulations under subsection (2), development shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required.

The legislation and guidance summarised in this section were considered in **Section 1.3**, in order to determine the requirements, or otherwise, for EIA.

2.2 Schedule 5 – Part 1 Considerations

Schedule 5 Part 1 of the Planning and Development Regulations 2001 as amended sets out a number of classes of development that require mandatory EIA. The proposed works, as set out above, does not fall under any of the classes as set out in Schedule 5 Part 1 and therefore mandatory EIA is not required.

[1] Detailed in Schedule 7 of the Planning and Development Regulations 2001.

[2] European Commission (2015). Interpretation of definitions of project categories of Annex I and II of the EIA Directive. [https://ec.europa.eu/environment/eia/pdf/cover_2015_en.pdf]

[3] Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. [https://www.opr.ie/wp-content/uploads/2019/08/2018-Environmental-Impact-Assessment-1.pdf]

[4] Office of the Planning Regulator (2021) Practice Note PN02 Environmental Impact Assessment Screening.

2.3 Schedule 5 – Part 2 Considerations

Schedule 5 Part 2 of the Regulations, as amended sets out classes of development for which EIA must be carried out where such development would equal or exceed, as the case may be, any relevant quantity, area or other limit specified or, where no quantity, area or other limit is specified in the Part in respect of the development concerned.

The proposed works, as set out above, do not fall under any of the classes as set out in Schedule 5 Part 2.

In line with the Office of the Planning Regulator (OPR) Practice Note PN02 Environmental Impact Assessment Screening, if a project "is not of a class of development in Schedule 5, Parts 1 and 2, it is not "sub-threshold" development, and no EIA or EIA Screening is required"[5].

In addition, due regard was given to Section 4(4) of the Planning and Development Act 2000 (as amended), which requires that any project for which appropriate assessment (AA) is required shall not be considered exempted development. An AA screening exercise was undertaken separately by RPS (RPS, 2022) and concluded that a Natura Impact Statement to inform AA is not required for the proposed works. The proposed works are therefore exempt from EIA under this section.

2.3.1 EIA Screening Conclusion

The proposed works are not considered to have a mandatory requirement for EIA. In addition, as they are not listed in Annex II of the Directive (Part 2 of the Planning and Development Regulations 2001), it is considered that it is not sub-threshold development and does not need to be considered on a case-by-case basis.

It is the opinion of RPS that as this project is not listed under Annex I or Annex II of the EIA Directive (transposed into Irish law as Schedule 5 (Parts 1 and 2) of the Planning and Development Regulations 2001, as amended), an EIA of the project is not required. As the project is not listed under Annex II of the Directive (Schedule 5, Part 2 of the Planning and Development Regulations 2001), it is concluded that a case-by-case determination of significant effects on the environment is also not required.

It is noted that formal determination of whether an EIA is required will be made by the Minister for the DHLGH.

[5] Office of the Planning Regulator (2021) Practice Note PN02 Environmental Impact Assessment Screening.

3 ENVIRONMENTAL CONSIDERATIONS

3.1 Introduction

As outlined in chapter 2 above, the proposed works do not require EIA, nor do they require a case-by-case determination of significant effects. However, as a precautionary measure and to provide a robust description of the survey works, this chapter presents a brief, non-statutory consideration of the potential environmental effects of the proposed works. The following environmental aspects relevant to projects in the marine environment are considered:

- Population and Human Health;
- Biodiversity;
- Water Quality;
- Air Quality and Noise;
- Recreational and Commercial Fisheries;
- Landscape and Visual;
- Cultural Heritage; and
- Marine Traffic.

A topic-by-topic assessment is presented in **Table 3-1**.

Table 3-1: Non-Statutory Assessment of Environmental Effects

Relevant Environmental Topics	Consideration of Potential Environmental Effects
Population and Human Health	The proposed works will involve the use of one vessel and appropriately trained crew. Risk of accidents and hazards to human health may occur as a result of vessel and instrumentation operation, if best practice Health and Safety measures are not implemented. The survey contractor will strictly adhere to health and safety best practice guidance. Assuming that all health and safety legislation and protocols are adhered to, significant risks to human health are unlikely to occur and no mitigation measures are considered necessary
Biodiversity (marine benthos)	The proposed works will involve grab sampling at eight locations, with a total surface area of 2.4 m^2. There may be slight habitat disturbance, increased suspended solids and substratum loss as a result of the grab samples. However, given the very small surface area impacted and the absence of sensitive habitats, including reef habitat, in and in the vicinity of the proposed sampling locations (see Report to Inform Screening for Appropriate Assessment for the proposed works - RPS, 2022), potential impacts on the marine benthos are considered negligible. The number of sampling locations was selected as the minimum necessary to update the existing benthic baseline for the Greater Dublin Drainage project. Given the absence of sensitive habitats in and around the proposed sampling locations, no mitigation measures are considered necessary.
Biodiversity (protected sites)	Impacts to habitats and species within protected sites could occur from direct disturbance to seabed habitats and species, or disturbance of mobile species (marine mammals and birds) that may overlap with the proposed works. Sampling points ES6, ES7, ES10 and ES11 overlap with Rockabill to Dalkey Island SAC. Rockabill to Dalkey Island SAC is designated for Annex I habitats (reefs) and Annex II species (harbour porpoise). However, previous studies have ascertained that the benthic sampling locations do not overlap with reef features (geogenic or biogenic) and as such no impact on protected or sensitive benthic habitats is expected (Jacobs, 2018b). Marine mammals may be present in the vicinity of the proposed works and the presence of the vessel poses a potential collision risk. However, the area is subject to considerable existing vessel traffic[6] and one additional vessel is unlikely to represent a significant increase in vessel traffic in the area. In addition, in accordance with standard practice for benthic surveys, the vessel will move at typically low speeds, further reducing any collision risk with marine mammals.

[6] www.marinetraffic.com

Relevant Environmental Topics	Consideration of Potential Environmental Effects
	The proposed works are located within Ireland's Eye SPA and approximately 1.2 km from Baldoyle Bay SPA. Birds of conservation interest may overlap with the proposed works. The potential for disturbance impacts to birds was considered, however, the nature and scale of the proposed works (likely to be one vessel over two days) is unlikely to cause significant disturbance to bird species foraging in the area beyond background levels of vessel activity. As such nature conservation impacts are not expected as a result of the proposed works. The proposed benthic works are temporary and limited in scale (one vessel working over two days). Any disturbance will be highly localised, temporary and any significant impacts on biodiversity and nature conservation are considered highly unlikely and as such no mitigation measures are considered necessary.
Water Quality	A very small volume of benthic sediment (typically less than 10 litres per benthic grab) will be taken from the seabed. A proportion of that sediment material will go to the laboratory for further analysis (and will be subsequently disposed of at an appropriately licensed disposal site), and the remainder will be released back into the sea. The released material will slightly increase suspended sediment concentrations at sea; however, this will be in quantities considered to be of negligible environmental impact. No significant water quality impacts are predicted as a result of the sediment disposed at sea and as such no mitigation measures are proposed. There is a potential hazard associated with vessel fuel usage (likely to be one vessel for two days), oily residues/water, other substances (e.g., lubricants) and subsequent spillage and pollution. In addition, other waste typically includes human waste. However, given the short duration of the survey, which will be undertaken to adhere to MARPOL's strict pollution prevention and waste management protocols, the risk of spillage and pollution is considered negligible. Irish Water will adhere to national maritime legislation and all requirements of the MARPOL Convention and as such no marine pollution events are predicted as a result of the proposed works. No mitigation measures are considered necessary.
Air Quality and Noise	Typical vessel emissions will occur as a result of one vessel use for two consecutive days. Any other potential harmful emissions (e.g. ozone depleting substances, volatile organic carbons), will be stored in appropriate storage facilities and managed in accordance with MARPOL requirements. No significant air quality impacts are predicted. Any substances with the potential to affect air quality will be handled and disposed of in accordance with the requirements of the MARPOL Convention and relevant national regulations. Typical vessel noise is expected to occur, however given the scale of the proposed works (one vessel working for two days) and existing baseline levels of vessel traffic, this is not expected to lead to a significant increase in levels of underwater noise and vibration.

Relevant Environmental Topics	Consideration of Potential Environmental Effects
	No significant underwater noise and vibration impacts are expected as a result of the proposed works and as such no mitigation measures are considered necessary.
Recreational and Commercial Fisheries	The wider area encompassing the proposed benthic survey locations includes fish and shellfish species regularly targeted by commercial fisheries with both static and mobile fishing gear. In addition, recreational fisheries occur along the Fingal coastline, in particular ground fishing and rock fishing occur in the vicinity of the proposed benthic survey locations (Jacobs, 2018a). These fisheries can potentially be affected as a result of displacement or damage to fishing gear from the proposed works. The proposed benthic surveys will be short-term (two days) and will involve one vessel only, and as such the potential for displacement of vessels and interaction/clash with static or mobile fishing gear is low. No mitigation measures are considered necessary. However, a notice to mariners will be issued ahead of the proposed works.
Landscape and Visual	The area is regularly the subject of considerable recreational and commercial vessel traffic. The proposed works will utilise one vessel working over two days. It is considered that this will not create significant changes to the existing landscape character and visual amenity of the area. It is considered that the proposed works will not significantly affect landscape and scenic views, and as such no mitigation measures are considered necessary.
Cultural Heritage (Underwater Archaeology)	The marine environment in the vicinity of the proposed outfall pipeline route possesses archaeological potential due to the presence of shipwrecks, which are given statutory protection under the National Monuments Act (as amended). However, underwater archaeological surveys undertaken to inform the Greater Dublin Drainage EIAR identified no shipwrecks that may be potentially impacted by the Project (Jacobs, 2018b). The sampling points proposed as part of the proposed works have been previously the subject of benthic sampling in 2013 and 2017 and no overlap with wreck sites was found. It is therefore considered that any impact on underwater archaeology is highly unlikely and as such no mitigation measures are considered necessary.
Marine Traffic	The area is used for a number of regular vessel routes, mostly associated with movement to and from local harbours, including commercial fisheries and recreational vessels. The proposed works will utilise one vessel over two days. It is considered that this is highly unlikely to pose a significant increase in local marine traffic. There is the possibility that the regular movement of local vessels, in particular fisheries vessels, may be temporarily disturbed. However, this will be short-lived and is unlikely to affect local marine traffic,

Relevant Environmental Topics	Consideration of Potential Environmental Effects
	provided sufficient notice is given to existing local vessels. Significant impacts on marine traffic are considered highly unlikely and no mitigation measures are considered necessary. However, a notice to mariners will be issued in advance of the proposed works.

4 CONCLUSIONS

The proposed works will be small in scale, of a temporary nature and will mainly involve benthic grab sampling at eight sampling locations. The total surface of the seabed directly impacted by the sampling exercise will be approximately 2.4 m^2.

An EIA screening was undertaken in order to ascertain the need, or otherwise for EIA, and is presented in **Section 2**. Due to the nature and scale of the proposed works, the EIA Screening concluded that the proposed benthic works are not a type of project for which a mandatory EIA is required.

A consideration of potential environmental impacts of the proposed works was undertaken and is presented in **Section 3**. No potential significant impacts were identified as a result of the proposed works.

5 REFERENCES

RPS (2022) IE000258RP002 Greater Dublin Drainage Benthic Survey 2022 Report to Inform Screening for Appropriate Assessment

Jacobs Engineering Ireland Limited (2018a) Greater Dublin Drainage Project - Environmental Impact Assessment Report: Volume 3 Part B of 6.

Jacobs Engineering Ireland Limited (2018b) Greater Dublin Drainage Project - Environmental Impact Assessment Report: Volume 3 Part A of 6. Revision 3.