19/062 - WO064 Marine Modelling Studies - Lot 4 Galway Bay

Natura Impact Statement

Uisce Éireann

Project number: 60709519

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Delivering a better world

Quality Information

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1. Introduction

1.1 Background

AECOM was commissioned by Uisce Éireann to prepare a Natura Impact Statement (NIS) to support a Maritime Usage Licence under Schedule 7 Section 110 of the Marine Area Planning Act 2021 in relation to a Marine Modelling Study (MMS) being carried out in Galway Bay (Lot 4 Project). This NIS follows on from the supporting information for an Appropriate Assessment (AA) Screening (SISAA) Report, which is set out in the *19/062 - WO064 Marine Modelling Studies - Lot 4 Galway Bay Supporting Information for Appropriate Assessment Screening Report* (AECOM, 2024a). The licence is required to carry out marine surveys in Galway Bay within the Proposed Licence Areas shown in Appendix A, Maps A-D. The specific areas that will be subject to marine surveys (bathymetry surveys and Acoustic Doppler Current Profilers (ADCPs)) that are considered in this application are shown in, Figures 1 - 3.

Uisce Éireann are responsible for many continuous or intermittent discharges into the marine environment. Within the Galway Bay area, there are over 50 wastewater discharge points into the marine environment. At present, there are no hydrodynamic marine water quality models developed to support water quality assessments in the Proposed Licence Areas and Uisce Éireann now require this model to be developed, which is the purpose of the Lot 4 Project. The model will support the assessment of water quality for all discharges against environmental legislation criteria.

This Lot 4 Project will include four phases: scoping, marine surveys, calibration and validation and scenario analysis. The marine surveys will collect the necessary hydrodynamic data. This data will then be used for the calibration of a hydrodynamic model to support a water quality assessment in Proposed Licence Areas. This SISAA report is prepared in relation to the scoping phase of the Lot 4 Project. The scoping phase includes three Work Packages (WPs) which will be carried out sequentially. This NIS report specifically fulfils WP 3 – Maritime Usage Licence (see below). All work packages are due to be completed in 2024.

- Work Package 1- Phase 1 Environmental Scoping Report;
- Work Package 2- Data Manual; and
- Work Package 3- Maritime Usage Licence.

The SISAA concluded that likely significant effects on the qualifying features of two Special Areas of Conservation (SACs) - Galway Bay Complex SAC and Kilkieran Bay And Islands SAC as a result of survey activities - could not be ruled out, on the basis of information available at the time and/or in the absence of avoidance or mitigation measures.

1.2 Purpose of this Report

Whilst the various steps involved in the AA process must be carried out by a competent authority (Uisce Éireann), project proponents, or their consultants, may provide the information required to inform this assessment. Having already completed an SISAA (AECOM, 2024a), this Natura Impact Statement therefore serves to provide AECOM's opinion on whether there will be an adverse effect on the integrity of any 'screened in' European site from marine surveys, either individually or in-combination with other plans or projects.

For clarity, in the context of the Habitats Directive, the marine surveys represent a 'project' and no reference to 'plans' is made hereafter, except where required to consider the potential for in-combination effects to arise between the marine surveys and any relevant plans.

1.3 Project Description

The Lot 4 Project involves conducting marine surveys within certain areas of the Proposed Licence Areas (Figure 1). These marine surveys will include ADCP surveys, bathymetric surveys and other passive water quality surveys (e.g. water sample collection from shore or vessel via a handheld passive sonde and/or Niskin bottle, water level/tidal monitoring using tide gauges fixed to an existing structure and CTD measurements from vessel or fixed to a tide gauge or ADCP). The passive water quality surveys are undertaken by extremely minimally disturbing/non-intrusive methods which will not impact any protected marine species and are therefore not considered further in this assessment.

The other marine survey activities will involve deploying, operating, and recovering ADCPs and a tidal gauge and the bathymetric surveys will use vessel mounted single beam or multibeam echo sounders (SBES/MBES) within certain areas of the Proposed Licence Areas.

The surveys are scheduled to commence at some point within a 60-month period from 1st April 2025. The survey duration will be a minimum of 35-days and a maximum 60 days (survey period). Within that survey period there will be 13-hour surveys over a spring tide and a neap tide. The bathymetric surveys may be undertaken during that survey period or as separate surveys but not before 1st April 2025. The data collected will be used for calibrating a hydrodynamic model. The locations of the ADCP surveys and bathymetric surveys are shown on Figure 1.

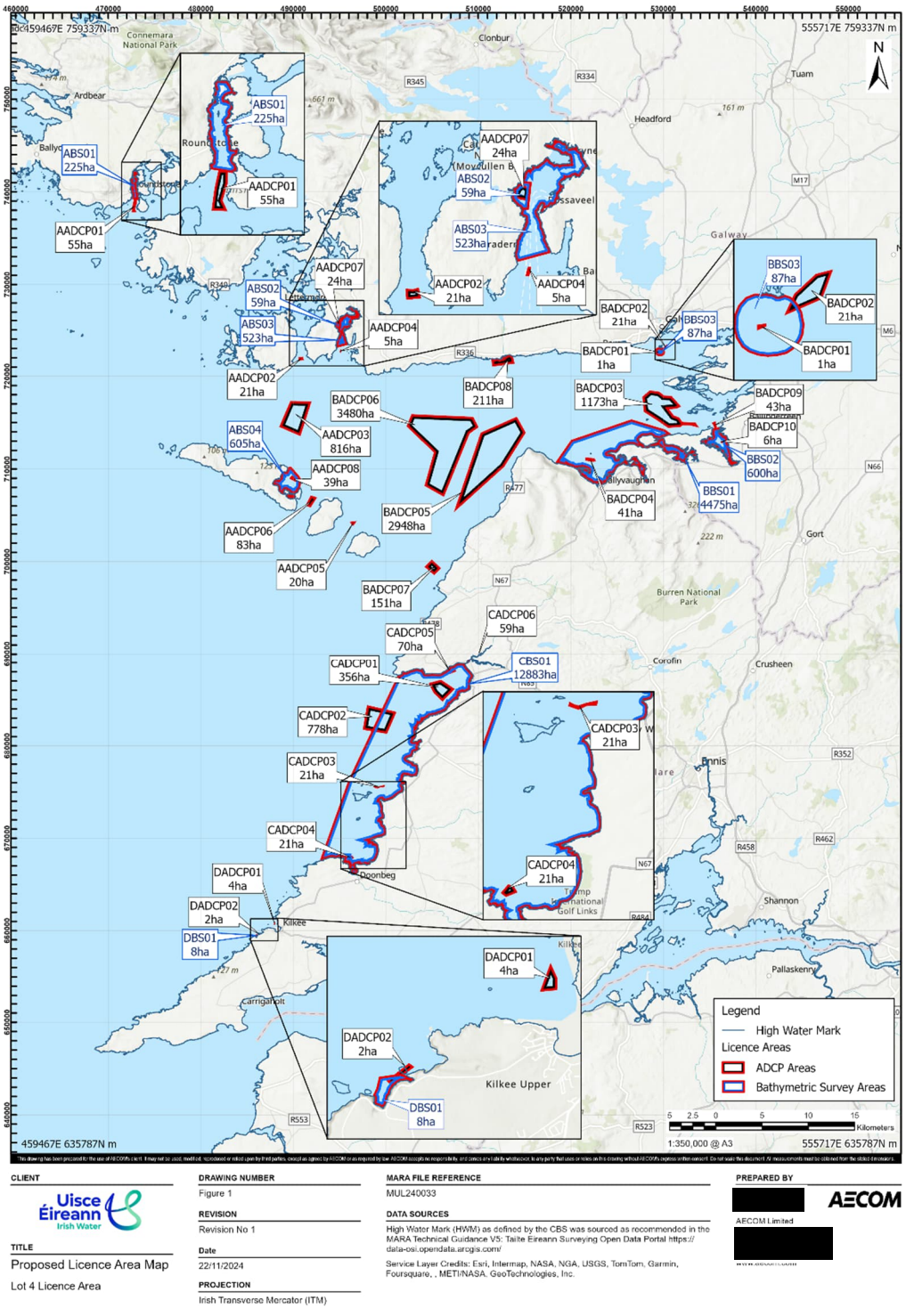


Figure 1. Proposed Surveys

1.4 ADCP Surveys

These surveys will be carried out in shallow waters, less than 100 m in depth, only. The ADCP surveys will contain no more than a single ADCP within each survey area (ADCP Area). The ADCP Areas total 10,452.12 ha. Conservatively, the individual footprint of each ADCP is considered to be less than 1 m^2. The ADCPs are placed on the seabed in order to measure water current velocities over a depth range using the doppler effect of sound waves scattered back from particles within the water column. There will be up to 26 ADCPs deployed, with 23 ADCPs being deployed on the seabed for the survey period. Three ADCPs will be suspended in the water column, via a vessel mounted method or alternatively via a passive impeller due to unsuitable seabed habitats present (Table 1) for the two 13-hour surveys.

The exact make and model of the ADCP equipment is not known at the time of writing this report. However, the operating frequency of any ADCP deployed will be >200 kHz (typically around 500 kHz for many models). The instrument emits “pings” of sound at a sampling rate of 1-minute average every 10 minutes. The list of ADCPs and their areas are shown in Table 1.

For the purposes on this NIS report the construction phase is defined as the deployment of ADCPs on the seabed/vessel-mounted, the operational phase is the operation of the ADCPs, and the decommissioning phase is the recovery of the ADCPs from the seabed/vessel. These are described in further detail below.

1.4.1.1 Deployment of ADCP Instruments

ADCPs will be deployed from the vessel's deck onto the seabed at predetermined locations (one ADCP placed within each Area) in water depths less than 100 m only. However, the exact placement location within each site is not known at the time of writing this report. They will be positioned based on available charts and habitat maps to ensure it is placed on suitable flat sandy habitats only. Deployment onto the seabed is carried out by lifting the ADCP survey instruments from the vessel's deck using a deck crane or A-frame with a winch and then carefully placing them on the seabed. The single vessel based ADCP deployment is caried out by lowering from a vessel or bridge either manually or using a mechanical winch and will be vessel mounted (i.e. will not be placed on the seabed).

1.4.1.2 Operation of ADCP Instruments

During operation, the ADCPs will be left in place on the seabed/vessel for an approximate duration of the survey period to collect necessary data for calibrating the hydrodynamic model. To collect these data during operation, the ADCP survey instruments will emit periodic "pings" of sound into the water column. For the Lot 4 Project, the pings will have operating frequencies between 200 kHz to 500 kHz. The instrument is contained within a trawl resistant housing. A Conductivity Temperature Depth (CTD) sonde may be placed inside the housing.

1.4.1.3 Recovery of ADCP survey Instruments

To facilitate recovery, a hydrostatic release mechanism will be employed. When activated, it sends a ranging ping to the release mechanism. If successful, this mechanism releases a buoy connected to a recovery line. The vessel can then manoeuvre into position over the buoy and retrieve the ADCPs onto the boat using the crane. In cases where the hydrostatic release fails, the ADCPs are equipped with acoustic pingers that can be activated to assist in locating the ADCP instruments. Another attempt can then be made to activate the acoustic release. If this attempt also fails, the ADCP will be recovered using a grapple recovery method. If required, this involves dragging a line with a grapple attached across the seabed in the deployment area to catch the grapple line between the ADCPs and the grapple anchor.

Table 1. List of ADCP areas within the Proposed Licence Areas

Site Reference	Site Name	Area (ha)	Comments
AADCP01	Roundstone	55.23	
AADCP02	Greatman's Bay Approaches	20.70	Vessel based survey (i.e. the ADCP will not be placed on the seabed).
AADCP03	North Sound	816.25	Deeper water -40 mCD to -50 mCD, exposed location.
AADCP04	Rossavel Harbour Approaches	4.90	
AADCP05	Foul Sound	20.00	
AADCP06	Gregory Sound	82.74	
AADCP07	Carraroe	23.70	Likely to be a vessel-based survey if the seabed is mud and not suitable for placing an ADCP on the seabed.
AADCP08	Killeany Bay	38.76	

Site Reference	Site Name	Area (ha)	Comments
BADCP01	Galway Outfall	1.01	Location of the largest Uisce Éireann outfall in the Proposed Licence Areas
BADCP02	Galway Approaches	20.82	
BADCP03	South Bay	1,173.85	
BADCP04	Ballyvaughn Bay	40.58	
BADCP05	Black Head	2,948.81	
BADCP06	Inverine Bank	3,481.60	
BADCP07	South Sound	151.13	
BADCP08	Spiddal	211.41	
BADCP09	Kinvarra 1	42.96	Vessel based survey (i.e. the ADCP will not be placed on the seabed).
BADCP10	Kinvarra 2	5.70	
CADCP01	Liscannor Bay	356.34	
CADCP02	Mal Bay	778.54	
CADCP03	Kilmurray Ibrickane	21.13	
CADCP04	Doonbeg	20.92	
CADCP05	Lahinch & Ennistymon 1	69.82	
CADCP06	Lahinch & Ennistymon 2	58.88	Vessel based survey (i.e. the ADCP will not be placed on the seabed).
DADCP01	Kilkee Bay	3.96	
DADCP02	Kilkee (Intrinsic Bay)	2.39	

1.4.2 Bathymetric Surveys

The bathymetric surveys will include the use of SBES and/or MBES within the Lot 4 Proposed Licence Area. These surveys will be carried out in shallow waters only, less than 100 m in depth. At the time of writing this report the exact number, make and models are not known but the operating characteristics for shallow water are well understood. It is therefore assumed that survey equipment will have an operating frequency of 200 kHz to 700 kHz for MBES and 200 kHz for SBES. The SBES/MBES will be vessel-mounted for a period of up to 28 days. The total area of bathymetric surveys is 19,487.16 ha. The list of bathymetric surveys and their areas are shown in Table 2.

Table 2. List of Bathymetric survey areas within the Proposed Licence Areas

Site Reference	Site Name	Area (ha)
ABS01	Roundstone	225.29
ABS02	Carraroe Inner	59.49
ABS03	Carraroe Outer	522.63
ABS04	Killeany Bay	604.36
BBS01	Ballyvaughn and Aughinish	4,483.16
BBS02	Kinvarra	600.09
BBS03	Mutton Island	87.27
CBS01	Mal and Liscannor Bays	12,888.57
DBS01	Kilkee	7.89

1.4.3 Tide Gauges

Of the eighteen tide gauges within the Lot 4 Proposed Licence Areas A-D, it is anticipated that all will be attached to existing fixed structures such as navigation marks or quaysides. The proposed tide gauge within the Inagh River Estuary SAC (CTG02) will ideally be fixed to the Falls Hotel quayside, or the thrust block of the wastewater treatment plant outfall. However, if this is not possible then it may be necessary to install a thin metal pole (<100 mm diameter) into the bank / bed of the river close to the wastewater treatment plant and fix the tide gauge to that pole. The approximate location of this is shown in Table 3 , which is located in the River Inagh but is beyond any saltmarsh habitat that is specifically protected as a qualifying feature of this SAC (NPWS, 2017). Installation of the tide gauge by this method will be avoided, but if it is necessary then care will be taken during removal to minimise any disturbance to the bank / bed of the river.

Table 3. Non-passive tide gauge location within the Lot 4 Proposed Licence Area

Site Reference	Site Name	Easting	Northing
CTG02	River Inagh	112484	188598

1.4.4 Survey Vessels

Survey vessels will be selected by the survey contractor. They will be selected based on suitability as a survey platform for the deployment and recovery of the different equipment. It is envisioned that two small vessels (up to 25 m in length) moving slowly (i.e., survey speeds of 4 knots and 10 – 15 knots whilst in transit) will be used at any one time during the marine surveys. The vessels may maintain their position either using an anchor or dynamic positioning depending on the size and type of vessel. Note, that dynamic positioning will not be used in shallow areas or when a vessel is close to the shore except for berthing operations at suitable docking facilities.

1.4.5 Mitigation

Avoidance or mitigation measures which have the specific purpose of ensuring that a project does not have significant effects on the qualifying features of European sites cannot be considered at the AA Screening stage. It is only once the Appropriate Assessment stage is reached that such measures can be taken into account in the appraisal. This section sets out the avoidance and mitigation measures that will be adopted during the marine surveys, implemented to ensure that identified impacts on QI / SCI do not result in adverse effects on the integrity of relevant European sites, in view of the Conservation Objectives of those sites.

While the marine surveys are not considered to have the potential to cause lethal effects, physical injuries, auditory harm, or behavioural disturbances to marine mammals as a result of underwater sound emissions during the marine survey (AECOM, 2024b), a set of industry-standard mitigation measures, as outlined by The DHLGH "*Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters*" published in 2014, and "*Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland*" will be implemented to minimise the risk of injury to marine mammals during marine surveys. These measures are described below.

1.4.5.1 Pre-Start Monitoring

A qualified and experienced marine mammal observer will be designated to monitor marine mammals and record all relevant events using standardised data forms provided by DHLGH within the DHLGH (2014) guidance note. To enable continuous monitoring, including during situations when visual observation is hindered by weather conditions or sea state, a proven Passive Acoustic Monitoring (PAM) system and skilled operator(s) will be employed for pre-start monitoring during such instances.

As the marine surveys will be carried out in shallow waters (< 100 m), the marine mammal observer shall conduct pre-start-up constant effort monitoring at least 30 minutes before the sound-producing activity is due to commence. Sound-producing activity shall not commence until at least 30 minutes have elapsed with no marine mammals detected within the Monitored Zone. If a marine mammal is sighted within 500 meters (monitored zone) of the sound source (i.e. the vessel) during the 30 minutes leading up to the scheduled start time, operations will be postponed until a consecutive 30-minute period without any marine mammal sightings has passed. If the marine mammals remain in the vicinity, the survey vessel may adjust its course to ensure that the animals are outside the monitored zone when the soft start/ramp-up procedure begins. The marine mammal observer will employ a

distance measuring stick or reticule binoculars to determine distances to marine mammals, and all PAM detections will be presumed to originate from animals[1] within the monitored zone.

1.4.5.2 Ramp-Up Procedure

A ramp-up (i.e., soft start) is the gradual increase in power output over a predetermined duration. This method will be applied where possible, including during any testing of acoustic sources, where the output peak sound pressure level from any source exceeds 170 dB re: 1µPa @1m:

- If the equipment allows, begin with a lower energy start-up (peak sound pressure level not exceeding 170 dB re: 1µPa @1m), gradually increasing to the necessary maximum output over 20 minutes.
- This controlled energy increase should occur in consistent stages for a steady and gradual rise.
- If the equipment cannot follow steps (a) and (b), turn the device on and off in a consistent sequential pattern over 20 minutes before reaching the full necessary output.

In all situations, once the ramp-up process begins, there is no requirement to pause or cease the procedure even if conditions deteriorate or marine mammals enter the monitored zone. Efforts will be made to minimise any delays between the ramp-up procedure and the commencement of the survey line or station to reduce unnecessary noise as much as possible.

1.4.5.3 Breaks in Sound Output

If there is a break in sound output from any of the marine instruments for a period of greater than 30 minutes (e.g. due to equipment failure, shut-down, survey line/station change), all pre-start monitoring measures (marine mammal observer check) and ramp-up (where this is possible) will recommence prior to re-starting.

1.4.5.4 Reporting

Full reporting from the marine mammal observer on the operations and mitigation undertaken must be provided to the DHLGH to facilitate reporting under Article 17 of the EC Habitats Directive and future improvements to guidance (DAHG, 2014).

1.5 Legislative Context

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, which is more commonly known as the ‘Habitats Directive’, requires Member States of the European Union (EU) to take measures to maintain or restore, at favourable conservation status, natural habitats and wild species of fauna and flora of Community interest. The provisions of the Habitats Directive require that Member States designate SACs for habitats listed in Annex I and for species listed in Annex II. Similarly, Directive 2009/147/EC on the conservation of wild birds, which is more commonly known as the ‘Birds Directive’, provides a framework for the conservation and management of wild birds. It also requires Member States to identify and classify SPAs for rare or vulnerable species listed in Annex I of the Birds Directive, as well as for certain regularly occurring migratory species. Collectively, SACs and SPAs are known as ‘European sites’.

In Ireland, the habitats and/or species which are the reason(s) for designation of an SAC are referred to as ‘Qualifying Interests’ (QI). In relation to SPAs, the bird species for which a particular site is designated are referred to as the ‘Special Conservation Interests’ (SCI).

Under Article 6(3) of the Habitats Directive, any plan or project which is not directly connected with or necessary to the management of a European site, but would be likely to have a significant effect on such a site, either individually or in-combination with other plans or projects, must be subject to an Appropriate Assessment (AA) of its implications for the SAC / SPA in view of the site’s Conservation Objectives.

In the Republic of Ireland, the requirements of Article 6(3) are transposed into national law through Part 8 of the Maritime Area Planning Act 2021 (hereafter abbreviated to the ‘MAP Act 2021’) and Part XAB of the Planning and Development Act 2000 (as amended) (hereafter abbreviated to the ‘PDA’) for planning matters, and by the European Communities (Birds and Natural Habitats) Regulations 2011 in relation to other relevant approvals / consents. Part 8 of the MAP Act 2021 inserts a new Part XXI into PDA. This Part deals with maritime development. Commencement of Part 8 of the MAP Act 2021 is necessary at this juncture to enable the so-called “relevant projects” to commence the development consent process. These projects are either those who applied for or were granted a lease under the MAP Act 2021.

[1] This relates to detection of cetaceans only.

Under the MAP Act 2021, marine licencing for specified activities must be obtained from Maritime Area Regulatory Authority (MARA) before carrying out activities in the Nearshore Area or Maritime Area. The competent authority must carry out a screening for an AA on any foreshore licence application which may have significant effects on the conservation objectives of a European site. Uisce Éireann is also required to apply the Precautionary Principle (as defined in European Commission (2000) and UNESCO (2005)) to European sites and can only grant consent once it has been ascertained that the Lot 4 Project will not adversely affect the integrity of any European site.

1.6 Quality Assurance and Statement of Authority

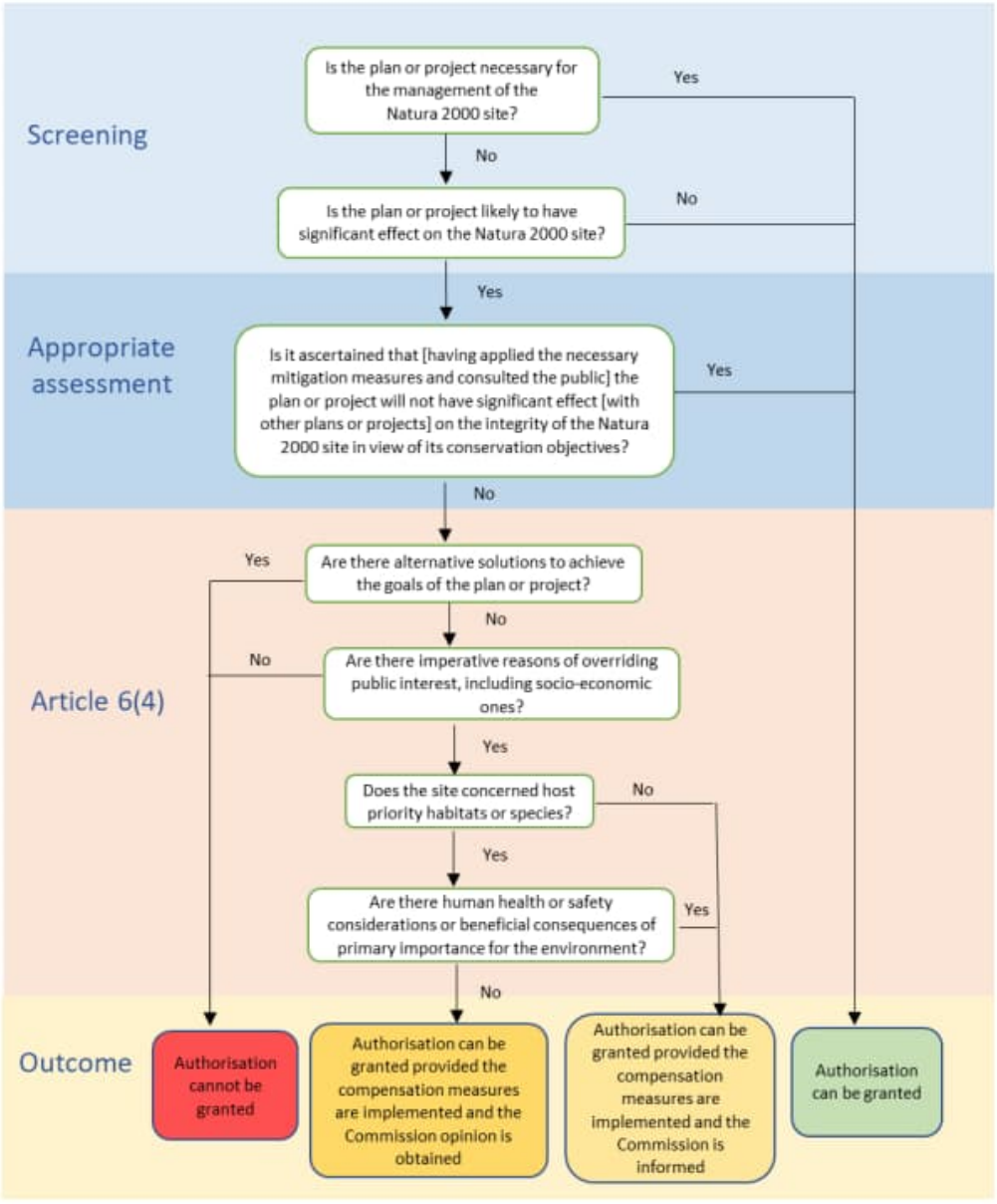
This Report and the assessment described within it has been completed in accordance with the AECOM Integrated Management System (IMS). AECOM's IMS places emphasis on professionalism, technical excellence, quality, as well as covering health, safety, environment and sustainability management. All AECOM staff members are committed to maintaining this accreditation to those parts of BS EN ISO 9001:2015 and 14001:2015, as well as BS OHSAS 18001:2007 that are relevant to a consultancy service.

2. Methodology

2.1 Overview of Appropriate Assessment Process

The process required by Articles 6(3) and 6(4) of the Habitats Directive is stepwise and must be followed in sequence. Image 1 below outlines the stages of AA according to current European Commission (EC) guidance (European Commission, 2021). The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations, and any relevant changes to the plan or project until no significant adverse effects remain.

Image 1. The stages of Appropriate Assessment (taken from European Commission (2021))



2.2 Sources of Guidance

This NIS report has been prepared in accordance with the European Commission guidance document *Assessment of Plans and Projects in relation to Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC* (European Commission, 2021). In addition, the following sources of guidance were also considered when carrying out the Appropriate Assessment:

- *Appropriate Assessment Screening for Development Management* (OPR, 2021);

- *Appropriate Assessment of Plans and Projects in Ireland* (Department of the Environmental Heritage and Local Government (DoEHLG), 2010);
- *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (EC, 2018);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular Letter National Parks and Wildlife Service (NPWS) 1/10 & PSSP 2/10* (NPWS, 2010); and,
- *Obtaining a Licence to Carry Out Specified Maritime Usage in the Maritime Area under the Maritime Planning Act 2021. Applicant Technical Guidance Note* (MARA, 2023).

2.3 Data Sources

A desk-based study was carried out to help establish the baseline conditions relevant to the marine surveys. The following resources were analysed to inform the baseline description of the site of the marine surveys and for assessing sensitivities of European sites:

- Environmental Protection Agency (EPA) Appropriate Assessment maps website (https://gis.epa.ie/EPAMaps/AAGeoTool) (accessed November 2024);
- European Marine Observation and Data Network (EMODnet) maps website (https://emodnet.ec.europa.eu/geoviewer/) (accessed November 2024);
- Marine Plan Irelands Spatial Planning Portal (https://marineplan.ie/) (accessed November 2024);
- National Parks and Wildlife Service (NPWS) Protected Sites in Ireland website (https://www.npws.ie/protected-sites) (accessed November 2024);
- Google maps website (https://maps.google.com/) (accessed November 2024); and,
- The Status of European Union (EU) Protected Habitats and Species in Ireland (Article 17 Report) (https://www.npws.ie/publications/article-17-reports/article-17-reports-2019) (accessed November 2024).

2.4 Scope of Assessment

The AA screening identified two European sites - Galway Bay Complex SAC and Kilkieran Bay and Islands SAC - within the potential ZoI of the marine survey areas, and likely significant effects on these sites from temporary physical disturbance from airborne sound / visual disturbance from vessels at QI seal haul-out sites could not be excluded at the AA screening stage. Thus, these two sites have been screening into the Appropriate Assessment for the following impact pathway:

- Potential disturbance from vessels operating near QI seal haul-out sites, which could negatively affect the QI seal population of these two European sites.

This NIS provides the information needed for the competent authority to carry out an Appropriate Assessment to further appraise the potential for the 'screened in' impact for each European site to result in adverse effects on the integrity of that site, in view of its conservation objectives.

3. Appropriate Assessment

This section sets out the Appropriate Assessment for each of the European sites for which likely significant effects on the QI seals could not be excluded at the AA screening stage. The assessment accounts for the mitigation in Section 1.4.5 and is informed by the data collected through the desk study described in Section 2.3. Each European site is considered in turn, with assessment of the potential for the construction (deployment), operational and/or decommissioning (recovery) phase impacts screened into assessment to have adverse effects on the integrity of the site.

Each impact is considered in isolation, and in-combination, considering any impacts which could arise from the marine surveys and/or the impacts of other plans or projects. A total of 13 other projects were identified which could potentially act cumulatively with the marine surveys to result in significant in-combination effects. These are described in Appendix C. No plans were identified which could act in-combination with the marine surveys to give rise to adverse effects on the integrity of any European site.

Summarised information on the QI / SCI is provided for each European site. However, the detailed information, including Conservation Objectives and existing threats, pressures and activities with impacts on the sites can be found in Appendix B, and on NPWS website (https://www.npws.ie/protected-sites).

3.1 Galway Bay Complex SAC

3.1.1 Overview of SAC

This site is a large sheltered bay situated on the west coast of Co. Galway, Ireland. There are numerous shallow and intertidal inlets on the eastern and southern sides, notably Muckinish, Aughinish and Kinvarra Bays. As set out in Appendix B, the site is designated for a wide variety of coastal and marine habitats, as well as otter (*lutra lutra*) and harbour seal (*Phoca vitulina*).

The SISAA identified the marine surveys to have the potential for likely significant effects to QI harbour seal which may be hauled-out within the site. The conservation objectives in relation to harbour seal are therefore set out in Table 4 below.

Table 4. Conservation objectives for harbour seal in Galway Bay Complex SAC

Objective: *To maintain the favourable conservation condition of Harbour Seal in Galway Bay Complex SAC, which is defined by the following list of attributes and targets:*

Attribute	Target
Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use
Breeding behaviour	Conserve breeding sites in a natural condition
Moulting behaviour	Conserve moult-out sites in a natural condition
Resting behaviour	Conserve resting haul-out sites in a natural condition
Disturbance	Human activities should occur at levels that do not adversely affect the harbour seal population at the site

Source: NPWS (2013)

3.1.2 Airbourne sound or visual disturbance to harbour seal haul-out sites

Seals frequently spend time at the sea surface or "hauled out" on land, where they rest, breed, and moult, making them particularly vulnerable to airborne noise and visual stimuli. Disturbed seals may exhibit a range of behaviours, from heightened alertness to “flushing,” where they flee haul-out sites and return to the water (Wilson, 2014). Such avoidance behaviours can disrupt essential activities like resting, feeding, travelling, and socialising. Repeated disturbances could result in permanent displacement or abandonment of pups, potentially reducing fitness and productivity.

Consequently, vessels operating near haul-out sites have the potential to cause airborne or visual disturbances to seals. Haul-out sites designated for seal protection may host hundreds or even thousands of individuals (Morris et al., 2021). While hauling out can occur year-round as seals rest, the largest aggregations are observed during the

breeding and moulting seasons. In Ireland, the harbour seal's moulting season primarily occurs between August and September, while the breeding season spans approximately May to July (NPWS, 2013).

Studies on seal disturbance due to human activities have reported varied results. For instance, research on harbour seals in Alaska, USA, found that seals began flushing in response to cruise ships at distances of at least 400 m, with 89% flushing when cruise ships approached closer than 100 m (Jansen et al., 2015). Generally, seals are observed to flush when disturbances occur within approximately 100 meters, although this threshold varies by location and disturbance type (Seal Conservation Society, 2014; Henry & Hammill, 2001; Calambokidis et al., 1991). Other studies have reported flushing distances as great as 1,000 m (Wilson, 2014; Jansen et al., 2015). Variability in flushing distances has been linked to vessel types, species, and local contexts, suggesting that factors like vessel characteristics and the degree of habituation of local seal populations influence responses (Wilson, 2014).

Modelling of harbour seal disturbance in Puget Sound, USA, identified flushing behaviour as best explained by a combination of the number of boats per hour, vessel type, proximity to haul-out sites, and interactions among these factors (Cates and Acevedo-Gutierrez, 2017). Sites with lower vessel activity exhibited higher percentages of seals flushing at greater distances, indicating that habituation to local environmental conditions and background activity levels significantly affects disturbance responses (Cates and Acevedo-Gutierrez, 2017). Furthermore, spatial analyses have revealed substantial overlap between seals at sea (within 50 km of their haul-out sites) and shipping vessels, with no evidence of associated population declines (Jones et al., 2017).

The Galway Bay Complex SAC contains a number of breeding, moulting and resting haul-out sites. Some of these haul-out sites are located within the marine survey areas (see Figure 2) and therefore disturbance to hauled-out seals may occur. However, the mitigation measures discussed in Section 1.4.5, will be implemented.

The mitigation involves the use of pre-start monitoring by a marine mammal observer to ensure no marine mammals are present within 500 m of the vessel for 30 minutes prior to works commencing and soft-start procedures where necessary.

In addition, it is recommended that the survey vessels do not work within 100 m and vessel reduce speeds within 500 m of haul-out sites for harbour. However, as the survey vessel will be moving through the intertidal area at high-tide any seals will have abandoned their intertidal haul-out site due to total inundation of the area at high-tide. With the adoption of such measures, it is therefore concluded that there will be no adverse effect on the integrity of Galway Bay Complex SAC as a result of disturbance caused by the vessels during the marine surveys.

3.1.3 In-combination assessment

Thirteen projects have been identified as having the potential to act in-combination with the marine surveys to result in adverse effects on European site integrity are set out in Appendix C. No plans have been identified which could give rise to in-combination effects with the possible impacts from the marine surveys.

The projects identified are all offshore wind or wave farm applications, which will likely result in similar disturbance effects and therefore have the potential to act in combination with the Lot 4 project. However, due to current government policy to establish a plan-led approach to offshore wind development, there is uncertainty as to whether these projects will proceed or proceed in their current format. Furthermore, the implementation of the proposed mitigation measures set out in Section 1.4.5 will act to eliminate any potential for in-combination effects on the qualifying interests of European sites within the ZoI of the marine surveys.

It is thus concluded that there will be no adverse effects on the integrity of Galway Bay Complex SAC from the marine surveys acting in-combination with any other plans or projects.

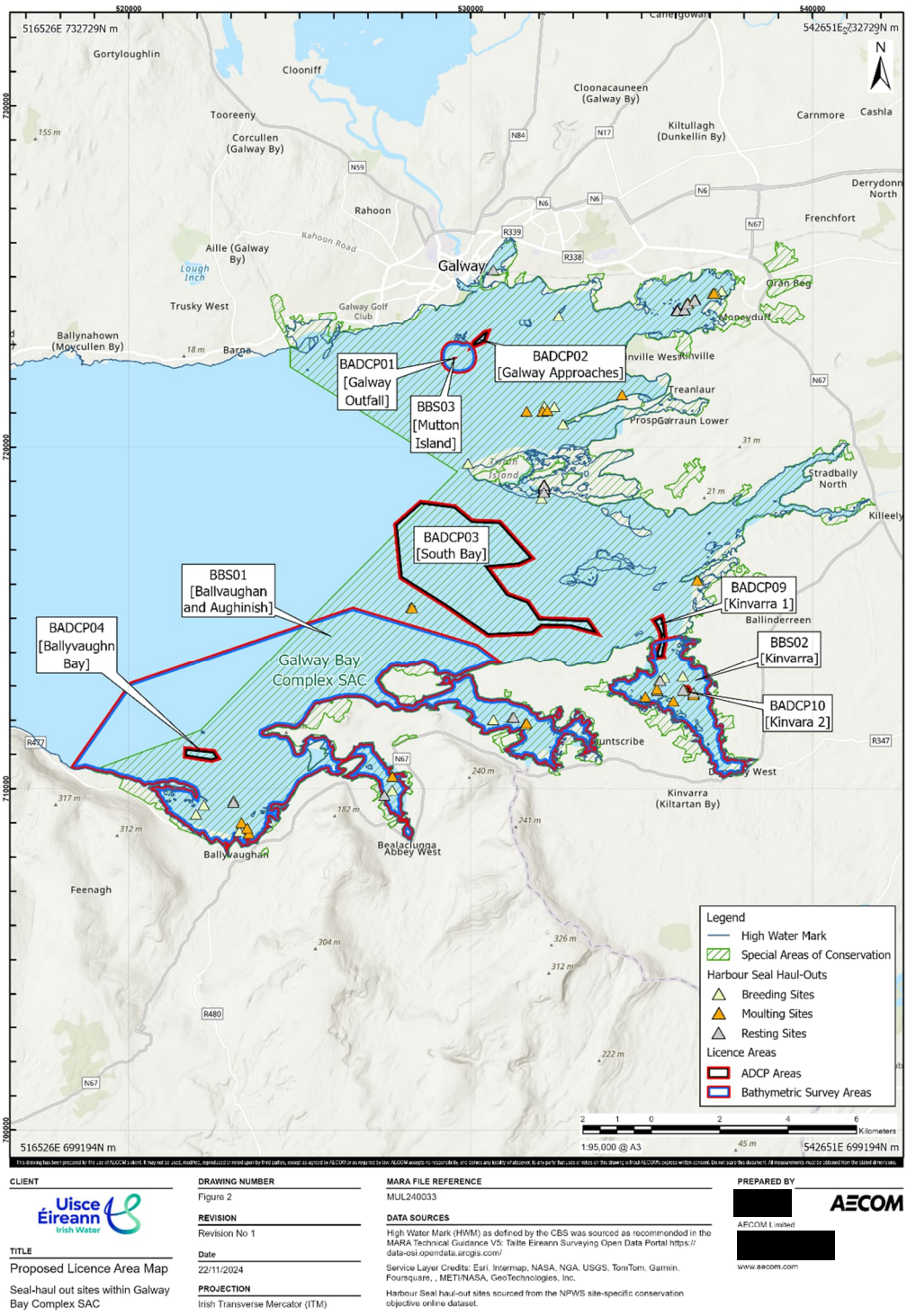


Figure 2 Seal-haul out sites within Galway Bay Complex SAC

3.2 Kilkieran Bay and Islands SAC

3.2.1 Overview of SAC

The Kilkieran Bay and Islands SAC is situated just to the north of Galway Bay, stretching from Keeraun Point, south of Carraroe, and extending westward to Mace Head, near Carna, all within County Galway. The site encompasses expansive marine waters, numerous islands, and rocky islets. The coastline is deeply indented, featuring a series of bays, including the interconnected Kilkieran Bay and Greatman's Bay, as well as several channels and inlets. As set out in Appendix B, the site is designated for a wide variety of coastal and marine habitats, as well as harbour seal, harbour porpoise (*Phocoena phocoena*), otter and slender naiad (*Najas flexilis*).

The SISAA identified the marine surveys to have the potential for likely significant effects to QI harbour seal which may be hauled-out within the site. The conservation objectives in relation to harbour seal are therefore set out in Table 5.

Table 5. Conservation objectives for harbour seal in Kilkieran Bay and Islands SAC

Objective: ***To maintain the favourable conservation condition of Harbour Seal in Kilkieran Bay and Islands SAC, which is defined by the following list of attributes and targets:***

Attribute	Target
Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use
Breeding behaviour	Conserve breeding sites in a natural condition
Moulting behaviour	Conserve moult-out sites in a natural condition
Resting behaviour	Conserve resting haul-out sites in a natural condition
Disturbance	Human activities should occur at levels that do not adversely affect the harbour seal population at the site

Source: NPWS (2014)

3.2.2 Airbourne sound or visual disturbance to harbour seal haul-out sites

As described in Section 3.1.2, harbour seals are subject to disturbance from airborne noise and visual disturbance from vessels which may be in the vicinity of seals hauled-out. Studies show that distance at which seal are disturbed very depending on vessel types, species, and local contexts, suggesting that factors like vessel characteristics and the degree of habituation of local seal populations influence responses.

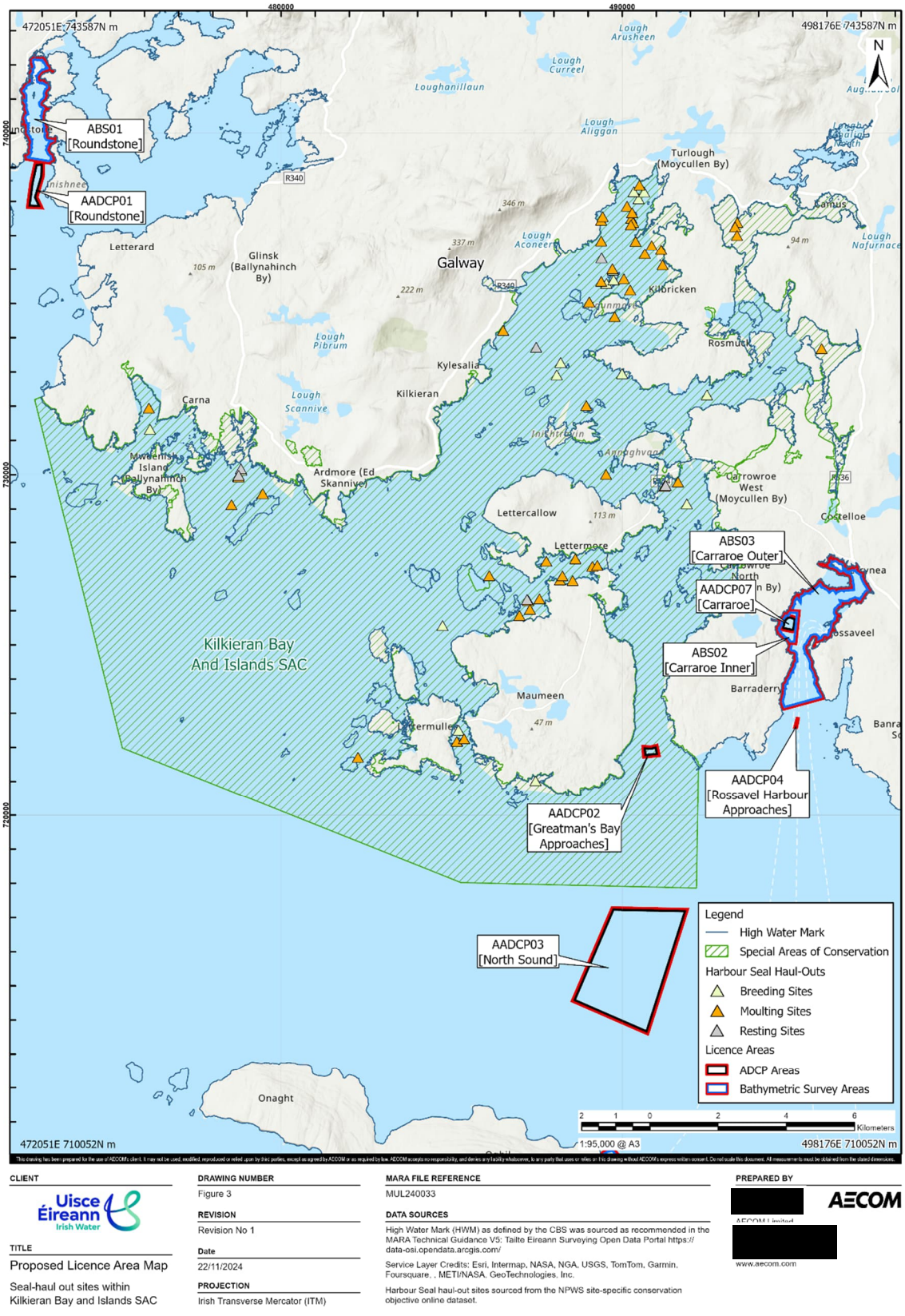
The Kilkieran Bay and Islands SAC contains a number of breeding, moulting and resting haul-out sites. While none of these haul-out sites are located within the marine survey areas, the vessel may pass by these haul-out sites during transit (see Figure 3) and therefore disturbance at these haul-out sites may occur. However, the mitigation measures discussed in Section 1.4.5, will be implemented. This will include the use of pre-start monitoring by an marine mammal observer to ensure no marine mammals are present within 500 m of the vessel for 30 minutes prior to works commencing, soft-start and regular breaks will be implemented. In addition, it is recommended that the survey vessel do not occur within 100 m and vessel reduce speeds within 500 m of haul-out sites for harbour seal. It should also be noted that the survey vessel will be moving through the intertidal area at high-tide. During which, seal will have abandoned their intertidal haul-out site due to the high-tidal state. **With the adoption of such measures, it is therefore concluded that there will be no adverse effect on the integrity of Kilkieran Bay and Islands SAC as a result of disturbance caused by the vessels during the marine surveys.**

3.2.3 In-combination assessment

Thirteen projects have been identified as having the potential to act in-combination with the marine surveys to result in adverse effects on European site integrity are set out in Appendix C. No plans have been identified which could give rise to in-combination effects with the possible impacts from the marine surveys.

The projects identified are all offshore wind or wave farm applications, which will likely result in similar disturbance effects and therefore have the potential to act in combination with the Lot 4 project. However, due to current government policy to establish a plan-led approach to offshore wind development, there is uncertainty as to whether these projects will proceed or proceed in their current format. Furthermore, the implementation of the proposed mitigation measures set out in Section 1.4.5 will act to eliminate any potential for in-combination effects on the qualifying interests of European sites within the ZoI of the marine surveys.

It is thus concluded that there will be no adverse effects on the integrity of Kilkieran Bay and Islands SAC from the marine surveys acting in-combination with any other plans or projects.



CLIENT
Uisce Éireann
Irish Water

TITLE
Proposed Licence Area Map
Seal-haul out sites within Kilkieran Bay and Islands SAC

DRAWING NUMBER
Figure 3

REVISION
Revision No 1

Date
22/11/2024

PROJECTION
Irish Transverse Mercator (ITM)

MARA FILE REFERENCE
MUL240033

DATA SOURCES
High Water Mark (HWM) as defined by the CBS was sourced as recommended in the MARA Technical Guidance V5: Tailte Eireann Surveying Open Data Portal https://data-osi.opendata.arcgis.com/

Service Layer Credits: Esri, Intermap, NASA, NGA, USGS, TomTom, Garmin, Foursquare, , METI/NASA, GeoTechnologies, Inc.

Harbour Seal haul-out sites sourced from the NPWS site-specific conservation objective online dataset.

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Figure 3 Seal-haul out sites within Kilkieran Bay and Islands SAC

4. Conclusion

The SISAA for the marine surveys (AECOM, 2024a) could not exclude the possibility of likely significant effects on four European sites:

- Galway Bay Complex SAC; and,
- Kilkieran Bay and Islands SAC.

The relevant potential impacts for marine surveys which could give rise to significant effects on these sites was therefore assessed in detail in this NIS.

Mitigation measures are proposed in Section 1.4.5 of this NIS. With the implementation of these measures, and on with cognisance of the assessment described in this document, including the results of airborne and visual disturbance, no significant effects on any European site are predicted, including from in-combination impacts arising from other plans or projects.

It is therefore concluded, **in view of best scientific knowledge and on the basis of objective information, that the marine surveys will have no adverse effect on the integrity of any European site, either alone or in-combination with other plans or projects.**

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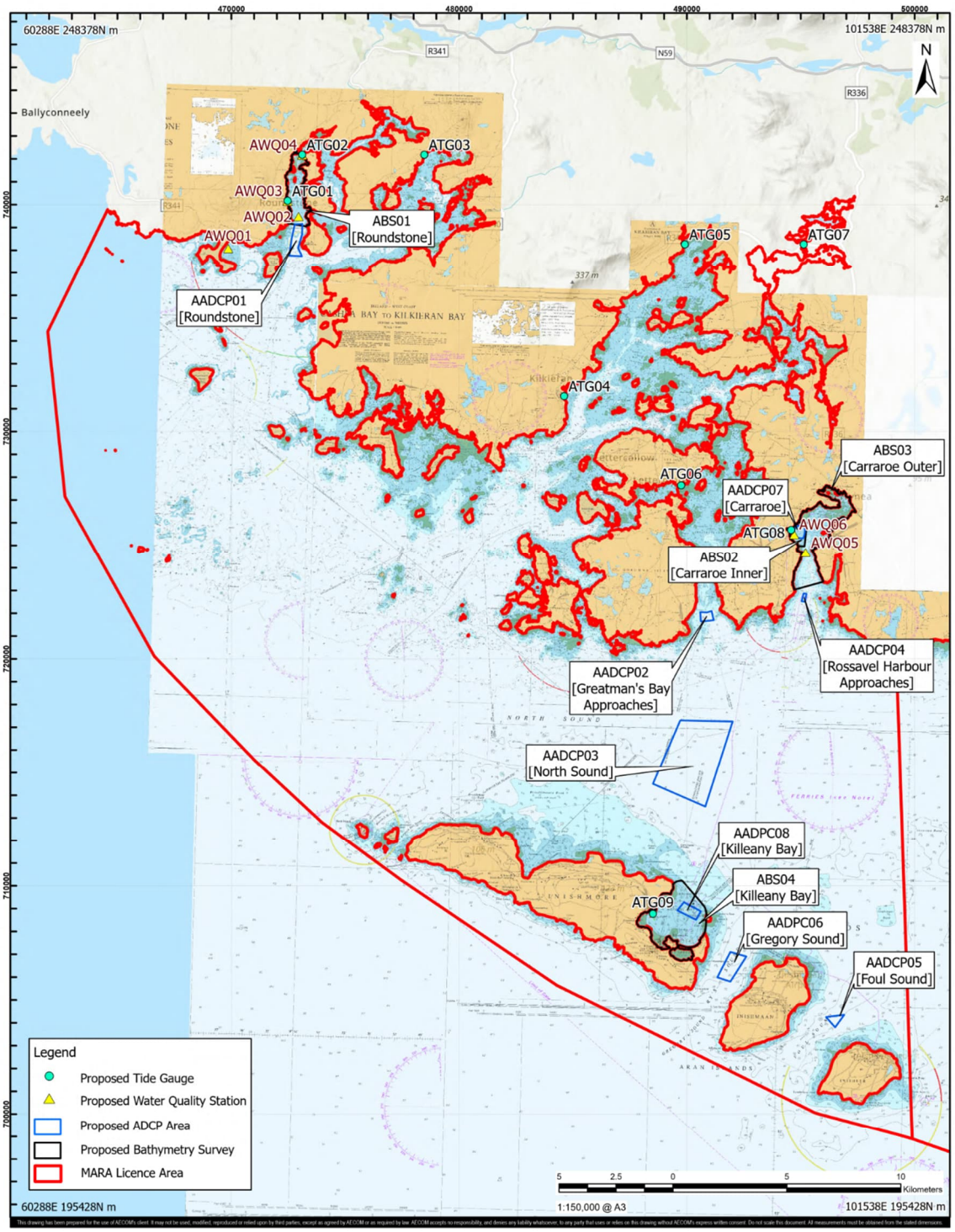
Appendix A Site Layout Plans



CLIENT
Uisce Éireann
Irish Water

TITLE
Site Layout Map A

DRAWING NUMBER
MUL240033-201

REVISION
Revision No 1

Date
09/12/2024

PROJECTION
Irish Transverse Mercator (ITM)

MARA FILE REFERENCE
MUL240033

DATA SOURCES
Where the licence area adjoins or abuts the land the High Water Mark as defined by the Chief Boundary Surveyor is the boundary of the licence area.

Service Layer Credits: Esri, Intermap, NASA, NGA, USGS, TomTom, Garmin, Foursquare, , METI/NASA, GeoTechnologies, Inc.

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AECOM Limited
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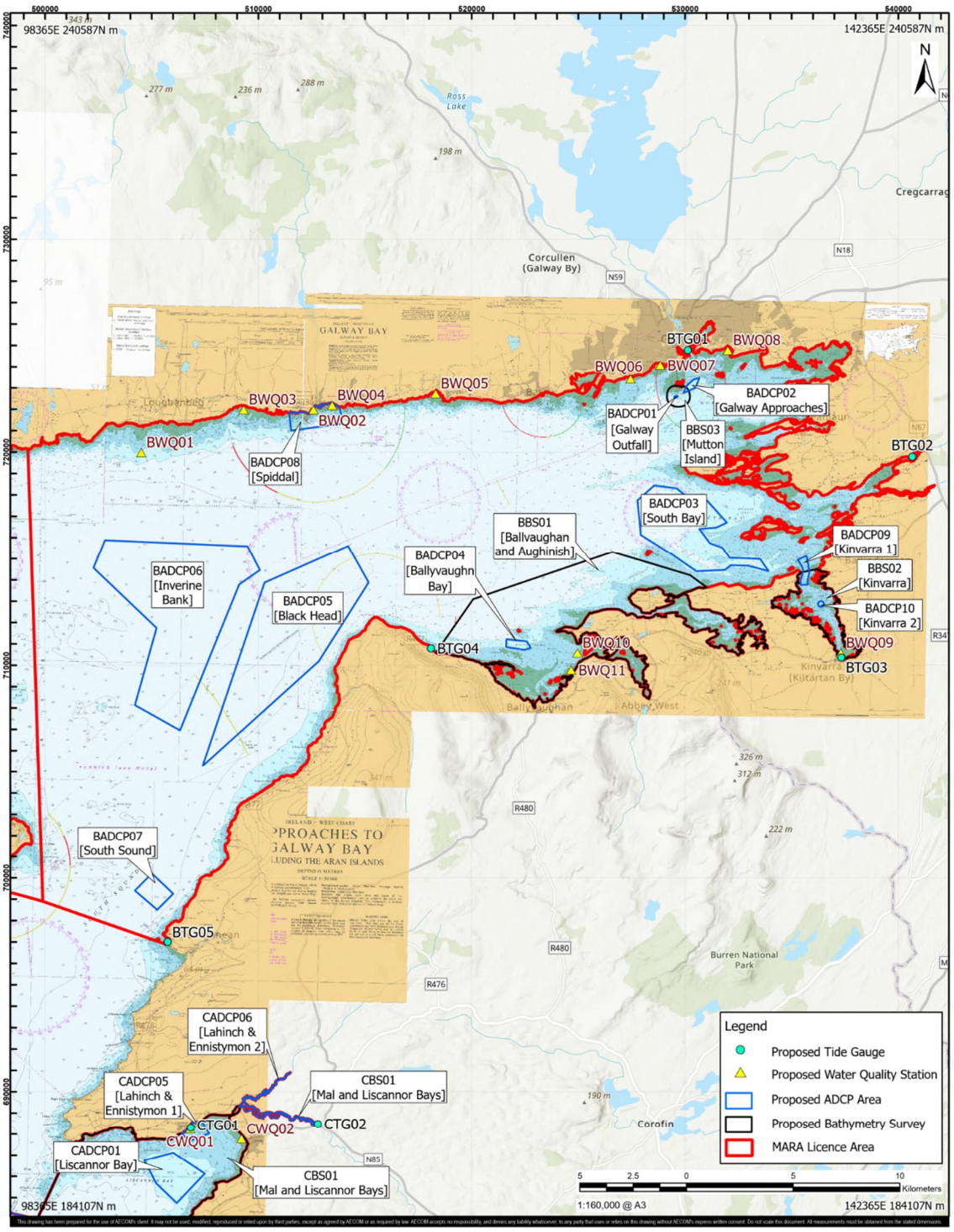
Map A Site Layout Plan



CLIENT

Uisce Éireann
Irish Water

TITLE

Site Layout Map B

DRAWING NUMBER

MUL240033-202

REVISION

Revision No 1

Date

09/12/2024

PROJECTION

Irish Transverse Mercator (ITM)

MARA FILE REFERENCE

MUL240033

DATA SOURCES

Where the licence area adjoins or abuts the land the High Water Mark as defined by the Chief Boundary Surveyor is the boundary of the licence area.

Service Layer Credits: Esri, Intermap, NASA, NGA, USGS, TomTom, Garmin, Foursquare, , METI/NASA, GeoTechnologies, Inc.

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AECOM Limited

[redacted]

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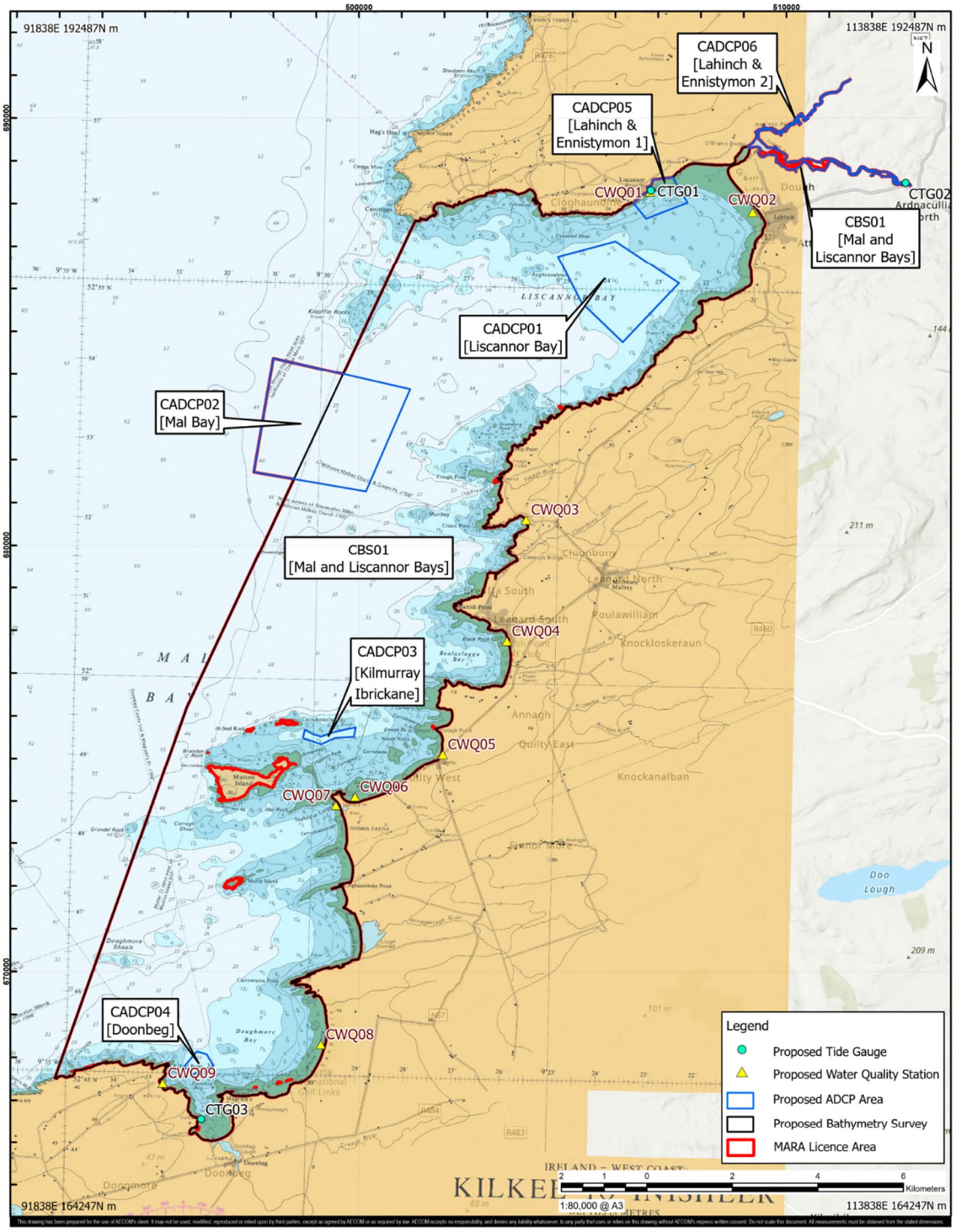
Map B Site Layout Plan



CLIENT
Uisce Éireann Irish Water

TITLE
Site Layout Map C

DRAWING NUMBER
MUL240033-203

REVISION
Revision No 1

Date
09/12/2024

PROJECTION
Irish Transverse Mercator (ITM)

MARA FILE REFERENCE
MUL240033

DATA SOURCES
Where the licence area adjoins or abuts the land the High Water Mark as defined by the Chief Boundary Surveyor is the boundary of the licence area.

Service Layer Credits: Esri, Intermap, NASA, NGA, USGS, TomTom, Garmin, Foursquare, , METI/NASA, GeoTechnologies, Inc.

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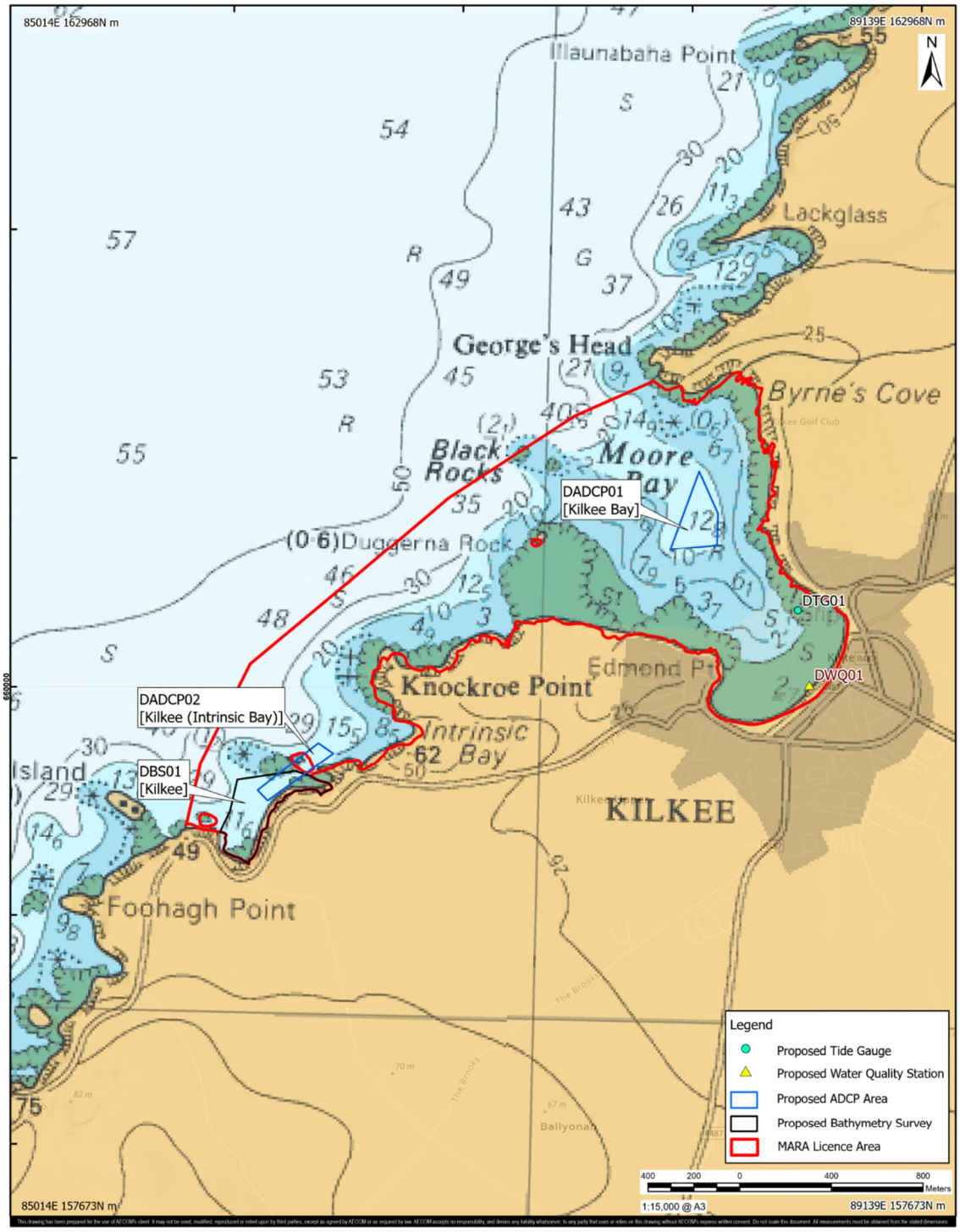
Map C Site Layout Plan



CLIENT
Uisce Éireann Irish Water

TITLE
Site Layout Map D

DRAWING NUMBER
MUL240033-204

REVISION
Revision No 1

Date
09/12/2024

PROJECTION
Irish Transverse Mercator (ITM)

MARA FILE REFERENCE
MUL240033

DATA SOURCES
Where the licence area adjoins or abuts the land the High Water Mark as defined by the Chief Boundary Surveyor is the boundary of the licence area.

Service Layer Credits: Esri, Intermap, NASA, NGA, USGS, TomTom, Garmin, Foursquare, , METI/NASA, GeoTechnologies, Inc.

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[redacted]
AECOM
AECOM Limited
[redacted]

Map D Site Layout Plan

Appendix B Information on Relevant European sites screened in for Appropriate Assessment

Below are details on the European sites which were established to be within the potential zone of influence of the of the marine surveys and were screened-in for Appropriate Assessment.

Galway Bay Complex SAC

Site code: 000268

Local planning authority: Galway County Council and Galway City Council

Total area: 144 km^2

Qualifying Interests:

- Harbour Seal [1365]
- Otter [1355]
- Mudflats and sandflats not covered by seawater at low tide [1140]
- Coastal lagoons [1150]
- Large shallow inlets and bays [1160]
- Reefs [1170]
- Perennial vegetation of stony banks [1220]
- Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
- Salicornia and other annuals colonising mud and sand [1310]
- Atlantic salt meadows *(Glauco-Puccinellietalia maritimae*) [1330]
- Mediterranean salt meadows (*Juncetalia maritimi*) [1410]
- Turloughs [3180]
- Juniperus communis formations on heaths or calcareous grasslands [5130]
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]
- Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae [7210]
- Alkaline fens [7230]
- Limestone pavements [8240]

Conservation objectives:

- To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Galway Bay Complex SAC;
- To restore the favourable conservation condition of Coastal lagoons in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Large shallow inlets and bays in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Reefs in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Perennial vegetation of stony banks in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in Galway Bay Complex SAC;
- To restore the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae)* in Galway Bay Complex SAC;
- To restore the favourable conservation condition of Mediterranean salt meadows
- (*Juncetalia maritimi*) in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Turloughs in Galway Bay Complex SAC;
- To restore the favourable conservation condition of Juniperus communis formations on heaths or calcareous grasslands in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*) in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* in Galway Bay Complex SAC;
- To maintain the favourable conservation condition of Alkaline fens in Galway Bay Complex SAC;
- To restore the favourable conservation condition of Otter in Galway Bay Complex SAC; and
- To maintain the favourable conservation condition of Harbour Seal in Galway Bay Complex SAC

Existing threats, pressures, and activities with impacts on the site:

"*Fishing and aquaculture are the main commercial activities within the site. A concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities. Reef and sediment communities are vulnerable to disturbance or compaction from tractors accessing oyster trestles. The* Paracentrotus lividus *populations have been shown to be vulnerable to over-fishing. Extraction of maerl in Galway Bay is a threat. Owing to the proximity of Galway city, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities. Eutrophication is probably affecting some of the lagoons and is a continued threat. Drainage is a general threat to the turlough and fen habitats. Bird populations may be disturbed by aquaculture activities*" (NPWS, 2015)

Kilkieran Bay and Islands SAC

Site code: 002111

Local planning authority: Galway County Council and Galway City Council

Total area: 214 km^2

Qualifying Interests:

- Harbour seal [1365]
- Harbour Porpoise *(Phocoena phocoena*) [1351]
- Otter [1355]
- Slender Naiad (*Najas flexilis*) [1833]
- Mudflats and sandflats not covered by seawater at low tide [1140]
- Coastal lagoons [1150]
- Large shallow inlets and bays [1160]
- Reefs [1170]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]
- Mediterranean salt meadows (*Juncetalia maritimi*) [1410]
- Machairs (* in Ireland) [21A0]
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130]
- Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510]

Conservation objectives:

- To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Kilkieran Bay and Islands SAC;
- To restore the favourable conservation condition of Coastal lagoons in Kilkieran Bay and Islands SAC;
- To maintain the favourable conservation condition of Large shallow inlets and bays Kilkieran Bay and Islands SAC;
- To maintain the favourable conservation condition of Reefs in Kilkieran Bay and Islands SAC;
- To maintain the favourable conservation condition of Atlantic salt meadows (GlaucoPuccinellietalia maritimae) in Kilkieran Bay and Islands SAC;
- To restore the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) Kilkieran Bay and Islands SAC;
- To maintain the favourable conservation condition of Machairs in Kilkieran Bay and Islands SAC;
- To restore the favourable conservation condition of Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) in Kilkieran Bay and Islands SAC;
- To maintain the favourable conservation condition of f Slender Naiad in Kilkieran Bay and Islands SAC
- To restore the favourable conservation condition of Otter in Kilkieran Bay and Islands SAC; and
- To maintain the favourable conservation condition of Harbour Seal in Kilkieran Bay and Islands SAC.

Appendix C Relevant Planning Applications

A review of the Marine Plan Database (https://www.marineplan.ie/) was carried out to identify any planning applications from the last five years within close proximity (i.e., 1 km) of the Lot 4 Proposed Licence Area. Planning applications that have been identified as having the potential to act in-combination with the marine surveys of the Lot 4 Project are detailed in Table 6 with their Foreshore Licence status. No plans have been identified which could give rise to in-combination effects with the possible impacts from the marine surveys of the Lot 4 Project.

Table 6. Planning search for relevant developments

Applicant	Application Reference Number	Reference Title	Summary of development	Foreshore Licence Status	Date Received
Fuinneamh Sceirde Teoranta	FS007543	Site Investigations for the proposed Sceirde Rocks Offshore Wind Farm (Export Cable Corridor)	Sceirde Rocks Offshore Wind Farm is a fixed bottom offshore wind farm off the West Coast of Ireland and under the Transitional Protocol is recognised as a Relevant or Phase One project. As such, Sceirde Rocks Offshore Wind Farm is a high priority project and it is anticipated that this project will be prioritised through the Foreshore License process, the MAC award process and subsequently will be one of the first projects eligible for the first ORESS-1 auction. Sceirde Rocks Offshore Wind Farm will be targeting an accelerated delivery programme for this offshore project to meet government renewable energy targets pre-2030. This application specifically relates to a foreshore license for site investigation activities along the project's proposed offshore export cable corridors.	Granted	16/05/2022
Marine Institute - Spiddal	FS006566	Foreshore Lease application for the testing of prototype wind, wave and tidal energy devices	Foreshore Lease application for the testing of prototype wind, wave and tidal energy devices	Granted	07/05/2024
Saoirse Wave Energy Limited	FS007372	Saoirse Wave Energy Limited Site Investigations for proposed Wave Energy Conversion (WEC) project, off County Clare	Saoirse Wave Energy Limited, a group company of Simply Blue Holdings Limited (SBE), is currently investigating the feasibility of a wave energy conversion (WEC) project located off the coast of County Clare. The applicant intends to undertake marine surveys at the proposed wave energy development zone and surrounding area to accommodate cable routing analysis. An additional site area is included to allow for flexibility in the proposed technology should further studies identify a more viable wave energy concept.	Applied	30/11/2022
Fuinneamh Sceirde Teoranta	FS007161	Site Investigations for the proposed Sceirde Rocks Offshore Wind Farm	Sceirde Rocks Offshore Wind Farm is a fixed bottom offshore wind farm off the West Coast of Ireland and under the Transitional Protocol is recognised as a Relevant or Phase One project. As such, Sceirde Rocks Offshore Wind Farm is a high priority project and it is anticipated that this project will be prioritised through the Foreshore License process, the MAC award process and subsequently will be one of the first projects eligible for the first ORESS-1 auction. Sceirde Rocks Offshore Wind Farm will be targeting an accelerated delivery programme for this offshore project to meet government renewable energy targets pre-2030. This application specifically relates to a foreshore license for site investigation activities in the wind farm array area only.	Granted	16/02/2022

Applicant	Application Reference Number	Reference Title	Summary of development	Foreshore Licence Status	Date Received
Munster Sea Wind Limited	FS007366	Site Investigations for proposed Offshore Wind Farm, off County Clare	The Foreshore Licence application is to undertake the surveys and site investigations to inform development and project design for the proposed site of Munster Sea Wind Limited's proposed fixed foundation offshore wind project. Proposed surveys include Geophysical, Archaeological, Subtidal, Seabird and marine mammal boat based and aerial, Geotechnical and Deployment of wind and current resource measurement devices.	Applied	16/03/2022
Western Star Wind Limited	FS007149	Site Investigations for proposed Offshore Wind Farm, off County Clare	This foreshore licence application relates to proposed Site Investigations. The proposed project, known as 'Western Star', is proposed to consist of a floating offshore wind site with up to 1.35 GW capacity. Western Star Wind Ltd. currently intends to undertake marine surveys at the proposed development zone and surrounding area to accommodate cable routing analysis for the floating wind project. The reason for the site investigations is to inform the location and design of the proposed development. In this regard the proposed surveys comprise of geophysical, ecological, geotechnical and metocean surveys.	Applied	01/12/2022
ESB Wind Developme nt Limited, a wholly owned subsidiary of ESB	FS007137	Site Investigations off Clare and Kerry Coasts	The 'Moneypoint Offshore Wind' project is comprised of two projects, namely Moneypoint Offshore One Wind and Moneypoint Offshore Two which are both proposed as floating offshore wind projects. Moneypoint Offshore One is located to the west of County Clare and County Kerry at approximately 15.5km from shore. The main export cable corridor area of search for the Moneypoint Offshore Wind projects is located within the 12 nautical mile (nm) limit with part of the wind turbine generator (WTG) array area of search for Moneypoint Offshore One also within this 12nm limit. This Foreshore licence application relates to proposed Site Investigation (SI) works only. These works are temporary and short term in nature.	Consultation	28/11/2022
Clarus Offshore Wind Farm Limited	FS006886	Site Investigations off Counties Kerry and Clare	Clarus Offshore Wind Farm Ltd. is applying for an Investigative Foreshore Licence to undertake a full suite of site investigations at a Cable Investigation Area associated with the potential Clarus Offshore Wind Farm. The duration of the Investigative Foreshore License sought is requested to extend over a minimum of 5 years. The proposed site investigations have been designed to help assess potential export cable corridors and cable landfall areas associated with the potential Clarus Offshore Wind Farm, under Investigative Foreshore Licence application FS006886. The results of these site investigations will be used to select optimal export cable route(s), cable landfall option(s) and to provide baseline data for environmental appraisal.	Consultation	19/11/2021
Kerry Offshore Wind Limited	FS007363	Site Investigations off Counties Kerry and Clare	The Foreshore Licence application is to undertake the surveys and site investigations to inform development and project design for the proposed site of Kerry Offshore Wind Limited's proposed fixed foundation offshore wind project. Proposed surveys include Geophysical, Archaeological, Subtidal, Seabird and marine mammal boat based and aerial, Geotechnical and Deployment of wind and current resource measurement devices.	Applied	16/033/2022
Aigean Renewable s Limited	FS007063	Site Investigations for the proposed Moneypoint Offshore Wind Array, off County Kerry	Aigean Renewables Ltd have applied for a Foreshore Licence for the purpose of undertaking Site Investigations to inform the engineering and design of the potential Moneypoint Offshore Wind Array, off County Kerry. The objectives of the proposed works are to: acquire comprehensive understanding of metocean conditions; minimize uncertainty in ground conditions to inform detailed design for future developments; determine detailed environmental data of the site; enable preparation of an EIAR. In order to meet the above objectives, various Site Investigation works and monitoring device deployments are required, for which a Foreshore Licence is required.	Consultation	25/11/2019

Applicant	Application Reference Number	Reference Title	Summary of development	Foreshore Licence Status	Date Received
Illen Array Ltd.	FS007244	Site Investigations for proposed Offshore Wind Farm, off Counties Kerry and Clare	Illen Array Ltd. is seeking to undertake a variety of marine surveys at the proposed site in order to inform the specific location, design and layout of the proposed Ilen Array Offshore Wind Farm in the Atlantic Ocean off the coasts of county Kerry and Clare and export cable route to shore. The surveys will include geophysical, geotechnical, environmental and metocean campaigns and are detailed in the foreshore licence application form.	Applied	24/05/2022
Rian Offshore Array Limited	FS007435	Site Investigations for proposed Offshore Wind Farm, off Counties Kerry and Clare	The Foreshore Licence application is to undertake the surveys and site investigations to inform development and project design for the proposed site of Rian Offshore Array Limited's proposed Rian Offshore Array offshore wind project. The overall Rian Offshore Array Project relates to an offshore floating wind farm located which will be located off the west coast of Ireland, predominantly off the coast of north Kerry and county Clare. Proposed surveys include Geophysical, Geotechnical, and Environmental. A phased approach to development will be taken.	Applied	27/01/2022
Valentia Island Energy Ltd	FS007365	Site Investigations for proposed Offshore Floating Wind Farm, off County Kerry	The overall Valentia Island Energy Ltd Project relates to an offshore floating wind farm at a proposed location off the coast of Valentia Island, county Kerry off the southwest coast of Ireland. This Foreshore Licence application is to undertake the surveys and site investigations to inform development and project design for the project. Proposed surveys include Geophysical, Geotechnical, Environmental and Metocean.	Applied	20/06/2022