Cork City Council

Cork Docklands North and South Quays Maritime Usage Licence application

Attachment 4.3 Supporting Information for Screening for Appropriate Assessment and Natura Impact Statement

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AQUAFACT REF: P20039

April 2026

Client:	Cork City Council
Address:	City Hall, 1-2 Angleasea Street, Cork T21T997
Reference no:	P20039
Date of issue:	30/07/2026
Version Number:	Final

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Report Approval Sheet

Client	Cork City Council
Report Title	Cork Docklands South Quays Maritime Usage Licence Attachment 4.3 Supporting Information for Screening for Appropriate Assessment and Natura Impact Statement
Job Number	P20039
Report Status	Final
Issue Date	30/07/2026
Report Type	Screening for Appropriate Assessment (AA) and Natura Impact Statement (NIS)

Rev	Status	Issue Date	File Name	Author(s)	Approved By
1	Draft	27/07/2026	Attachment 4.3 SISAA & NIS_CDSNQ_v1	NMC, AM, BD	AL
2	Final	30/07/2026	Attachment 4.3 SISAA & NIS_CDSNQ_final	NMC, AM, BD	AL

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List of Acronyms/ Glossary

AA	Appropriate Assessment
HWM	High Water Mark
MARA	Maritime Area Regulatory Authority
MUL	Maritime Usage Licence
NBDC	National Biodiversity Data Centre
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
QI	Qualifying Interest
PSA	Particle Size Analysis
ROV	Remotely Operated Vehicle
SAC	Special Area of Conservation
SCI	Special Conservation Interest
SPA	Special Protection Area
SPR	Source-Pathway-Receptor
ZoI	Zone of Influence

1. Introduction

1.1. Overview

This report has been prepared by AQUAFACT – (APEM Group) to support a Maritime Usage Licence (MUL) application for marine and intertidal survey works associated with the Cork Docklands South Quays and North Quays Projects ('the Project').

This report provides the information necessary to enable the Maritime Area Regulatory Authority (MARA), as the competent authority under the Maritime Area Planning Act 2021, to undertake Stage 1 Screening and subsequently a Stage 2 report for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive. MARA's functions and decision-making in this context are guided by the Maritime Area Planning Act 2021 and associated statutory instruments, which require licence applications to be assessed in accordance with European and national environmental legislation.

The proposed maritime usage relates to a programme of ecological, archaeological and structural site investigation surveys required to inform the Cork Docklands South Quays Project, together with structural survey works associated with the Cork North Quays area. The wider Cork Docklands South Quays Project extends approximately 3.4 km along the southern bank of the River Lee, from Kennedy Quay to Blackrock Village, and will involve quay wall repairs and upgrades, waterfront improvements and associated infrastructure works. The North Quays structural surveys relate to quay wall structural investigations at Horgan's Quay, the Turning Basin and North Deep-Water Quay. Surveys proposed below the High-Water Mark (HWM) are described below in **Table 1-1**.

The Cork Docklands South Quays survey scope includes ecological, archaeological and structural surveys. The North Quays survey scope comprises structural survey works only. No additional North Quays ecological or archaeological surveys are proposed as part of this MUL application.

Table 1-1: Proposed site investigation surveys for this MUL.

Survey type	Survey Element
Ecological Survey – South Quays	Intertidal and subtidal ecological survey
	Otter survey
Archaeological Survey – South Quays	Intertidal archaeology survey
	Archaeological metal detecting survey
	Archaeological geophysical survey
	Archaeological wade survey
	Archaeological dive survey
Structural Survey – South Quays	ROV underwater camera survey
	ROV sonar, echo sounder, magnetometer and LiDAR survey

Survey type	Survey Element
	Bathymetric survey
	Hydraulic survey
	Riverbed and jetty material sampling
	Concrete coring
	Chloride, carbonation and half-cell testing
	Steel testing
	Drone survey and photogrammetry of quay walls
Structural Survey – North Quays	Above- water visual and physical inspection
	Diver led, vessel supported underwater structural survey
	Material testing and investigation, including a minimum of two above water concrete core locations per structure and conditional underwater sampling where required.
	Vessel based sonar/ echo sounding survey, where required

The proposed works comprise temporary survey activities required to inform the future design and consenting of quay wall repair, upgrade and replacement works and associated infrastructure. The North Quays works are also investigative in nature and are limited to structural surveys of existing quay wall structures. The surveys do not involve permanent construction works, operational discharges, dredging, piling, disposal at sea, or any long-term alteration of the River Lee.

This report assesses whether the proposed maritime survey activities, either alone or in combination with other plans or projects, are likely to have a significant effect on any European site.

1.2. Appropriate Assessment Process

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) provides the legal framework for biodiversity conservation across the European Union. Together with the Birds Directive (2009/147/EC), it establishes a network of protected sites designated as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). In Ireland, these are collectively referred to as European sites, which form part of the pan-European Natura 2000 network (OPR, 2021).

Each European site is designated for specific habitats and/or species. For SACs, these are referred to as the site's Qualifying Interests (QIs), while for SPAs they are referred to as Special Conservation Interests (SCIs) (OPR, 2021). In this report, these are collectively described as the site's conservation features.

Site-specific conservation objectives are published for each European site and set out the conditions necessary to maintain or restore these features at favourable conservation status. These objectives provide the benchmark against which likely significant effects are assessed in the AA process.

The Habitats Directive was first transposed into Irish law by the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997). These Regulations were subsequently revoked and replaced by the European Communities (Birds and Natural Habitats) Regulations 2011, as amended (hereafter referred to as the *2011 Birds and Natural Habitats Regulations*). In addition, the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC) are transposed into Irish legislation through Part XAB of the Planning and Development Act 2000, as amended (the 2000 Act), and the 2011 Regulations. The legislative provisions governing Appropriate Assessment (AA) screening of planning applications are set out in Section 177U of the 2000 Act.

Articles 6(3) and 6(4) of the Habitats Directive establish the decision-making framework for plans and projects that may affect a Natura 2000 site. National guidance published by the Department of the Environment, Heritage and Local Government (DEHLG, 2009; revised 2010) promotes a four-stage process for AA and outlines the key tests at each stage (**Figure 1-1**).

- **Stage 1**: Screening for Appropriate Assessment
- **Stage 2**: Appropriate Assessment
- **Stage 3**: Assessment of alternative solutions (if required)
- **Stage 4**: Derogation under Article 6(4) (Imperative Reasons of Overriding Public Interest)

Stages 1 and 2 encompass the core requirements of Article 6(3). Stage 3 may form part of Article 6(3) or, where alternatives exist, act as a necessary precursor to Stage 4. Stage 4 represents the derogation process under Article 6(4).

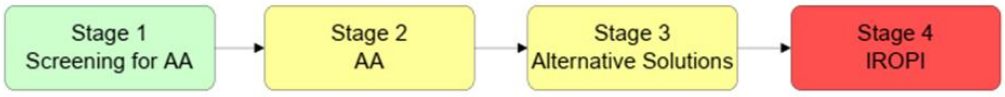

Figure 1-1: Four stages of the Appropriate Assessment Process.

An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

1.3. Guidance/ Legislation

This report has been prepared in accordance with the following guidance:

- European Commission (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC Commission notice.
- Office of Planning Regulator (2021) Practice Note PN01 Appropriate Assessment screening for development management.
- Department of Environment, Housing and Local Government (2009) Appropriate Assessment of plans and projects in Ireland guidance for planning authorities (Revised 2010).
- European Commission (2021) Assessment of plans and projects in relation to Natura 2000 sites – methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC Commission notice.
- Habitats Directive (Council Directive 92/43/EEC) 1992.
- Birds Directive (Directive 79/409/EEC) 1979, amended Directive 2009/147/EC.
- European Communities (Birds and Natural Habitats) Regulations 2011-2021
- Department of Arts, Heritage and the Gaeltacht – National Parks and Wildlife Service (DAHG - NPWS) (2012) Marine Natura Impact Statements in Ireland Special Areas of Conservation, a working document.
- NPWS (2014) Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources in Irish Waters.
- Maritime Area Planning Act (2021) – provisions relating to Appropriate Assessment (AA) and Environmental Impact Assessment (EIA) for maritime projects.
- MARA (2024) Applicant Technical Guidance (V7) for Maritime Area Consents and Licensing.

This assessment includes a desk-based review of available records of protected QIs and SCIs including the following sources:

- Conservation status assessment reports, backing documents and maps prepared to inform national reporting required under Article 17 of the Habitats Directive[i].
- Site synopsis, conservation objective reports and Natura 2000 forms available from NPWS.
- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, species action plans and conservation management plans.
- Published summary data from the ObSERVE and NPWS coastal cetacean monitoring programmes, including west coast survey transects.
- Existing relevant mapping and databases *e.g.* waterbody status, species and habitat distribution, *etc*. (sourced from the Environmental Protection Agency (EPA) - http://gis.epa.ie/, the National

Biodiversity Data Centre (NBDC) - http://maps.biodiversityireland.ie and the NPWS - http://www.npws.ie/mapsanddata/)

1.4. Statement of Authority

Neve McCann is a Senior Marine Consultant with AQUAFACT, holding an MSc in Applied Marine Conservation and a BSc in Zoology. She has experience across marine, freshwater and terrestrial ecology, environmental assessment, and regulatory compliance, gained through roles in consultancy and the public sector. She has authored Natura Impact Statements, Appropriate Assessment Screenings, Ecological Impact Assessments, and contributed to EIAR biodiversity chapters for major infrastructure projects. She is technically skilled in data management and spatial analysis, proficient in ArcGIS, R Studio, and SQL, with experience in MSFD Descriptor assessments, ICES data calls, and contributions to MSFD Article 8 reporting. Neve has actively participated in ICES Working Groups and European marine forums, supporting collaborative research and policy development. At AQUAFACT, Neve applies her expertise to marine ecological assessments, compliance documentation, and technical analysis to support robust, evidence-based environmental solutions

Alanna Mitchell is Consultant Ecologist in the marine sector and has worked on a range of projects including sanitary surveys, benthic audits, EIAR, NIS, and Assessment of Impacts of the Maritime Usage reports. Alanna holds a First-Class honours degree in Marine Science (B.Sc.) with National University of Ireland, Galway, where she studied and surveyed intertidal shores in Galway to develop baseline information for future monitoring, including investigating species assemblages, richness, and biotopes (JNCC). She holds a First-Class honours degree in Marine Biology (M.Sc.) from University College Cork, where she participated in a project sponsored by the Marine Institute investigating the reproduction, health, and immunology of native oysters in artificial conditions. She is specialised in intertidal monitoring around Irish coasts and Geographical Information Systems (GIS) programmes. Alanna has a wide range of experience in the preparation of SISAA and Annex IV reports.

Brendan Dickerson (B.Sc., M.Sc., LL.M., Qualifying CIEEM) is a senior consultant with AQUAFACT – APEM Group, specialising in environmental and ecological assessment for marine projects in Ireland. Brendan holds a B.Sc. (Hons) in Marine Science from the University of Galway, an M.Sc. in Marine Biology, and an LL.M. in Environmental Law from University College Cork. He has extensive expertise in EU and Irish environmental legislation, including the Habitats Directive, Birds Directive, the Marine Strategy Framework Directive, and Ireland's National Marine Planning Framework. Brendan's experience includes Environmental Impact Assessment Reports (EIARs), leading Appropriate Assessment (AA) and Natura Impact Statement (NIS) evaluations for Irish marine SACs and SPAs, addressing conservation objectives, habitat connectivity, and

significant effects. Brendan is also knowledgeable in marine survey design, habitat and species assessments, and the analysis and reporting required to support robust regulatory submissions for both public and private sector clients.

2. Stage 1: Screening for Appropriate Assessment

Stage I AA Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

i. whether a plan or project is directly connected to or necessary for the management of European site, and
ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.

If likely significant effects cannot be excluded on the basis of objective information – including cases where effects are significant, uncertain, or where the screening process becomes overly complex – the assessment must proceed to Stage 2 Appropriate Assessment (AA). Screening must be carried out without reliance on mitigation measures. Where potential impacts can clearly be avoided through modification or redesign of the plan or project, the screening process should be repeated on the revised proposal. The highest level of evidence and justification is required where a conclusion is reached at screening stage that no likely significant effects will occur.

2.1. Description of the Project

Cork City Council proposes to undertake a programme of temporary marine and intertidal site investigation surveys within the River Lee to inform the detailed design, engineering assessment and environmental understanding of the Cork Docklands South Quays Project, together with structural survey works associated with the Cork Docklands North Quays project. The South Quays project extends along approximately 3.4 km of the southern bank of the River Lee from Kennedy Quay to Blackrock Village. The North Quays survey project programme relates to structural-only surveys at Horgan's Quay, the Turning Basin and North Deep-Water Quay on the northern bank of the River Lee.

The proposed Maritime Usage Licence application area encompasses sections of the River Lee adjacent to the southern bank between Kennedy Quay and Blackrock Village, together with the northern bank at Horgan's Quay, the Turning Basin and North Deep-Water Quay adjacent to Kent Station and Lower Glanmire Road. The proposed maritime usage is comprised of two survey programmes within a single MUL application, namely the South Quays survey programme and the North Quays survey programme. No construction works, dredging, piling, quay reconstruction, sediment disposal, flood defence installation or permanent infrastructure works form part of this MUL application.

The survey methodologies described below represent the proposed survey types required to inform future project design and assessment. Precise survey locations, sample points, equipment selection and sequencing may vary slightly depending on tidal conditions, access constraints, safety requirements and contractor methodologies, but will remain within the scope of the activities described and within the MUL application area.

The survey area is located within the tidal section of the River Lee in Cork City and lies within the wider Cork Harbour estuarine system (**Figure 2-1)**. Works will occur below the HWM along the southern bank of the river within the defined MUL boundary. Additional structural survey works are also proposed along the northern bank of the River Lee at Horgan's Quay, the Turning Basin and North Deep-Water Quay. The study area partially overlaps with Cork Harbour SPA (004030) and is hydrologically connected to downstream European sites within Cork Harbour.

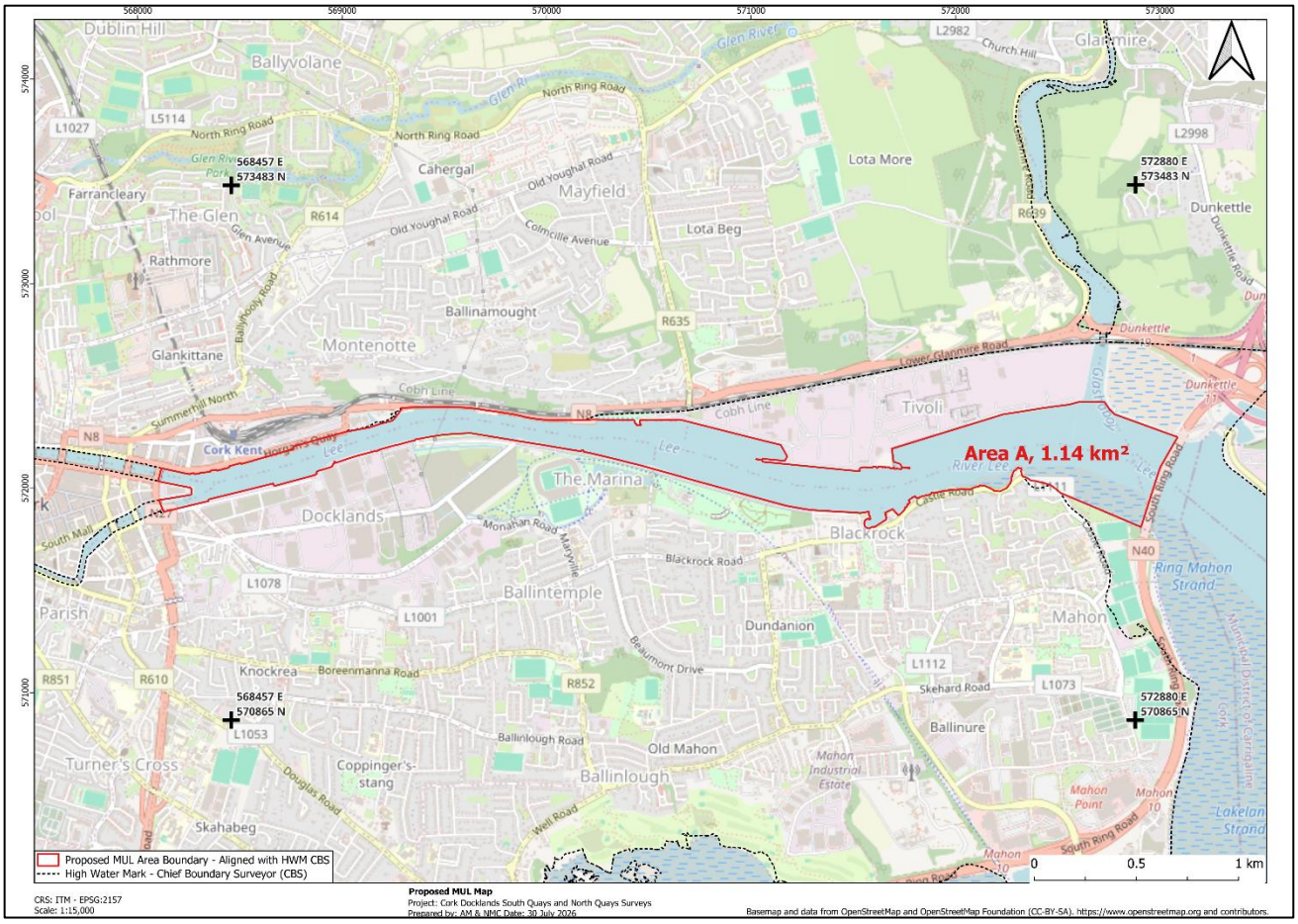

Figure 2-1: Proposed MUL survey area.

2.2. Description of the Surveys

The proposed maritime usage comprises a programme of marine and intertidal site investigation surveys within the River Lee to inform the design, engineering assessment and environmental understanding of the Cork Docklands South Quays Public Realm Project and the additional Cork North Quays structural survey works. The South Quays survey scope includes structural, archaeological and ecological surveys, while the North Quays scope is limited to structural surveys at Horgan's Quay, the Turning Basin and North Deep-Water Quay. The survey methodologies described below represent the proposed survey types. Precise equipment, survey locations and sequencing may vary slightly depending on tidal conditions, access constraints, safety requirements and contractor methodologies, but will remain within the scope of the activities described and within the MUL application area.

2.2.1. South Quay Surveys

The South Quays surveys comprise structural, archaeological and ecological investigations within the River Lee and associated intertidal areas between Kennedy Quay and Blackrock Village. These investigations are intended to establish baseline information on existing quay walls, jetties, riverbed conditions, archaeology and ecology.

2.2.1.1. Visual Inspection

A visual inspection survey will be undertaken to document the condition of quay walls, jetties and associated structural elements, including construction details, dimensions, general condition, visible defects and deterioration mechanisms. Indicative inspection locations are distributed at approximately 100 m intervals along the South Jetties, South Deepwater Berth, Ford-Dunlop Jetties, ESB Jetties, Marina West and Marina East, and may be refined during the survey to ensure appropriate structural coverage. This survey is expected to require approximately 5 to 10 survey days.

2.2.1.2. Drone survey

The objective of the drone photogrammetry survey is to acquire high-resolution point cloud, 3D models and imagery data covering the Cork Docklands quay walls, jetties, and associated structures. The resulting datasets will support detailed condition assessment of structural elements (including cracks, voids, damage, and anomalies) and provide geospatially accurate information for integration into BIM models and correlation with below-water survey data. This dataset will also be used to measure verticality of the Cork Docklands quay walls. Consistent lighting conditions will be ensured to enable accurate structural inspection and heritage documentation for the shadowed areas and under-deck structures. All works will be carried out during the

day. Coverage of difficult-to-access areas will be ensured using UAV and boat-assisted operations. The Area of Interest (AoI) for the Drone photogrammetry survey can be seen below in **Figure 2-2**. This survey element is expected to require approximately 5 to 10 survey days.

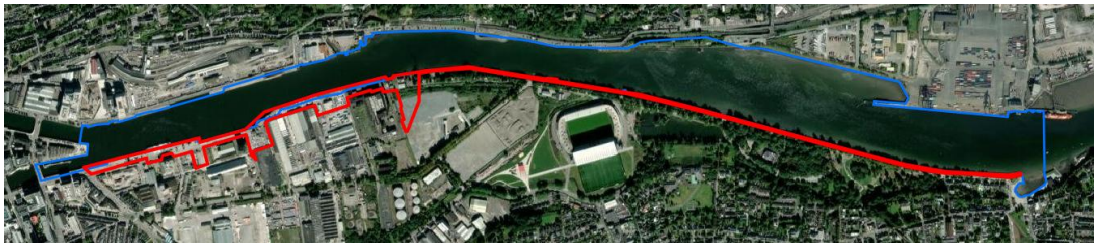

Figure 2-2: Area of interest for drone survey (red boundary).

2.2.1.3. Concrete investigations

Targeted concrete investigations will be undertaken at representative locations along quay walls, jetties and associated structures in order to assess material strength, durability and deterioration mechanisms. Investigations may include concrete core extraction, compressive strength testing, chloride testing, carbonation assessment and half-cell testing. A total of 24 indicative concrete testing locations have been identified across six structural areas, namely South Jetties, South Deepwater Berth, Ford-Dunlop Jetties, ESB Jetties, Marina West and Marina East. At the South Jetties, Ford-Dunlop Jetties and ESB Jetties, testing may include top slab, soffit and quay wall face locations. At South Deepwater Berth, Marina West and Marina East, testing will focus on top-of-structure locations along the length of the assets.

The precise locations may be adjusted slightly during the survey to account for access and safety constraints while remaining within the identified structural areas. Concrete investigations are expected to require approximately 5 to 10 survey days.

2.2.1.4. Structural steelwork investigations

Targeted investigations of structural steel elements will be undertaken where steel components are present within quay wall or jetty structures in the South Quays survey area. These investigations will focus on the South Jetties, Ford-Dunlop Jetties and ESB Jetties. Steel investigations are not required at the South Deepwater Berth, Marina West or Marina East, as steel elements relevant to the investigation scope are not present at those locations.

At each of the three applicable structures, three indicative sampling locations have been identified, resulting in a total of nine steel investigation locations across the survey area. The identified locations comprise three points at South Jetties, three points at Ford-Dunlop Jetties and three points at ESB Jetties. At each location, a dimensional survey and condition assessment will be undertaken to record member dimensions, structural configuration and evidence of corrosion, deterioration or damage, supported by photographs and location references.

Limited steel sample extraction may also be undertaken at the same nine investigation locations for laboratory tensile testing where required. Laboratory testing will be used to determine material properties including yield strength, ultimate tensile strength and elongation characteristics, with results compared against relevant structural steel standards, for example BS EN 10025, to inform the structural capacity assessment. Sample extraction locations will be repaired following sampling to maintain structural integrity. This survey element is expected to require approximately 5 to 10 survey days.

2.2.1.5. Riverbed sampling

Limited riverbed and jetty material sampling will be undertaken to characterise riverbed material and structural interface materials within the South Quays survey area and to support structural and environmental assessment of the project. The works will comprise discrete sediment or material sampling at representative locations rather than any extensive excavation or disturbance. Three sediment grab samples will be collected from the River Lee riverbed at representative locations within the central channel of the survey area using a grab sampler deployed from a survey vessel. Each sample will be collected from the upper sediment layer between 0 m and 1 m depth.

Sampling locations may be adjusted slightly during survey operations in response to site conditions and access requirements but will remain within the defined survey area. Collected samples may be analysed to determine sediment composition and physical characteristics relevant to engineering and environmental assessment. This survey element is expected to require approximately 5 to 10 survey days.

2.2.1.6. Hydraulic survey

A hydraulic survey of the River Lee will be undertaken using boat-based access to characterise baseline hydraulic conditions within the South Quays survey area and inform engineering understanding of river behaviour relevant to project design. Water samples and flow measurements will be collected at two locations within the central channel near the easternmost and westernmost boundaries of the MUL area.

The survey will include measurements of current speed, current direction, suspended solids, water temperature and related hydraulic conditions within the survey corridor. The speed and direction of water flow will be measured to 95 percent confidence level as defined in Table 2 of the International Hydrographic Organization Standards for Hydrographic Surveys. Measurements will be collected on both spring and neap tides and will be taken through the water column at 10-minute intervals at the specified locations.

These measurements will provide baseline information on hydraulic behaviour within the survey area and assist in the interpretation of river conditions relevant to engineering design and environmental assessment. This survey element is expected to require approximately 5 to 10 survey days

2.2.1.7. ROV underwater camera survey

An underwater structural inspection survey will be undertaken using a remotely operated vehicle to capture high-resolution video and still imagery of submerged quay walls, jetties, under-jetty areas, associated structures and the adjacent riverbed within the South Quays survey area. The purpose of the survey is to document the current condition and configuration of underwater infrastructure and to provide a detailed visual record of submerged structures and riverbed features.

The Remotely Operated Vehicle (ROV) will be equipped with high-definition video cameras and still image capture systems capable of recording high-resolution imagery of underwater structures. The survey platform will also be fitted with integrated lighting systems, including diffuse LED lighting rigs, to ensure consistent illumination of structural surfaces in shaded areas, particularly beneath jetty decks and along vertical quay wall faces. When combined with the above-water inspection and drone survey datasets, this approach will provide a continuous record of structural condition from the riverbed to the quay crest.

The survey will capture imagery suitable for structural condition assessment of quay walls and jetty structures, including the identification of cracks, spalling, corrosion and marine growth. It will also support the documentation of construction details and material characteristics relevant to heritage conservation records, the identification of obstructions or anomalies associated with quay walls, jetties or the riverbed, including collapsed masonry or debris, and the identification of locations that may require further inspection by diver or additional survey methods. All survey work will be carried out during the day. This survey element is expected to require approximately 5 to 10 survey days.

2.2.1.8. ROV sonar, echo, magnetometer and LiDAR survey

A combined ROV sonar, echo sounder, magnetometer and LiDAR survey will be undertaken to collect geospatial and geophysical data on submerged structures, riverbed morphology and potential obstructions or

buried features within the South Quays survey area. This survey is intended to complement the visual inspection and ROV camera survey by providing high-resolution below-water spatial information and geophysical data. The survey will support the mapping of submerged quay walls, jetties and adjacent riverbed conditions and may assist in the identification of structural anomalies, buried objects, areas of morphological change and other features relevant to engineering and heritage assessment. The outputs will contribute to a more complete understanding of the geometry and condition of underwater infrastructure and the surrounding riverbed environment.

This survey element is expected to require approximately 5 to 10 survey days, although the precise duration may depend on the final survey methodology, tidal conditions and vessel logistics at the time of implementation

2.2.1.9. Bathymetric survey

A bathymetric survey will be undertaken within the South Quays survey area to map riverbed levels and morphology adjacent to quay walls, jetties and associated structures. The purpose of the survey is to provide information on underwater topography and to support understanding of bed levels and morphological conditions along the waterfront corridor. The resulting bathymetric data will inform engineering interpretation of riverbed configuration and support correlation with other structural and geophysical datasets, including the ROV survey outputs and any riverbed material sampling results. The bathymetric survey will therefore contribute to a coherent baseline dataset describing both the submerged structures and the adjacent riverbed environment. This survey element is expected to require approximately 5 to 10 survey days.

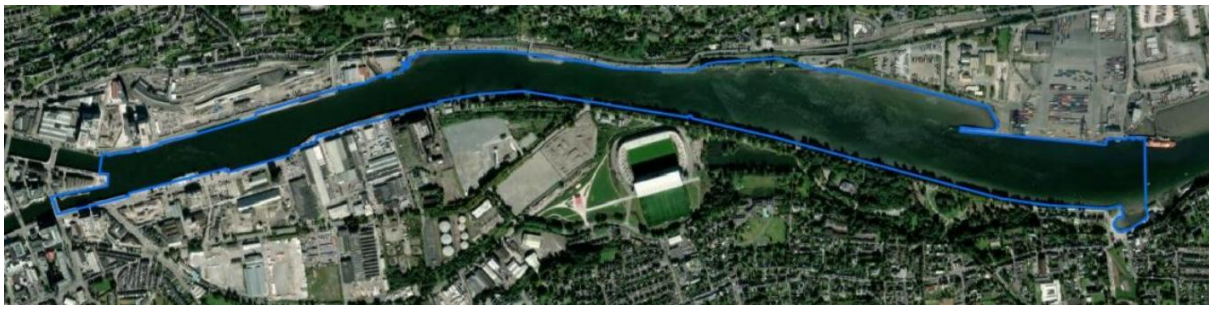

Figure 2-3: Bathymetry survey coverage within the MUL area.

2.2.2. North Quay Surveys

The North Quays structural surveys relate to existing quay wall structures at Horgan's Quay, the Turning Basin and North Deep-Water Quay. These investigations are intended to assess quay wall faces, suspended slabs, wall toe conditions and any evidence of scour, undermining, cracking, displacement or other structural deterioration affecting the existing waterfront structures.

The North Quays programme comprises four principal survey elements, namely above-water visual and physical inspection, underwater structural survey, material testing and investigation, and sonar or echo sounding survey where required. Each North Quays structural survey element is expected to require approximately 1.5 to 2 weeks of active fieldwork, giving a collective North Quays programme duration of approximately 6 to 8 weeks. The survey programme will be delivered separately from the South Quays ecological and archaeological surveys and may proceed sequentially or with limited overlap depending on access, tidal conditions, weather, safety requirements, contractor availability and other operational constraints.

Survey works are expected to take place during daytime hours, although temporary lighting may be required in specific circumstances. Above-water structural inspections and concrete coring at quay walls and suspended slabs must be coordinated with access arrangements along the N8 corridor and the Kent Station compound, including any traffic management, rail safety restrictions and working-hour limitations. Underwater structural surveys and any associated sonar profiling will require suitable tidal states, safe diving conditions and adequate underwater visibility, and will only be undertaken where vessel positioning or temporary mooring can be used safely in order to minimise seabed interaction.

2.2.2.1. Above water visual survey

An above-water visual and physical inspection will be undertaken to document the condition of the existing quay walls and suspended slabs at Horgan's Quay, the Turning Basin and North Deep-Water Quay. The inspection will record visible defects, deterioration, cracking, deformation, surface condition and other indicators of structural distress in the accessible above-water fabric. The survey will provide baseline information on the current condition of the structures and will assist in identifying locations requiring more focused underwater inspection or targeted material testing. The expected duration of this survey element is approximately 1.5 to 2 weeks.

2.2.2.2. Underwater structural survey

An underwater structural survey will be undertaken to inspect the submerged quay wall faces, wall toe and scour conditions adjacent to the North Quays structures. The survey is expected to comprise diver-led, vessel-supported inspection of the underwater structural fabric and immediately adjacent riverbed conditions, subject to suitable tidal state, safe diving conditions and adequate underwater visibility. The purpose of the survey is to identify submerged defects, deterioration, scour, undermining or other structural issues that may not be visible from above-water inspection alone. The findings will be used to supplement the above-water inspection and to inform the scope and targeting of any further material testing where required. The expected duration of this survey element is approximately 1.5 to 2 weeks.

2.2.2.3. Material testing and Investigation

Material testing and investigation will be undertaken to characterise the condition and material properties of existing structural elements at Horgan's Quay, the Turning Basin and North Deep-Water Quay. The scope includes a minimum of two above-water concrete core locations per structure together with conditional underwater sampling where required, giving a minimum of six above-water core locations across the three North Quays structures. Intrusive underwater concrete sampling by coring or chipping will be limited to locations where the findings of the above-water and underwater structural inspections indicate a specific need for additional investigation. The number and timing of such samples will be confirmed in the appointed structural survey contractor's programme, having regard to access, safety and the emerging inspection findings. This approach ensures that intrusive investigation remains targeted and proportionate to the structural assessment requirements. The expected duration of this survey element is approximately 1.5 to 2 weeks.

2.2.2.4. Sonar / echo sounding survey

A vessel-based sonar or echo sounding survey may be undertaken where required to characterise riverbed conditions adjacent to the wall toe and to support assessment of local morphology, scour and underwater geometry at the North Quays structures. This element may comprise multibeam or single beam sonar profiling of the riverbed, depending on the appointed contractor's methodology and the site conditions encountered.

The purpose of this survey would be to identify riverbed levels, scour, loss of seabed material, obstructions or other features relevant to the structural condition of the quay wall toe and founding conditions. Where required, the sonar / echo sounding survey will be undertaken from a survey vessel using a multibeam echo

sounder or single-beam sonar system. The expected duration of this survey element is approximately 1.5 to 2 weeks.

2.2.3. Archaeological surveys

A programme of archaeological surveys will be undertaken within the scheme boundary shown in **Figure 2-4** and **Figure 2-5**, and will apply to the South Quays only. No archaeological surveys are proposed as part of the North Quays structural survey programme. The archaeological survey programme will be undertaken within the River Lee and associated intertidal zone in order to establish the baseline archaeological and cultural heritage conditions within the South Quays survey area prior to the commencement of structural investigations.

The archaeological survey programme comprises an intertidal archaeology survey, archaeological metal detecting survey, archaeological wade survey, archaeological dive survey and archaeological geophysical survey. These survey elements will be programmed having regard to tidal access, weather conditions, water clarity, health and safety requirements and the availability of suitably qualified and licensed archaeological personnel and specialist survey equipment. Each archaeological survey element is expected to require approximately 5 to 10 survey days of active fieldwork, although the precise sequencing and overlap of individual survey components will depend on operational conditions at the time of survey.

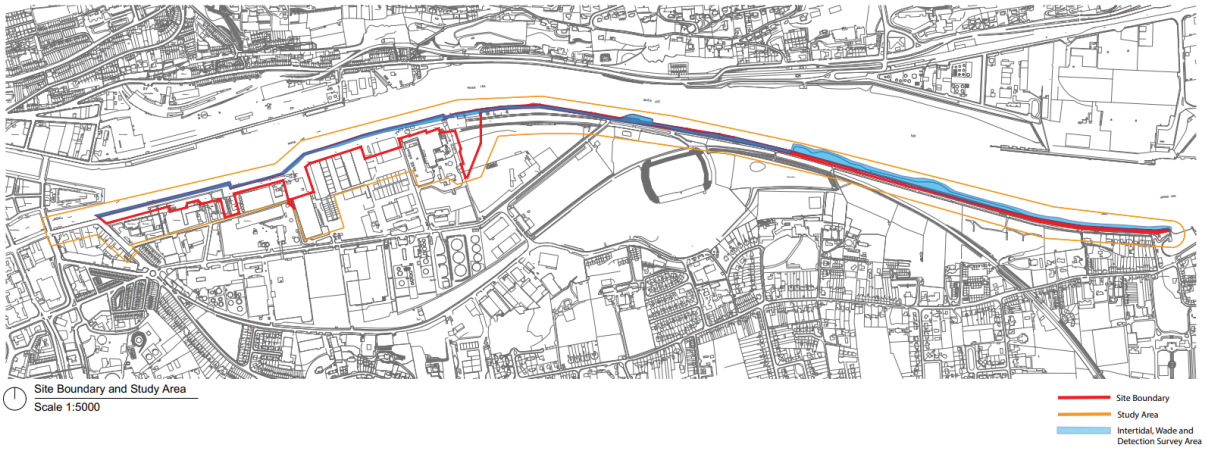

Figure 2-4: Archaeological intertidal, wade, and metal detection survey area.

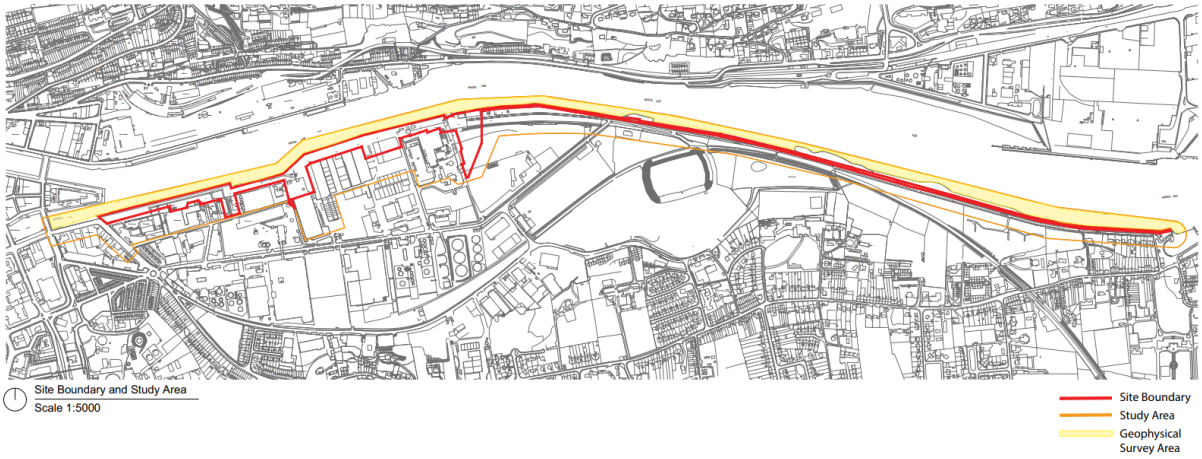

Figure 2-5: Archaeological geophysical survey area.

2.2.3.1. Intertidal Archaeology survey

An intertidal archaeology survey will be undertaken along the South Quays foreshore and associated intertidal margins to identify, inspect, record and assess any archaeological features, deposits or structures present within the exposed intertidal zone. The survey will be undertaken during suitable tidal windows to allow safe access to exposed foreshore areas and will contribute to the archaeological baseline for the South Quays survey corridor.

The survey will include a systematic walkover inspection of the intertidal area and visual examination of exposed sediments, foreshore surfaces, structural remnants and waterfront features. The purpose of the survey is to identify archaeological material or features of potential cultural heritage interest that may be present within the exposed intertidal zone and to establish the need for any further focused recording or investigation. This survey element is expected to require approximately 5 to 10 survey days.

2.2.3.2. Quay wall survey

As part of the intertidal archaeology survey, a quay wall survey will be undertaken in order to inspect, record and assess those elements of the quay walls and associated structures that may have archaeological or heritage significance. This will include visual examination of wall fabric, construction form, visible repairs, historic detailing and any exposed features of potential archaeological interest within the intertidal and waterfront environment. The quay wall survey will assist in documenting the historic character and structural form of the existing waterfront and will provide supporting baseline information for archaeological assessment of the South Quays project area. Recording will be undertaken at a level appropriate to the visible heritage resource and the conditions encountered during the survey.

2.2.3.3. Archaeological metal detecting survey

An archaeological metal detecting survey will be undertaken within the South Quays survey area as part of the archaeological investigation of the intertidal zone. The purpose of this survey is to identify metallic archaeological material that may be present within exposed sediments, foreshore deposits or other accessible intertidal areas and that may not be readily visible during the intertidal walkover survey alone. The survey will be undertaken by suitably qualified archaeological personnel using appropriate detection equipment and will be carried out in accordance with the relevant archaeological methodology and licensing requirements. Any metallic finds or anomalies identified during the survey will be inspected, recorded and assessed as part of the archaeological baseline for the South Quays survey area. The archaeological metal detecting survey will be undertaken during suitable tidal windows and weather conditions to allow safe access to the foreshore and intertidal margins. This survey element is expected to require approximately 5 to 10 survey days of active fieldwork.

2.2.3.4. Archaeological wade survey

An archaeological wade survey will be undertaken within shallow intertidal and nearshore areas of the South Quays survey corridor where access by wading is feasible and safe. The purpose of the wade survey is to allow closer visual inspection and recording of archaeological features, structures or anomalies present within shallow-water areas that may not be fully accessible during the intertidal archaeology survey. The survey will be undertaken by suitably qualified archaeological personnel during appropriate tidal and weather conditions and will focus on the shallow-water margin of the survey corridor where submerged or partially submerged archaeological material may be present. The survey results will contribute to the archaeological baseline for the South Quays area and may assist in refining the scope of any subsequent dive inspection or geophysical interpretation where required. This survey element is expected to require approximately 5 to 10 survey days of active fieldwork.

2.2.3.5. Archaeological dive survey

An archaeological dive survey will be undertaken where required within submerged areas of the South Quays survey corridor in order to inspect and record underwater archaeological features, structures or anomalies. The purpose of the dive survey is to provide direct underwater inspection of locations where archaeological material may be present below the waterline and cannot be adequately assessed through intertidal inspection, wading survey or remote sensing methods alone. The dive survey will be undertaken by suitably qualified and appropriately licensed archaeological divers and will be dependent on suitable tidal conditions, safe diving conditions and adequate underwater visibility. The survey will allow the presence, nature and condition of

underwater archaeological receptors to be visually confirmed and recorded within the survey area. This survey element is expected to require approximately 5 to 10 survey days of active fieldwork, although actual progress will be dependent on safe diving conditions, water clarity and operational constraints at the time of survey.

2.2.3.6. Archaeological geophysical survey

An archaeological geophysical survey will be undertaken within the South Quays survey area in order to identify potential buried or submerged archaeological features using appropriate geophysical methods. The purpose of this survey is to support the wider archaeological baseline by detecting anomalies or features of potential heritage interest that may not be visible at the sediment surface or within the water column. The survey may include the use of detection devices and other geophysical survey techniques appropriate to the riverine and intertidal environment. Prior to undertaking the geophysical survey works, an application for a Detection Device Licence will be submitted to the Licensing Section of the National Monuments Service. A survey Method Statement will accompany this application and will also be provided to the Underwater Archaeology Unit of the National Monuments Service to ensure that the proposed survey methodologies are consistent with archaeological guidance and licensing requirements. Processing of the Detection Device Licence by the National Monuments Service typically requires approximately 10 to 15 working days. The archaeological geophysical survey will be programmed having regard to the licensing process, tidal conditions, access and weather. This survey element is expected to require approximately 5 to 10 survey days of active fieldwork.

2.2.4. Ecological surveys

Marine ecological surveys will be undertaken to support the MUL application for the Cork Docklands North and South Quays Project on the South Quays only. The proposed project includes public realm improvements, flood defence works, quay wall repair and waterfront enhancement along the southern bank of the River Lee.

Elements of the project and associated site investigation surveys are proposed to take place below the High Water Mark (HWM) along the southern bank of the River Lee. Intertidal and subtidal ecological surveys will therefore be undertaken to characterise the existing benthic environment within the survey area and to identify any ecological sensitivities relevant to the proposed in-river investigations.

The ecological survey programme will include intertidal habitat survey and targeted ecological observations within the intertidal and nearshore areas of the River Lee. These surveys will provide baseline information on intertidal habitats and associated biological communities present within the study area. The information gathered will support the identification of ecological sensitivities and inform appropriate mitigation measures associated with the proposed survey works and any future project activities.

Given that some survey activities may require boat-based access to quay walls and structures at river level, targeted checks for signs of otter will also be undertaken in areas that may be inaccessible from land. These observations will focus on identifying any evidence of otter activity along quay structures, river margins and other suitable resting or access locations within the survey area.

The ecological surveys will focus on the intertidal and nearshore areas of the River Lee along the southern bank of the project corridor. The survey area lies within the wider Cork Harbour estuarine system and partially overlaps with the Cork Harbour Special Protection Area (SPA 004030). This SPA is designated for a range of wintering waterbird species that rely on intertidal mudflat and sandflat habitats for foraging.

The ecological survey programme has therefore been designed to provide sufficient baseline information on habitats and ecological receptors within the survey area to support consideration of potential interactions with the conservation objectives of Cork Harbour SPA and the Lower Lee Estuary. A map of the ecological survey area is shown in **Figure 2-6**. The intertidal and subtidal survey elements are expected to require approximately 5 to 10 survey days of active fieldwork, while the otter survey is expected to require approximately 2 to 3 survey days.

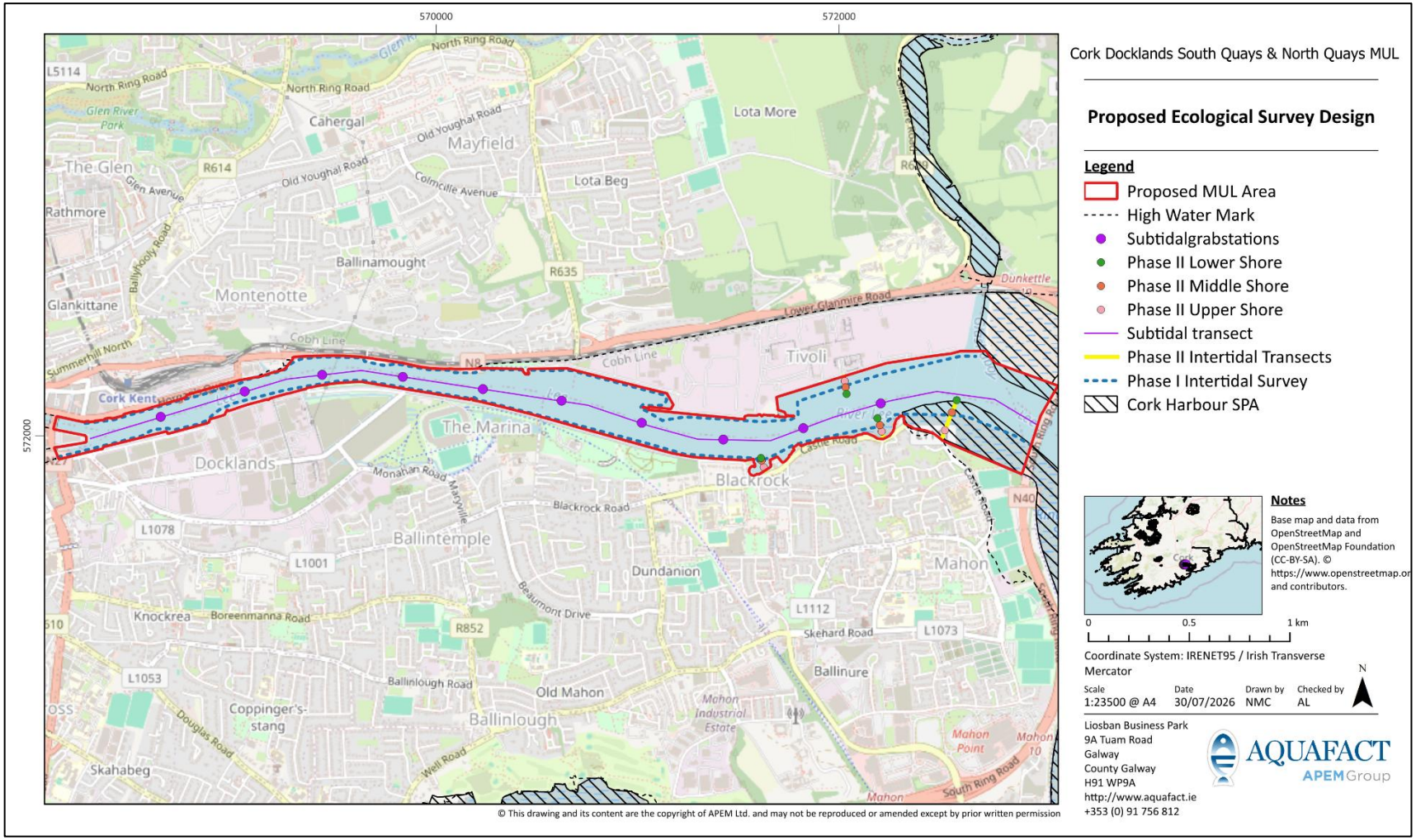

Figure 2-6: Proposed Ecological survey design.

2.2.4.1. Intertidal survey

A Phase I intertidal survey will be undertaken along both the north and south banks of the River Lee within the South Quays study area, covering an approximate total length of 10 km from Lapp's Island to the west to the east of Blackrock Castle along the southern bank and to the eastern shoreline of Tivoli Industrial Estate on the northern bank, comprising a northern transect of 4.98 km and a southern transect of 5.03 km. The survey will will be undertaken, where practicable, during mean low water spring conditions to maximise exposure of the intertidal zone and facilitate habitat characterisation.

Where the intertidal zone is safely accessible on foot, the Phase I survey will be undertaken as a walkover survey. Where the riverside comprises vertical or near-vertical quay walls and the intertidal zone is not safely accessible, predominantly along the southern bank, intertidal habitats will be characterised using high-quality oblique photography and visual assessment from a survey vessel. This approach will allow the extent and nature of intertidal habitats to be recorded safely while maintaining consistency across the study area.

Intertidal biotopes will be identified and classified in accordance with the EUNIS and JNCC marine habitat classification systems. Key attributes, including dominant species, substrate type, sediment characteristics, exposure and evidence of anthropogenic influence, will be recorded. Observations will be georeferenced using handheld GPS and supported by high-resolution photographs and detailed field notes, with habitat extents and biotope boundaries mapped in the field and subsequently digitised using GIS to produce intertidal habitat maps. Attention will be given to intertidal habitats of relevance to SPA qualifying interests, particularly those supporting benthic prey resources for wintering waterbirds.

A Phase II quantitative intertidal transect survey will be undertaken to characterise middle and lower shore intertidal habitats within the study area. A total of four Phase II intertidal transects will be surveyed towards the eastern end of the study area, where soft intertidal ground is present, and each transect will extend across the upper, middle and lower shore where feasible. Due to the presence of fine, soft mudflat sediments and limited safe access in parts of the intertidal zone, Phase II sampling will be undertaken from a vessel at high water using a 0.025 m^2 Van Veen grab deployed from the appointed contractor's rigid inflatable boat. The vessel will be operated by suitably qualified personnel in accordance with relevant marine safety regulations.

At each transect, sampling will be undertaken at three shore levels, upper, middle and lower shore. Triplicate grab samples will be collected at each shore level for benthic macrofaunal analysis, together with one additional grab sample per station for sediment Particle Size Analysis and organic carbon analysis, and the depth of any anoxic layer will be recorded for each sample. During the Phase II survey, a Fifish V6 Expert ROV will be deployed along each transect to document middle and lower shore intertidal habitats, covering

approximately 50 m per transect depending on the length of the intertidal zone at each transect location. A total of 48 samples will be collected with 36 samples will be collected for benthic invertebrate faunal analysis for the Phase II intertidal survey, and 12 samples will be collected for Particle Size Analysis (PSA).

Video footage will be reviewed at the appointed contractor's offices to support intertidal biotope classification, with salient features recorded and supplemented by still imagery where appropriate. All faunal samples will be preserved in 4 percent buffered formalin in clearly labelled containers, and sediment samples for Particle Size Analysis and organic carbon analysis will be retained in separate labelled containers. Where features of conservation interest are identified, their extent will be mapped using GPS to inform the assessment of ecological sensitivity.

PSA will be undertaken on 12 sediment samples using standard granulometric methods to determine sediment grain size distribution and support habitat classification and interpretation of the benthic data. Samples will be dried, sieved and measured to generate particle size fractions for reporting in accordance with the Folk sediment classification scheme. Following drying, organic carbon analysis will be completed on the same 12 samples by a certified laboratory using the Loss on Ignition technique.

2.2.4.2. Subtidal survey

A subtidal benthic survey will be undertaken within the main River Lee channel in the South Quays study area, extending for approximately 4 km, in order to characterise subtidal sediments and benthic macrofaunal communities and to establish baseline ecological conditions for the MUL application and any subsequent environmental assessment. Subtidal sampling will be undertaken at approximately 10 pre-defined stations spaced at about 400 m intervals, subject to final station positioning, substrate suitability, water depth and site access constraints. At each station, duplicate benthic faunal samples will be collected using an appropriate grab sampler, such as a duplicate 0.025 m^2 Van Veen grab, where conditions permit. Each faunal sample will be sieved within 24 hours of retrieval through a 1.0 mm mesh, with retained material preserved in buffered formalin and subsequently transferred to industrial methylated spirits for laboratory analysis. A total of 30 samples will be collected, with 20 samples for faunal analysis, and 10 samples for Particle Size Analysis (PSA).

Macrofaunal samples will be identified to species level where practicable, and the resulting abundance data will be used to describe community composition and diversity. In addition, one sediment sample per station will be collected for Particle Size Analysis to determine sediment grain size distribution and support habitat classification and interpretation of the benthic community data. Where feasible, sediment sub-samples may also be retained for additional sediment parameters, including organic content, subject to laboratory requirements and regulatory consultation. All sampling locations will be recorded using differential GPS, and

the survey results will be used to classify subtidal habitats in accordance with relevant guidance and to identify any ecological sensitivities within the study area.

2.2.4.3. Otter Survey

Otter (*Lutra lutra*) is a European Protected Species listed under Annex IV of the Habitats Directive and is known to utilise riverine and estuarine environments, including heavily modified urban waterways.

Given the requirement for boat-based access to undertake intertidal and subtidal surveys along the South Quays, a targeted otter survey is proposed to assess the potential presence of otter in areas of the quay that are inaccessible by foot, particularly at river level below the High-Water Mark.

The otter survey will comprise a boat-based visual inspection of quay walls, river margins and associated structures within the entirety of the MUL area, undertaken at suitable tidal states to allow effective inspection of potential otter habitat features. The survey will focus on the identification and recording of evidence of otter presence, including holts, couches, spraints and feeding remains. In addition, the suitability of quay structures, river margins and associated features for use by otters for resting, sheltering and commuting will be assessed.

Survey effort will be targeted primarily at areas that cannot be safely accessed from the shoreline**,** ensuring that otherwise inaccessible habitat features are adequately assessed. All observations will be recorded and used to inform an evaluation of otter activity and habitat use within the study area. The otter survey area will comprise the entirety of the MUL area as outlined in Attachment 3.4 which accompanies this application.

2.3. Assessment Methodology: Source- Pathway- Receptor

The assessment of impact mechanisms considers all relevant aspects of the Project that have potential direct or indirect and effects on conservation features. In order to establish the Zone of Influence (ZoI) of the Project, the assessment of likely significant effects will be based on the Source-Pathway-Receptor (SPR) Model (OPR, 2021):

- **Source** - Identification of the characteristics of the Project based on the nature, size, location and type of impacts.
- **Pathway** – Identification of pathways that could link European sites and their conservation features to the Project.
- **Receptor** – Identification of the location, nature and sensitivities of the conservation features and the ecological conditions supporting their survival and the conservation objectives specified to maintain or restore favourable conservation status.

To establish the ZoI of the project, the assessment of connectivity between impact mechanisms (sources) and conservation features (*i.e*. the QIs of SACs and SCIs of SPAs) considers the location of the project relative to designated habitats and non-mobile species, species' foraging ranges and migration routes, proximity to foraging and breeding areas, potential behavioural responses to disturbance, hydrological connectivity with conservation features, and indirect effects on prey species that could alter ecological interactions.

To inform the screening exercise, available data on protected habitats and species were mapped and interrogated in a Geographic Information System (GIS) to identify potential S–P–R connections. Sources (impact mechanisms), pathways (hydrological, physical or ecological connectivity), and receptors (conservation features) were identified with reference to ecological surveys undertaken in the area. Where no ecological pathway or functional link exists between the project and the conservation features of a European site, there is no potential for likely significant effects, and those features can be screened out.

Section 2.6 considers the likely significant effects from the impact mechanisms from the Project alone, while **Section 2.7** considers potential in-combination effects with other plans or projects.

2.4. Potential Impact Mechanisms

A detailed description of the Project and proposed survey activities is provided in **Section 2.1**. This section identifies the potential impact mechanisms by which the proposed MUL survey activities within the River Lee could affect European sites, in accordance with Article 6(3) of the Habitats Directive.

Impact mechanisms are considered using a S–P–R framework, taking account of the ZoI and the sensitivities of relevant QIs and SCIs. The proposed works comprise temporary, localised and mobile survey activities only; no dredging, piling, blasting, permanent structures, or long-term hydromorphological alteration form part of this MUL application. The additional North Quays works comprise structural survey activities only and are considered within the same impact mechanism categories as the original survey scope.

2.4.1. Potential Impact Mechanism 1: Noise and Vibration (Airborne and Underwater)

Underwater sound will be generated during vessel operations and during in-water acoustic survey activities, including bathymetric survey, multibeam echo sounding, sub-bottom profiling, ROV-based sonar survey operations and sonar / echo sounding associated with the additional North Quays structural surveys where required. Sound propagation within the tidal River Lee may extend beyond the immediate survey corridor depending on equipment specifications, operational parameters, water depth and tidal conditions, and a pathway exists for sound to propagate downstream into the wider Cork Harbour system.

Potential receptors include fish (including migratory species using the estuarine corridor), marine mammals where present and otter using the river corridor. Where biologically relevant frequency ranges overlap, there is potential for temporary behavioural disturbance or acoustic masking during active survey periods. These sources are of substantially lower intensity than high-energy impulsive construction activities (*e.g.*, impact piling).

Drilling, coring or other intrusive structural testing may take place as part of the structural surveys, including the additional North Quays structural survey scope where required. These activities have the potential to cause airborne noise disturbance to otter and bird species during active survey periods

2.4.2. Potential Impact Mechanism 2: Physical Disturbance/ turbidity

Localised physical disturbance may arise from discrete riverbed sampling, intrusive substructure investigations, underwater concrete sampling, coring or chipping where required, intertidal archaeological survey activities and the deployment or retrieval of equipment in contact with the riverbed.

For the North Quays structural surveys, potential disturbance would be limited to discrete investigation or sampling locations associated with existing quay wall structures, wall toe areas and the immediately adjacent riverbed. Temporary mooring or anchoring, if required by the appointed contractor, may also result in highly localised and short-duration contact with the riverbed. Any associated disturbance would be confined to the immediate footprint of the sampling, investigation or contact point.

Short-lived sediment resuspension may occur during riverbed sampling, intrusive investigations or the deployment and retrieval of equipment. A pathway therefore exists for locally resuspended material to disperse under tidal currents. Potential receptors include benthic communities within the River Lee, fish sensitive to elevated suspended solids and, where hydrological connectivity exists, downstream estuarine habitats and conservation features of European sites.

The proposed survey activities do not include dredging, excavation, sediment disposal or any planned discharge to the aquatic environment. The principal potential effect associated with this impact mechanism is therefore a temporary and localised increase in suspended solids and turbidity in the immediate vicinity of the works. Given the discrete footprint and temporary nature of the activities, this mechanism is considered further at Screening stage in relation to the relevant conservation objectives.

2.4.3. Potential Impact Mechanism 3: Visual Disturbance from Survey Activity

Vessel movements, diver-support activity, quay-edge access, land-based personnel and personnel undertaking intertidal survey works may result in short-term disturbance within the river corridor during active survey periods. The Docklands section of the River Lee is urbanised and subject to existing vessel traffic and human activity; however, disturbance is retained as a potential pathway for Screening with respect to conservation features within the ZoI.

2.5. European sites in the Zone of Influence (ZoI)

The ZoI for the proposed surveys has been defined as the maximum spatial extent over which the Project could plausibly give rise to direct or indirect effects on European sites, taking account of the nature of the activities, the relevant impact pathways, and the ecological characteristics of potential receptors. These factors informed a precautionary delineation of the ZoI, ensuring that all relevant Natura 2000 sites and receptors with a reasonable likelihood of interaction were included in the screening and subsequent impact assessment.

The ZoI has been defined on the basis of:

- Potential underwater noise propagation from geophysical equipment.

- Localised sediment disturbance arising from grab sampling and vessel movements.
- Potential changes to water quality (*e.g.*, suspended solids); and
- Ecological connectivity within the River Lee and wider Cork Harbour system.Table 2-1).

Table 2-1 and **Table 2-3** below show the conservation features for which the European sites are designated, their conservation objectives and the distance of the SACs and SPAs to the Project. Bird species identified as 'notable species' in the site synopsis reports for each SPA are included. All site synopsis and conservation objectives for the European sites can be accessed through the NPWS website[ii].

A map of all SACs and SPAs within the ZoI of the project can be seen below in (**Figure 2-7**).

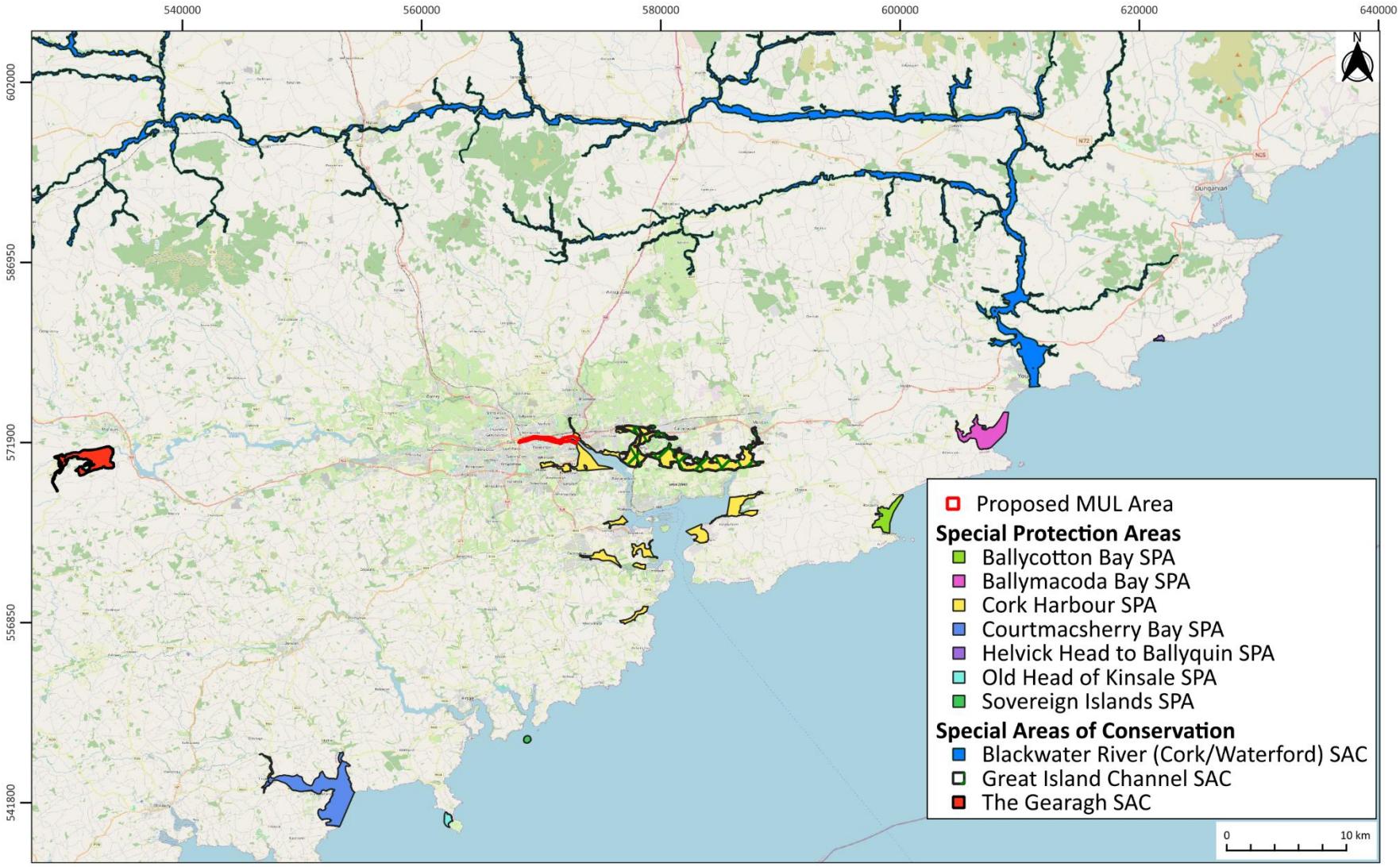

Figure 2-7: SACs and SPAs within ZoI of the project.

2.5.1. Special Areas of Conservation (SAC)

In accordance with Article 6(3) of the Habitats Directive, this assessment considers whether the proposed survey operations including bathymetric survey, hydraulic survey, ROV underwater camera survey, ROV sonar/echo/magnetometer/LiDAR survey, riverbed and jetty material sampling, concrete coring, and associated structural investigations could give rise to likely significant effects on SACs within the defined ZoI.

The surveys are described in detail in Attachment 3.1 Description of the Proposed Maritime Usage which accompanies this document as part of the MUL application.

The ZoI has been defined on the basis of:

- Potential underwater noise propagation from geophysical equipment.
- Localised sediment disturbance arising from grab sampling and vessel movements.
- Potential changes to water quality (*e.g.*, suspended solids); and
- Ecological connectivity within the River Lee and wider Cork Harbour system.

European sites considered within the ZoI comprise those SACs with a realistic pathway for effect from the proposed survey activities, based on hydrological connectivity within the tidal River Lee/Cork Harbour receiving environment and, where relevant, functional ecological connectivity for mobile species. QIs and site-specific conservation objectives of each relevant SAC have been reviewed to determine whether the proposed activities could undermine the conservation objectives of these sites, either alone or in-combination with other plans or projects.

The nearest SAC within the ZoI of the proposed surveys is Great Island Channel SAC (001058), located approximately 4 km east of the proposed survey area within Cork Harbour.

Great Island Channel SAC comprises extensive intertidal mudflats and sandflats together with areas of Atlantic salt meadow within the wider Cork Harbour estuarine system. These habitats support important assemblages of estuarine flora and fauna and provide feeding habitat for waterbirds within the harbour.

The SAC is designated for the following Annex I habitats:

- Mudflats and sandflats not covered by seawater at low tide [1140]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]

Given the hydrological connectivity between the River Lee and Cork Harbour, a potential pathway for effect via localised sediment disturbance or temporary changes in water quality cannot be excluded at the screening stage. A full list of relevant SACs and their QIs within the survey ZoI can be found in (**Table 2-1**).

Table 2-1: SACs within ZoI of the proposed surveys.

SAC [code]	Distance	Qualifying Interest	Ecological Group	Conservation Objective
Great Island Channel SAC (001058)	*C.* 4 km east of Proposed site.	Mudflats and sandflats not covered by seawater at low tide (1140)	Annex I habitat	To maintain favourable conservation status
		Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) (1330)	Annex I habitat	To restore favourable conservation status

2.5.2. Special Protection Areas (SPA)

In accordance with Article 6(3) of the Habitats Directive, this assessment evaluates the potential for the proposed survey activities to result in significant effects on any SPAs located within the identified ZoI of the project. This zone encompasses the area within which direct, indirect, or cumulative impacts could plausibly arise, including those associated with disturbance to bird species, changes in water quality, sediment dispersion, and alteration of foraging or roosting habitats. All SPAs that are ecologically connected to the project site, either through hydrological linkage or functional habitat use by listed bird species, have been included in the screening process. The Special Conservation Interests (SCI) and site-specific conservation objectives of each SPA have been examined to determine whether the proposed surveys could adversely affect the integrity of these sites, either individually or in combination with other relevant plans or projects.

The nearest SPA within the ZoI of the proposed surveys is Cork Harbour SPA (004030), which overlaps the proposed survey area. This SPA is designated for an extensive assemblage of wintering waterbirds and associated wetland habitats. The SCI species of Cork Harbour SPA include:

- Little Grebe (*Tachybaptus ruficollis*) [A004]
- Great Crested Grebe (*Podiceps cristatus*) [A005]
- Cormorant (*Phalacrocorax carbo*) [A017]
- Grey Heron (*Ardea cinerea*) [A028]
- Shelduck (*Tadorna tadorna*) [A048]

- Teal (*Anas crecca*) [A052]
- Wigeon (*Mareca penelope*) [A050]
- Pintail (*Anas acuta*) [A054]
- Shoveler (*Spatula clypeata*) [A056]
- Red-breasted Merganser (*Mergus serrator*) [A069]
- Oystercatcher (*Haematopus ostralegus*) [A130]
- Golden Plover (*Pluvialis apricaria*) [A140]
- Grey Plover (*Pluvialis squatarola*) [A141]
- Lapwing (*Vanellus vanellus*) [A142]
- Dunlin (*Calidris alpina*) [A149]
- Black-tailed Godwit (*Limosa limosa*) [A156]
- Curlew (*Numenius arquata*) [A160]
- Redshank (*Tringa totanus*) [A162]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Common Gull (*Larus canus*) [A182]
- Lesser Black-backed Gull (*Larus fuscus*) [A183]
- Common Tern (*Sterna hirundo*) [A193]
- Bar tailed Godwit (*Limosa lapponica*) [A157]
- Wetlands and Waterbirds [A999]

Given that the proposed survey activities will take place within the tidal River Lee, which forms part of the Cork Harbour estuarine system, SCI bird species from Cork Harbour SPA may utilise habitats within the project area.

The analysis also examined ecological pathways for seabird species *ex-situ*. Seabirds that exhibit oceanic, offshore behaviour were not included in the assessment as they are unlikely to be present in a significant manner in the MUL area as it is inland, in a transitional/estuarine environment. These include fulmar, gannet, guillemot, kittiwake, puffin, and storm petrel. This element of the screening process was informed by published data on species-specific foraging ranges (Thaxter *et al.,* 2012; Jovani *et al.,* 2016; Wakefield *et al.,* 2017; Woodward *et al.,* 2019; Woodward *et al.,* 2024) summaries in **Table 2-2**. Due to the coastal nature of the proposed survey area, seabirds are most likely to be present and have potential to be impacted by impact mechanisms. Only seabird SCIs from SPAs with direct or functional connectivity to the proposed survey area are taken forward for assessment of likely significant effects (Stage 2).

Table 2-2: Review of seabird foraging ranges during breeding season (summarised from Thaxter et al. (2012), Jovani et al. (2015), Wakefield et al. (2017), and Woodward et al. (2019)). Distances used in the current assessment are indicated in bold. Maximum foraging range are often an extreme value that is not representative of the wider population.

Species	Thaxter *et al.*, 2012		Jovani *et al.*, 2016	Wakefield *et al.*, 2017		Woodward *et al.*, 2019		Woodward *et al.*, 2024
	Maximum foraging range (km)	Mean foraging range (km)	Foraging range (km)	Maximum foraging range (km)	Mean foraging range (km)	Maximum foraging range (km)	Mean foraging range (km)	Mean site maximum (km)
Arctic tern (*Sterna paradisaea*) [A194]	30	7.1				46	**6.1**	40.5 (25.7 ±14.8)
Black-headed Gull (*Larus ridibundus*) [A179]	40	11.4				18.5	**7**	18.5
Common Gull (*Larus canus*) [A182]	50	**25**				50	N/A	50
Common Tern (*Sterna hirundo*) [A193]	30	7.1				30	**6.4**	26.9 (18 ± 8.9)
Cormorant (*Phalacrocorax carbo*) [A017]	35	5.2				35	**7.1**	33.9 (25.6 ± 8.3)
Eider (*Somateria mollissima*) [A063]	80	2.4				22.5	**3.2**	21.5
Fulmar (*Fulmarus glacialis*) [A009]	580	47.5				2736	**134.6**	1200.2 (542.3 ± 657.9)
Gannet (*Morus bassanus*) [A016]	590	92.5	709			709	**120.4**	509.4 (315.2 ± 194.2)
Great Black-backed Gull (*Larus marinus*) [A183]			60			73	**16.7**	73
Guillemot (*Uria aalge*) [A199]	135	37.8		**340**	10.5	338	**33.1**	153.7 (73.2 ± 80.5)
Herring Gull (*Larus argentatus*) [A184]	92	10.5				92	**14.9**	85.6 (58.8 ± 26.8)
Kittiwake (*Rissa tridactyla*) [A188]	120	24.8	231	300	11.9	770	**54.7**	300.6 (156.1 ± 144.5)
Leach's Storm Petrel (*Oceanodroma leucorhoa*) [A191]	< 120					N/A	**657**	N/A
Lesser Black-backed Gull (*Larus fuscus*) [A183]	181	71.9				533	**43.3**	236 (127 ± 109)
Little Tern (*Sterna albifrons*) [A195]	11	2.1				5	**3.5**	5
Manx Shearwater (*Puffinus puffinus*) [1351] [A013]	330	2.3				2890	**136.1**	2365.5 (1346.8 ± 1018.7)
Mediterranean Gull (*Larus melanocephalus*) [A180]	20	11.5				20	**11.5**	20
Puffin (*Fratercula arctica*) [A204]	200	4				383	**62.4**	265.4 (137.1 ± 128.3)

Species	Thaxter *et al.*, 2012		Jovani *et al.*, 2016	Wakefield *et al.*, 2017		Woodward *et al.*, 2019		Woodward *et al.*, 2024
	Maximum foraging range (km)	Mean foraging range (km)	Foraging range (km)	Maximum foraging range (km)	Mean foraging range (km)	Maximum foraging range (km)	Mean foraging range (km)	Mean site maximum (km)
Razorbill (*Alca torda*) [A200]	95	23.7	312	305	13.2	313	**61.3**	164.6 (88.7 ± 75.9)
Red-throated Diver (*Gavia stellata*) [A001]	9	4.5				9	**4.5**	9
Roseate Tern (*Sterna dougallii*) [A192]	30	12.2				24	**4.1**	23.2 (12.6 ± 10.6)
Sandwich Tern (*Sterna sandvicensis*) [A191]	54	11.5				80	**9**	57.5 (34.3 ± 23.2)
Shag (*Gulosus aristotelis*) [A018]	17	5.9		35	3.4	46	**9.2**	23.7 (13.2 ± 10.5)
Storm-petrel (*Hydrobates pelagicus*) [A014]	65					336 (468*)	N/A	400.6

A total of 167 SPA are designated in the Republic of Ireland; these have been interrogated using QGIS to calculate the approximately distance from the proposed site to the SPA. This was then assessed against seabird species foraging ranges, identified through a literature review, to identify which SPA are within that SCI's foraging range. For the purpose of this assessment, mean reported foraging ranges have been used, and the values applied are indicated in bold. These represent the mean of the observed distances from all reviewed data and have been selected in line with the principle of proportionality to ensure that the appropriate extent of potential interaction between SPAs and the proposed site are captured in the absence of site-specific tracking data. Breeding colony foraging ranges may vary substantially between colonies, both nationally and internationally. Due to logistical constraints in acquiring colony-specific movement data, assessments often rely on published ranges from literature (Woodward *et al*., 2024), as is the case in this report. Woodward *et al*. 2024 was reviewed against the 2019 foraging ranges and updated where relevant.

To identify viable impact pathways between SPAs and the proposed site, the shortest linear distance from each SPA to the proposed sites were calculated (as the crow flies). The SCIs for all SPAs within the ZoI can be seen in **Table 2-3** which also contains their site-specific conservation objectives. All site synopsis and conservation objectives for the European sites can be accessed through the NPWS website.

Table 2-3: SPAs within the zone of influence of the proposed MUL boundary.

Special Protection Area [site code]	Distance (km)	Special Conservation Interest	Broad Ecological Group	Conservation Objective
Cork Harbour SPA [004030]	Overlap	Northern Pintail (*Anas acuta*) [A054]	Waterfowl	To maintain favourable conservation condition
		Northern Shoveler (*Anas clypeata*) [A056]	Waterfowl	To maintain favourable conservation condition
		Eurasian Teal (*Anas crecca*) [A052]	Waterfowl	To maintain favourable conservation condition
		Eurasian Wigeon (*Anas penelope*) [A050]	Waterfowl	To maintain favourable conservation condition
		Grey Heron (*Ardea cinerea*) [A028]	Waterbird	To maintain favourable conservation condition
		Dunlin (*Calidris alpina*) [A149]	Wader	To maintain favourable conservation condition
		Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	Seabird	To maintain favourable conservation condition
		Eurasian Oystercatcher (*Haematopus ostralegus*) [A130]	Wader	To maintain favourable conservation condition
		Common Gull (*Larus canus*) [A182]	Seabird	To maintain favourable conservation condition
		Lesser Black-backed Gull (*Larus fuscus*) [A183]	Seabird	To maintain favourable conservation condition
		Bar-tailed Godwit (*Limosa lapponica*) [A157]	Wader	To maintain favourable conservation condition
		Black-tailed Godwit (*Limosa limosa*) [A156]	Wader	To maintain favourable conservation condition
		Red-breasted Merganser (*Mergus serrator*) [A069]	Waterfowl	To maintain favourable conservation condition
		Eurasian Curlew (*Numenius arquata*) [A160]	Wader	To maintain favourable conservation condition
		Great Cormorant (*Phalacrocorax carbo*) [A017]	Seabird	To maintain favourable conservation condition
		European Golden Plover (*Pluvialis apricaria*) [A140]	Wader	To maintain favourable conservation condition
		Grey Plover (*Pluvialis squatarola*) [A141]	Wader	To maintain favourable conservation condition
		Great Crested Grebe (*Podiceps cristatus*) [A005]	Waterbird	To maintain favourable conservation condition
		Common Tern (*Sterna hirundo*) [A193]	Seabird	To maintain favourable conservation condition
		Little Grebe (*Tachybaptus ruficollis*) [A004]	Waterbird	To maintain favourable conservation condition

Special Protection Area [site code]	Distance (km)	Special Conservation Interest	Broad Ecological Group	Conservation Objective
		Common Shelduck (*Tadorna tadorna*) [A048]	Seaduck	To maintain favourable conservation condition
		Common Redshank (*Tringa totanus*) [A162]	Wader	To maintain favourable conservation condition
		Northern Lapwing (*Vanellus vanellus*) [A142]	Wader	To maintain favourable conservation condition
Sovereign Islands SPA [004124]	24.5	Great Cormorant (*Phalacrocorax carbo*) [A017]	Seabird	To restore favourable conservation condition
Ballycotton Bay SPA [004022]	25.62	Eurasian Teal (*Anas crecca*) [A052]	Waterfowl	To maintain favourable conservation condition
		Turnstone (*Arenaria interpres*) [A169]	Wader	To maintain favourable conservation condition
		Ringed Plover (*Charadrius hiaticula*) [A137]	Wader	To maintain favourable conservation condition
		Common Gull (*Larus canus*) [A182]	Seabird	To maintain favourable conservation condition
		Lesser Black-backed Gull (*Larus fuscus*) [A183]	Seabird	To maintain favourable conservation condition
		Bar-tailed Godwit (*Limosa lapponica*) [A157]	Wader	To maintain favourable conservation condition
		Black-tailed Godwit (*Limosa limosa*) [A156]	Wader	To maintain favourable conservation condition
		Eurasian Curlew (*Numenius arquata*) [A160]	Wader	To maintain favourable conservation condition
		European Golden Plover (*Pluvialis apricaria*) [A140]	Wader	To maintain favourable conservation condition
		Grey Plover (*Pluvialis squatarola*) [A141]	Wader	To maintain favourable conservation condition
		Northern Lapwing (*Vanellus vanellus*) [A142]	Wader	To maintain favourable conservation condition
Courtmacsherry Bay SPA [004219]	29.74	Eurasian Wigeon (*Anas penelope*) [A050]	Waterfowl	To maintain favourable conservation condition
		Dunlin (*Calidris alpina*) [A149]	Wader	To maintain favourable conservation condition
		Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	Seabird	To maintain favourable conservation condition
		Great Northern Diver (*Gavia immer*) [A003]	Waterbird	To maintain favourable conservation condition
		Common Gull (*Larus canus*) [A182]	Seabird	To maintain favourable conservation condition
		Bar-tailed Godwit (*Limosa lapponica*) [A157]	Wader	To maintain favourable conservation condition
		Black-tailed Godwit (*Limosa limosa*) [A156]	Wader	To maintain favourable conservation condition

Special Protection Area [site code]	Distance (km)	Special Conservation Interest	Broad Ecological Group	Conservation Objective
		Red-breasted Merganser (*Mergus serrator*) [A069]	Seaduck	To maintain favourable conservation condition
		Eurasian Curlew (*Numenius arquata*) [A160]	Wader	To maintain favourable conservation condition
		European Golden Plover (*Pluvialis apricaria*) [A140]	Wader	To maintain favourable conservation condition
		Common Shelduck (*Tadorna tadorna*) [A048]	Waterfowl	To maintain favourable conservation condition
		Northern Lapwing (*Vanellus vanellus*) [A142]	Wader	To maintain favourable conservation condition
Old Head of Kinsale SPA [004021]	31.45	Black-legged Kittiwake (*Rissa tridactyla*) [A188]	Seabird	To restore favourable conservation condition
		Common Guillemot (Uria *aalge*) [A199]	Seabird	To restore favourable conservation condition
Ballymacoda Bay SPA [004023]	31.56	Eurasian Teal (*Anas crecca*) [A052]	Waterfowl	To maintain favourable conservation condition
		Eurasian Wigeon (*Anas penelope*) [A050]	Waterfowl	To maintain favourable conservation condition
		Turnstone (*Arenaria interpres*) [A169]	Wader	To maintain favourable conservation condition
		Sanderling (*Calidris alba*) [A144]	Wader	To maintain favourable conservation condition
		Dunlin (*Calidris alpina*) [A149]	Wader	To maintain favourable conservation condition
		Ringed Plover (*Charadrius hiaticula*) [A137]	Wader	To maintain favourable conservation condition
		Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	Seabird	To maintain favourable conservation condition
		Common Gull (*Larus canus*) [A182]	Seabird	To maintain favourable conservation condition
		Lesser Black-backed Gull (*Larus fuscus*) [A183]	Seabird	To maintain favourable conservation condition
		Bar-tailed Godwit (*Limosa lapponica*) [A157]	Wader	To maintain favourable conservation condition
		Black-tailed Godwit (*Limosa limosa*) [A156]	Wader	To maintain favourable conservation condition
		Eurasian Curlew (*Numenius arquata*) [A160]	Wader	To maintain favourable conservation condition
		European Golden Plover (*Pluvialis apricaria*) [A140]	Wader	To maintain favourable conservation condition
		Grey Plover (*Pluvialis squatarola*) [A141]	Wader	To maintain favourable conservation condition
		Common Redshank (*Tringa totanus*) [A162]	Wader	To maintain favourable conservation condition

Special Protection Area [site code]	Distance (km)	Special Conservation Interest	Broad Ecological Group	Conservation Objective
		Northern Lapwing (*Vanellus vanellus*) [A142]	Wader	To maintain favourable conservation condition
Helvick Head to Ballyquin SPA [004192]	48.82	Peregrine Falcon (*Falco peregrinus*) [A103]	Raptor	To restore favourable conservation condition
		Herring Gull (*Larus argentatus*) [A184]	Seabird	To restore favourable conservation condition
		Great Cormorant (*Phalacrocorax carbo*) [A017]	Seabird	To restore favourable conservation condition
		Red-billed Chough (*Pyrrhocorax pyrrhocorax*) [A346]	Terrestrial	To restore favourable conservation condition
		Black-legged Kittiwake (*Rissa tridactyla*) [A188]	Seabird	To restore favourable conservation condition

2.6. Assessment of Potential Significant Effects

A detailed description of the proposed Project and survey activities is provided in **Section 2.1**. The proposed maritime usage relates exclusively to temporary, investigative post-MUL survey works within the tidal River Lee, including ecological surveys, archaeological surveys, bathymetric and hydraulic surveys, ROV underwater camera and sonar surveys, geophysical survey equipment, limited riverbed and jetty material sampling, intrusive substructure investigations, concrete coring and structural testing. The application has also been revised to include additional North Quays structural surveys at Penrose Quay, Fishguard Wharf, Horgan's Quay, the Turning Basin and North Deep-Water Quay, including above-water inspection, diver-led underwater structural survey, material testing/concrete coring where required, and sonar / echo sounding where required.

The Stage 1 Screening assessment considers whether the proposed survey activities, alone or in combination with other plans or projects, are likely to have a significant effect on any European site in view of its conservation objectives. Screening conclusions are reached without reliance on mitigation.

Based on the nature, scale and location of the survey activities, the following potential impact mechanisms have been identified as relevant for assessment:

- Noise and Vibration (Airborne and Underwater)
- Physical disturbance/Turbidity
- Visual Disturbance

The assessment applies a SPR framework and considers the ZoI defined in **Section 2.5**.

Table 2-4: Assessment of potential significant effects from the impact mechanisms to the conservation features.

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
Great Island Channel SAC [001058]	Mudflats and sandflats not covered by seawater at low tide [1140]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Underwater noise or visual disturbance do not represent credible mechanisms for affecting the conservation objectives of this habitat feature and is screened out. Localised sediment disturbance associated with discrete grab sampling, intrusive investigations, North Quays material testing/coring or chipping where required, and wall toe/scour assessment may generate short-term turbidity. However, disturbance is small-scale, temporary and confined to discrete sampling points within an already highly modified urban estuary. No dredging, habitat removal, excavation or long-term alteration is proposed. While a pathway exists via tidal exchange, the small scale and short duration of the works and the rapid dilution/dispersion within Cork Harbour mean any turbidity effect would be localised and temporary and would not undermine the conservation objectives of the SAC; likely significant effects can therefore be excluded at Screening stage.	N - No credible pathway, screened out at Stage 1
	Atlantic salt meadows [1330]		Underwater noise or visual disturbance do not represent credible mechanisms for affecting the conservation objectives of this habitat feature and is screened out. Atlantic salt meadows occur within upper intertidal zones and are spatially separated from the subtidal survey footprint. There is no direct overlap between proposed works and mapped salt meadow habitat. While hydrological connectivity exists via the River Lee and Cork Harbour, sediment disturbance is limited, localised and temporary. No mechanism for direct habitat disturbance, excavation or trampling of salt meadow habitat arises from the proposed works. The additional North Quays structural surveys would be confined to existing quay wall structures and immediately adjacent wall toe/riverbed areas, and would not result in direct disturbance, excavation or trampling of Atlantic salt meadow habitat. No credible pathway exists by which the conservation objectives of Atlantic salt meadow habitat would be undermined.	N - No credible pathway, screened out at Stage 1
Cork Harbour SPA [004030]	Little Grebe (*Tachybaptus ruficollis*) [A004]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition.	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance	Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Great Crested Grebe (*Podiceps cristatus*) [A005]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Cormorant (*Phalacrocorax carbo*) [A017]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Grey Heron (*Ardea cinerea*) [A028]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
	Shelduck (*Tadorna tadorna*) [A048]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Teal (*Anas crecca*) [A052]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Wigeon (*Mareca penelope*) [A050]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Pintail (*Anas acuta*) [A054]	Noise and Vibration (Airborne and Underwater)	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system.	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance	While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Shoveler (*Spatula clypeata*) [A056]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Red-breasted Merganser (*Mergus serrator*) [A069]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Oystercatcher (*Haematopus ostralegus*) [A130]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas.	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance	Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Golden Plover (*Pluvialis apricaria*) [A140]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	The proposed works comprise temporary vessel-based, diver-support and quay-edge structural survey activity within an urbanised quay-lined channel. Golden Plover predominantly utilise terrestrial feeding habitats such as grassland and agricultural fields rather than the confined Docklands reach of the River Lee. No credible SPR linkage exists for disturbance effects on this SCI within the proposed works area. Likely significant effects can therefore be excluded at Screening stage.	N - No credible pathway, screened out at Stage 1
	Grey Plover (*Pluvialis squatarola*) [A141]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Lapwing (*Vanellus vanellus*) [A142]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	The proposed works comprise temporary vessel-based, diver-support and quay-edge structural survey activity within an urbanised quay-lined channel. Lapwing typically utilise terrestrial habitats such as improved grassland and agricultural fields rather than the Docklands River corridor. No credible SPR linkage exists for disturbance effects on this SCI within the proposed works area. Likely significant effects can therefore be excluded at Screening stage.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
	Dunlin (*Calidris alpina*) [A149]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Black-tailed Godwit (*Limosa limosa*) [A156]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Curlew (*Numenius arquata*) [A160]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Redshank (*Tringa totanus*) [A162]	Noise and Vibration (Airborne and Underwater)	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system.	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance	While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Common Gull (*Larus canus*) [A182]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Lesser Black-backed Gull (*Larus fuscus*) [A183]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas.	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance	Although visual and noise disturbance would be localised and temporary, S-P-R linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Common Tern (*Sterna hirundo*) [A193]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Wetlands and Waterbirds [A999]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Temporary vessel activity, diver-support activity, quay-edge and land-based personnel presence, structural survey activity and operation of acoustic equipment may give rise to short-term visual disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain the wetland habitat and waterbird assemblage. Significant effects cannot be excluded at Stage 1 and this feature is brought forward for Stage 2 AA.	Y- Brought to Stage 2
Sovereign Islands SPA [004124]	Great Cormorant (*Phalacrocorax carbo*) [A017]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
Ballycotton Bay SPA [004022]	Eurasian Teal (*Anas crecca*) [A052]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Turnstone (*Arenaria interpres*) [A169]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Ringed Plover (*Charadrius hiaticula*) [A137]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Common Gull (*Larus canus*) [A182]	Noise and Vibration (Airborne and Underwater)	Proposed MUL area is within this species foraging range. Temporary vessel activity, personnel presence and operation of acoustic equipment may give rise to short-term disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance	the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Lesser Black-backed Gull (*Larus fuscus*) [A183]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Proposed MUL area is within this species foraging range. Temporary vessel activity, personnel presence and operation of acoustic equipment may give rise to short-term disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Bar-tailed Godwit (*Limosa lapponica*) [A157]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Black-tailed Godwit (*Limosa limosa*) [A156]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance		
	Eurasian Curlew (*Numenius arquata*) [A160]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	European Golden Plover (*Pluvialis apricaria*) [A140]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Grey Plover (*Pluvialis squatarola*) [A141]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Northern Lapwing	Noise and Vibration	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey	N - No credible

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
	(*Vanellus vanellus*) [A142]	(Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	pathway, screened out at Stage 1
Courtmacsherry Bay SPA [004219]	Eurasian Wigeon (*Anas penelope*) [A050]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible source–pathway–receptor linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Dunlin (*Calidris alpina*) [A149]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	Noise and Vibration (Airborne and Underwater)	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance		
	Great Northern Diver (*Gavia immer*) [A003]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Common Gull (*Larus canus*) [A182]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Proposed MUL area is within this species foraging range. Temporary vessel activity, personnel presence and operation of acoustic equipment may give rise to short-term disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Bar-tailed Godwit (*Limosa lapponica*) [A157]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance		
	Black-tailed Godwit (*Limosa limosa*) [A156]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Red-breasted Merganser (*Mergus serrator*) [A069]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Eurasian Curlew (*Numenius arquata*) [A160]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	European Golden Plover	Noise and Vibration	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey	N - No credible

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
	(*Pluvialis apricaria*) [A140]	(Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	pathway, screened out at Stage 1
	Common Shelduck (*Tadorna tadorna*) [A048]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Northern Lapwing (*Vanellus vanellus*) [A142]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the species is associated with habitats that are spatially removed from the Proposed MUL Area and there is a lack of ecological connectivity between the survey area and suitable supporting habitat. This combined with the highly urbanised and disturbed nature of the receiving environment, means any potential interaction is not considered ecologically meaningful. On this basis, no credible SPR linkage has been identified, and the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
Old Head of Kinsale SPA [004021]	Black-legged Kittiwake (*Rissa tridactyla*) [A188]	Noise and Vibration (Airborne and Underwater)	No likely significant interaction is predicted, as this is an offshore/oceanic species with no ecological linkage to the inner estuarine and urbanised environment of the Proposed MUL Area. The works are confined to shallow, transitional waters and do not overlap with habitats typically utilised by the species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance		
	Common Guillemot (*Uria aalge*) [A199]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as this is an offshore/oceanic species with no ecological linkage to the inner estuarine and urbanised environment of the Proposed MUL Area. The works are confined to shallow, transitional waters and do not overlap with habitats typically utilised by the species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
Ballymacoda Bay SPA [004023]	Eurasian Teal (*Anas crecca*) [A052]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Eurasian Wigeon (*Anas penelope*) [A050]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance		
	Turnstone (*Arenaria interpres*) [A169]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Sanderling (*Calidris alba*) [A144]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Dunlin (*Calidris alpina*) [A149]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
	Ringed Plover (*Charadrius hiaticula*) [A137]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Common Gull (*Larus canus*) [A182]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	Proposed MUL area is within this species foraging range. Temporary vessel activity, personnel presence and operation of acoustic equipment may give rise to short-term disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	Y- Brought to Stage 2
	Lesser Black-backed Gull (*Larus fuscus*) [A183]	Noise and Vibration (Airborne and Underwater)	Proposed MUL area is within this species foraging range. Temporary vessel activity, personnel presence and operation of acoustic equipment may give rise to short-term disturbance. A pathway exists via visual disturbance and noise propagation within the estuarine system. While the Docklands section of	Y- Brought to Stage 2

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance	the River Lee is already urbanised and subject to ongoing disturbance, wintering waterbirds associated with Cork Harbour SPA may utilise hydrologically connected areas. Although visual and noise disturbance would be localised and temporary, SPR linkage cannot be fully excluded at Screening stage in view of the conservation objective to maintain favourable conservation condition. Significant effects on this SCI cannot be excluded at Stage 1 and is brought forward for Stage 2 AA.	
	Bar-tailed Godwit (*Limosa lapponica*) [A157]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Black-tailed Godwit (*Limosa limosa*) [A156]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Eurasian Curlew (*Numenius arquata*) [A160]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Visual Disturbance		
	European Golden Plover (*Pluvialis apricaria*) [A140]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Grey Plover (*Pluvialis squatarola*) [A141]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Common Redshank (*Tringa totanus*) [A162]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
	Northern Lapwing (*Vanellus vanellus*) [A142]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
Helvick Head to Ballyquin SPA [004192]	Peregrine Falcon (*Falco peregrinus*) [A103]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Herring Gull (*Larus argentatus*) [A184]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Great Cormorant (*Phalacrocorax carbo*) [A017]	Noise and Vibration (Airborne and Underwater)	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened

Natura 2000 site	Conservation Feature	Impact Mechanisms	SPR Assessment	Brought to Stage 2 (Y/N)
		Physical Disturbance / Turbidity Visual Disturbance		out at Stage 1
	Red-billed Chough (*Pyrrhocorax pyrrhocorax*) [A346]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as the Proposed MUL Area lies outside the established foraging range of this species. As such, there is no spatial overlap between the works and the ecological zone utilised by the species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1
	Black-legged Kittiwake (*Rissa tridactyla*) [A188]	Noise and Vibration (Airborne and Underwater) Physical Disturbance / Turbidity Visual Disturbance	No likely significant interaction is predicted, as this is an offshore/oceanic species with no ecological linkage to the inner estuarine and urbanised environment of the Proposed MUL Area. The works are confined to shallow, transitional waters and do not overlap with habitats typically utilised by the species. In the absence of a viable SPR linkage, the potential for likely significant effects on this species can be excluded at Stage 1 Appropriate Assessment.	N - No credible pathway, screened out at Stage 1

2.6.1. Assessment of Mobile Annex II Species

Due to the mobility and wide-ranging foraging behaviour of marine mammals, Annex II species designated as QIs of SACs along the south coast of Ireland have been assessed in terms of their potential to occur within the River Lee and Cork Harbour system and therefore within the ZoI of the proposed survey works. The proposed Project comprises temporary marine surveys below the HWM within the River Lee, including vessel-based bathymetric survey, side-scan sonar, multibeam echo sounder, sub-bottom profiling and ROV operations. These activities may give rise to temporary underwater noise and vessel disturbance.

2.6.1.1. Assessment of Receptors to Underwater Noise Disturbance

Marine mammals rely on sound for navigation, communication and foraging. Where the frequency of anthropogenic noise overlaps with biologically relevant frequencies, acoustic masking may occur, potentially reducing the ability of individuals to detect important signals. Masking of vocalisations can increase ambiguity of information and, in certain circumstances, may impair orientation or foraging efficiency.

The susceptibility of marine mammals to underwater noise varies between taxa and is commonly assessed using functional hearing groups, as described by Southall et al. (2007, 2019) (**Table 2-5**). These groupings provide an evidence-based framework for understanding the hearing sensitivity ranges of cetaceans and pinnipeds and the potential for overlap with anthropogenic sound sources relevant to this Project.

Table 2-5: Functional frequencies of various cetaceans and pinnipeds found in Irish waters (adapted from Southall *et al.* (2007 & 2019)).

Hearing Group	Species in Irish Waters (examples)	Functional Hearing Range (approx.)	Key Sensitivities
Low-Frequency (LF) Cetaceans	Baleen whales (Minke, Fin, Humpback, Blue, Sei)	7 Hz – 35 kHz	Highly sensitive to low-frequency impulsive and continuous noise (pile driving, dredging, vessel noise).
Mid-Frequency (MF) Cetaceans	Dolphins (Bottlenose, Common, Striped, Pilot whales, Killer whales)	150 Hz – 160 kHz	Sensitive to mid-frequency broadband noise (sonar, vessel engines, dredgers).
High-Frequency (HF/VHF) Cetaceans	Harbour porpoise	275 Hz – 160 kHz (peak ~120–140 kHz)	Most sensitive of all groups; disturbance at low received levels, particularly from impulsive sources.
Phocid Pinnipeds in Water (PCW)	Grey seal, Harbour seal	50 Hz – 86 kHz	Sensitive to both impulsive and continuous sources at lower to mid-frequencies.
Phocid Pinnipeds in Air (PCA)	Grey seal, Harbour seal	75 Hz – 30 kHz	More limited sensitivity than underwater hearing.

Given the temporary duration of the proposed works, the limited spatial footprint of survey activities and the absence of high-energy impulsive noise sources, any effects on marine mammals are expected to be short-term and localised, typically limited to avoidance of the immediate survey area during active operations.

2.6.1.2. Assessment of Marine Mammal S-P-R Connectivity

A SPR approach has therefore been applied to identify SACs designated for mobile Annex II marine mammal species that are ecologically connected to the south coast and the Cork Harbour system.

Two species of pinniped, the grey seal (*Halichoerus grypus*) and harbour seal (*Phoca vitulina*), inhabit Irish waters year-round and are recorded along the south Irish coast. Both are listed as species of Least Concern on the IUCN Red List (Bowen, 2016; Lowry, 2016).

Both species have established haul-out sites along all coastlines of Ireland for resting, breeding, and engaging in social activity (Cronin *et al*., 2004; Ó Cadhla *et al*., 2007). The largest proportion of the grey seal population is hauled out ashore during the annual moult which begins in November and continues until April (Ó Cadhla and Strong, 2007). Grey seals also aggregate in large colonies during the breeding season between August and December (Ó Cadhla *et al*., 2013), with peak pup production during October and November (Lyons, 2004). Grey seals tend to breed on exposed rocky shores, on sandbars or in sea caves with ready access to deeper water.

Harbour Seal (*Phoca vitulina*)

Harbour seal is designated as a QI of Glengarriff Harbour and Woodland SAC (000090), which represents the nearest south coast SAC designated for this species and is located *c.* 189 km from the Project. Harbour seals utilise coastal and estuarine environments and can undertake foraging movements exceeding 30 km, with longer trips recorded in British and Irish waters. Although Glengarriff Harbour is located in west Cork, harbour seals use the wider south coast and may forage or transit through connected estuarine systems. Cork Harbour and the lower River Lee form part of a hydrologically connected coastal environment and may therefore be used intermittently by transient individuals. Observations from the National Biodiversity Data Centre (NBDC) indicate that harbour seal are occasionally recorded within Lough Mahon and the River Lee (most recent record from 2023), indicating transient use of the area. While harbour seals may occur in Lough Mahon (the Project area), any individuals in the area would not be functionally linked to the qualifying interest population of Glengarriff Harbour and Woodland SAC and the inner estuarine environment at the Project area does not provide supporting habitat linked to the SAC conservation objectives. Given the highly localised, temporary and non-injurious nature of the proposed site investigation surveys, and the absence of any pathway for effects to extend to the qualifying interest populations of designated SACs, there is no potential for the proposed surveys to result in significant effects on harbour seal. Accordingly, harbour seal is screened out at Stage 1 Appropriate Assessment, as no pathway for likely significant effects on European sites has been identified.

Grey Seal (*Halichoerus grypus*)

Grey seal is designated as a Qualifying Interest of Roaringwater Bay and Islands SAC, which represents the nearest relevant south coast SAC for this species and is located *c.*124 km from the Project. Grey seals exhibit extensive foraging ranges, with mean foraging distances of approximately 50 km and maximum recorded movements exceeding 500 km. Grey seals utilise the south coast extensively and may occur intermittently within Cork Harbour, particularly in outer harbour waters, and may transit through the estuarine system. Observations according to the NBDC indicate the species utilise the area on a transient basis. While grey seals may occur in Lough Mahon (the Project area), any individuals in the area would not be functionally linked to the qualifying interest population of Roaringwater Bay and Islands SAC and the inner estuarine environment at the Project area does not provide supporting habitat linked to the SAC conservation objectives. Given the highly localised, temporary and non-injurious nature of the proposed site investigation surveys, and the absence of any pathway for effects to extend to the qualifying interest populations of designated SACs, there is no potential for the proposed surveys to result in significant effects on grey seal. Accordingly, grey seal is screened out at Stage 1 Appropriate Assessment, as no pathway for likely significant effects on European sites has been identified.

Harbour Porpoise (*Phocoena phocoena*)

Harbour porpoise (*Phocoena phocoena*) is designated as a QI of Roaringwater Bay and Islands SAC and Hook Head SAC along the south coast. Harbour porpoise are widely distributed in Irish coastal waters and are known to occur in nearshore and estuarine environments. Cork Harbour connects directly to the Celtic Sea and may support transient individuals, particularly within outer harbour waters. Harbour porpoise are acoustically sensitive and rely on high-frequency echolocation for navigation and foraging. The proposed survey activities include multibeam echo sounder, side-scan sonar, sub-bottom profiling and vessel operations, all of which may generate intermittent underwater sound during active survey periods. While these sources are substantially lower in intensity than impulsive construction activities, temporary behavioural disturbance or short-term displacement cannot be excluded where animals are present within the receiving environment. While harbour porpoise have been recorded within the wider Cork Harbour area, the proposed survey works are located within Lough Mahon, an inner, shallow transitional waterbody. Records of harbour porpoise within Lough Mahon are extremely limited (NBDC), with the only known record relating to a stranding event. This indicates that the area does not represent typical habitat for the species, which is more commonly associated with coastal and offshore waters. On this basis, harbour porpoise are not considered to be a regular or significant receptor within the proposed survey area, and any individuals that may occur would be expected to do so on a transient basis only, with no evidence of residency or sustained use of the area. The nearest SAC designated for harbour porpoise is located > 100 km from the proposed survey area. Given the highly localised, temporary and non-injurious nature of the proposed site investigation surveys, and the absence of any

pathway for effects to extend to the QI populations of designated SACs, there is no potential for the proposed surveys to result in significant effects on harbour porpoise. Accordingly, harbour porpoise is screened out at Stage 1 Appropriate Assessment, as no pathway for likely significant effects on European sites has been identified.

Bottlenose dolphin (*Tursiops truncatus*)

Cork Harbour does not support a known resident Annex II bottlenose dolphin population; however, transient individuals are recorded intermittently along the south coast. The nearest SAC for bottlenose dolphin is Hook Head SAC which is at a 124 km distance from the project. The relevant impact pathways are limited to temporary underwater noise and vessel disturbance associated with survey operations. Records from the NBDC indicate that bottlenose dolphins are infrequently recorded in Lough Mahon and the River Lee. The inner estuarine environment is shallow and characterised by soft sediment habitats and does not represent typical habitat for bottlenose dolphin which are generally associated with coastal and more open waters. The nearest recorded observation is located approximately 2.5 km from the proposed survey area, and the remaining observations are confined to the outer harbour area. On this basis, bottlenose dolphin are not considered to be a regular or significant receptor within the proposed survey area. Any individuals that may occur would be expected to do so on an occasional and transient basis, with no evidence of residency or sustained use of the area. Given the highly localised, temporary and non-injurious nature of the proposed site investigation surveys, and the absence of any pathway for effects to extend to the QI populations of designated SACs, there is no potential for the proposed surveys to result in significant effects on bottlenose dolphin. Accordingly, bottlenose dolphin is screened out at Stage 1 Appropriate Assessment, as no pathway for likely significant effects on European sites has been identified.

Otter (*Lutra lutra*)

Otter (*Lutra lutra*) is listed under Annex II and Annex IV of the Habitats Directive and is designated in multiple freshwater SACs. As the River Lee catchment is hydrologically connected to Cork Harbour, The Gearagh SAC (000108) (designated for otter) is considered ecologically relevant to the Project and is retained for screening. Otter is also a QI of Blackwater River (Cork/Waterford) SAC (002170) which is separated hydrologically but still poses potential for interaction. Otters are widespread throughout Ireland and may utilise rivers, estuaries and coastal margins, including modified urban systems, for commuting and foraging.

The proposed survey activities are temporary and confined to the tidal Docklands reach of the River Lee. The works do not involve disturbance of riparian habitats, removal of bankside vegetation, excavation, or interference with potential holt sites, and any disturbance from vessel movements and human presence would

be short-term and localised within an already disturbed urban environment. The risk of accidental pollution is low and any minor release would be rapidly diluted within the dynamic tidal system.

Summary

There is potential for otter (*Lutra lutra*) to be affected by the identified project impact mechanisms. Based on the source–pathway–receptor assessment, the following SACs fall within the species' range:

- The Gearagh SAC [000108] and Blackwater River (Cork/Waterford) SAC [002170].

More distant Atlantic offshore SACs are not considered to have a credible ecological or functional connectivity pathway to the proposed survey works, given the small scale and temporary nature of the activities and their location within the inner Cork Harbour estuarine system. Furthermore, the inner estuary environment of the lower River Lee does not represent key habitat for cetacean or pinniped species. All SACs designated for Annex II marine mammal species in Irish waters were reviewed (**Table 2-6**); however, in the absence of a plausible pathway for interaction with the proposed works, these sites are excluded from further consideration in the Screening assessment.

Table 2-6: Hydrological distance of SACs designated for marine mammal species in Ireland.

Special Area of Conservation (SAC)	Grey Seal (*Halichoerus grypus*) [1364]	Harbour Seal (*Phoca vitulina*) [1365]	Common bottlenose dolphin (*Tursiops truncatus*) [1349]	Harbour Porpoise (*Phocoena phocoena*) [1351]	Distance to Proposed Site
Ballysadare Bay SAC [000622]		✓			604 km
Belgica Mound Province SAC [002327]			✓	✓	275 km
Blackwater Bank SAC [002953]				✓	190 km
Blasket Islands SAC [002172]	✓			✓	243 km
Bunduff Lough and Machair/Trawalua/Mullaghmore SAC [000625]				✓	614 km
Carnsore Point SAC [002269]				✓	164 km
Clew Bay Complex SAC [001482]		✓			467 km
Codling Fault Zone SAC [003015]				✓	315 km
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]		✓			601 km
Donegal Bay (Murvagh) SAC [000133]		✓			637 km
Duvillaun Islands SAC [000495]	✓		✓		475 km
Galway Bay Complex SAC [000268]		✓			417 km
Glengarriff Harbour and Woodland SAC [000090]		✓			189 km
Gweedore Bay and Islands SAC [001141]				✓	645 km
Hook Head SAC [000764]			✓	✓	124 km
Horn Head and Rinclevan SAC [000147]	✓				686 km
Inishbofin and Inishshark SAC [000278]	✓				420 km
Inishkea Islands SAC [000507]	✓				479 km
Inishmore Island SAC [000213]				✓	388 km
Kenmare River SAC [002158]		✓		✓	191 km
Kilkieran Bay and Islands SAC [002111]		✓		✓	399 km
Killala Bay/Moy Eastuary SAC [000458]		✓			572 km
Lambay island SAC [000204]	✓	✓		✓	322 km

Special Area of Conservation (SAC)	Grey Seal (*Halichoerus grypus*) [1364]	Harbour Seal (*Phoca vitulina*) [1365]	Common bottlenose dolphin (*Tursiops truncatus*) [1349]	Harbour Porpoise (*Phocoena phocoena*) [1351]	Distance to Proposed Site
Lough Swilly SAC [002287]				✓	684 km
Lower River Shannon SAC [002165]			✓		337 km
Porcupine Bank Canyon SAC [003001]			✓		527 km
Roaringwater Bay and Islands SAC [000101]	✓			✓	121 km
Rockabill to Dalkey Island SAC [003000]				✓	315 km
Rutland Island and Sound SAC [002283]		✓			630 km
Saltee Islands SAC [000707]	✓				144 km
Slaney River Valley SAC [000781]		✓	✓		203 km
Slieve Tooey/Tormore Island/Loughros Beg Bay SAC [000190]	✓				614 km
Slyne Head Islands SAC [000328]	✓		✓		400 km
Slyne Head Peninsula SAC [002074]			✓		410 km
South-West Porcupine Bank SAC [002329]			✓		519 km
St. John's Point SAC [000191]			✓		615 km
West Connacht Coast SAC [002998]			✓	✓	446 km
West of Ardara/Maas Road SAC [000197]		✓			629 km

2.7. Plans of Projects That Might Act in Combination

As outlined above, the obligation to undertake AA under the 2011 Birds and Natural Habitats Regulations derives from the Habitats Directive. Regulation 42(1) of the 2011 Regulations requires that:

> *A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or* ***in combination with other plans or projects*** *is likely to have a significant effect on the European site*.

It is therefore required that the potential impacts of the proposed Project be considered in combination with other relevant plans or projects. Given the nature of the proposed activities associated with the Project, the potential project impact mechanisms (or sources of impact) are:

1. Underwater noise
2. Physical disturbance/ turbidity
3. Visual disturbance

The assessment of potential in-combination effects considers other plans and projects that may result in significant effects to QIs and SCIs of SACs and SPAs. To inform the assessment of potential in-combination effects a review of consent applications for projects in the vicinity of the proposed Project included on the following websites was completed in February 2026:

- DHPLG - EIA Portal[3]
- Cork County Council - Planning System[4]
- An Coimisiún Pleanála[5]
- Aquaculture Information Management System (AQUAMIS) by DAFM[6]
- Irelands Marine Atlas[7]
- MARA Licence Applications[8]

2.7.1. Threats and Pressures

The Natura 2000 Standard Data Form for the Great Island Channel SAC identifies a range of ongoing pressures affecting estuarine habitats and associated qualifying interests. Similarly, the Cork Harbour SPA supports internationally important bird populations which may be sensitive to disturbance and habitat modification pressures (**Table 2-9**).

The majority of pressures identified for the SAC relate to long-term or permanent activities such as aquaculture, land reclamation, urbanisation, road infrastructure, and eutrophication. These pressures are either spatially separate from the proposed survey footprint or relate to broader catchment-scale processes. The proposed Cork Docklands surveys comprise short-term, non-intrusive structural and hydrographic investigations within a highly modified urban estuarine environment. The works do not involve land reclamation, permanent infrastructure installation, dredging, or habitat alteration.

While temporary disturbance (e.g. vessel presence, localised sediment disturbance from grab sampling, and short-term underwater noise from geophysical equipment) may occur, these effects are of limited spatial and temporal extent and are not of a scale comparable to the principal threats identified in the Standard Data Form.

On this basis, the pressures listed for the SAC and SPA do not give rise to a credible pathway for significant adverse effects from the proposed maritime survey works.

Table 2-7: Ranked threats and pressures identified for the Great Island Channel SAC

Rank	Threats and Pressures [code]	*Occurrence	Relevance to Cork Docklands
High	Marine and Freshwater Aquaculture [F01]	i	The proposed maritime surveys do not involve aquaculture activities, fish stocking or changes to water quality. Not relevant
High	Roads, motorways [D01.02]	i	The surveys are marine- based and temporary in nature. No road construction, modification or increased traffic generation arises. Not relevant
Medium	Invasive non- native species [I01]	i	Vessel use presents a theoretical risk of invasive species spread; however, works are confined to a highly modified urban estuary. Standard biosecurity measures (e.g. clean vessels/ equipment) will be implemented
Medium	Grazing [A04]	i	The proposed surveys do not involve terrestrial land use change, agricultural activity, or alteration of grazing regimes. Not relevant
High	Landfill, land reclamation and drying out, general [J02.01.02]	i	The surveys do not involve reclamation, infilling, permanent structures, or alteration of tidal regime. No habitat loss or drying out will occur. Not relevant
Medium	Fertilisation [A08]	o	The works do not involve agricultural runoff, nutrient inputs, or land-based fertilisation. Not relevant
High	Urbanised areas, human habitation [E01]	o	While the project is located within an urban environment, the proposed works are temporary surveys and do not increase urbanisation footprint or introduce new permanent infrastructure at this stage. Not relevant to survey scope.
Medium	Eutrophication [K02.03]	i	The surveys do not result in nutrient loading or sustained sediment disturbance. Sediment grabs are highly localised and temporary. Not relevant.

*Occurrence: **I = inside, o = outside, b = both**

2.7.2. Plans

From the planning resources cited in Section 2.7, the Cork City Development Plan 2022–2028, prepared by Cork City Council, establishes the statutory planning framework for the proposed works. The Development Plan identifies the Docklands as a Strategic Regeneration Area and supports the rejuvenation of the South Docks through public realm enhancement, active travel infrastructure, climate adaptation measures, and flood defence upgrades.

The Cork Docklands South Quays project aligns with these objectives by seeking to repair and upgrade quay walls, improve waterfront accessibility, and integrate sustainable transport and public realm improvements along the south bank of the River Lee. The proposed maritime surveys form part of the preliminary design and assessment stage for these regeneration works.

The Development Plan also includes policies relating to climate resilience, flood risk management, biodiversity protection, and the protection of European sites. The proposed surveys are investigative in nature and will inform the design of infrastructure upgrades, including quay wall repairs and integrated flood defences. These surveys do not constitute development works themselves but are necessary to facilitate the sustainable delivery of objectives already supported within the Development Plan framework.

On this basis, the proposed maritime survey activities are consistent with the strategic planning objectives for the Docklands and do not introduce any conflict with the policies of the Cork City Development Plan 2022–2028.

2.7.3. Projects

A review of the Cork County Council ePlanning system was undertaken to identify permitted or proposed projects within the wider Docklands area that could act in-combination with the proposed marine survey works. Numerous small-scale planning applications exist in the Cork Harbour area, but these are not of a scale to interact significantly with the survey works. Larger projects are listed in **Table 2-8.**

Table 2-8: Projects in the vicinity of the proposed surveys.

Website	Project Details	File Reference	Date Application Received	Assessment of Potential Cumulative or In-combination Effects	Potential significant effect assessment
DHPLG - EIA Portal	A search of the DHPLG EIA Portal was undertaken to examine projects with potential for in-combination effects.	-	-	-	No potential significant cumulative or in-combination effects
Cork City Council Planning System	A search of the Cork planning databases was undertaken to examine projects with potential for in-combination effects.	-	-	Applications made typically to Cork City Council and published on the planning database within the ZOI consisted of extensions and renovations to existing houses, and retention of existing developments. These are small-scale terrestrial developments which do not have the potential to result in cumulative effects in combination with the proposed Project.	No potential significant cumulative or in-combination effects
An Coimisiún Pleanála (ACP)	Demolition of existing structures and construction of 550 no. residential dwellings, 1 creche and 3 commercial units together with associated site works.	ACP- 322434	07/08/2025	The development relates to a terrestrial residential scheme and associated infrastructure. No works are proposed within the marine or intertidal environment and therefore no ecological pathway exists for cumulative effects with the temporary marine survey works.	No potential significant cumulative or in-combination effects
	Redevelopment of the south stand to include GAA Museum/Visitor Centre and café.	ACP- 311651	08/15/2022	The proposed redevelopment is a land-based urban development with no marine works. As such, there is no spatial or ecological overlap with the proposed marine and intertidal surveys and cumulative effects can be excluded.	No potential significant cumulative or in-combination effects
Maritime Area Regulatory Authority (MARA)	Deposition of dredged marine sediments from Ringaskiddy Basin to facilitate berth extensions with capacity to support Offshore Renewable Energy.	MUL250008	14/03/2025	This activity relates to dredging and sediment deposition associated with port infrastructure works within Cork Harbour. While occurring within the wider harbour system, the activity is spatially separate from the proposed survey area and represents a discrete project. The temporary and localised nature of the proposed surveys means no meaningful overlap of ecological pressures is expected.	No potential significant cumulative or in combination effects
	To carry out a strategic modelling study of water currents within Cork Harbour and its environs. The study requires the deployment of up to nine (9) Acoustic Doppler Current Profilers	MUL240048	13/03/2025	The deployment of ADCP instruments represents a temporary and low-impact monitoring activity. Given the small spatial footprint and limited duration of both projects, no overlapping pressures are anticipated, and cumulative effects can be excluded.	No potential significant cumulative or in combination effects

Website	Project Details	File Reference	Date Application Received	Assessment of Potential Cumulative or In-combination Effects	Potential significant effect assessment
	(ADCPs) at various locations within the area to provide the data required to conduct the modelling.				
	To carry out marine site survey work and site investigations including geophysical surveys, geotechnical surveys, environmental surveys, intertidal benthic surveys and marine mammal surveys.	MUL240042	24/10/2024	Although similar survey methodologies are proposed, these activities are temporary and localised. Any acoustic or physical disturbance would be short-term and intermittent. Given the limited duration and scale, cumulative effects with the proposed surveys are not anticipated.	No potential significant cumulative or in combination effects
	Marine survey within Cork Harbour to provide high-quality baseline data that can contribute to a reliable basis for site selection for the Strategic Gas Emergency Reserve. The surveys require the deployment and retrieval of static acoustic monitoring (SAM) devices and up to two acoustic doppler current profilers (ADCP) within the study area.	MUL240035	06/09/2024	The project involves temporary deployment of acoustic monitoring equipment and ADCPs to collect baseline data. The limited spatial footprint and duration of the activity means it is unlikely to overlap temporally or spatially with the proposed surveys to a degree that could result in cumulative ecological effects.	No potential significant cumulative or in combination effects
	The proposed maritime usage is for maintenance dredging of the entrance channel and the southern part of the Graving Dock. Maintenance dredging of the basin and entrance channel takes place approximately every 5 to 6 years to ensure the safe navigation of the naval fleet in the Haulbowline Naval Base, with the last Maintenance dredging campaign performed in 2017.	MUL230029	04/06/2024	Maintenance dredging occurs intermittently (approximately every 5–6 years) to maintain navigational depths. The activity is spatially confined to the naval base and temporally discrete. The temporary survey works proposed under this application would not interact with these works in a manner that would result in cumulative ecological effects	No potential significant cumulative or in combination effects
	Permitted Maritime Usage - Flood Defence Works	MAC250009	15/07/2025	Flood defence works are infrastructure projects with defined construction phases and mitigation measures. Any overlap with the proposed survey works would be temporary and	No potential significant cumulative or in

Website	Project Details	File Reference	Date Application Received	Assessment of Potential Cumulative or In-combination Effects	Potential significant effect assessment
				limited, and the small scale and short duration of the surveys means no cumulative ecological pressures are expected.	combination effects
	Permitted Maritime Usage - Power generation, energy storage, lower carbon fuels and other energy related infrastructure	MAC240059	19/12/2024	This consent relates to energy infrastructure development within the maritime area. The proposed survey works are temporary baseline investigations and do not represent an ongoing pressure that would combine with operational impacts from this project.	No potential significant cumulative or in combination effects
	Permitted Maritime Usage - Construction of watermain infrastructure	MAC240026	20/09/2024	Assessment of Potential Cumulative or In-combination Effects: Watermain infrastructure works represent discrete construction activities. The temporary nature and limited footprint of the proposed surveys means no meaningful interaction between pressures is anticipated.	No potential significant cumulative or in combination effects
	Permitted Maritime Usage - Mobility Impaired Access Structure	MAC240024	09/07/2024	The project relates to installation of a small access structure within the coastal environment. The scale of the development and the temporary nature of the survey works means cumulative ecological effects are unlikely.	No potential significant cumulative or in combination effects
	Permitted Maritime Usage - Capital dredging of berths	MAC20230004	24/06/2024	Capital dredging activities are spatially restricted to defined harbour infrastructure areas. The temporary and localised nature of the proposed surveys means no overlapping ecological pressures are anticipated.	No potential significant cumulative or in combination effects
	Permitted Maritime Usage - Pedestrian and cycle bridge and approach pedestrian and cycle paths	MAC20230033	20/03/2024	The project is primarily land-based infrastructure with limited interaction with the marine environment. The proposed survey works are temporary and investigative in nature and therefore do not combine with the pressures associated with bridge construction.	No potential significant cumulative or in combination effects
	Permitted Maritime Usage - Facility centre for water-based activities and associated car park and beach access ramp	MAC20230018	20/02/2024	This development relates to recreational infrastructure. The temporary and low-impact nature of the proposed surveys means that cumulative effects with this project are unlikely.	No potential significant cumulative or in combination effects

Overall, the identified plans and projects are either terrestrial developments, spatially discrete marine infrastructure works, or temporary monitoring activities. None of the projects identified introduce pressures that would combine with the proposed marine survey works in a manner that could give rise to significant cumulative effects.

Given the short duration, limited spatial footprint and investigative nature of the proposed surveys, together with the absence of overlapping pressures such as sustained underwater noise, large-scale seabed disturbance, or hydrological modification, no credible pathways exist for cumulative or in-combination effects on European sites. Accordingly, the potential for significant cumulative or in-combination effects can be excluded

2.7.4. Aquaculture Operations

The AQUAMIS database, accessed February 2026, confirms that there are no licensed aquaculture operations within the proposed survey boundary along the south bank of the River Lee.

Aquaculture activities are present within the wider Cork Harbour SPA and Great Island Channel SAC. These comprise blue mussel (*Mytilus edulis*) cultivation within Cork Harbour and European flat oyster (*Ostrea edulis*) operations approximately 10 km east of the proposed survey area within the Great Island Channel.

Given the separation distance, the highly localised and temporary nature of the proposed survey works, and the absence of any sustained sediment disturbance, water quality alteration, or discharge, there is no credible pathway for effects on these aquaculture sites. The surveys will not interact with or alter aquaculture infrastructure, stock, or water conditions at a scale capable of influencing operations within the wider estuary. On this basis, likely significant effects on aquaculture operations can be excluded.

2.7.5. Dredging and Disposal

A review of MARA licence applications and historic Dumping at Sea permits indicates that dredging activities occur periodically within Cork Harbour to maintain navigational channels and port infrastructure. These works are typically located within established port areas and navigation channels downstream of the Docklands reach of the River Lee. The proposed surveys do not involve dredging or sediment disposal and will not overlap spatially or temporally with any dredging activities. Accordingly, no credible pathway for in-combination effects arises.

2.7.6. Navigation and marine traffic

Ireland's Marine Atlas indicates that Cork Harbour supports ongoing commercial and recreational vessel traffic. The proposed survey works will utilise a small number of vessels for a short duration and will not materially increase vessel traffic within the harbour. Therefore, no cumulative disturbance effects are anticipated.

2.7.7. Conclusion

The assessment of potential in-combination effects has considered relevant plans, projects and ongoing activities within the wider Cork Harbour and River Lee system, including policies of the Cork City Development Plan 2022–2028, permitted developments within the Docklands area, aquaculture operations within Cork Harbour, periodic dredging activities associated with port maintenance, and existing navigation and vessel traffic within the harbour.

The review confirms that the proposed Cork Docklands South Quays maritime surveys are temporary, localised investigative works which do not involve dredging, land reclamation, permanent infrastructure installation, or sustained disturbance of the riverbed or water column. The surveys will be undertaken using a small number of vessels over a limited duration within an already urbanised and operational harbour environment.

Other identified plans and projects are either terrestrial in nature, spatially separated from the survey footprint, or relate to existing background activities within Cork Harbour. No credible pathways exist by which these activities could interact with the proposed surveys to give rise to cumulative disturbance, underwater noise, sediment disturbance, or water quality effects of a scale capable of affecting the conservation features of European sites.

Accordingly, it is concluded that the proposed Cork Docklands South Quays marine survey works will not result in likely significant effects on any European site when considered in combination with other plans or projects.

2.8. Screening Outcome

The assessment has determined, on the basis of objective scientific information and applying the precautionary principle, that likely significant effects cannot be excluded for certain conservation features as a result of noise and vibration and visual disturbance from the Project alone. No additional likely significant effects were identified from the Project in combination with other plans or projects. The Project is therefore brought forward to Stage 2 Appropriate Assessment, and a Natura Impact Statement is provided in Section 3. The findings of the Appropriate Assessment screening are summarised in **Table 2-9**.

Table 2-9: Summary of the Appropriate Assessment Screening outcome.

AA Screening outcome	
Brief description of the Project.	A programme of temporary marine, intertidal and structural surveys is proposed within the tidal River Lee, Cork City, to inform the design of quay wall repairs, upgrades and associated Docklands public realm works. The survey programme includes bathymetric and hydraulic surveys, ROV camera and sonar surveys, limited riverbed and material sampling, concrete coring, structural investigations, archaeological surveys below the HWM, and additional North Quays structural surveys at Penrose Quay, Fishguard Wharf, Horgan's Quay, the Turning Basin and North Deep-Water Quay. No construction works form part of this application.
Assessment summary	
Description of the potential impact mechanisms from the Project that have likely significant effects on the conservation features.	All potential impact mechanisms are detailed in **Section 2.4.** Here follows the impact mechanisms for which likely significant effects have been identified: 1. Noise and vibration (Underwater and Airborne) 2. Visual disturbance
Conservation features with the potential to be impacted by the Project.	The assessment determined that the potential for likely significant effects cannot be excluded at Screening stage for: Cork Harbour SPA • Little Grebe (*Tachybaptus ruficollis*) [A004] • Great Crested Grebe (*Podiceps cristatus*) [A005] • Cormorant (*Phalacrocorax carbo*) [A017] • Grey Heron (*Ardea cinerea*) [A028] • Shelduck (*Tadorna tadorna*) [A048] • Teal (*Anas crecca*) [A052]

	• Wigeon (*Mareca penelope*) [A050] • Pintail (*Anas acuta*) [A054] • Shoveler (*Spatula clypeata*) [A056] • Red-breasted Merganser (*Mergus serrator*) [A069] • Oystercatcher (*Haematopus ostralegus*) [A130] • Grey Plover (*Pluvialis squatarola*) [A141] • Dunlin (*Calidris alpina*) [A149] • Black-tailed Godwit (*Limosa limosa*) [A156] • Curlew (*Numenius arquata*) [A160] • Redshank (*Tringa totanus*) [A162] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Common Gull (*Larus canus*) [A182] • Lesser Black-backed Gull (*Larus fuscus*) [A183] • Common Tern (*Sterna hirundo*) [A193] • Bar-tailed Godwit [A157] • Wetlands and Waterbirds [A999] Ballycotton Bay SPA • Common gull (*Larus canus*) [A182] • Lesser black-backed gull (*Larus fuscus*) [A183] Courtmacsherry Bay SPA • Common gull (*Larus canus*) [A182] Ballymacoda Bay SPA • Common gull (*Larus canus*) [A182] • Lesser black-backed gull (*Larus fuscus*) [A183] In addition, disturbance effects arising from noise and visual disturbance cannot be excluded in relation to Annex II otter Qualifying Interests of the following SACs: The Gearagh SAC [000108] and Blackwater River (Cork/Waterford) SAC [002170] • Otter (*Lutra lutra*) [1355]
Description of the potential direct or indirect impacts of the Project in	No plans or projects have been identified that would give rise to cumulative disturbance effects of sufficient magnitude to alter the Screening conclusion.

combination with other plans or projects on the European sites.	
Conservation features with the potential to be impacted by the Project in combination with other plans or projects.	None.
Concluding statement.	It is concluded, on the basis of objective scientific information and applying the precautionary principle, that the likelihood of significant effects on conservation features of Cork Harbour SPA (004030), relevant SCI gull species of Ballycotton Bay SPA (004022), Courtmacsherry Bay SPA (004219) and Ballymacoda Bay SPA (004023), and Annex II otter Qualifying Interests of The Gearagh SAC (000108) and Blackwater River (Cork/Waterford) SAC (002170), cannot be excluded. Accordingly, the proposed maritime survey works are required to proceed to Stage 2 Appropriate Assessment (Natura Impact Statement) to ensure that no adverse effects on the integrity of any European site will occur, either alone or in combination with other plans or projects.

3. Stage 2: Natura Impact Statement

3.1. Overview

Stage 2 of the Appropriate Assessment process considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement (NIS), that examines the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, accounting for in-combination effects. This should provide information to enable the competent authority to carry out the appropriate assessment. If the assessment deems that adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned.

Regarding the European sites and their associated conservation features identified in the ZoI of the Project, which were not excluded in Stage 1, an appropriate assessment is required to identify the impacts associated with the Project that may have a significant adverse impact. A summary of the screening outcome from the Stage 1 AA Screening can be found in **Screening Outcome 2.8**.

This NIS gives a detailed ecological assessment of European sites and their associated conservation features, considering *inter alia* site-specific or activity-specific impacts. In preparation of this NIS, the NPWS-DELGH (2009; revised 2010)/NPWS-DAHG (2012) guidance document on marine NIS in SACs was used.

In line with NPWS-DEHLG (2009; revised 2010) guidance, the Stage 2 AA consists of three main steps:

1. **Impact Prediction** - where the likely impacts of the Project are examined. A source-pathway-receptor model has been used to assess potential for impact.
2. **Assessment of Effects** – where the effects of the Project are assessed as to whether they have any adverse effects on the integrity of European Sites as defined by conservation objectives.
3. **Mitigation Measures** – where mitigation measures are identified to ameliorate any adverse effects on the integrity of any European site.

3.2. Impact Prediction

This section identifies and characterises the potential impacts of the proposed MUL survey activities on the conservation features of the European sites brought forward from Stage 1 Screening. Impact prediction is undertaken using a SPR framework, taking account of the nature, scale, duration and location of the proposed works, the receiving environment (tidal River Lee and Cork Harbour), and the sensitivities of relevant conservation features.

The Stage 1 Screening concluded that likely significant effects cannot be excluded for disturbance effects on the following SPA and SAC conservation features and supporting habitats:

- Cork Harbour SPA (004030)
    - Little Grebe (*Tachybaptus ruficollis*) [A004]
    - Great Crested Grebe (*Podiceps cristatus*) [A005]
    - Cormorant (*Phalacrocorax carbo*) [A017]
    - Grey Heron (*Ardea cinerea*) [A028]
    - Shelduck (*Tadorna tadorna*) [A048]
    - Teal (*Anas crecca*) [A052]
    - Wigeon (*Mareca penelope*) [A050]
    - Pintail (*Anas acuta*) [A054]
    - Shoveler (*Spatula clypeata*) [A056]
    - Red-breasted Merganser (*Mergus serrator*) [A069]
    - Oystercatcher (*Haematopus ostralegus*) [A130]
    - Grey Plover (*Pluvialis squatarola*) [A141]
    - Dunlin (*Calidris alpina*) [A149]
    - Black-tailed Godwit (*Limosa limosa*) [A156]
    - Curlew (*Numenius arquata*) [A160]
    - Redshank (*Tringa totanus*) [A162]
    - Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
    - Common Gull (*Larus canus*) [A182]
    - Lesser Black-backed Gull (*Larus fuscus*) [A183]
    - Common Tern (*Sterna hirundo*) [A193]
    - Wetlands and Waterbirds [A999]

- Ballycotton Bay SPA (004022)
    - Common Gull (*Larus canus*) [A182]
    - Lesser Black-backed Gull (*Larus fuscus*) [A183]
- Courtmacsherry Bay SPA (004219)
    - Common Gull (*Larus canus*) [A182]
- Ballymacoda Bay (004023)
    - Common Gull (*Larus canus*) [A182]
    - Lesser Black-backed Gull (*Larus fuscus*) [A183]
- The Gearagh SAC [000108] and Blackwater River (Cork/Waterford) SAC [002170]
    - Otter (*Lutra lutra*) [1355]

The proposed surveys, including the additional North Quays structural survey works, are temporary, localised and investigative in nature. The proposed works do not include high-energy impulsive noise sources such as impact piling, dredging, sediment disposal, permanent habitat alteration or hydromorphological modification. The additional North Quays works are considered within the same impact mechanism categories as the original survey scope.

Accordingly, Stage 2 assessment focuses exclusively on the following impact mechanisms:

- Underwater and airborne noise and vibration arising from vessel activity, acoustic survey equipment, ROV operations, diver-support activity, sonar / echo sounding and coring or other intrusive structural testing where required; and
  Visual disturbance arising from survey vessel movements, diver-support activity, quay-edge and land-based personnel presence, and intertidal survey activity, with particular relevance to SPA bird features and otter.

The sections that follow assess, for each relevant European site and conservation feature, whether these impact mechanisms could result in effects that would undermine the site's conservation objectives, either alone or in combination with other plans or projects.

3.2.1. Potential Impact Mechanism 1- Noise and Vibration (Underwater and Airborne)

3.2.1.1. Potential Receptors

Birds Directive SCI features

The proposed MUL survey works occur within and/or are hydrologically connected to the SPA listed in **Section 3.2** above and therefore have a potential pathway for disturbance to the following screened-in SCI bird features and supporting Wetland and Waterbirds habitat:

- Little Grebe (*Tachybaptus ruficollis*) [A004]
- Great Crested Grebe (*Podiceps cristatus*) [A005]
- Cormorant (*Phalacrocorax carbo*) [A017]
- Grey Heron (*Ardea cinerea*) [A028]
- Shelduck (*Tadorna tadorna*) [A048]
- Teal (*Anas crecca*) [A052]
- Wigeon (*Mareca penelope*) [A050]
- Pintail (*Anas acuta*) [A054]
- Shoveler (*Spatula clypeata*) [A056]
- Red-breasted Merganser (*Mergus serrator*) [A069]
- Oystercatcher (*Haematopus ostralegus*) [A130]
- Grey Plover (*Pluvialis squatarola*) [A141]
- Dunlin (*Calidris alpina*) [A149]
- Black-tailed Godwit (*Limosa limosa*) [A156]
- Curlew (*Numenius arquata*) [A160]
- Redshank (*Tringa totanus*) [A162]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Common Gull (*Larus canus*) [A182]
- Lesser Black-backed Gull (*Larus fuscus*) [A183]
- Common Tern (*Sterna hirundo*) [A193]
- Wetlands and Waterbirds [A999]

In addition, the following screened-in SCI gull species from SPAs within foraging range of the proposed MUL area are considered:

- Ballycotton Bay SPA (004022)

  - Common Gull (*Larus canus*) [A182]
  - Lesser Black-backed Gull (*Larus fuscus*) [A183]
- Courtmacsherry Bay SPA (004219)
  - Common Gull (*Larus canus*) [A182]
- Ballymacoda Bay (004023)
  - Common Gull (*Larus canus*) [A182]
  - Lesser Black-backed Gull (*Larus fuscus*) [A183]

Habitats Directive Annex II Species

Potential receptors of noise and vessel disturbance include mobile Annex II species that may occur within the lower River Lee / Cork Harbour system and which are qualifying interests of SACs retained from Stage 1 Screening on the basis of species mobility and functional ecological connectivity. These include:

- Otter (*Lutra lutra*) [1355]

These species may detect vessel presence and underwater sound generated by survey equipment (*e.g*. MBES, side-scan sonar, sub-bottom profiling) and vessel propulsion during active survey periods.

3.2.1.2. Impact Assessment

The proposed activities will generate intermittent, non-impulsive underwater sound associated with acoustic survey equipment, vessel operation, ROV operations, sonar / echo sounding, diver-support activity and, where required, coring or other intrusive structural testing. The additional North Quays structural survey works may include diver-led underwater inspection, vessel-based support, material testing/concrete coring and sonar / echo sounding at or adjacent to existing quay wall structures. The works do not include high-energy impulsive sources such as impact piling or blasting. Disturbance, if it occurs, would be expected to comprise temporary behavioural responses, such as avoidance of the immediate survey corridor during active survey periods.

The Docklands reach of the River Lee is an urbanised and already disturbed receiving environment with existing vessel movements and anthropogenic noise sources. Survey operations will be temporary and short-term, and will not result in permanent habitat alteration, obstruction, or long-term displacement.

For bird species, noise associated with vessel movement, quay-edge activity, drilling, coring and other structural survey activity will be temporary and localised. Such disturbance may cause brief avoidance of the immediate works area but is not predicted to result in population-level effects. Bird disturbance is considered further under visual disturbance, and relevant working practices are set out in the mitigation section.

For mobile marine mammals, any interaction with survey sound sources would be:

- localised to the area of active operations;
- temporary and reversible; and
- unlikely to affect survival, reproduction, or long-term distribution at a scale relevant to the conservation objectives of the SACs for which they are qualifying interests.

For otter, potential effects are limited to short-term disturbance pathways. Although the temporary nature of the surveys reduces the potential for disturbance, the documented local presence (NBDC) and connectivity to SACs identified through the source–pathway–receptor assessment mean that disturbance effects cannot be excluded in the absence of mitigation. There is no mechanism for loss of resting/breeding sites or sustained reduction in prey resources given the temporary nature of the works and absence of discharges or habitat modification.

Despite the absence of any SPR linkage to European sites, under the precautionary principle, reflecting the local known presence of seals within the River Lee, mitigation measures will be considered to minimise any potential disturbance to local pinniped species or otter.

Accordingly, with implementation of mitigation measures, adverse effects on the integrity of the screened-in SACs in respect of mobile Annex II receptors are not predicted.

3.2.1.3. Mitigation Measures

To minimise potential impacts on Annex II species, the following measures will be implemented as part of the site activities, however these measures reduce the already low likelihood of an impact being realised. Measures will be applied in line with relevant best practice including NPWS (2014) guidance on managing risk to marine mammals from sound, and standard marine survey protocols and MARA's guidance note for licence holders on marine mammal and bird observations during licenced activities at sea. These measures will apply to both the original South Quays survey activities and the additional North Quays structural survey works, where relevant to vessel-based acoustic survey, sonar / echo sounding, diver-support activity and other in-water structural survey operations:

- A suitably qualified Marine Mammal Observer (MMO) will be appointed for periods when vessel based MBES, SSS and bathymetric surveying is being undertaken.
- The MMO will carry out a 30-minute pre-start visual watch within a 500 m Monitoring Zone. If any marine mammal is present, commencement of survey activity will be delayed until the animal has left the zone, or until a 30-minute clearance period passes without further sightings.
- A soft start (ramp-up) procedure will be used where possible, gradually increasing acoustic output over 20 - 40 minutes to allow animals time to move away.

- Survey operations will only commence during daylight hours when effective visual monitoring can be ensured.
- If MBES/SSS or other bathymetric survey activity stops for more than 30 minutes, the pre-start monitoring procedure will be repeated before recommencing.
- Vessel speeds will be minimised (<6 knots where practicable) within the survey area to reduce collision risk and underwater noise from engine/propeller cavitation.
- Clear communication procedures will be maintained between the MMO and survey crew to ensure real-time decision-making on start-up, shutdown, and resumption of works.

Once surveying has commenced and the pre- start procedures have been completed and cleared by the MMO, operations may continue at night or during poor visibility, as continuous activity is considered less disruptive than repeated start-ups.

Implementation of these measures will ensure that the risk of significant adverse effects on Annex II species and other protected marine fauna is reduced to negligible levels, consistent with the requirements of the Habitats Directive.

3.2.1.4. Conclusion

With implementation of the above measures, any behavioural disturbance will be temporary, localised and reversible. No injury, mortality, barrier effect, or sustained displacement is predicted. The conservation objectives of the screened-in SACs will not be undermined. Accordingly, no adverse effects on the integrity of these SACs are predicted, either alone or in combination with other plans or projects.

3.2.2. Potential Impact Mechanism 2- Visual Disturbance

3.2.2.1. Potential Receptors

Habitats Directive Annex II Species

Potential receptors of visual disturbance include transient Annex II species that may occur within the lower river Lee/ Cork Harbour system, and which are qualifying interests of SACs retained from stage 1 screening on the basis of species mobility and functional ecological connectivity. These include:

- Otter (*Lutra lutra*) [1355]

Birds Directive SCI features

The proposed MUL survey works occur within and/or are hydrologically connected to the SPA listed in **Section 3.2** and therefore have a potential pathway for disturbance to the following screened-in SCI bird features and supporting Wetland and Waterbirds habitat:

- Little Grebe (*Tachybaptus ruficollis*) [A004]
- Great Crested Grebe (*Podiceps cristatus*) [A005]
- Cormorant (*Phalacrocorax carbo*) [A017]
- Grey Heron (*Ardea cinerea*) [A028]
- Shelduck (*Tadorna tadorna*) [A048]
- Teal (*Anas crecca*) [A052]
- Wigeon (*Mareca penelope*) [A050]
- Pintail (*Anas acuta*) [A054]
- Shoveler (*Spatula clypeata*) [A056]
- Red-breasted Merganser (*Mergus serrator*) [A069]
- Oystercatcher (*Haematopus ostralegus*) [A130]
- Grey Plover (*Pluvialis squatarola*) [A141]
- Dunlin (*Calidris alpina*) [A149]
- Black-tailed Godwit (*Limosa limosa*) [A156]
- Curlew (*Numenius arquata*) [A160]
- Redshank (*Tringa totanus*) [A162]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Common Gull (*Larus canus*) [A182]
- Lesser Black-backed Gull (*Larus fuscus*) [A183]
- Common Tern (*Sterna hirundo*) [A193]

- Wetlands and Waterbirds [A999]

In addition, the following screened-in SCI gull species from SPAs within foraging range of the proposed MUL area are considered:

- Ballycotton Bay SPA (004022)
    - Common Gull (*Larus canus*) [A182]
    - Lesser Black-backed Gull (*Larus fuscus*) [A183]
- Courtmacsherry Bay SPA (004219)
    - Common Gull (*Larus canus*) [A182]
- Ballymacoda Bay (004023)
    - Common Gull (*Larus canus*) [A182]
    - Lesser Black-backed Gull (*Larus fuscus*) [A183]

3.2.2.2. Impact Assessment

Potential impacts comprise short-term visual disturbance arising from:

- survey vessel presence and movement;
- diver support activity;
- quay-edge and land-based personnel presence;
- personnel undertaking intertidal or structural survey works; and
- temporary activity at discrete locations as survey progresses along the Docklands reach.

The additional North Quays structural surveys would be undertaken along existing urban quay wall structures at Penrose Quay, Fishguard Wharf, Horgan's Quay, the Turning Basin and North Deep-Water Quay. These activities may include above-water inspection, diver-led underwater structural survey, vessel-based support, material testing/concrete coring where required, and sonar / echo sounding where required.

Disturbance could lead to localised displacement, flushing, or changes in foraging/roosting behaviour for individual birds within the immediate vicinity of active works. However:

- activity is temporary and mobile (progressing through discrete survey areas, not fixed in one location);
- the Docklands reach is already subject to baseline disturbance (urban activity, traffic, quayside activity and vessel movements);
- no habitat loss, drainage, reclamation, or permanent barrier is proposed under the MUL; and
- alternative foraging/roosting areas are available within the wider SPA and estuarine system.

With mitigation, effects are predicted to be localised, short-term and reversible, and not of a magnitude/duration to undermine the conservation objective of maintaining the favourable conservation condition of the identified conservation features.

3.2.2.3. Mitigation Measures

These measures will apply to both the original South Quays survey activities and the additional North Quays structural survey works.

- Timing controls: where feasible, avoid highest sensitivity periods for key wintering bird concentrations.
- Minimum disturbance approach: limit the number of vessels; maintain slow, steady speeds; avoid sudden approach to marine mammals or bird aggregations; avoid unnecessary idling close to known roosts.
- Works sequencing: progress works in a linear manner to avoid repeated disturbance of the same area; minimise duration at any one location.
- Briefing / watching brief: ensure crew awareness; if significant bird aggregations are present close to works, adjust track or pause briefly where practicable.
- North Quays structural survey activity, including quay-edge access, diver-support activity and material testing, will be limited to the minimum area and duration required to complete the works safely and effectively.

3.2.2.4. Conclusion

Given the temporary, mobile and localised nature of the disturbance, the availability of alternative foraging and roosting areas within the wider SPA and estuarine system, and the absence of habitat loss, the conservation objectives for the screened-in QI and SCI species are not expected to be undermined. No adverse effects on the integrity of Cork Harbour SPA, Ballycotton Bay SPA, Courtmacsherry Bay SPA, Ballymacoda Bay SPA, The Gearagh SAC or Blackwater River (Cork/Waterford) SAC are predicted.

3.3. Summary of Mitigation Measures

Mitigation measures have been developed to ensure that the proposed survey activities will not result in adverse effects on the integrity of any European site, with reference to the Site-Specific Conservation Objectives. These measures are based on the outcomes of the screening and impact assessment, the defined ZoI, and best practice guidance for marine projects in Ireland and the EU.

Annex II species

To minimise potential impacts on Annex II species, the following measures will be implemented as part of the site activities, however these measures reduce the already low likelihood of an impact being realised. Measures will be applied in line with relevant best practice including NPWS (2014) guidance on managing risk to marine mammals from sound, and standard marine survey protocols and MARA's guidance note for licence holders on marine mammal and bird observations during licenced activities at sea:

- A suitably qualified Marine Mammal Observer (MMO) will be appointed for periods when vessel based MBES, SSS and bathymetric surveying is being undertaken.
- The MMO will carry out a 30-minute pre-start visual watch within a 500 m Monitoring Zone. If any marine mammal is present, commencement of survey activity will be delayed until the animal has left the zone, or until a 30-minute clearance period passes without further sightings.
- A soft start (ramp-up) procedure will be used where possible, gradually increasing acoustic output over 20 - 40 minutes to allow animals time to move away.
- Survey operations will only commence during daylight hours when effective visual monitoring can be ensured.
- If MBES survey activity stops for more than 30 minutes, the pre-start monitoring procedure will be repeated before recommencing.
- Vessel speeds will be minimised (<6 knots where practicable) within the survey area to reduce collision risk and underwater noise from engine/propeller cavitation.
- Clear communication procedures will be maintained between the MMO and survey crew to ensure real-time decision-making on start-up, shutdown, and resumption of works.

Once surveying has commenced and the pre- start procedures have been completed and cleared by the MMO, operations may continue at night or during poor visibility, as continuous activity is considered less disruptive than repeated start-ups.

Implementation of these measures will ensure that the risk of significant adverse effects on Annex II species and other protected marine fauna is reduced to negligible levels, consistent with the requirements of the Habitats Directive.

Birds (SPA Special Conservation Interests)

To minimise the potential for disturbance to SPA bird features, the following measures will be applied:

- Survey vessels will maintain slow and predictable movements and avoid sudden approaches towards concentrations of birds.
- The number of vessels operating simultaneously will be minimised where practicable.
- Survey works will progress sequentially along the docklands reach avoiding prolonged activity at any single location.
- Where significant bird aggregations are observed in close proximity to the works area, the survey track may be adjusted or temporarily paused where practicable.
- Crew members will be briefed on ecological sensitivities, including awareness of SPA bird features and procedures for minimising disturbance.

3.4. Plans of Projects that might act in- combination

As outlined in Section 2.6, a review of relevant plans, projects and ongoing activities within the wider Cork Harbour and River Lee system was undertaken to determine whether in-combination effects could arise from the proposed maritime survey works.

The review considered the following potential sources of cumulative interaction:

- Existing and permitted developments within the Cork Docklands area identified through the Cork City Council planning system.
- Aquaculture operations within Cork Harbour identified through the Aquaculture Information Management System (AQUAMIS).
- Navigational activity and marine traffic within Cork Harbour; and
- Existing background pressures identified in the Natura 2000 Standard Data Forms for relevant European sites.

The planning review identified several permitted developments within the wider Docklands area, including hardstanding and parking expansion works, extension of duration for an unmanned truck fuel service station, and the construction of a new access road and roundabout at the former Mitsui Denman (E-Park) site. These developments are terrestrial in nature and do not involve works within the River Lee below the High-Water Mark. As such, no pathway exists for interaction with the proposed marine survey activities.

A review of the MARA public register identified a number of permitted maritime activities within Cork Harbour, including dredging works, marine monitoring programmes and infrastructure-related developments. While these activities occur within the wider harbour system, they are spatially discrete from the proposed survey area within the Docklands reach of the River Lee. In addition, several of the identified projects relate to temporary monitoring activities with limited spatial footprint. Given the short duration and localised nature of the proposed survey works, no meaningful overlap of ecological pressures is anticipated.

Aquaculture operations are present within the wider Cork Harbour system, including blue mussel cultivation and oyster farming areas located several kilometres downstream of the proposed survey area. These activities are spatially separated from the Docklands reach of the River Lee and are not hydrodynamically or operationally connected to the proposed surveys. Given the temporary and localised nature of the survey works, no cumulative interaction with aquaculture operations is anticipated.

Navigation and vessel movements represent an existing background pressure within Cork Harbour. However, the proposed surveys will utilise standard survey vessels operating over a short duration and will not materially

increase vessel traffic within the harbour. Consequently, the proposed works will not result in any meaningful intensification of existing navigational activity.

Taking these factors together and having regard to the findings of the Stage 1 screening assessment, no realistic pathways have been identified by which the proposed maritime survey works could interact with other plans or projects to give rise to likely significant effects on European sites. The temporary and localised nature of the proposed survey activities means that any disturbance effects will be limited in spatial extent and duration.

Accordingly, significant in-combination effects on the conservation objectives of the European sites considered in this assessment can be excluded at Stage 2 NIS.

3.5. Natura Impact Statement Conclusion

This report has been prepared with regard to the provisions of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). This Natura Impact Statement (NIS) was prepared following Screening for Appropriate Assessment, which determined that it was not possible to exclude, on the basis of objective scientific information, the potential for likely significant effects on European sites arising from the proposed marine surveys associated with the Cork Docklands South Quays project.

The NIS has examined and analysed, in light of the best available scientific knowledge, the potential for the proposed operations to impact upon the QIs of SACs and SCIs of SPAs. The assessment considered potential impact pathways including disturbance to birds associated with relevant SPAs and underwater noise or disturbance affecting marine mammals associated with relevant SACs. Mitigation measures have been identified to ensure that potential impacts on the conservation objectives of European sites are avoided. With the implementation of these measures, the proposed survey activities will not adversely affect the ecological integrity of any European site.

On the basis of the objective information presented in this report, and in light of the nature and scale of the proposed operations together with the mitigation measures proposed, it can be concluded that the proposed operations will not adversely affect the integrity of any SAC or SPA, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

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[i] Article 17 – Council Directive 92/43/EEC (Habitats Directive), latest national reporting cycle (2025) https://eur-lex.europa.eu/eli/dir/1992/43/2013-07-01/eng#art17
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[ii] All site synopsis and respective conservation objectives documents can be assessed at Protected Sites in Ireland | National Parks & Wildlife Service (npws.ie)

[3] EIA Portal

[4] Cork City Council (2026) *Planning Application Search Portal*. Available at: https://planning.corkcity.ie

[5] An Coimisiún Pleanala

[6] DAFM Aquaculture Viewer Interactive Map

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