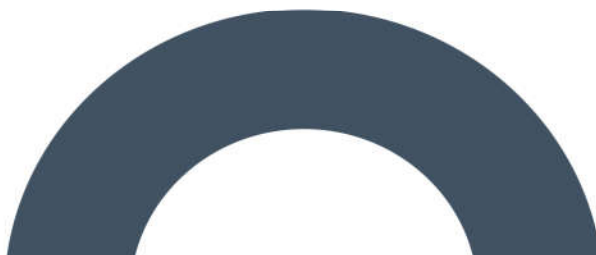
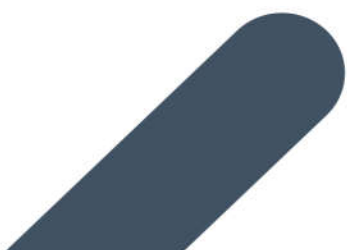


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Appropriate Assessment Screening Report and Natura Impact Statement

Kingston Stables,
Knocknacarra Proposed
Large-scale Residential
Development



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DOCUMENT DETAILS

Client: **Kingston Stables Ltd.**

Project Title: **Kingston Stables, Knocknacarra Proposed Large-scale Residential Development**

Project Number: **240142**

Document Title: **Appropriate Assessment Screening Report and Natura Impact Statement**

Document File Name: **AASR/NIS- F1- 240142 – 16.10.2025**

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Rev	Status	Date	Author(s)	Approved By
01	Draft	13.05.2025	FK	PD
02	Final	16.10.2025	FK/ CK	PD/ SM

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Table of Contents

1.	INTRODUCTION.....	1
1.1	Background.....	1
1.1.1	References to Proposed Development.....	1
1.1.2	Appropriate Assessment Process.....	4
1.2	Statement of Authority.....	4
1.3	Structure and Format of this Document.....	5
2.	DESCRIPTION OF PROPOSED DEVELOPMENT.....	6
2.1	Site Location.....	6
2.2	Characteristics of the Proposed Development.....	8
2.2.1	Development Description.....	8
2.2.2	Proposed Site Drainage.....	8
2.2.2.1	Surface Water Drainage.....	8
2.2.2.2	Foul water drainage.....	9
3.	CHARACTERISTICS OF THE RECEIVING ENVIRONMENT.....	10
3.1	Desk Study.....	10
3.2	Consultation.....	10
3.3	Ecological Survey Methodologies.....	11
3.3.1	Ecological Multidisciplinary Walkover Surveys.....	11
3.3.2	Bird Surveys.....	11
3.3.2.1	Winter Bird Surveys.....	11
3.3.2.2	Breeding Bird Surveys.....	12
3.3.3	Bat Surveys.....	14
3.3.4	Non-volant Mammal Surveys.....	14
3.4	Hydrological Desk Study.....	14
3.4.1	EPA Water Quality Data:.....	14
3.5	Results of Baseline Ecological Surveys.....	15
3.5.1	Habitats within the Proposed Development Site Boundary.....	15
3.5.1.1	Recolonising bare ground (ED3) & Spoil and bare ground (ED2).....	15
3.5.1.2	Treeline (WL2).....	18
3.5.1.3	Buildings and Artificial surfaces (BL3) and Stone walls and other Stonework (BL1).....	18
3.5.1.4	Dry Meadows and Grassy Verges (GS2).....	20
3.5.1.5	Dry Calcareous and Neutral Grassland GS1.....	22
3.5.1.6	Scrub (WS1).....	24
3.5.1.7	Hedgerow (WL1).....	26
3.5.1.8	Drainage ditch (FW4).....	26
3.5.2	Invasive species.....	27
3.5.3	Birds.....	30
3.5.3.1	Winter Bird Surveys.....	30
3.5.3.2	Breeding Bird Surveys.....	32
3.5.3.3	Discussion.....	33
3.5.4	Bats.....	35
3.5.5	Otter.....	35
3.5.6	Marsh Fritillary.....	35
4.	STAGE 1 – APPROPRIATE ASSESSMENT SCREENING.....	36
4.1	Identification of Relevant European Sites.....	36
4.2	Stage 1 Appropriate Assessment Screening Conclusion.....	60
5.	STAGE 2- NATURA IMPACT STATEMENT (NIS).....	61
5.1	Identification of relevant Qualifying Features and Desk Study.....	62
5.1.1	Galway Bay Complex SAC.....	62
5.1.1.1	Identification of Individual Qualifying Features with the Potential to be Affected.....	62
5.1.1.2	Site Specific Pressures and Threats.....	76
5.1.1.3	Species Specific Information.....	77

5.1.2	Inner Galway Bay SPA [004031].....	86
5.1.2.1	Identification of Individual Qualifying Features with the Potential to be Affected.....	86
5.1.2.2	Site Specific Pressures and Threats.....	89
5.1.2.3	Species Specific Information.....	89
6.	ASSESSMENT OF POTENTIAL EFFECTS & ASSOCIATED MITIGATION.....	91
6.1	Potential for Direct Effects on the European Sites.....	91
6.2	Potential for Indirect Effects on the European Sites.....	92
6.2.1	Deterioration to Water Quality via Surface water and Groundwater.....	92
6.2.1.1	Construction Phase.....	93
6.2.1.2	Operational Phase.....	97
6.2.2	Habitat Degradation through the Spread/ Introduction of Invasive Species.....	98
7.	ASSESSMENT OF RESIDUAL ADVERSE EFFECTS.....	100
8.	ASSESSMENT OF CUMULATIVE EFFECTS.....	101
9.	CONCLUDING STATEMENT.....	102
	BIBLIOGRAPHY.....	103

TABLE OF FIGURES

Figure 1-1. References to the Proposed Development.....	3
Figure 2-1. Site Location.....	7
Figure 3-1. Birds Survey vantage points and transects.....	13
Figure 3-2. Locations of Invasive Species Recorded.....	29
Figure 3-3. SCI species recorded within the EIAR Study Area and Proposed Development site.....	34
Figure 4-1: European designated sites within the likely Zone of Influence.....	37

TABLE OF PLATES

Plate 3-1. View of mulched vegetation and machinery tracks classified as Recolonising bare ground (ED3)/Spoil and bare ground (ED2) in the north of the EIAR Study Area.....	16
Plate 3-2. View of recolonising rock and stone piles located in the north of the EIAR Study Area. Dry meadows and grassy verges (GS2) habitat was also recorded in this section of the EIAR Study Area.....	17
Plate 3-3. View of black pine and Italian alder trees in the north-east of the Proposed Development site, occurring in an area of Recolonising bare ground ED3/Spoil and bare ground ED2 and Dry meadows and grassy verges (GS2) habitat.....	17
Plate 3-4. View of section of treeline (WL2) habitat dominated by ash and sycamore, recorded in the west of the EIAR Study Area.....	18
Plate 3-5. View of stone walls classified as Stone walls and other stonework (BL1) located in the south of the EIAR Study Area adjacent to the existing residential dwelling classified as Buildings and artificial surfaces (BL3).....	19
Plate 3-6. View of old stone farm sheds and newly built stables classified as Buildings and artificial surfaces (BL3) located in the centre of the EIAR Study Area.....	19
Plate 3-7. View of fenced horse-riding sand arena located in the east of the Proposed Development site classified as Buildings and artificial surfaces (BL3).....	20
Plate 3-8. View of unmanaged Dry meadows and grassy verges (GS2) recorded in the centre of the EIAR Study Area.....	21
Plate 3-9. View of Dry meadows and grassy verges (GS2)/Dry calcareous and neutral grassland (GS1) habitat in the south of the Proposed Development site by the dog pens.....	22
Plate 3-10. View of unmanaged dry calcareous and neutral grassland (GS1) and stone wall (BL1) located in the south of the Proposed Development site.....	23

Plate 3-11. View of heavily poached area in the south-west of the EIAR Study Area due to horses grazing the fields.	24
Plate 3-12. View of hawthorn dominated Scrub (WS1) habitat recorded in the south of the Proposed Development site.	25
Plate 3-13. View of isolated willow scrub (WS1) habitat recorded in the north of the Proposed Development site.	25
Plate 3-14. View of hawthorn dominated hedgerow (WL1) habitat recorded in the east of the Proposed Development site.	26
Plate 3-15. View of stagnant water in isolated drainage ditch (FW4) in the north of the Proposed Development site, adjacent to willow scrub (WS1) habitat.	27
Plate 6-16. View of blooming three-cornered garlic located within the centre of the Proposed Development site by the hedgerow habitat.	28
Plate 6-17. View of Sea buckthorn sapling recorded in lands to the west of the Proposed Development site.	28

TABLE OF TABLES

Table 3-1. Target Bird species, and amber listed bird species, recorded during the Winter Bird Surveys.	30
Table 3-2. Target Bird species, and amber listed bird species, recorded during the Breeding Bird Surveys.	32
Table 4-1 Identification of European Sites within the Likely Zone of Influence	38
Table 5-1 Assessment of Qualifying features potentially affected.	62
Table 5-2 Site-specific threats, pressures and activities	76
Table 5-3 Targets and Attributes for [1140] Tidal Mudflats and Sandflats.	77
Table 5-4 Targets and Attributes for [1150] Coastal lagoons.	78
Table 5-5 Targets and Attributes for [1160] Large shallow inlets and bays.	81
Table 5-6 Targets and Attributes for [1170] Reefs.	82
Table 5-7 Targets and Attributes for [1355] Otter (<i>Lutra lutra</i>)	83
Table 5-8 Targets and Attributes for [1365] Harbour seal (<i>Phoca vitulina</i>)	85
Table 5-9. Assessment of Qualifying features potentially affected.	86
Table 5-10 Site-specific threats, pressures and activities.	89
Table 5-11 Targets and Attributes for [A999] Wetlands	90

APPENDICES

Appendix 1	EIAR Chapter 4 Description
Appendix 2	Uisce Eireann Confirmation of Feasibility Letter
Appendix 3	DAU Response
Appendix 4	Bat Baseline Report
Appendix 5	Plans & Projects
Appendix 6	CEMP
Appendix 7	Civil Works Design Report

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1. INTRODUCTION

1.1 Background

MKO has been appointed to provide the information necessary to allow the competent authority to conduct an Article 6(3) Appropriate Assessment of a Proposed Large-scale Residential Development (LRD) at Knocknacarra, Co. Galway.

Screening for Appropriate Assessment is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Where it cannot be excluded that a project or plan, either alone or in combination with other projects or plans, would have a significant effect on a European Site then same shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives. The current project is not directly connected with, or necessary for, the management of any European Site. Consequently, the project has been subject to the Appropriate Assessment Screening process.

This Natura Impact Statement (NIS) has been prepared in accordance with the following guidance documents:

- Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (European Commission, 2021)
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Commission, 2018)
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010)
- Appropriate Assessment Screening for Development Management (Office of the Planning Regulator (OPR), 2021).

1.1.1 References to Proposed Development

The Proposed Development, for which planning permission is being sought, is a component of a larger residential development project (Proposed Project). The Proposed Project involves the construction of more than 500 residential units, and will require separate, individual planning applications for each part of the project. The Proposed Project forms part of an overarching masterplan for the wider landholding that was extensively discussed and refined in collaboration with the planning authority.

For the purposes of this NIS:

- Proposed Development – This term refers to all the project components detailed in Section 2.2.1 below, and for which planning permission is being sought,
- Proposed Project – The Proposed Project refers to the larger residential development, of which the Proposed Development is a component. It involves the construction of more than 500 residential units.
- AN EIAR has been prepared for the Proposed Development and forms part of the planning application submitted./ The term EIAR Study Area is therefore used throughout this report to refer to the entire Proposed Project Area. The EIAR Study Area encompasses an overall area of 8.74 ha and covers the entire Proposed Project area (5.37ha). The EIAR Study Area is primarily comprised of areas of agricultural grassland which are predominantly located in the southern portion of the study area with areas of brownfield being located in the northern section. There is an existing residential dwelling along with agricultural sheds present within the EIAR Study Area. This NIS assesses and provides baseline information on the EIAR Study Area as a whole with specific impact assessment sections relative to the Proposed Development site only. The EIAR Study Area represents the primary area of study and not

necessarily areas where proposed works will occur as part of the Proposed Project. This EIAR Study Area is shown in Error! Reference source not found. below.

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Map Legend

- Planning Application (red line) Boundary
- EIA Study Area Boundary



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Drawing Title

References to Proposed Development

Project Title

Kingston Knocknacarra LRD
East

Drawn By

Checked By

CK

SM

Project No.

240142

Drawing No.

Figure 1-1

Scale

1:3,000

Date

15.10.2025



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1.1.2

Appropriate Assessment Process

Screening - The purpose of the screening stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, either alone or in combination with other plans or projects, is likely to have significant effects on a European site in view of the site's conservation objectives.

There is no necessity to establish such an effect; it is merely necessary for the Competent Authority to determine that there may be such an effect. The need to apply the precautionary principle in making any key decisions in relation to the tests of Appropriate Assessment has been confirmed by the case law of the Court of Justice of the European Union (CJEU). Plans or projects that have no appreciable effect on a European site may be excluded. The threshold at this first stage is a very low one and operates as a trigger in order to determine whether Appropriate Assessment of a project is required. Therefore, where significant effects are likely, uncertain or unknown at screening stage, an AA of the project will be required.

Appropriate Assessment - This stage of the process is a focused and detailed examination, analysis and evaluation by the Competent Authority of the implications of the plan or project, either alone or in combination with other plans and projects, on the integrity of a European site in view of that site's conservation objectives. Case law has established that such an Appropriate Assessment, to be lawfully conducted must:

- (i) identify, in the light of the best scientific knowledge in the field, all aspects of the proposed project which may, by itself or in-combination with other plans or projects, affect the conservation objectives of the European site;
- (ii) contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps; and
- (iii) may only include a determination that the proposed project will not adversely affect the integrity of any relevant European site where the competent authority decides (on the basis of complete, precise and definitive findings and conclusions) that no reasonable scientific doubt remains as to the absence of potential adverse effects. If adverse effects can be satisfactorily avoided or successfully mitigated at this stage, so that no reasonable doubt remains as to the absence of the identified potential effects, then the process is complete. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to stage three (assessment of alternative) and, if necessary, stage four (IROPI).

1.2

Statement of Authority

This report has been prepared by Fiona Killeen (B.Sc., (Env)) and Caroline Kelly (B.Sc., MSc.), and reviewed by Sarah Mullen (B.Sc., MSc. PhD). Fiona is an experienced Ecologist with over 2 years professional consultancy experience. Caroline is a Senior Ecologist at MKO with over 9 years' experience in ecological consultancy. Sarah is Project Director of Ecology in MKO and has over 10 years' professional experience in ecological consultancy.

The baseline ecological surveys were undertaken by MKO ecologist Fiona Killeen on the 20th of March 2024, 24th of April 2024, 15th May 2024 and 20th March 2025. Dedicated wintering bird survey were conducted by Fiona, Ciara Lynn-Sheehan (B.Sc. (Ecology), Mairead Kavanagh (B.Sc.), Tom Peters (B.Sc. M.Sc.) and Rachel Minogue (B.Sc. (Env)) of MKO, on the 20th of March 2024, 29th of November 2024, 11th of December 2024, 23rd of January 2025, 13th of February 2025 and 20th of March 2025. Three dedicated breeding bird surveys were carried out on the 24th of April, 15th of May and 12th of June 2024 by MKO ecologists.

Structure and Format of this Document

- Section Two provides a full description of all elements of the Proposed Development.
- In Section Three, the characteristics of the receiving environment are fully described.
- In Section 4, a Stage 1 Screening is undertaken to identify any European Sites upon which there is a potential for a likely significant effect to occur either individually or in combination with other plans and projects as a result of the Proposed Development.
- Section 5, the Natura Impact Statement provides a detailed consideration of the Screened In European Sites and identifies the relevant qualifying features and how they may be affected in light of their conservation objectives.
- Section 6 provides an assessment of the potential for adverse effects on the identified European Sites as a result of the Proposed Development and in the absence of mitigation. This section also prescribes mitigation to robustly block any identified pathways for effect.
- Section 7 provides an assessment of residual effects taking into consideration the proposed mitigation.
- In Section 8, the potential in combination effects of the Proposed Development on European Sites, when considered in combination with other plans and projects were assessed.
- A concluding statement is provided in Section 9.

2.

DESCRIPTION OF PROPOSED DEVELOPMENT

2.1

Site Location

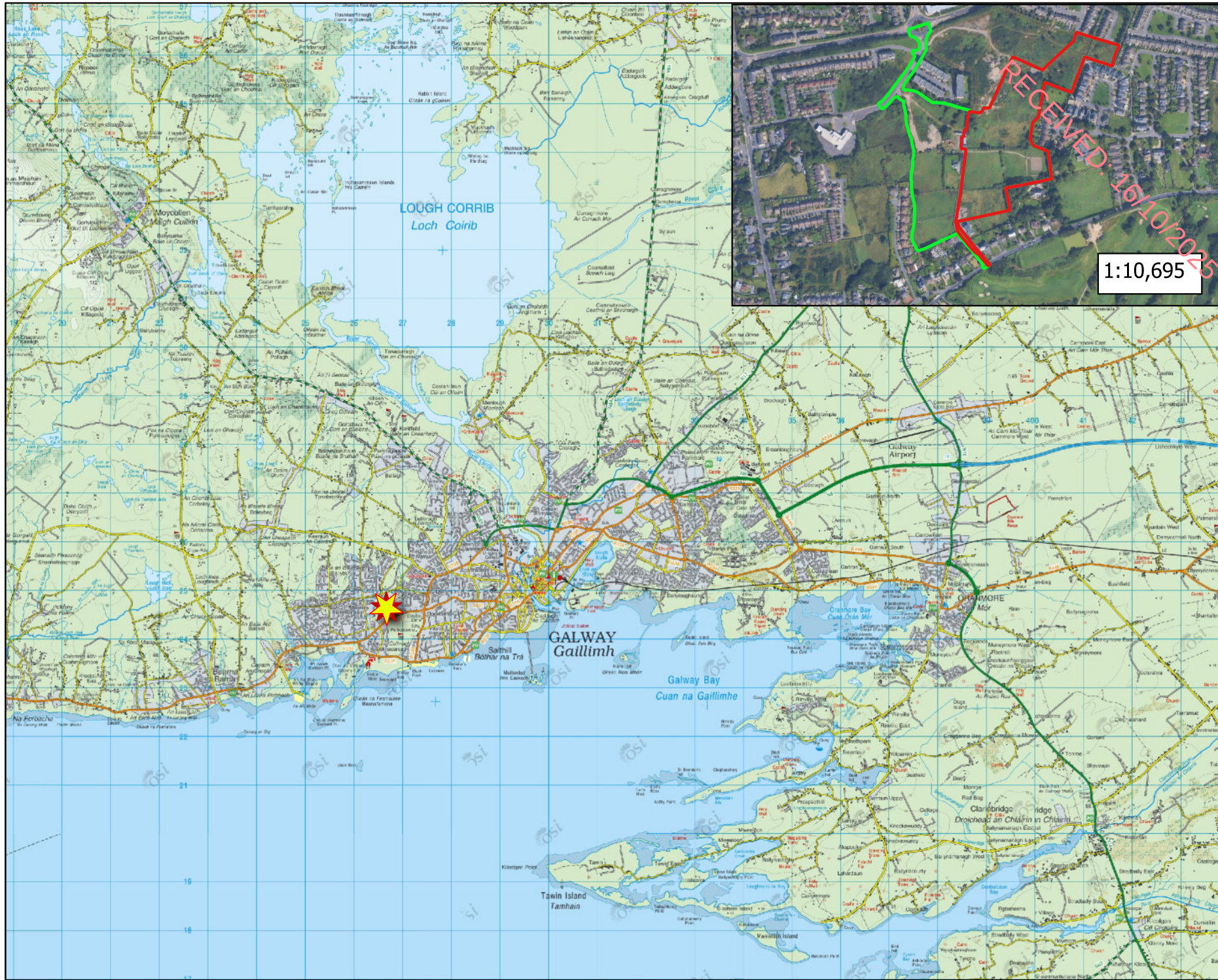
The Proposed Development site is located in Knocknacarra, Galway City, covering an area of approx. 5.37ha. The site is contained within the Knocknacarra Masterplan Area at Knocknacarra, County Galway which is approximately 3.1km west of Galway City Centre. Irish Transverse Mercator (ITM) coordinates for the centre of the site are X 526636, Y 724682.

The Proposed Development site can be accessed via both the Western Distributor Road which is located to the north of the site and the Kingston Road (R337) which runs in an east west direction to the south of the site.

Currently, the site is comprised of a mixture of agricultural grassland and areas of brownfield. Stone walls and treelines are also present within the Proposed Development site boundary. The surrounding area is urban in character with a number of residential housing estates and commercial and industrial buildings in close proximity.

The location of the Proposed Development site is shown in **Figure 2-1** below.

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Map Legend

-  Site Location Point
-  Planning Application (red line) Boundary
-  EIAR Study Area Boundary



Drawing Title	
Site Location	
Project Title	
Kingston Knocknacarra LRD East	
Drawn By	Checked By
FK/ CK	PD/ SM
Project No.	Drawing No.
240142	Figure 2-1
Scale	Date
1:101,700	02.10.2025



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2.2

Characteristics of the Proposed Development

2.2.1

Development Description

The Proposed Development will consist of the following:

1. Provision of 362 no. residential units in 4 no. development areas with a mix of apartment and house types on a site area of 5.37 ha. The buildings range between 2 no. and 6 no. storeys in height. The development will comprise the following:
 - 4 no. 2-bed townhouses;
 - 40 no. 3-bed townhouses;
 - 21 no. 4-bed townhouses;
 - 15 no. 1-bedroom duplex apartments;
 - 46 no. 2-bedroom duplex apartments;
 - 15 no. 2-bedroom duplex houses;
 - 46 no. 3-bedroom duplex houses;
 - 114 no. 1-bedroom apartments;
 - 56 no. 2-bedroom apartments;
 - 5 no. 3-bedroom apartments.
2. Demolition of existing structures (333.8 sqm);
3. Vehicular access to the proposed development from a permitted road (Planning Reference 24/60370 refers);
4. The provision of new active travel cycle and pedestrian access from Millers Lane;
5. Upgrades to the existing access at Kingston Road
6. The provision of a childcare facility (440 sq.m.);
7. The provision of public open space;
8. The provision of 665 no. bicycle parking spaces;
9. The provision of 313 no. car parking spaces;
10. Public lighting, bin stores, signage, services, ESB substation, site landscaping and all ancillary site development and enabling works.

It should be noted that the Applicant intends to submit subsequent planning applications within the Knocknacarra Masterplan Area. These subsequent applications, which will also be residential in nature, will be located immediately to the west of the Proposed Development site, within the EIAR Study Area, as shown in **Figure 1-1**.

A full detailed description of the Proposed Development and associated construction methodologies to be employed is provided in Chapter 4 of the EIAR (included as **Appendix 1** to this NIS).

2.2.2

Proposed Site Drainage

2.2.2.1

Surface Water Drainage

The management of surface water for the Proposed Development has been designed to comply with the philosophies of nature-based SuDS and CIRIA guidelines as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GSDSDS) and with the requirements of Galway City Council.

It is proposed to divert any existing surface water drains within the site so that they outfall to their natural existing destination, without influence from construction activities. The surface water strategy incorporates attenuation of storm water to limit discharge from the site, although storage facilities and SuDS elements will be designed to allow infiltration or reduction of run-off volumes and rates where possible. The proposed storm water drainage system has been designed to cater for all surface water

runoff from all hard surfaces in the Proposed Development including roadways, roofs, parking areas etc. All stormwater generated on site from roadways and roofs will discharge via an Oil/Petrol Interceptor to soakways/ attenuation units to remove possible hydrocarbons. The soakway/ attenuation units are strategically located within the site. Where there is adequate infiltration, stormwater will discharge to soakaways/ attenuation. Otherwise, it will discharge at a controlled Greenfield runoff rate to existing 450 mm storm sewer network west of the Proposed Development.

By-pass separators will be installed prior to discharging to the proposed soakways/attenuation units and existing storm sewer. The separators will be sized to cater for impermeable areas i.e. roads, car parking and footpath areas.

The following SuDS elements are applicable to the proposed scheme and layout:

- Water butts
- Tree pits
- Rain gardens
- Permeable paving
- Detention Swales
- Drainage kerbs with infiltration trenches
- Thirteen attenuation storage systems.
- Hydrobrake manholes to control the flow of surface water to allow the soakway/attenuation units to fill to their capacity (designed to largest stormwater required over 48-hour storm period with rainfall depths taken for the 100year return period +20 % for climate change).
- Hydrocarbon separation prior to the outfall to the exiting surface water network and immediately downstream of any hydrobrake manholes.

Storm-water attenuation for the development has been sized in accordance with the requirements of the GDSDS. Run-off rates from the Proposed Development to the public system are in accordance with the GDSDS.

2.2.2.2 Foul water drainage

The proposed foul drainage layout for the development will be similar to the surface water drainage. All wastewater generated from the Proposed Development will outfall, via gravity, to an existing Uisce Éireann owned 225mm foul sewer line located west of the development along the southern arm junction of the adjacent roundabout and Altan road. The 225mm sewer line will require upgrade to 300mm to where it meets an existing Uisce Éireann 375mm foul network. The foul network for the Proposed Development has been designed using Causeway Flow Drainage modelling software. The pipework has been designed to provide six times the dry weather flow in accordance with Uisce Éireann Code of Practice and standard details. The proposed foul sewer design and layout is in accordance with the Irish Water Code of Practice for Wastewater Infrastructure and The Irish Water Infrastructure Standard Details. The predicted foul loading of the Proposed Development is 995 P.E. A letter has been received from Uisce Eireann confirming that a water connection can be facilitated for the Proposed Development (see **Appendix 2**).

All foul water will be discharged to the public sewer and will be treated at the Galway Mutton Island Wastewater Treatment Plant (WWTP) before discharging to Galway Bay. The Mutton Island WWTP has a current capacity of 170,000P.E. (Uisce Eireann, 2025).

3.

CHARACTERISTICS OF THE RECEIVING ENVIRONMENT

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities (CIEEM, 2018).

The following sections outline the methodologies utilised to establish the baseline ecological condition of the Site.

3.1

Desk Study

The desk study undertaken for this assessment included a thorough review of available ecological data including the following:

Review of NPWS Conservation Objectives supporting documents, site synopsis, standard data forms and supporting documents for European Designated Sites,

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), Environmental Protection Agency (EPA),
- Review of the publicly available National Biodiversity Data Centre (NBDC) web-mapper,
- Review of NPWS Article 17 metadata and GIS database.

3.2

Consultation

The Development Application Unit (DAU) was consulted on the 30th of April 2024 (Reference No: G Pre00159/2024) in relation to the Proposed Project, of which the Proposed Development is a part. A response was received on the 12th June 2024 and is attached as **Appendix 3**. The recommendations of the DAU have been considered in the preparation of this planning application.

Consultation with the DAU highlighted the need to consider the likely significant effects on European Sites, as stated below:

'The Department notes that the Galway Bay Complex SAC (Site Code: 000268) is located 1km to the southwest and that Lough Corrib SAC (Site Code: 000297) is 2.8km east of the site. The scope of works includes these for assessment however, the Inner Galway Bay SPA (Site Code: 004031) and Lough Corrib SPA (Site Code: 004042) have not been mentioned, and should be included for assessment. In relation to potential significant effects on a European site, assessments are carried out with respect to the implications for the conservation objectives of that site. Where available, the attributes, targets and notes specified as part of the conservation objectives will determine the scope and detail of surveys, data and analyses required to produce an NIS, if required. The NIS should present the scientific examination of all necessary evidence and data. It should be noted that the conservation objectives of a European site are wider in scope than the qualifying interests or special conservation interests alone, and will encompass other habitats and species, as well as aspects of habitat structure and function, and existing environmental problems and trends. The final analyses are carried out with respect to whether the conservation objective is to maintain or to restore the favourable conservation condition of the habitat or species in question within the site.'

The key concerns in relation to likely significant effects of the project alone and in combination with other plans and projects, on these European sites, in view of their conservation objectives, include the following:

- *Disturbance of potential resting/roosting sites for Annex II species (e.g. Lesser Horseshoe Bat)*

- *Increased disturbance and displacement of species, and progressive habitat loss, fragmentation and deterioration surrounding European sites arising from the development, and loss of important ecological corridors*
- *Added pressures on existing water services'*

These concerns have been considered in the preparation of this NIS.

3.3

Ecological Survey Methodologies

3.3.1

Ecological Multidisciplinary Walkover Surveys

Multidisciplinary walkover surveys, carried out in line with NRA (2009) guidelines, were undertaken on the 20th of March 2024, 24th of April 2024, 15th May 2024 and 20th March 2025. The surveys in April and May fall within the recognised optimum period for vegetation surveys/habitat mapping, i.e. April to September (Smith et al., 2011), while the surveys carried out in March, when vegetation cover is reduced, focused on identifying features which could potentially be used by protected mammals (e.g. potential roost features on trees which could support bats, mammal burrows etc.).

The walkover surveys were designed to detect the presence, or likely presence, of a range of protected species. The surveys included a search for badger setts and areas of suitable habitat, potential features likely to be of significance to bats and additional habitat features for the full range of other protected species that are likely to occur in the vicinity of the Proposed Development (e.g. otter etc.). In addition, an inventory of other species of local biodiversity interest was compiled including invertebrates (butterflies, dragonflies, damselflies, beetles), plants, fungi etc.

The multi-disciplinary walkover surveys comprehensively covered the EIAR Study Area, within which the Proposed Development site is located. Habitats were identified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011). Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2019).

During the multidisciplinary surveys, a search for Invasive Alien Species (IAS) listed under the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024) and/or Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011) was conducted.

3.3.2

Bird Surveys

Due to the close proximity of the site to the Lough Corrib SPA and Inner Galway Bay Complex SPA, 6 no. dedicated wintering bird surveys and 3 no. dedicated breeding bird surveys were considered necessary to assess the sites' significance (if any) for both breeding and wintering birds (following the precautionary principle).

3.3.2.1

Winter Bird Surveys

The winter bird surveys were carried out on a monthly basis between November 2024 and March 2025. One survey in March 2024 was also undertaken. Surveys were conducted from eight predefined vantage points which offered as large a view as possible of potentially suitable wintering bird habitat within the EIAR Study Area and adjacent area. Following completion of the vantage point surveys, seven predefined transects were walked and any winter birds occurring within proximity to these transects, including their numbers and exhibited behaviours were recorded. Winter bird surveys followed the Irish Wetland Bird Survey (I-WeBS) methodology; the simple 'look-see' method, whereby all birds present within a predefined area are counted (Bibby et al., 1992).

All observations were recorded, and detailed point data was gathered for each species observation, with all bird species denoted using standard British Trust for Ornithology (BTO) codes and with the number of each species recorded next to each registration. The target species recorded in the surveys were those covered by Irish Wetlands Bird Survey (I-WeBS) counts, i.e. all divers, grebes, cormorant, shag, herons, swans, geese, ducks, rails, crakes, waders, gulls and kingfisher. Target species also included Special Conservation Interest (SCI) species associated with SPAs in the likely zone of influence, any species listed on Annex I of the Birds Directive and any birds included on the Birds of Conservation Concern in Ireland 4: 2020-2026 (BoCCI) red list (Gilbert et al., 2021). In addition to this, all other bird species, including all common and widespread passerines, were recorded as incidentals where they occurred within the Proposed Development site.

3.3.2.2 Breeding Bird Surveys

Breeding bird surveys were carried out on a monthly basis between April and June 2024 (inclusive). Surveys were carried out in a similar fashion to the winter bird surveys in that surveys from the same eight vantage points were undertaken first, followed by transect surveys along the same seven transects. During the surveys, target species (SCIs of nearby SPAs, Annex I species and BoCCI red-listed species) were recorded both within and adjacent to the development site, with non-target species recorded as incidentals. All bird species were denoted using standard British Trust for Ornithology (BTO) codes and with the number of each species recorded next to each registration.

The locations of Vantage Points and walked transects undertaken over the course of the bird surveys carried out across the EIAR Study Area are shown in **Figure 3-1**.



Map Legend

- Planning Application (red line) Boundary
- EIA Study Area Boundary
- Walked Transects
- Vantage Points



Drawing Title

Vantage Points and Walked Transects

Project Title

Kingston Knocknacarra LRD East

Drawn By

FK/ CK

Checked By

SM

Project No.

240142

Drawing No.

Figure 3-1

Scale

1:3,000

Date

15.10.2025



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3.3.3 Bat Surveys

A detailed Bat Report has been prepared by MKO bat ecologists and is attached to this document as **Appendix 4**. The following bat surveys were carried out within the EIAR Study Area, full details of which can be found in **Appendix 4**:

- Daytime bat walkover, comprising bat habitat suitability and preliminary roost assessment
- Bat habitat suitability appraisal (suitability to support roosting, foraging and/or commuting bats)
- Preliminary bat roost assessments of trees and existing buildings on site
- Bat activity surveys, comprising night-time bat walkover surveys and static detector surveys

3.3.4 Non-volant Mammal Surveys

During the multidisciplinary walkover surveys, a comprehensive search of the site for the presence of terrestrial mammal species was undertaken and the habitats on site were assessed for their potential to support protected mammal species.

The survey included a search for signs of otter (*Lutra lutra*). The isolated drainage ditch within the site was surveyed for otter as per TII (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes). This involved a search for all otter signs e.g. spraints, scat, prints, slides, trails, couches and holts.

3.4 Hydrological Desk Study

3.4.1 EPA Water Quality Data:

The EPA web-mapper (<https://gis.epa.ie/EPAMaps/Water>) was consulted on the 13th October 2025 regarding the water quality, status of groundwater bodies and surface or transitional waterbodies that are located downstream of the site of the Proposed Development.

The Proposed Development site is located within the Galway Bay North hydrological catchment (Catchment 31), and the Knock [Furbo]_SC_010 hydrological sub-catchment. The Knocknacarragh stream (31K16) watercourse (part of the Knocknacarragh_010 system) is located approximately 10m from the northern boundary of the Proposed Development site. According to the River Waterbodies Risk on EPA Maps, the Knocknacarragh_010 system is under review. Further, the River Waterbody Water Framework Directive (WFD) Status 2016-2021 awarded the Knocknacarragh_010 system a “Poor” Status. No Q-values have been recorded on the Knocknacarragh_010 system as per EPA maps.

The Proposed Development site is underlain by the Spiddal groundwater body which is described as ‘poorly productive bedrock’. In terms of vulnerability to contamination by human activities, the Spiddal groundwater body in the vicinity of the Proposed Development Site is of ‘Extreme’ and ‘High’ vulnerability with ‘Exposed rock’ also present, as per EPA maps. The WFD Status 2016-2021 for the Spiddal groundwater body was deemed to be ‘Good’. The groundwater flow pathways described in the Spiddal Groundwater Body Summary of Initial Characterisation¹ (WFD) states that, ‘Groundwater flow is expected to be concentrated in fractured and weathered zones and in the vicinity of fault zones. Flow paths are likely to be short – up to 100 m, with groundwater discharging rapidly to nearby streams and small springs. Overall, flow directions follow topography, generally to the south. The available water level data show that the water table is from 0-6 m below ground level.’

¹GSI (2004) *Spiddal GWB: Summary of Initial Characterisation. 1st Draft Spiddal GWB Description June 2004. Geological Survey of Ireland (GSI)*. Available at: <https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/SpiddalGWB.pdf>

3.5

Results of Baseline Ecological Surveys

A total of nine habitats/ habitat mosaics were recorded within the Proposed Development site and wider EIAR Study Area. A description of the main habitats within the site boundary is provided below.

3.5.1

Habitats within the Proposed Development Site Boundary

The northern portion of the Proposed Development site is comprised largely of large mounds of exposed gravel, rock piles, mulch, rubble and revegetating areas occurring as mosaics of Recolonising bare ground (ED3)/Spoil and bare ground (ED2). The other habitats recorded within the northern portion of the site include transitional grassland, classified as Dry meadows and grassy verges (GS2), and Scrub (WS1) with Treelines (WL2) along the eastern boundary. Treelines (WL2) are found along the site boundary occasionally.

The southern portion of the Proposed Development site is dominated by Dry calcareous and neutral grassland (GS1), with Dry meadows and grassy verges (GS2) occurring less frequently. Patches of Scrub (WS1) occur towards the boundaries and existing areas of Buildings and Artificial Surfaces (BL3) and their associated access tracks (Spoil and bare ground (ED2)) are also present. Stone walls and other stonework (BL1), Treeline (WL2) and Hedgerow (WL1) habitats are found along field boundaries.

A description of the main habitats within the EIAR Study Area, which includes the Proposed Development site, is provided below.

3.5.1.1

Recolonising bare ground (ED3) & Spoil and bare ground (ED2)

The majority of the northern parcel of the EIAR Study Area, and much of the Proposed Development site, has been subject to deposition of construction waste and consists mainly of large mounds of exposed gravel, mulch, rubble, stones, and areas of exposed gravel. A small pocket of disturbed ground dominated by willow scrub (WS1), large stone piles and uneven grassy mounds was recorded. Vegetative regrowth in the form of forb and woody species including bramble and gorse was recorded recolonising these areas. This area is therefore categorised as a mosaic habitat of Recolonising bare ground (ED3)/Spoil and Bare Ground (ED2). Vegetation has been cleared/mulched in the north-east of the Proposed Development site and is subject to regrowth (Plate 3-1 to Plate 3-3). Machinery tracks identified in the north of the EIAR Study Area have been classified as Recolonising bare ground (ED3) habitat. Semi-mature conifers, a mature Italian alder (*Alnus cordata*) and a single ash tree (*Fraxinus excelsior*) were recorded in the north-east of the Proposed Development site.

Recolonising spoil heaps, rocks piles and earth mounds were identified in the north of the EIAR Study Area. These areas have been recolonised by a variety of species including Bracken (*Pteridium aquilinum*), Common Sedge (*Carex nigra*), White Clover (*Trifolium repens*), Field Horsetail (*Equisetum arvense*), Springy turf-moss (*Rhytidiadelphus squarrosus*), Pointed Spear-moss (*Calliergonella cuspidata*), Heath plait-moss (*Hypnum jutlandicum*), Field Wood-rush (*Luzula campestris*), Sow thistle (*Sonchus spp.*), Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Germander Speedwell (*Veronica chamaedrys*), Ragwort (*Jacobaea vulgaris*), Dandelion (*Taraxacum vulgaria*), Creeping Thistle (*Cirsium arvense*), Tansy (*Tanacetum vulgare*), Yellowwort (*Blackstonia perfoliate*), Common Figwort (*Scrophularia nodosa*), Bush Vetch (*Vicia sepium*), Red Clover (*Trifolium Pratense*) and Hawkweed (*Hieracium hibernicum*). Herb-Robert (*Geranium robertianum*), Hedge Mustard (*Sisymbrium officinale*), Greater Bird's-foot Trefoil (*Lotus pedunculatus*), Hop Trefoil (*Trifolium campestre*), Black Medick (*Medicago lupulina*), Common Sorrel (*Rumex acetosa*), Cat's Ear (*Hypochaeris radicata*), Kidney vetch (*Anthyllis vulneraria*), Bittersweet (*Solanum dulcamara*), Red Valerian (*Centranthus ruber*), Great Mullein (*Verbascum Thapsus*), Foxglove (*Digitalis purpurea*), Field Bindweed (*Convolvulus arvensis*), Rosebay Willowherb (*Chamaenerion angustifolium*), Sticky Mouse-ear (*Cerastium glomeratum*), Field Forget-me-not (*Myosotis arvensis*), Rapeseed (*Brassica napus*), Oxeye Daisy (*Leucanthemum vulgare*),

Sweet Vernal Grass (*Anthoxanthum odoratum*), Mouse-ear Hawkweed (*Pilosella officinarum*), Weld (*Reseda luteola*), Ribwort Plantain (*Plantago lanceolata*), Greater Plantain (*Plantago major*), Yarrow (*Achillea millefolium*), Gorse (*Ulex europaeus*), Bramble (*Rubus fruticosus*), Pignut (*Conopodium majus*), Colt's Foot (*Tussilago farfara*), Silverweed (*Potentilla anserina*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Cleavers (*Galium aparine*), Self-heal (*Prunella vulgaris*), Scarlet Pimpernel (*Anagallis arvensis*) and Yorkshire Fog (*Holcus lanatus*) also occurred.

Butterfly bush (*Buddleja davidii*) was recorded growing extensively on the large rock piles throughout the northern portion of the EIAR Study Area. This plant species is considered a second schedule, medium impact invasive species, as per the National Biodiversity Data Centre (NBDC).



Plate 3-1. View of mulched vegetation and machinery tracks classified as Recolonising bare ground (ED3) / Spoil and bare ground (ED2) in the north of the EIAR Study Area.



Plate 3-2. View of recolonising rock and stone piles located in the north of the ELAR Study Area. Dry meadows and grassy verges (GS2) habitat was also recorded in this section of the ELAR Study Area .



Plate 3-3. View of black pine and Italian alder trees in the north-east of the Proposed Development site, occurring in an area of Recolonising bare ground ED3/Spoil and bare ground ED2 and Dry meadows and grassy verges (GS2) habitat.

3.5.1.2 Treeline (WL2)

Treeline (WL2) habitat dominated by mature Sycamore (*Acer pseudoplatanus*) and Ash (*Fraxinus excelsion*) trees was recorded in the centre of the EIAR Study Area acting as a field boundary adjacent to the existing stables (Plate 3-4). A treeline (WL2) habitat was recorded at the south-eastern boundary of the EIAR Study Area, also dominated by sycamore trees.



Plate 3-4. View of section of treeline (WL2) habitat dominated by ash and sycamore, recorded in the west of the EIAR Study Area.

3.5.1.3 Buildings and Artificial surfaces (BL3) and Stone walls and other Stonework (BL1)

Stone walls were recorded throughout the EIAR Study Area (Plate 3-5) and are categorised as Stone walls and other stonework (BL1). The vast majority of field margins throughout the EIAR Study Area are delineated by old and lightly vegetated stone walls.

Existing residential and farm buildings exist in the centre of the EIAR Study Area. Residential dwellings and dog kennels are located in the centre and south of the EIAR Study Area classified as Buildings and artificial surfaces (BL3). The EIAR Study Area is immediately surrounded by residential dwellings to the north, south and east. The existing access road in the south of the Proposed Development site, old farm buildings, modern stables, horse-riding arena and hay barns were classified as Buildings and artificial surfaces (BL3) (Plate 3-6, Plate 3-7). Species recorded at the old farm buildings include Ivy (*Hedera hibernica*), Rusty Back Fern (*Asplenium ceterach*), Maiden Hair Spleenwort (*Asplenium trichomanes*), Polypody (*Polypodium spp.*) and Hart's Tongue Fern (*Asplenium scolopendrium*). Woody species recorded surrounding the stables in the centre of the EIAR Study Area include Hawthorn, Sycamore and Privet (*Ligustrum spp.*). Himalyan Honeysuckle (*Leycesteria formosa*) was recorded by a field margin in the west of the EIAR Study Area. This plant species is not listed on the Third Schedule (S.I.447 2011) European Communities (Birds and Natural Habitats) Regulation 2011 or the First Schedule (S.I. 374/2024 -European Union (Invasive Alien Species) Regulations 2024. This plant is considered an invasive species of medium impact according to the NBDC.

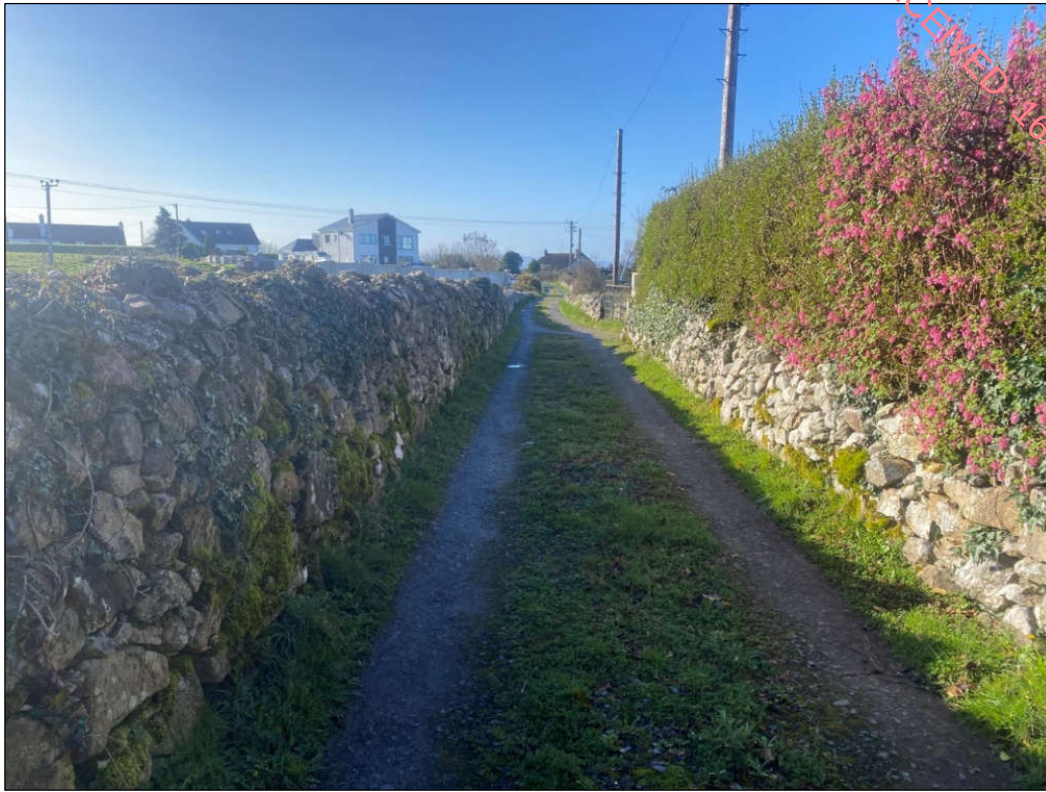


Plate 3-5. View of stone walls classified as Stone walls and other stonework (BL1) located in the south of the EIAR Study Area adjacent to the existing residential dwelling classified as Buildings and artificial surfaces (BL3).



Plate 3-6. View of old stone farm sheds and newly built stables classified as Buildings and artificial surfaces (BL3) located in the centre of the EIAR Study Area.



Plate 3-7. View of fenced horse-riding sand arena located in the east of the Proposed Development site classified as Buildings and artificial surfaces (BL3).

3.5.1.4 Dry Meadows and Grassy Verges (GS2)

Dry meadows and grassy verges (GS2) habitat occurs throughout the EIAR Study Area and comprises a large proportion of the Proposed Development site. The grassy verges identified running along the existing road and farm tracks in the south of the Proposed Development site are categorised as Dry meadows and grassy verges (GS2). Unmanaged grassland habitat, categorised as Dry meadows and grassy verges (GS2), was identified in the centre of the EIAR Study Area (Plate 3-8). This grassland is currently ungrazed. Semi-mature Basket Willows (*Salix viminalis*) were recorded in this section of the EIAR Study Area. Butterfly bush was recorded adjacent to this habitat by the eastern boundary while stone walls, hedgerow and individual mature trees delineated the northern and southern portions of the EIAR Study Area.

A mosaic of Dry meadows and grassy verges (GS2)/Dry calcareous and neutral grassland (GS1) was recorded in the south-east of the site by the dog kennels, along the edges of the existing road/access tracks and colonising the disturbed ground in the north of the site (Plate 3-9 and Plate 3-10).

Species recorded in this habitat include Ribwort Plantain (*Plantago lanceolata*), Dandelion, Meadow Buttercup (*Ranunculus acris*), Creeping Buttercup (*Ranunculus repens*), Yarrow (*Achillea millefolium*), Germander Speedwell (*Veronica chamaedrys*), Red Clover, Broad leaved Willowherb (*Epilobium montanum*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Marsh Thistle (*Cirsium palustre*), Meadow grass (*Poa annua*), Common Vetch (*Vicia sativa ssp. segetalis*), Ragwort, Bramble (*Rubus fruticosus agg.*), Cocks' foot (*Dactylis glomerata*), Nettle, Meadow Foxtail (*Alopecurus pratensis*), Common Dog Violet (*Viola riviniana*), Curly dock (*Rumex crispus*), Common Bent Grass (*Agrostis capillaris*), Pignut, Sow thistle, Hogweed (*Heracleum sphondylium*), Red Fescue (*Festuca rubra*), Yorkshire Fog (*Holcus lanatus*), Cowslip (*Primula veris*), Greater Willowherb (*Epilobium hirsutum*), Sorrel, Yellow Flag Iris (*Iris pseudacorus*), Silverweed (*Potentilla anserina*), Hedge Mustard (*Sisymbrium officinale*), Cleavers, Cuckoo Flower (*Cardamine pratensis*), Soft Rush (*Juncus effusus*), Common Poppy (*Papaver rhoeas*), White Clover, Bracken (*Pteridium aquilinum*), Hart's Tongue Fern, Herb Robert and Bittersweet (*Solanum dulcamara*).

A hardy Fuchsia (*Fuchsia spp.*) bush occurs by the roadway in the south of the Proposed Development site. Hedge Woundwort (*Stachys sylvatica*) was recorded by the roadside.



Plate 3-8. View of unmanaged Dry meadows and grassy verges (GS2) recorded in the centre of the EIAR Study Area.

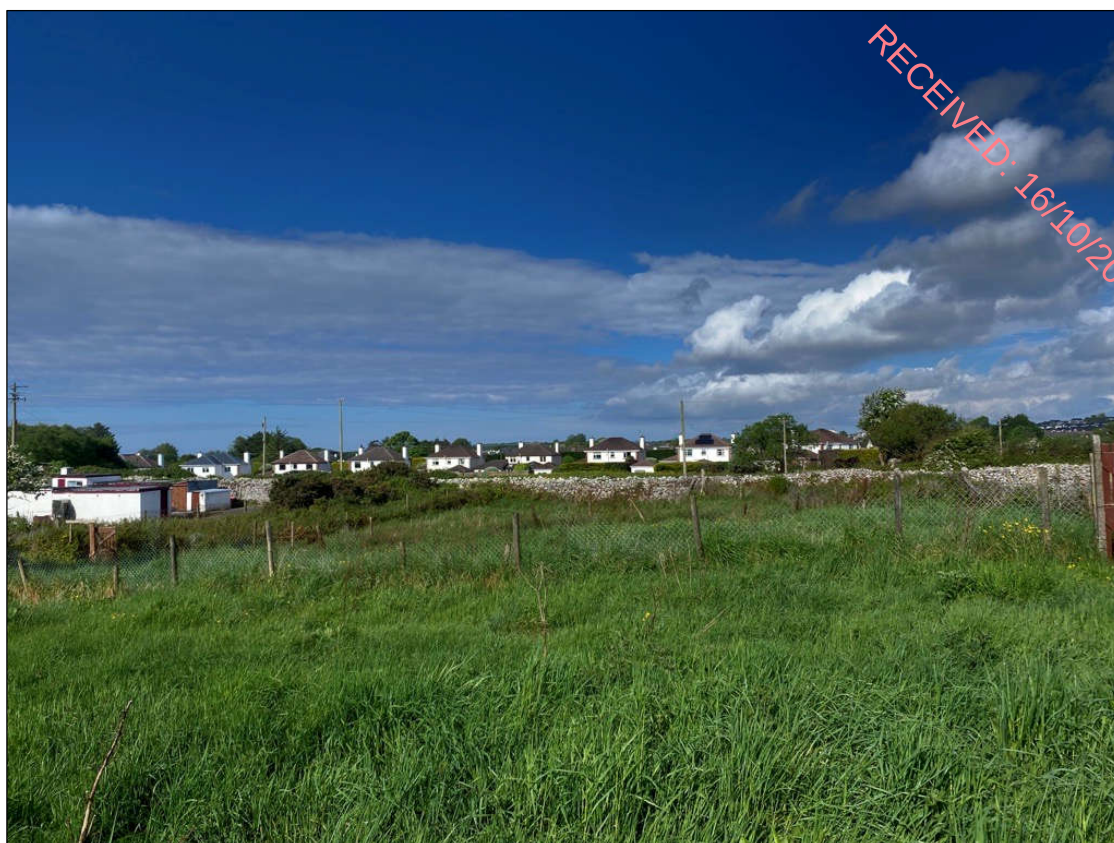


Plate 3-9. View of Dry meadows and grassy verges (GS2)/Dry calcareous and neutral grassland (GS1) habitat in the south of the Proposed Development site by the dog pens..

3.5.1.5 Dry Calcareous and Neutral Grassland GS1

The majority of the southern portion of the Proposed Development site is dominated by managed Dry calcareous and neutral grassland (GS1) habitat and is considered a species rich grassland (Plate 3-10). Stone walls categorised as Stone walls and other stonework (BL1) make up field margins in the southern portion of the Proposed Development site. The grassland is heavily poached in areas due to grazing (Plate 3-11).

Species recorded in areas of Dry Calcareous and Neutral Grassland (GS1) include Ribwort Plantain, Oxeye Daisy (*Leucanthemum vulgare*), Cowslip, Buttercups (*Ranunculus bulbosus* & *Ranunculus acris*), Field Rush, Red Clover (*Trifolium pratense*), Dandelion, Dock (*Rumex spp.*), Ragwort (*Jacobaea vulgaris*), Field Speedwell (*Veronica persica*), Germander Speedwell (*Veronica chamaedrys*), White Clover (*Trifolium repens*), Hawksbit (*Leontodon spp.*), Common Mouse-ear (*Cerastium fontanum*), Thyme Leaved Speedwell (*Veronica serpyllifolia*), Daisy (*Bellis perennis*), Curly Dock (*Rumex crispus*), Silverweed, Greater Plantain (*Plantago major*), Sorrel, Nettle, Meadow Grass (*Poa annua*), Rough Meadow Grass (*Poa trivialis*), Birds Foot Trefoil (*Lotus corniculatus*), *Festuca spp.*, Knapweed (*Centaurea nigra*) and Yarrow (*Achillea millefolium*), Sweet Vernal (*Anthoxanthum odoratum*), Redshank (*Persicaria maculosa*), Selfheal and Pignut. Meadowsweet (*Filipendula ulmaria*) and Meadow Vetch (*Lathyrus pratensis*) were also found.

Common Haircap (*Polytrichum commune*), Hypnum moss (*Hypnum compressiforme*), Springy Turf-moss (*Rhytidiadelphus squarrosus*), Silky Wall Feather-moss (*Homalothecium sericum*) were recorded on a stoney outcrop in the east of the Proposed Development site.

This habitat does not align with the Annex I habitat type ‘Semi-natural dry grassland and scrubland facies on calcareous substrates (Festuco-Brometea) [6210]’ owing to its species composition which demonstrates a lack of positive indicator species typical of this Annex I habitat type. Only one high-quality positive

indicator species (Cowslip) and three positive indicator species (*Ranunculus bulbosus*, *Leontodon spp.* and *Lotus corniculatus*) were recorded here, while four negative indicator species occurred (Nettle, White clover, Ragwort, Curly dock).



Plate 3-10. View of unmanaged dry calcareous and neutral grassland (GSI) and stone wall (BLI) located in the south of the Proposed Development site.



Plate 3-11. View of heavily poached area in the south-west of the EIAR Study Area due to horses grazing the fields.

3.5.1.6 Scrub (WS1)

Two small, isolated pockets (approx. 0.052ha) of Hawthorn and Blackthorn dominated Scrub (WS1) habitat occur in the east of the Proposed Development site (Plate 3-12). Species recorded include Curly Dock (*Rumex crispus*), Ribwort Plantain, Germander Speedwell, Ivy Leaved Speedwell (*Veronica hederifolia*), Meadow Buttercup, Pignut, Knapweed (*Centaurea nigra*), Herb Robert (*Geranium robertianum*), Field Wood Rush (*Luzula campestris*), Wood Avens (*Geum urbanum*), Wood dock (*Rumex sanguineus*), Lesser Celandine (*Ficaria verna ssp verna*), Enchanter's nightshade (*Circaea lutetiana*), Lords and Ladies (*Arum maculatum*), Hart's Tongue Fern (*Asplenium scolopendrium*), Hawksbit (*Leontodon spp.*), Bramble, Sticky Mouse ear, Hogweed, Common Haircap, Common Feather Moss (*Kindbergia praelonga*), Ivy, Ground Elder (*Aegopodium podagraria*), Barren Strawberry (*Potentilla sterilis*), Forget-me-knot (*Myosotis spp.*) and Nettle.

A third isolated pocket of Gorse dominated Scrub (WS1) habitat occurs in the south of the Proposed Development site by the existing road. Other species recorded in this habitat include Bramble and Bindweed.

Scrub (WS1) habitat dominated by Goat Willow (*Salix caprea*) (0.12ha) occurs in the north of the Proposed Development site (Plate 3-13). Ground flora recorded include butterbur (*Petasites hybridus*), Primroses (*Primula vulgaris*), Creeping Buttercup, Bramble and Ivy.



Plate 3-12. View of hawthorn dominated Scrub (WS1) habitat recorded in the south of the Proposed Development site.



Plate 3-13. View of isolated willow scrub (WS1) habitat recorded in the north of the Proposed Development site.

3.5.1.7 Hedgerow (WL1)

Hedgerow (WL1) habitat, dominated by hawthorn, was recorded within the Proposed Development (Plate 3-14). This habitat was typically isolated and associated with old stone walls delineating the field boundaries within the Proposed Development site. Ground flora identified included Common Dog Violets (*Viola riviniana*), Pignut (*Conopodium majus*), Germander Speedwell (*Veronica chamaedrys*), Herb Robert (*Geranium robertianum*), Cowslips (*Primula veris*), Nettle (*Urtica dioica*), Tussock (*Hypericum androsaemum*), Creeping Bent (*Agrostis stolonifera*), Docks (*Rumex spp.*), Lesser Celandine (*Ficaria verna*), Daisy (*Bellis perennis*) and Cleavers (*Galium spp.*).

Individual mature trees/shrubs such as Ash, Blackthorn, *Sorbus spp.*, Wych Elm (*Ulmus procera*), Beech and Holly were also recorded within the hedgerows on site.



Plate 3-14. View of hawthorn dominated hedgerow (WL1) habitat recorded in the east of the Proposed Development site

3.5.1.8 Drainage ditch (FW4)

An isolated Drainage ditch (FW4) habitat was recorded in the north-east of the Proposed Development site, adjacent to the willow scrub (WS1) habitat (Plate 3-15). Stagnant water was recorded along with plant species such as Silverweed (*Potentilla anserina*), Watercress (*Nasturtium officinale*) and *Juncus spp.* No water was present in the drainage ditch during summer months.



Plate 3-15. View of stagnant water in isolated drainage ditch (FW4) in the north of the Proposed Development site, adjacent to willow scrub (WS1) habitat.

3.5.2

Invasive species

During field surveys, a search for Invasive Alien Species (IAS) listed under the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024) and/or Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011) was conducted. Three-cornered garlic (*Allium triquetrum*) was found in the south and centre of the Proposed Development site (Plate 3-16). Spanish bluebell (*Hyacinthoides hispanica*) was recorded south and north of the Proposed Development site but not within the Proposed Development site boundary itself.

Sea buckthorn (*Hippophae rhamnoides*) saplings were recorded within the ELAR Study Area, in lands to the west of the Proposed Development site (Plate 3-17). No additional species listed on the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 or Third Schedule of the Birds and Natural Habitats Regulations 2011 were recorded within the Proposed Development site during the surveys. The locations of invasive species recorded within, and in close proximity to, the Proposed Development site is shown in **Figure 3-2**.



Plate 3-16. View of blooming three-cornered garlic located within the centre of the Proposed Development site by the hedgerow habitat.



Plate 3-17. View of Sea buckthorn sapling recorded in lands to the west of the Proposed Development site.



Map Legend

- Three cornered garlic
- Sea buckthorn
- EIAR Study Area Boundary
- Planning Application (red line) Boundary



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Drawing Title

Invasive Species Recorded
Project Title
Kingston Knocknacarra LRD East

Drawn By FK/ CK	Checked By PD/ SM
Project No. 240142	Drawing No. Figure 3-2
Scale 1:3,000	Date 13.10.2025



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3.5.3 Birds

Dedicated wintering and breeding bird surveys were conducted by MKO ecologists to investigate the suitability of potentially supporting habitats for bird species and how bird species interact and utilise the habitats within the Proposed Development site. The wintering and breeding bird surveys were carried out in line with the methodologies described in Section 6.4.3.2 above. No significant limitations were observed.

3.5.3.1 Winter Bird Surveys

The target bird species recorded within and flying over the EIAR Study Area, which includes the Proposed Development site, are shown in Table 3-1 below. Any species of conservation concern (i.e. those listed on the amber list or higher of Birds of Conservation Concern in Ireland (2021)), recorded during the winter bird surveys are also shown in Table 3-1.

The following SCI species associated with Inner Galway Bay SPA were recorded during wintering bird surveys undertaken: Common gull (*Larus canus*), Black-headed gull (*Larus ridibundus*), Curlew (*Numenius arquata*), and Cormorant (*Phalacrocorax carbo*).

Black-headed gulls were observed flying over and adjacent to the Proposed Development site and also perched on the apartment block located west of the site. No Black-headed gulls were recorded utilising the habitats within the Proposed Development site during the surveys undertaken. One Common gull was recorded foraging in the grassland in the south of the wider EIAR Study Area on the 29th of November 2024. One Curlew was recorded foraging in the grassland in the east of the Proposed Development site on the 29th of November 2024. Two Curlew were recorded flying over the southern parcel of the EIAR Study Area in a southerly direction on the 11th of December 2024 and one landed in the grazed pasture in the south of the EIAR Study Area on this day. One Curlew was recorded flying/foraging on each of the 23rd of January 2025 and 13th of February 2025. Three Cormorants were recorded flying over the EIAR Study Area on the 20th of March 2025. One Grey heron, also an SCI for Inner Galway Bay SPA, was recorded flying over the Proposed Development site on the 20th March 2025. Grey heron are included on the BoCCI Green list and are therefore not regarded as a species of conservation concern.

Table 3-1. Target Bird species, and amber listed bird species, recorded during the Winter Bird Surveys

Species	Peak Number Recorded	Notes	Date observed	Status
Meadow pipit (<i>Anthus pratensis</i>)	4	Foraging within the Proposed Development site	20 th March 2024 29 th November 2024 13 th February 2025 20 th March 2025	BoCCI Red Listed
Kestrel (<i>Falco tinnunculus</i>)	1	Hovering/hunting over habitats in the north of the Proposed Development site	29 th November 2024	BoCCI Red Listed
Lesser black backed gull (<i>Larus fuscus</i>)	8	Flying over the Proposed Development site	29 th November 2024 11 th December 2024 13 th February 2025 20 th March 2025	BoCCI Amber Listed
Snipe (<i>Gallinago gallinago</i>)	2	- Flushed from scrub within the north of the site - Flushed from grassland in the center of the site	29 th November 2025 13 th February 2025	BoCCI Red Listed

Species	Peak Number Recorded	Notes	Date observed	Status
Redwing (<i>Turdus iliacus</i>)	25	• Heard in the south of the site in grassland • Foraging within the grasslands within the south and west of the site	29 th November 2024 11 th December 2024 23 rd January 2025 13 th February 2025 20 th March 2025	BoCCI Red Listed
European Herring gull (<i>Larus argentatus</i>)	20	• Juvenile & adults flying over the site • Perched on apartments outside the Proposed Development site	20 th March 2024 29 th November 2024 11 th December 2024 23 rd January 2025 13 th February 2025 20 th March 2025	BoCCI Amber Listed
Common gull (<i>Larus canus</i>)	5	• Flying over the Proposed Development site • Foraging in grassland within the Proposed Development site	20 th March 2024 29 th November 2024 11 th December 2024 23 rd January 2025	BoCCI Amber Listed SCI Species associated with Inner Galway Bay SPA
Black headed gull (<i>Larus ridibundus</i>)	15	• Flying over the Proposed Development site	20 th March 2024 29 th November 2024 11 th December 2024 23 rd January 2025 13 th February 2025 20 th March 2025	BoCCI Amber Listed SCI Species associated with Inner Galway Bay SPA
Curlew (<i>Numenius arquata</i>)	5	• 3 x Foraging on grassland within the Proposed Development site • Flying over the Proposed Development site • 1 x Flushed from the grassland in the east of the site	29 th November 2024 11 th December 2024 23 rd January 2025 13 th February 2025	BoCCI Red Listed SCI Species associated with Inner Galway Bay SPA
Cormorant (<i>Phalacrocorax carbo</i>)	3	• Flying over the western parcel of the site in a northerly direction	20 th March 2025	BoCCI Amber Listed SCI Species associated with Inner Galway Bay SPA
Grey heron (<i>Ardea cinerea</i>)	1	• Flying over the Proposed Development site	20 th March 2025	BoCCI Green Listed SCI Species associated with Inner Galway Bay SPA
Goldcrest (<i>Regulus regulus</i>)	1	• Perched	13 th February 2025	BoCCI Amber Listed
House sparrow (<i>Passer domesticus</i>)	1	• Foraging within the Proposed Development site	29 th November 2024 11 th December 2024 20 th March 2025	BoCCI Amber Listed
Linnet (<i>Linaria cannabina</i>)	27	• Foraging within the Proposed Development site	29 th November 2024 23 rd January 2025 13 th February 2025	BoCCI Amber Listed

Species	Peak Number Recorded	Notes	Date observed	Status
Starling (<i>Sturnus vulgaris</i>)	36-46	Foraging within the grasslands of the Proposed Development site	20 th March 2024 29 th November 2024 11 th December 2024 23 rd January 2025 13 th February 2025 20 th March 2025	BoCCI Amber Listed
Greenfinch (<i>Chloris chloris</i>)	1	Perched	20 th March 2025	BoCCI Amber Listed
Woodcock (<i>Scolopax rusticola</i>)	1	Flushed from within the site	13 th February 2025	BoCCI Red Listed

3.5.3.2 Breeding Bird Surveys

Target species, as well as any species of conservation concern (i.e. those listed on the amber list or higher of Birds of Conservation Concern in Ireland (2021)), recorded during the dedicated surveys undertaken are detailed below in Table 3-2.

Only one SCI species associated with Inner Galway Bay SPA was recorded during the breeding bird surveys undertaken: Common gull. Five Common gulls were recorded flying over the EIAR Study Area on the 24th of April and 15th of May 2024.

Table 3-2. Target Bird species, and amber listed bird species, recorded during the Breeding Bird Surveys

Species	Number of individuals	Notes	Date	Status
Common gull (<i>Larus canus</i>)	5	- Flying over the Proposed Development site - Seen perched on roof of apartments outside the Proposed Development site	24 th April 2024 15 th May 2024	BoCCI Amber Listed SCI Species associated with Inner Galway Bay SPA
Herring gull (<i>Larus argentatus</i>)	12	- Flying over the Proposed Development site - Seen perched on roof of apartments outside the Proposed Development site	24 th April 2024 15 th May 2024	BoCCI Amber Listed
Goldcrest (<i>Regulus regulus</i>)	1	Foraging in willow scrub within the Proposed Development site	24 th April 2024	BoCCI Amber Listed
Tree sparrow (<i>Passer montanus</i>)	5	Seen and heard foraging/flying within the Proposed Development site in basket willows	24 th April 2024 12 th June 2024	BoCCI Amber Listed
House sparrow (<i>Passer domesticus</i>)	5	Foraging within the Proposed Development site	15 th May 2024	BoCCI Amber Listed
Linnet (<i>Linaria cannabina</i>)	3	Foraging within the Proposed Development site	24 th April 2024 15 th May 2024 12 th June 2024	BoCCI Amber Listed
Starling (<i>Sturnus vulgaris</i>)	8	Foraging within the grasslands on the proposed development site	24 th April 2024 15 th May 2024 12 th June 2024	BoCCI Amber Listed

Species	Number of individuals	Notes	Date	Status
Willow warbler (<i>Phylloscopus trochilus</i>)	3	➤ Heard and seen foraging in the willow scrub in the Proposed Development site	24 th April 2024 15 th May 2024 12 th June 2024	BoCCI Amber Listed
Swallow (<i>Hirundo rustica</i>)	13	➤ Feeding/flying over grassland in south of site	24 th April 2024 15 th May 2024 12 th June 2024	BoCCI Amber Listed

3.5.3.3 Discussion

Five SCI species associated with Inner Galway Bay SPA were recorded during the winter and breeding bird surveys undertaken: Common gull (*Larus canus*), Black-headed gull (*Larus ridibundus*), Curlew (*Numenius arquata*), Cormorant (*Phalacrocorax carbo*) and Grey heron (*Ardea cinerea*). These were all recorded during the wintering bird surveys undertaken, with the exception of Common gull which was also recorded during the breeding bird surveys completed. As per the data presented in Table 3-1 and Table 3-2, these SCI bird species did not occur in significant numbers within, or in the vicinity of the Proposed Development site and most of the SCI bird species recorded were observed flying over the wider EIAR Study Area.

Only two of these SCI bird species (associated with Inner Galway Bay SPA) were observed utilizing the habitats within the EIAR Study Area– Common Gull and Curlew. One Common gull was recorded within grassland habitat to the west of the Proposed Development site on one occasion, and 4 no. Curlew were recorded foraging in the southern grass pastures of the EIAR Study Area, which includes grasslands contained within the Proposed Development site. No other SCI bird species associated with any Special Protection Areas were recorded within the EIAR Study Area. SCI bird species recorded within the EIAR Study Area during winter and breeding bird surveys undertaken are shown in **Figure 3-3**.

Although grassland pastures exist within the Proposed Development site, the site is considered urban/semi-urban in nature, with existing high levels of anthropogenic activity in the form of surrounding human activity, noise, lighting etc. Based on survey findings, and the habitat composition, the site does not provide significant supporting habitat for wintering wildfowl or waders associated with any SPA in the wider vicinity. It is likely that the bird species utilising the grassland habitats within the site are opportunistic and are not heavily dependent on the habitats contained within the site boundary. As such, the Proposed Development site does not provide any significant supporting habitat for SCI species associated with Inner Galway Bay SPA or any other SPA in the wider vicinity.

It can therefore be concluded that the construction of the Proposed Development will not result in the loss of significant supporting *ex-situ* habitat or generate significant disturbance/ displacement related impacts to the SCI species associated with Inner Galway Bay SPA. Given the lack of significant suitable supporting habitat for rare or protected bird species identified within the site, there is no requirement for further bird surveys at the site.



Map Legend

- EIAR Study Area Boundary
- LRD East Red Line Boundary
- ▲ SCI bird species recorded



Drawing Title
SCI Bird Species Recorded

Project Title
Kingston Knocknacarra LRD East

Drawn By FK/ CK	Checked By PD/ SM
Project No. 240142	Drawing No. Figure 3-3
Scale 1:3,000	Date 15.10.2025

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3.5.4 Bats

Bat survey results are provided in the Bat Report, attached as **Appendix 4**. No Lesser Horseshoe bats, which are the only Qualifying Interest bat species for SACs in Ireland, were recorded within the Proposed Development site.

3.5.5 Otter

No signs of otter, including resting or breeding sites were recorded. The drainage ditch (approx. 33m) was deemed unsuitable supporting habitat for otter given its isolated, urban nature. There are no EPA mapped or unmapped watercourses within the Proposed Development site. Therefore, no suitable supporting habitat for this Annex II species exists within the Proposed Development site.

The Knocknacarragh stream which lies to the north of the Proposed Development site is culverted where it occurs in proximity to the Proposed Development site and is therefore unsuitable habitat for local populations of otter. Much of the Knocknacarragh stream in the vicinity of the Proposed Development site has been converted in recent years to improve drainage in the area with only small isolated open sections of this watercourse remaining.

3.5.6 Marsh Fritillary

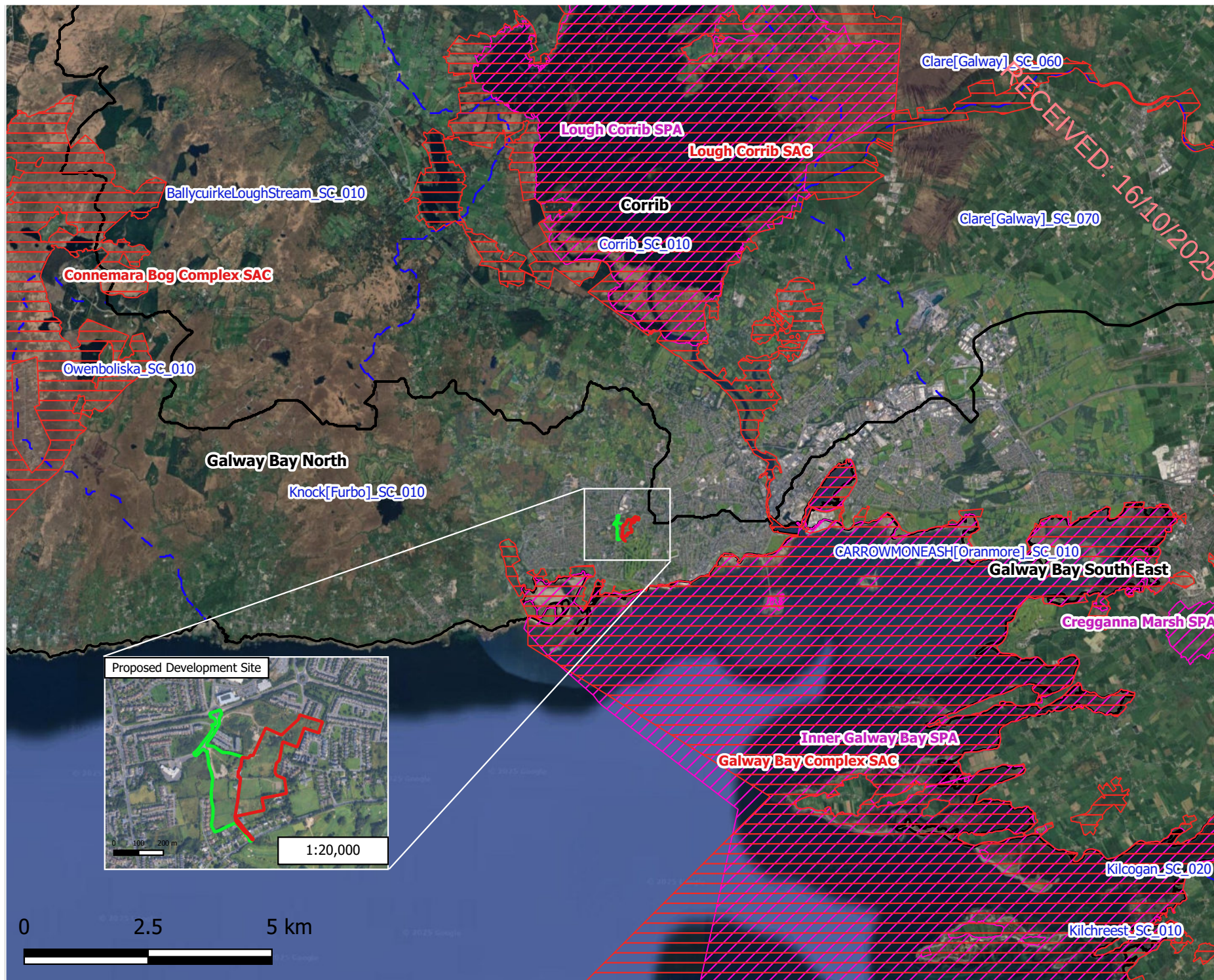
While dedicated Marsh Fritillary (*Euphydryas aurinia*) surveys were not carried out as part of the range of ecological surveys undertaken, a habitat suitability assessment for this species was undertaken during the multidisciplinary walkover surveys. No Devil's-Bit Scabious (*Succisa pratensis*), the foodplant upon which the larval stage of Marsh Fritillary depends, and therefore a key habitat component, was recorded during these surveys, which indicates that the Proposed Development site does not provide suitable supporting habitat for this species.

4. STAGE 1 – APPROPRIATE ASSESSMENT SCREENING

4.1 Identification of Relevant European Sites

The following methodology was used to establish whether there are any European Sites upon which there is a potential for a likely significant effect to occur, either individually or in combination with other plans and projects, as a result of the Proposed Development:

- Initially the most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 2nd October 2025.
- All European Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, European Sites surrounding the development site are shown on **Figure 4-1**. Information on these sites according to the site-specific conservation objectives is provided in Table 4-1. Sites that were further away from the Proposed Development were also considered and no complete source-pathway-receptor chain for significant effect was identified for any other European Site.
- The catchment mapping was used to establish or discount potential hydrological connectivity between the site of the Proposed Development and any European Sites. The hydrological catchments are also shown in **Figure 4-1**.
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, '*Assessing Connectivity with Special Protection Areas (SPA)*' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between Proposed Development and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- Table 4-1 provides details of all relevant European Sites as identified in the preceding steps and assesses the potential for likely significant effects on each.
- The assessment considers any likely direct or indirect effects of the Proposed Development, both alone and in combination with other plans and projects, on European Sites by virtue of criteria including the following: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this assessment.
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report on the 7th October 2025.
- Where potential pathways for Likely Significant Effect are identified, the site is included within the Likely Zone of Influence and further assessment is required within the NIS.
- The potential for the Proposed Development to result in cumulative impacts on any European Sites in combination with other plans and projects was considered in the assessment that is presented in Table 4-1. Plans and projects considered include those that are listed in **Appendix 5**.



Map Legend

- Planning Application (red line) Boundary
- EIAR Study Area Boundary
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- WFD Hydrological Catchments
- WFD Hydrological Subcatchments

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Drawing Title

European Designated Sites within the Likely Zone of Influence

Project Title

Kingston Knocknacarra LRD East

Drawn By

NS

Checked By

CK

Project No.

240142

Drawing No.

Figure 4-1

Scale

1:100,000

Date

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Table 4-1 Identification of European Sites within the Likely Zone of Influence

European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Galway Bay Complex SAC [000268] Distance: 0.8km Downstream Hydrological distance via Knocknacarragh stream: 1.7km	➤ [1140] Mudflats and sandflats not covered by seawater at low tide ➤ [1150] Coastal lagoons ➤ [1160] Large shallow inlets and bays ➤ [1170] Reefs ➤ [1220] Perennial vegetation of stony banks ➤ [1310] <i>Salicornia</i> and other annuals colonising mud and sand ➤ [1330] Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) ➤ [1355] Otter (<i>Lutra lutra</i>) ➤ [1365] Harbour seal (<i>Phoca vitulina</i>) ➤ [1410] Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Detailed conservation objectives for this site, (Version 1, April 2013 ²), were reviewed as part of the assessment and are available at www.npws.ie	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC was identified. The potential for indirect effects on this European Site has also been considered. The QIs for which this SAC is designated are terrestrial, groundwater dependant terrestrial and aquatic in nature. No QI habitat or signs of QI species were identified within the Proposed Development site during the surveys conducted to inform this assessment. The Proposed Development site and this SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010). There is potential hydrological connectivity between the Proposed Development site and the Galway Bay Complex SAC in the form of surface water connection via the Knocknacarragh stream (EPA Code: 31K16) which discharges into this SAC, approx. 1.7km downstream. Taking a precautionary approach, there is potential for indirect effects to the aquatic influenced QI species and habitats associated with this SAC. As such a complete source pathway receptor chain for likely significant effect was identified via the potential for the deterioration to water

² NPWS (2013) Conservation Objectives: Galway Bay Complex SAC 000268. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	➤ [3180] Turloughs ➤ [5130] <i>Juniperus communis</i> formations on heaths or calcareous grasslands ➤ [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(*important orchid sites) ➤ [7210] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> ➤ [7230] Alkaline fens		quality resulting from pollutants arising due to works associated with the construction and operational phases of the Proposed Development. The Proposed Development site is underlain by the Spiddal groundwater body and this SAC is partially underlain by this groundwater body. As stated by Geological Survey Ireland (2004), ‘<i>flow paths are short, up to 100m, with groundwater discharging to nearby streams. Flow direction is generally south.</i>’ Further stated, ‘<i>Groundwater will discharge locally to streams and rivers crossing the aquifer and also to small springs and seeps. Owing to the poor productivity of the aquifers in this body it is unlikely that any major groundwater - surface water interactions occur.</i>’ In light of this, and given the scale and duration of the works proposed, in the absence of mitigation, the construction and operational phases of the Proposed Development have potential to result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, potentially adversely impacting the aquatic or groundwater influenced QI habitats and species associated with this SAC. Therefore, taking a precautionary approach, a potential pathway for indirect effects on aquatic/ groundwater dependent QIs associated with this SAC was identified during the construction and operational phases of the Proposed Development, in the form of deterioration of water quality resulting from potential hydrological connectivity via groundwater and surface water.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			Surveys undertaken within the Proposed Development site recorded two invasive species which are listed on the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024) and/or Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011): Three-cornered leek (<i>Allium triquetrum</i>) and Sea buckthorn (<i>Hippophae rhamnoides</i>). In the absence of mitigation or treatment of these invasive species, the proposed works involved in the construction of the Proposed Development (excavations, earthworks and movement of excavated materials etc.) have the potential to exacerbate the spread of these species beyond the site boundary, including downstream to Galway Bay SAC, via the surface water network or drainage network. The introduction of invasive species into Galway Bay SAC, as a result of the construction of the Proposed Development, could result in degradation of the existing habitats present and therefore undermine the conservation objectives for this SAC. The Knocknacarragh stream (EPA Code: 31K16) is culverted in the vicinity of the Proposed Development site and therefore no suitable supporting habitat for otter, which is a QI species for this SAC, exists within or directly adjacent to the Proposed Development site. In addition, no signs of otter activity were recorded during surveys undertaken. As such, there is no potential for <i>ex-situ</i> habitat loss or disturbance/displacement to otter associated with the construction and operational phases of the Proposed Development and likely significant effects in that regard can be excluded.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			A complete source pathway receptor chain for likely significant effect has been identified via the deterioration of surface and groundwaters during the construction and operation of the Proposed Development as well as the potential spread/ introduction of invasive species during the construction phase. Therefore, the European Site is located within the Likely Zone of Influence and is considered further in this assessment.
Lough Corrib SAC [000297] Distance: 2.6km	➤ [1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) ➤ [1092] White-clawed Crayfish (<i>Austropotamobius pallipes</i>) ➤ [1095] Sea Lamprey (<i>Petromyzon marinus</i>) ➤ [1096] Brook Lamprey (<i>Lampetra planeri</i>) ➤ [1106] Salmon (<i>Salmo salar</i>) ➤ [1303] Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) ➤ [1355] Otter (<i>Lutra lutra</i>)	Detailed conservation objectives for this site, (Version 1, April 2017³), were reviewed as part of the assessment and are available at www.npws.ie	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC was identified. The potential for indirect effects on this European Site has also been considered. The QIs for which the site is designated are terrestrial, groundwater dependant, and aquatic in nature and are located 2.6km east of the Proposed Development boundary. No QI habitat or signs of QI species were identified within the Proposed Development site during the surveys conducted to inform this assessment. There is no surface water connectivity between the Proposed Development site and this SAC. Further, the Proposed Development site is underlain by a separate groundwater body to this SAC.

³ NPWS (2017) Conservation Objectives: Lough Corrib SAC 000297. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	➤ [1393] Slender Green Feather-moss (<i>Drepanocladus vernicosus</i>) ➤ [1833] Slender Naiad (<i>Najas flexilis</i>) ➤ [3110] Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) ➤ [3130] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> ➤ [3140] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. ➤ [3260] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation ➤ [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-</i>		Therefore, due to the buffering distance of approx. 2.5km, and the lack of a hydrological connection, there is no potential for indirect effects in the form of water/ habitat deterioration to the aquatic or groundwater influenced QI habitats and species associated with this SAC. The Proposed Development site is located approx. 33km southeast from the nearest mapped foraging grounds for the QI species Lesser Horseshoe (LHS) bat according to the Conservation Objectives document and thus is outside the core foraging range of 2.5km for this terrestrial QI species, (NPWS, 2017). As such, there is no potential for indirect effects to this QI species in the form of ex-situ habitat loss, disturbance or displacement during the construction and operational phases of the Proposed Development. Furthermore, this species was not recorded during the bat surveys undertaken to inform this assessment. Therefore, no source-pathway-receptor chain for likely significant effect was identified between the Proposed Development site and the QIs designated as part of Lough Corrib SAC. No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	<i>Brometalia</i>) (* important orchid sites) ➤ [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) ➤ [7110] Active raised bogs ➤ [7120] Degraded raised bogs still capable of natural regeneration ➤ [7150] Depressions on peat substrates of the Rhynchosporion ➤ [7210] Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae ➤ [7220] Petrifying springs with tufa formation (<i>Cratoneurion</i>) ➤ [7230] Alkaline fens ➤ [8240] Limestone pavements ➤ [91A0] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles ➤ [91D0] Bog woodland		

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Connemara Bog Complex SAC [002034] Distance: Approximately 10km	> [1065] Marsh Fritillary (<i>Euphydryas aurinia</i>) > [1106] Salmon (<i>Salmo salar</i>) > [1150] Coastal lagoons > [1170] Reefs > [1355] Otter (<i>Lutra lutra</i>) > [1833] Slender Naiad (<i>Najas flexilis</i>) > [3110] Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) > [3130] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> > [3160] Natural dystrophic lakes and ponds > [3260] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Detailed conservation objectives for this site, (Version 1, October 2015⁴), were reviewed as part of the assessment and are available at www.npws.ie	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC was identified. The potential for indirect effects on this European Site has also been considered. The SAC is located approx. 10km to the west of the Proposed Development site. The QIs for which this site is designated for are terrestrial, groundwater dependant, aquatic and coastal/marine in nature. The Proposed Development site and this SAC are partially located within the same hydrological sub-catchment (Knock[Furbo]_SC_010), however, no surface water connectivity exists between the Proposed Development site and this SAC. Both the SAC and the Proposed Development site are underlain by the Spiddal groundwater body. However, despite being underlain by the same groundwater body and partially sharing the same sub-catchment, there is no potential for hydrological connectivity due to the distance between sites and the nature of the groundwater body comprising of short flow paths and a tendency for groundwater to flow southwards (Geological Survey Ireland, 2004). As such, due to the intervening distance of approx.

⁴ NPWS (2015) Conservation Objectives: Connemara Bog Complex SAC 002034. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	➤ [4010] Northern Atlantic wet heaths with <i>Erica tetralix</i> ➤ [4030] European dry heaths ➤ [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caerulea</i>) ➤ [7130] Blanket bogs (* if active bog) ➤ [7140] Transition mires and quaking bogs ➤ [7150] Depressions on peat substrates of the Rhynchosporion ➤ [7230] Alkaline fens ➤ [91A0] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles		10km, and the lack of a hydrological connection, there is no potential for indirect effects in the form of water/ habitat deterioration to the aquatic or groundwater influenced QI habitats and species associated with this SAC resulting from pollution during the construction and operational phases of the Proposed Development. No significant suitable supporting habitat for QI species such as otter (<i>Lutra lutra</i>) were recorded within or directly adjacent to the Proposed Development site. In addition, Devil's-Bit Scabious (<i>Succisa pratensis</i>), which is the food plant upon which the larval stage of Marsh Fritillary butterfly (<i>Euphydryas aurinia</i>) depends, and as such a key habitat requirement for this species, was not recorded within the Proposed Development site. As such, there is no potential for indirect effects to any QI species in the form of <i>ex-situ</i> habitat loss, disturbance or displacement during the construction and operational phases of the Proposed Development. Therefore, no source-pathway-receptor chain has been identified for indirect effects to the QIs of Connemara Bog Complex SAC. Potential for direct or indirect impact on the European Site can be excluded. No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Ross Lake and Woods SAC [001312] Distance: 12.5km	➤ [1303] Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) ➤ [3140] Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara spp.</i>	Detailed conservation objectives for this site, (Version 1, October 2018⁵), were reviewed as part of the assessment and are available at www.npws.ie.	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC has been identified. The potential for indirect effects on this European Site has also been considered. The QIs for which this SAC is designated are terrestrial, and aquatic in nature and are located 12.4km west of the Proposed Development site. Due to the terrestrial nature of the QI species LHS bat for which the site is designated and the distance from the SAC, it can be determined that the Proposed Development site lies outside the core foraging range of 2.5km for this QI species, (NPWS, 2017) and therefore no potential pathway for indirect effects exists. Furthermore, this species was not recorded during the bat surveys undertaken to inform this assessment. No surface water connectivity exists between the Proposed Development site and this SAC. The Proposed Development site is underlain by a different groundwater body (Spiddal) than the Ross Lake and Woods SAC (Ross Lake). Due to the lack of hydrological and groundwater connectivity, paired with the large distance between this SAC and the Proposed Development site, no source-pathway-receptor-chain for likely significant effect has been identified.

⁵ NPWS (2018) Conservation Objectives: Ross Lake and Woods SAC 001312. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.
East Burren Complex SAC [001926] Distance: 13.5km	> [1065] Marsh Fritillary (<i>Euphydryas aurinia</i>) > [1303] Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) > [1355] Otter (<i>Lutra lutra</i>) > [3140] Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara spp.</i> > [3180] Turloughs > [3260] Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation > [4060] Alpine and Boreal heaths	Detailed conservation objectives for this site, (Version 1, January 2022 ⁶), were reviewed as part of the assessment and are available at www.npws.ie .	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC has been identified. The potential for indirect effects on this European Site has also been considered. In relation to the aquatic and groundwater dependant terrestrial Qualifying Interests, there is no surface water connectivity between the sites and both sites are underlain by different groundwater bodies (Spiddal and Ballyvaughan Uplands/Burren). Due to the lack of hydrological and groundwater connectivity between the sites paired with the distance between the Proposed Development site and this SAC, no complete source-pathway-receptor-chain for likely significant effect has been identified. Regarding the terrestrial QI habitats for which this SAC is designated, given the significant distance between the Proposed

⁶ NPWS (2022) Conservation Objectives: East Burren Complex SAC 001926. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	> [5130] <i>Juniperus communis</i> formations on heaths or calcareous grasslands > [6130] Calaminarian grasslands of the <i>Violetalia calaminariae</i> > [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) > [6510] Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) > [7210] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> > [7220] Petrifying springs with tufa formation (<i>Cratoneurion</i>) > [7230] Alkaline fens > [8240] Limestone pavements > [8310] Caves not open to the public		Development site and this SAC likely significant effects on these QI habitats can also be excluded. No signs of otter activity or significant suitable supporting habitat otter (<i>Lutra lutra</i>) were recorded, within or directly adjacent to, the Proposed Development site. In addition, Devil's-Bit Scabious (<i>Succisa pratensis</i>), which is the food plant upon which the larval stage of Marsh Fritillary butterfly (<i>Euphydryas aurinia</i>) depends, and as such a key habitat requirement for this species, was not recorded within the Proposed Development site. Finally, with regards to Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>), this species was not recorded during the bat surveys undertaken to inform this assessment. Furthermore, given the significant distance which exists between the Proposed Development site and this SAC (approx. 13.5km) it can be determined that the Site lies outside the core foraging range (2.5km) for this species. As such, there is no potential for indirect effects to any QI species in the form of ex-situ habitat loss, disturbance or displacement during the construction and operational phases of the Proposed Development. No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	[91E0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)		
Moneen Mountain SAC [000054] Distance: 14.3km	[1065] Marsh Fritillary (<i>Euphydryas aurinia</i>) [1303] Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) [3180] Turloughs [4060] Alpine and Boreal heaths [5130] <i>Juniperus communis</i> formations on heaths or calcareous grasslands [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [7220] Petrifying springs with tufa formation (<i>Cratoneurion</i>)	Detailed conservation objectives for this site, (Version 1, December 2021 ⁷), were reviewed as part of the assessment and are available at www.npws.ie .	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC has been identified. The potential for indirect effects on this European Site has also been considered. The QIs for which the site is designated are terrestrial, groundwater dependant terrestrial and aquatic in nature and are located 14.3km south of the Proposed Development boundary. Devil's-Bit Scabious (<i>Succisa pratensis</i>), which is the food plant upon which the larval stage of Marsh Fritillary butterfly (<i>Euphydryas aurinia</i>) depends, and as such a key habitat requirement for this species, was not recorded within the Proposed Development site. Furthermore, with regards to Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>), this species was not recorded during the bat surveys undertaken to inform this assessment. Given the significant distance which exists between the Proposed Development site and this SAC (approx. 14.3km) it can be determined that the Site lies outside the core foraging range (2.5km) for this species.

⁷ NPWS (2021) Conservation Objectives: Moneen Mountain SAC 000054. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	➤ [8240] Limestone pavements		As such, there is no potential for indirect effects to any QI species in the form of ex-situ habitat loss, disturbance or displacement during the construction and operational phases of the Proposed Development. In relation to the terrestrial QI habitats for which the site is designated, the distance from the SAC means that there is no potential pathway for indirect effects on these QIs. In relation to the aquatic and groundwater dependant terrestrial Qualifying Interests, there is no surface water connectivity between sites and both sites are underlain by different groundwater bodies (Spiddal and Ballyvaughan Uplands/Burren). Due to the lack of hydrological connectivity between sites paired with the distance between sites, no complete source-pathway-receptor-chain for likely significant effects has been identified. No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Black Head-Poulsallagh Complex SAC [000020] Distance: 14.8km	➤ [1170] Reefs ➤ [1220] Perennial vegetation of stony banks ➤ [1395] Petalwort (<i>Petalophyllum ralfsii</i>) ➤ [3260] Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and ➤ <i>Callitriche-Batrachion</i> vegetation ➤ [4060] Alpine and Boreal heaths ➤ [5130] <i>Juniperus communis</i> formations on heaths or calcareous grasslands ➤ [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(*important orchid sites) ➤ [6510] Lowland hay meadows (<i>Alopecurus</i>	Detailed conservation objectives for this site, (Version 1, May 2014⁸), were reviewed as part of the assessment and are available at www.npws.ie.	The Proposed Development is located outside the boundary of this SAC and no potential for direct effect to the QIs designated as part of the SAC has been identified. The potential for indirect effects on this European Site has also been considered. The QIs for which the site is designated are terrestrial, groundwater dependant terrestrial, aquatic and coastal/marine in nature and are located 14.7km south of the Proposed Development boundary. In terms of terrestrial QIs, the significant distance that exists between the Proposed Development site and the SAC, allows the potential for indirect effects to be excluded. In relation to the aquatic, groundwater dependant terrestrial and coastal/marine QIs, there is no surface water connectivity between sites and both sites are underlain by different groundwater bodies (Spiddal and Slieve Elva). Due to the lack of hydrological connectivity between the sites paired with the distance between the sites, no complete source-pathway-receptor-chain has been identified. No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation,

⁸ NPWS (2014) Conservation Objectives: Black Head-Poulsallagh Complex SAC 000020. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	> <i>pratensis, sanguisorba officinalis</i>) > [7220] Petrifying springs with tufa formation (<i>Cratoneurion</i>) > [8240] Limestone pavements > [8330] Submerged or partially submerged sea caves		individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.
Special Protection Area (SPA)			
Inner Galway Bay SPA [004031] Distance: 1km Downstream Hydrological distance via Knocknacarragh stream: approx. 1.9km	> [A003] Great Northern Diver (<i>Gavia immer</i>) > [A017] Cormorant (<i>Phalacrocorax carbo</i>) > [A028] Grey Heron (<i>Ardea cinerea</i>) > [A046] Brent Goose (<i>Branta bernicla hrota</i>) > [A050] Wigeon (<i>Anas Penelope</i>) > [A052] Teal (<i>Anas crecca</i>)	Detailed conservation objectives for this site, (Version 1, May 2013 ⁹), were reviewed as part of the assessment and are available at www.npws.ie .	The Proposed Development is located outside the boundary of this SPA and no potential for direct effect to the SCIs designated as part of the SPA has been identified. The potential for indirect effects on this European Site has also been considered. Both the Proposed Development site and this SPA lie within the Knock [Furbo]_SC_010 sub catchment. Potential hydrological connectivity between the Proposed Development site and Inner Galway Bay SPA exists via the Knocknacarragh stream (EPA code: 31K16), which is culverted to the north of the Proposed Development site. The

⁹ NPWS (2013) Conservation Objectives: Inner Galway Bay SPA 004031. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	➤ [A056] Shoveler (<i>Anas clypeata</i>) ➤ [A069] Red-breasted Merganser (<i>Mergus serrator</i>) ➤ [A137] Ringed Plover (<i>Charadrius hiaticula</i>) ➤ [A140] Golden Plover (<i>Pluvialis apricaria</i>) ➤ [A142] Lapwing (<i>Vanellus vanellus</i>) ➤ [A149] Dunlin (<i>Calidris alpina alpina</i>) ➤ [A157] Bar-tailed Godwit (<i>Limosa lapponica</i>) ➤ [A160] Curlew (<i>Numenius arquata</i>) ➤ [A162] Redshank (<i>Tringa tetanus</i>) ➤ [A169] Turnstone (<i>Arenaria interpres</i>) ➤ [A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) ➤ [A182] Common Gull (<i>Larus canus</i>) ➤ [A191] Sandwich Tern (<i>Sterna sandvicensis</i>)		Knocknacarragh stream flows in a south-westerly direction and discharges into Galway Bay, constituting a hydrological connection with this SPA approx. 1.9km downstream of the Proposed Development site. Additionally, both the Proposed Development site and this SPA are partially underlain by the Spiddal groundwater body. This groundwater body has short groundwater flow paths of up to 100m, flowing into nearby streams and flow directions following topography generally south (GSI 2004). Taking a precautionary approach, there is the potential for pollutants to percolate to groundwaters as a result of ground excavations during construction phases. As such, a potential pathway for indirect effects on SCI habitat [A999] Wetlands, (which all SCI bird species designated as part of this SPA are dependent on) in the form of groundwater and surface water was identified. Surveys undertaken within the Proposed Development site recorded two invasive species which are listed on the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024) and/or Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011): Three-cornered leek (<i>Allium triquetrum</i>) and Sea buckthorn (<i>Hippophae rhamnoides</i>). In the absence of mitigation or treatment of these invasive species, the proposed works involved in the construction of the Proposed Development (excavations, earthworks and movement of excavated materials etc.) have the potential to exacerbate the spread of these species beyond the site boundary, including downstream to Inner Galway Bay SPA, via the surface water network or drainage network. The introduction of invasive species into Inner Galway Bay SPA, as a result of the construction of the Proposed Development, could result in degradation of the existing wetland

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	> [A193] Common Tern (<i>Sterna hirundo</i>) > [A999] Wetlands		habitats present, upon which the SCI species depend, and therefore undermine the conservation objectives for this SPA. Grasslands occur in the south of the Proposed Development site. Individual curlew and common gull were infrequently recorded foraging within the Proposed Development site in 2024/2025 during dedicated winter bird surveys (see bird survey results in Section 3.5.2 above). It is highly likely the SCI species recorded on site were opportunists and are therefore not dependent on the habitats within the Proposed Development site. The Proposed Development site is surrounded by urban areas and no other SCI bird species were recorded utilizing the habitats during the bird surveys conducted during the 2024/2025 season. Despite the fact that the Proposed Development site is located within the core foraging range for both Lapwing (<i>Vanellus vanellus</i>) and Brent Goose (<i>Branta bernicla hrota</i>) (Summers and Critchley, 1990, Lewis et. al. 2019), neither of these SCI species were recorded during surveys undertaken. Therefore, it can be concluded that the Proposed Development site does not provide significant suitable supporting habitat for SCI bird species and significant effects as a result of ex-situ habitat loss and/or disturbance/displacement can be excluded. A complete source pathway receptor chain for likely significant effect has been identified via surface and ground water pollution to SCI supporting habitat, [A999] Wetlands, as well as the potential spread of invasive species which could result in the degradation of supporting wetland habitat, during construction of the Proposed Development.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			Therefore, the European Site is located within the Likely Zone of Influence and is considered further in this assessment.
Lough Corrib SPA [004042] Distance: 3.6km	➤ [A051] Gadwall (<i>Anas strepera</i>) ➤ [A056] Shoveler (<i>Anas clypeata</i>) ➤ [A059] Pochard (<i>Aythya farina</i>) ➤ [A061] Tufted Duck (<i>Aythya fuligula</i>) ➤ [A065] Common Scoter (<i>Melanitta nigra</i>) ➤ [A082] Hen Harrier (<i>Circus cyaneus</i>) ➤ [A125] Coot (<i>Fulica atra</i>) ➤ [A140] Golden Plover (<i>Pluvialis apricaria</i>) ➤ [A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) ➤ [A182] Common Gull (<i>Larus canus</i>) ➤ [A193] Common Tern (<i>Sterna hirundo</i>)	Detailed conservation objectives for this site, (Version 1, January 2023 ¹⁰), were reviewed as part of the assessment and are available at www.npws.ie .	The Proposed Development is located outside the boundary of this SPA and no potential for direct effect to the SCIs designated as part of the SPA has been identified. The potential for indirect effects on this European Site have also been considered. The Proposed Development site is located approx. 3.6km from this SPA. This SPA is located within the Corrib_SC_010 hydrological sub-catchment and underlain by multiple groundwater bodies, none of which overlap with the Proposed Development site (Spiddal). Therefore, no hydrological connectivity exists between this SPA and the Proposed Development site. Therefore, there is no potential for direct or indirect effects on SCIs designated as part of this SPA due to deterioration to water quality associated with the construction phases of the Proposed Development. Furthermore, a small, isolated drainage ditch was identified in the north of the Proposed Development site. No bird species were recorded utilizing this habitat on any occasion and no other wetland habitats exist within or directly adjacent to the Proposed Development site. No water was recorded at this small habitat on multiple occasions throughout 2024 and 2025. There is no potential for direct or indirect effects on the SCI habitat Wetland as a result of the Proposed Development.

¹⁰ NPWS (2023) Conservation Objectives: Lough Corrib SPA 004042. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	➤ [A194] Arctic Tern (<i>Sterna paradisaea</i>) ➤ [A395] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) ➤ [A999] Wetlands		No significant suitable supporting habitat for waterbirds exists within the Proposed Development site. Grassland habitats recorded in the Proposed Development site have some potential to provide suitable supporting habitat for SCI species such as Greenland white fronted goose which are known to forage/graze on semi-natural and improved grasslands (SNH, 2016). No Greenland White-fronted geese were recorded within the Proposed Development site during the surveys undertaken. One Common gull was recorded within the wider EIAR Study Area, but not within the Proposed Development site, during surveys undertaken. As significant numbers of SCI birds were not recorded on site during the suite of bird survey undertaken, it can be concluded that the habitats present on site do not constitute a significant ex-situ foraging resource for these species. Therefore, likely significant effects on these SCI species, as a result of ex-situ habitat loss and/or disturbance/ displacement during construction can be excluded. No pathway for likely significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Influence and is not considered further in this assessment.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Cregganna Marsh SPA [004142] Distance: 10.8km	➤ [A395] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>)	Detailed conservation objectives for this site, (Version 1, January 2023¹¹), were reviewed as part of the assessment and are available at www.npws.ie.	The proposed works are located outside the boundary of this SPA and there is no potential for direct effect. The Proposed Development area is located 10.8km west of Cregganna Marsh SPA, this places the Proposed Development site outside the core foraging range of the Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) (5-8km according to SNH, 2016). Furthermore, no hydrological connection between this SPA and the Proposed Development site exists. Due to the distance between the sites, there is no potential source-pathway receptor chain for direct or indirect effects on the Special Conservation Interest species for which the SPA has been designated as a result of disturbance. No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment.

¹¹ NPWS (2023) Conservation Objectives: Cregganna Marsh SPA 004142. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Connemara Bog Complex SPA [004181] Distance: 14.3km	➤ [A017] Cormorant (<i>Phalacrocorax carbo</i>) ➤ [A098] Merlin (<i>Falco columbarius</i>) ➤ [A140] Golden Plover (<i>Pluvialis apricaria</i>) ➤ [A182] Common Gull (<i>Larus canus</i>)	Detailed conservation objectives for this site, (Version 1, January 2023¹²), were reviewed as part of the assessment and are available at www.npws.ie.	The proposed works are located outside the boundary of this SPA and there is no potential for direct effect. The Proposed Development is located 14.2km east of Connemara Bog Complex SPA, this places the Proposed Development site outside the core foraging range of Cormorant (<i>Phalacrocorax carbo</i>) (5.2km according to Thaxter <i>et al.</i>, 2012), Merlin (<i>Falco columbarius</i>) (5km according to SNH, 2016), and Golden Plover (<i>Pluvialis apricaria</i>) (3km according to SNH, 2016). However, the site is within the core foraging range of Common Gull (<i>Larus canus</i>) (25km according to Thaxter <i>et al.</i>, 2012) which may utilise agricultural lands for opportunistic foraging. As described in Section 3.5.2 above, only one Common gull was recorded within the boundary of the wider EIAR Study Area, but not within the boundary of the Proposed Development site, during the suite of bird surveys undertaken to inform this assessment. Therefore, the habitats within the Proposed Development site do not provide significant suitable supporting habitat for Common gull. As significant numbers of SCI birds were not recorded on site during the suite of bird surveys undertaken, it can be concluded that the habitats present on site do not constitute significant ex-situ foraging resource for these species. Therefore, likely significant effects on these

¹² NPWS (2023) Conservation Objectives: Connemara Bog Complex SPA 004181. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

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European Sites and distance from Proposed Development	Qualify Interests/Special Conservation Interests (QIs/SCIs) for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 24 th September 2025	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			SCI species, as a result of ex-situ habitat loss and/or disturbance/displacement during construction can be excluded. No pathway for significant effect on this European Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment.

4.2

Stage 1 Appropriate Assessment Screening Conclusion

It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the Proposed Development, individually or in combination with other plans and projects, would be likely to have a significant effect on the following European sites:

- Galway Bay Complex SAC [000268]
- Inner Galway Bay SPA [004031]

As a result, an Appropriate Assessment is required and a Natura Impact Statement (NIS) shall be prepared in respect of the Proposed Development.

5.

STAGE 2- NATURA IMPACT STATEMENT (NIS)

The potential for likely significant effects on the following European Sites in the absence of any mitigation, individually or cumulatively with other plans or projects, was identified in the preceding section:

- > Galway Bay Complex SAC [000268]
- > Inner Galway Bay SPA [004031]

The following sections consider each European Site individually to:

1. Determine which individual qualifying features have the potential to be adversely affected by the Proposed Development.
2. Provide information with regard to the Conservation Objectives and site-specific pressures and threats for those qualifying features that have the potential to be adversely effected.

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5.1

Identification of relevant Qualifying Features and Desk Study

5.1.1

Galway Bay Complex SAC

The potential for likely significant effects on this SAC was identified in Section 4.1 above. The identified pathways for effect include the following:

- The construction and operational phase of the Proposed Development may result in the deterioration of water quality in Galway Bay SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site and via surface waters, adversely impacting the aquatic or groundwater influenced QI habitats and species within the SAC, in the absence of mitigation.
- The construction phase of the Proposed Development may result in the degradation of QI habitats in Galway Bay SAC via the downstream spread or introduction of the invasive species recorded within and in close proximity to the Proposed Development site, via surface waters or the local drainage network, in the absence of mitigation.

Table 5-1 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.1.1

Identification of Individual Qualifying Features with the Potential to be Affected

Table 5-1 Assessment of Qualifying features potentially affected

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
[1140] Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Galway Bay Complex SAC.	Due to the proximity of the development site to Galway Bay Complex SAC (0.8km), a potential pathway for indirect effects on the following marine QI habitat: Mudflats and sandflats not covered by seawater at low tide was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna.	Yes

¹³ NPWS (2013) Conservation Objectives: Galway Bay Complex SAC 000268. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
	Conservation Objectives documents (NPWS, Version 1, April 2013).	As per Map 3 in the Site-Specific Conservation Document (NPWS 2013), this marine QI Habitat: Mudflats and sandflats not covered by seawater at low tide is mapped approx. 0.9km south of the Proposed Development site. There is potential hydrological connectivity between the Proposed Development site and Galway Bay Complex SAC in the form of surface and groundwater connection. The Knocknacarragh stream (EPA Code: 31K16) flows culverted to the north-west of the Proposed Development site, in a south-westerly direction, before discharging into Rusheen Bay, which is designated as part of Galway Bay Complex SAC approx. 1.7km downstream. Further, the Proposed Development site and SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010) and are both underlain by the Spiddal groundwater body. As stated by Geological Survey Ireland (2004), flow paths are short, up to 100 m, with groundwater discharging to nearby streams. Flow direction is generally south. Water level data indicates that the water table is from 0-6 m below ground level. As such, the construction and operational phases of the Proposed Development may result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, and to surface waters, adversely impacting the water quality/ habitat quality and supporting habitats for aquatic fauna in this QI habitat: Mudflats and sandflats not covered by seawater at low tide within the SAC, in the absence of mitigation. Given the nature of this habitat, which is inundated by seawater at high tide, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.	

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
[1150] Coastal lagoons	To restore the favourable conservation condition of Coastal lagoons in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	Due to the proximity of the development site to Galway Bay Complex SAC (0.8km), a potential pathway for indirect effects on the following marine QI habitat: Coastal lagoons was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna. As per Map 4 in the Site-Specific Conservation Document (NPWS 2013), this marine QI Habitat: Coastal lagoons is mapped approx 3.4km east of the Proposed Development site. Further, as stated in the SSCO Document (NPWS 2013), there may be more, as yet unmapped, lagoons within this SAC. There is potential hydrological connectivity between the Proposed Development site and Galway Bay Complex SAC in the form of surface and groundwater connection. The Knocknacarragh stream (EPA Code: 31K16) flows culverted in the northwest of the Proposed Development site, in a south-westerly direction, before discharging into Rusheen Bay, which is designated as part of Galway Bay Complex SAC approx 1.7km downstream. Further, the Proposed Development site and SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010) and are both underlain by the Spiddal groundwater body. As stated by Geological Survey Ireland (2004), flow paths are short, up to 100 m, with groundwater discharging to nearby streams. Flow direction is generally south. Water level data indicates that the water table is from 0-6 m below ground level. As such, the construction and operational phases of the Proposed Development may result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, and to surface waters, adversely impacting the water quality/ habitat quality and supporting habitats for aquatic fauna in this QI habitat: Coastal Lagoons within the SAC, in the absence of mitigation. Given the marine nature of this habitat, and the intervening distance between this QI habitat and the Proposed Development site, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore,	Yes

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.	
[1160] Large shallow inlets and bays	To maintain the favourable conservation condition of Large shallow inlets and bays in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	Due to the proximity of the development site to Galway Bay Complex SAC (0.8km), a potential pathway for indirect effects on the following marine QI habitat: Large shallow inlets and bays was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna. As per Map 5 in the Site-Specific Conservation Document (NPWS 2013), this marine QI Habitat: Large shallow inlets and bays is mapped approx. 0.9km southwest of the Proposed Development site. There is potential hydrological connectivity between the Proposed Development site and Galway Bay Complex SAC in the form of surface and groundwater connection. The Knocknacarragh stream (EPA Code: 31K16) flows culverted in the northwest of the Proposed Development site, in a south-westerly direction, before discharging into Rusheen Bay, which is designated as part of Galway Bay Complex SAC approx 1.7km downstream. Further, the Proposed Development site and SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010) and are both underlain by the Spiddal groundwater body. As stated by Geological Survey Ireland (2004), flow paths are short, up to 100 m, with groundwater discharging to nearby streams and water level data indicates that the water table is from 0-6 m below ground level. As such, the construction and operational phases of the Proposed Development may result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, and to surface waters, adversely impacting the water quality/ habitat quality and supporting habitats for aquatic fauna in this QI habitat: Large shallow inlets and bays within the SAC, in the absence of mitigation.	Yes

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		Given the marine nature of this habitat, and the intervening distance between this QI habitat and the Proposed Development site, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.	
[1170] Reefs	To maintain the favourable conservation condition of Reefs in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	Due to the proximity of the development site to Galway Bay Complex SAC (0.8km), a potential pathway for indirect effects on the following marine QI habitat: Reefs was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna. As per Map 6 in the Site-Specific Conservation Document (NPWS 2013), this marine QI Habitat: Reefs is mapped approx. 1.9km southwest of the Proposed Development site. There is potential hydrological connectivity between the Proposed Development site and Galway Bay Complex SAC in the form of surface and groundwater connection. The Knocknacarragh stream (EPA Code: 31K16) flows culverted in the northwest of the Proposed Development site, in a south-westerly direction, before discharging into Rusheen Bay, which is designated as part of Galway Bay Complex SAC approx 1.7km downstream. Further, the Proposed Development site and SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010) and are both underlain by the Spiddal groundwater body. As stated by Geological Survey Ireland (2004), flow paths are short, up to 100 m, with groundwater discharging to nearby streams and water level data indicates that the water table is from 0-6 m below ground level. As such, the construction and operational phases of the Proposed Development may result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, and to surface waters,	Yes

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		adversely impacting the water quality/ habitat quality and supporting habitats for aquatic fauna in this QI habitat: Reefs within the SAC, in the absence of mitigation. Given the marine nature of this habitat, and the intervening distance between this QI habitat and the Proposed Development site, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.	
[1220] Perennial vegetation of stony banks	To maintain the favourable conservation condition of Perennial vegetation of stony banks in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km north of Galway Bay Complex SAC. As per Map 8 in the Site-Specific Conservation Document (NPWS 2013), this terrestrial QI Habitat: Perennial vegetation of stony banks is mapped approx 2km southwest of the Proposed Development site. As stated in the Site-Specific Conservation Document (NPWS 2013), the current area of this terrestrial QI Habitat: Perennial vegetation of stony banks is unknown. Given the coastal terrestrial nature of this habitat, and buffering distance that exists between the Proposed Development site and this QI habitat, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
[1310] Salicornia and other annuals colonising mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in Galway Bay Complex SAC Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As per Map 9 in the Site-Specific Conservation Document (NPWS 2013), this terrestrial QI Habitat: Salicornia and other annuals colonising mud and sand is mapped approx 6.7km southeast of the Proposed Development site. As stated in the Site-Specific Conservation Document (NPWS 2013), the current area of this terrestrial QI Habitat: Salicornia and other annuals colonising mid and sand is unknown. The potential for adverse effects on this habitat can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx. 6.7km from the Proposed Development site, as per Map 9 of the Conservation Objectives document, and the absence of a complete source-pathway-receptor chain. Given the nature of this habitat, which is subject to inundation by seawater at high tide, and the buffering distance of 6.7km from the Proposed Development site, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[1355] Otter <i>Lutra lutra</i>	To restore the favourable conservation condition of Otter in Galway Bay Complex SAC Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of Galway Bay Complex SAC. Ni signs of otter were recorded during the surveys carried out to inform this assessment and no suitable supporting habitat exists within the boundary of the Proposed Development site.	Yes

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		Nevertheless, as per Map 11 of the CO document for this SAC (NPWS 2013) designated QI species otter utilise Galway Bay. The Proposed Development site and this SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010). There is potential hydrological connectivity between the Proposed Development site and the Galway Bay Complex SAC in the form of surface water connection. The Knocknacarragh stream (EPA Code: 31K16) flows culverted in the northwest of the Proposed Development site. This watercourse flows 1.7km downstream (d/s), in a south-westerly direction, into Rusheen Bay, which is designated as part of Galway Bay Complex SAC. The Proposed Development site is underlain by the Spiddal groundwater body. As stated by Geological Survey Ireland (2004), flow paths are short, up to 100m, with groundwater discharging to nearby streams. Flow direction is generally south. Water level data indicates that the water table is from 0-6 m below ground level. As such, given the scale of the works proposed, the construction and operational phases of the Proposed Development have potential to result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, and via surface waters, potentially adversely affecting the QI species otter as a result of habitat degradation or reduction in fish prey availability. A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS.	
[1365] Harbour Seal <i>Phoca vitulina</i>	To maintain the favourable conservation condition of Harbour Seal in Galway Bay Complex SAC Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of Galway Bay Complex SAC. As per Map 12 of the CO document (NPWS 2013) Galway Bay Complex SAC provides suitable supporting habitat for resting, breeding and moulting harbour seals designated as part of this SAC.	Yes

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		The Proposed Development site and this SAC are located within the same hydrological sub-catchment (Knock [Furbo]_SC_010). There is potential hydrological connectivity between the Proposed Development site and the Galway Bay Complex SAC in the form of surface water connection. The Knocknacarragh stream (EPA Code: 31K16) flows culverted in the northwest of the Proposed Development site. This watercourse flows 1.7km downstream (d/s), in a south-westerly direction, into Rusheen Bay, which is designated as part of Galway Bay Complex SAC. The Proposed Development site is underlain by the Spiddal groundwater body. As stated by Geological Survey Ireland (2004), flow paths are short, up to 100m, with groundwater discharging to nearby streams. Flow direction is generally south. Water level data indicates that the water table is from 0-6 m below ground level. As such, taking a precautionary approach, given the scale of the works proposed, the construction and operational phases of the Proposed Development have potential to result in the deterioration of water quality in the SAC via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site, and via surface waters, which has potential to adversely affect the QI species harbour seal. Given the distance of approx 3.8km to the nearest mapped resting site, approx 5.8km to the nearest mapped breeding site, and approx 6.7km to the nearest mapped moulting site, and the lack of supporting habitats present on the site of the Proposed Development, there is no potential for ex-situ habitat loss, and/ or disturbance or displacement related effects on this QI Species as a result of the construction or operation of the Proposed Development. A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS.	
[1330] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	To restore the favourable conservation condition of Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) in Galway Bay Complex SAC	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC.	No

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
	Conservation Objectives documents (NPWS, Version 1, April 2013).	As per Map 9 in the Site-Specific Conservation Document (NPWS 2013), this terrestrial QI Habitat: Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) is mapped approx. 1.7km southwest of the Proposed Development site. Given the coastal terrestrial nature of this habitat which would be subject to inundation by seawater at times, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	
[1410] Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	To restore the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As per Map 9 in the Site-Specific Conservation Document (NPWS 2013), this terrestrial QI Habitat: Mediterranean salt meadows (<i>Juncetalia maritimi</i>) is mapped approx 1.5km southwest of the Proposed Development site. Given the coastal terrestrial nature of this habitat which would be subject to inundation by seawater at times, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive in this high-saline environment, if they were to be transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
[3180] Turloughs	To maintain the favourable conservation condition of Turloughs in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As per Map 10 in the Site-Specific Conservation Document (NPWS 2013), this QI Habitat: Turlough is mapped approx. 10.6km northwest of the Proposed Development site. The Proposed Development site is situated within a different groundwater body (Spiddal) than this QI habitat (Clarinbridge). The potential for adverse effects on this habitat can be ruled out due to the buffering distance of approx. 10.6km from the Proposed Development site, as per Map 10 of the Conservation Objectives document, the absence of hydrological connectivity, and the absence of a complete source-pathway-receptor chain. Given the terrestrial nature of this habitat and the buffering distance of 10.6km from the Proposed Development site, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[5130] <i>Juniperus communis</i> formations on heaths or calcareous grasslands	To restore the favourable conservation condition of <i>Juniperus communis</i> formations on heaths or calcareous grasslands in Galway Bay Complex SAC.	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As per Map 10 in the Site-Specific Conservation Document (NPWS 2013), this terrestrial QI Habitat: <i>Juniperus communis</i> formations on heaths or calcareous grasslands is mapped approx. 11.8km southeast of the Proposed Development site.	No

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
	Conservation Objectives documents (NPWS, Version 1, April 2013).	The potential for adverse effects on this habitat can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx. 11.8km from the Proposed Development site, as per Map 10 of the Conservation Objectives document, and the absence of a complete source-pathway-receptor chain. Given the terrestrial nature of this habitat and the buffering distance of 11.8km from the Proposed Development site, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites)	To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) in Galway Bay Complex. Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As stated in the Site-Specific Conservation Document for this SAC (NPWS 2013), the current area for this terrestrial QI Habitat: Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites) is unknown. Further, areas are likely to be small and often in mosaic with other habitats such as limestone pavement and scrub. This QI habitat type was not recorded within or adjacent to the Proposed Development site, during surveys undertaken to inform this assessment. Given the terrestrial nature of this habitat, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be	No

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Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	
[7210] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	To maintain the favourable conservation condition of Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As stated in the Site-Specific Conservation Document for this SAC (NPWS 2013) the full extent of this QI habitat: Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> within the SAC is currently unknown. Further, mapped fen vegetation occurs in wetland areas to the east of Oranmore. It has also been recorded in Ballindereen Lough, mapped approx 15.5km southeast from the Proposed Development site, as per Map 10 in the Site-Specific Conservation Document for this SAC (NPWS 2013). Given the terrestrial nature of this habitat, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[7230] Alkaline fens	To maintain the favourable conservation condition of Alkaline fens in Galway Bay Complex SAC. Conservation Objectives documents (NPWS, Version 1, April 2013).	The Proposed Development site is located approximately 0.8km to the north of the Galway Bay Complex SAC. As stated in the Site-Specific Conservation Document for this SAC (NPWS 2013) the full extent of this QI habitat: Alkaline fens within the SAC is currently unknown. Further, Fen vegetation occurs in wetland areas to the east of Oranmore (Internal NPWS files). It has also been recorded	No

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013 ¹³),	Rationale	Potential for Adverse Effects Y/N
		in Ballindereen Lough, mapped approx 15.5km southeast from the Proposed Development site, as per Map 10 in the Site-Specific Conservation Document for this SAC (NPWS 2013). Given the terrestrial nature of this habitat, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	

5.1.1.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5-2.

Table 5-2 Site-specific threats, pressures and activities

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
High	D03	Shipping lanes, ports, marine constructions	Inside
High	D03.01.04	Industrial ports	Inside
High	H01.05	Diffuse pollution to surface waters due to agricultural and forestry activities	Both
High	H01.08	Diffuse pollution to surface waters due to household sewage and waste waters	Both
High	J02.12.01	Sea defence or coast protection works, tidal barrages	Inside
Low	D01.01	Paths, tracks, cycling tracks	Inside
Low	D03.01.01	Slipways	Inside
Low	D03.01.01	Slipways	Inside
Low	E03.03	Disposal of inert materials	Inside
Low	F02.03.01	Bait digging/collection	Inside
Low	G01.01.02	Non-motorised nautical sports	Inside
Low	G02.01	Golf course	Inside
Low	J02.02.02	Estuarine and coastal dredging	Inside
Low	J02.05.01	Modification of water flow (tidal & marine currents)	Both
Medium	A02.01	Agricultural intensification	Inside
Medium	A04.02.01	Non-intensive cattle grazing	Inside
Medium	A04.02.02	Non-intensive sheep grazing	Inside
Medium	C01.01	Sand and gravel extraction	Inside
Medium	C01.01.02	Removal of beach materials	Inside
Medium	D02.02	Pipelines	Inside
Medium	F01	Marine and Freshwater Aquaculture	Both
Medium	F06	Hunting, fishing or collecting activities not referred to above	Inside

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
Medium	I01	Invasive non-native species	Both
Medium	J02.01.02	Reclamation of land from sea, estuary or marsh	Inside
Medium	J02.01.02	Reclamation of land from sea, estuary or marsh	Inside

Potential pathways for effect with regard to site-specific threats, pressures and activities have been identified in relation to potential for water quality i.e. ‘Diffuse pollution to surface waters due to household sewage and waste waters’.

5.1.1.3 Species Specific Information

5.1.1.3.1 [1140] Mudflats and sandflats not covered by seawater at low tide

Description from SSCO document

Tidal mudflats and sandflats habitat is comprised of the intertidal section of coastlines where sands and muds dominate. These ecosystems are dynamic and rely on a balance of both natural accretion and erosion. Site specific ranges of salinity, temperature, oxygen level, nutrient levels, riverine influence level and sediment sizes determine biological community within these habitats. The varying biological community determined by the substrate and environmental factors create species assemblages comprised of molluscs, crustaceans, polychaetes and oligochaetes. This habitat is currently experiencing a deteriorating trend since 2013 due to pressures from agricultural, forestry and wastewater sources, as well as marine aquaculture impacts (NPWS, 2019).

The habitat area was estimated to be 744ha according to the Site-Specific Conservation Objectives (SSCO) document (NPWS, 2013). Conserving the community types: Intertidal sandy mud community complex; and Intertidal sand community complex in a natural condition is necessary to support the natural structure and function of this habitat. Potential for indirect impacts on this Qualifying Interest exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. The targets and attributes for this QI habitat is shown below in Table 5-3.

Targets and Attributes

Table 5-3 Targets and Attributes for [1140] Tidal Mudflats and Sandflats

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	No – The Proposed Development will not involve activities or operations which would permanently remove this QI habitat from within the SAC

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Community distribution	Conserve the following community types in a natural condition: Intertidal sandy mud community complex; and Intertidal sand community complex	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat

5.1.1.3.2 [1150] Coastal lagoons

Description from SSCO document

Lagoons are areas of open coastal water of varying salinity, which can either be wholly or partially separated from the sea via features such as sand banks, shingle, or occasionally by rocks. In Ireland five morphological lagoon types, artificial lagoons (of natural origin), sedimentary lagoons, rock/peat lagoon, karst lagoons, and saltmarsh lagoons. Pressures such as eutrophication, modification of hydrological flow, and drainage have been identified as the reason for the Status of Lagoon habitats in Ireland to be “Bad”, with the overall trend assessed as deteriorating, a decline since 2013 (NPWS, 2019).

The habitat area was estimated to be 76.67ha according to the Site-Specific Conservation Objectives (SSCO) document (NPWS, 2013), with a distribution map (Map 4, in the SSCO document) of this habitat within the SAC provided. Potential for indirect impacts on this Qualifying Interest exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. The targets and attributes for this QI habitat is shown below in Table 5-4.

Targets and Attributes

Table 5-4 Targets and Attributes for [1150] Coastal lagoons

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Habitat area	Area stable, subject to slight natural variation. Favourable reference area 76.7ha. See map 4	No- the Proposed Development will not affect the area of this QI habitat within the SAC
Habitat distribution	No decline, subject to natural processes. See map 4 for mapped lagoons	No – the Proposed Development will not result in any decline to the distribution of this QI habitat within the SAC
Salinity regime	Median annual salinity and temporal variation within natural ranges	No – The Proposed Development will not result in any changes to the salinity regime associated

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
		with this QI habitat in the SAC
Hydrological regime	Annual water level fluctuations and minima within natural ranges	No- the Proposed Development will not result in any changes to the hydrological regime associated with this QI habitat in the SAC
Barrier: connectivity between lagoon and sea	Appropriate hydrological connections between lagoons and sea, including where necessary, appropriate management	No – the Proposed Development will not result in any changes to the connectivity between lagoon and sea within the SAC
Water quality: Chlorophyll <i>a</i>	Annual median chlorophyll <i>a</i> within natural ranges and less than 5µg/L	Yes – the Proposed Development has the potential to result in the deterioration of water quality in downstream QI habitats in Galway Bay SAC via pollution to ground and surface waters during construction, in the absence of mitigation
Water quality: Molybdate Reactive Phosphorus (MRP)	Annual median MRP within natural ranges 0.1mg/L	Yes – the Proposed Development has the potential to result in the deterioration of water quality in downstream QI habitats in Galway Bay SAC via pollution to ground and surface waters during construction, in the absence of mitigation
Water quality: Dissolved Inorganic Nitrogen (DIN)	Annual median DIN within natural ranges and less than 0.15mg/L	Yes – the Proposed Development has the potential to result in the deterioration of water quality in downstream QI habitats in Galway Bay SAC via pollution to ground and surface waters during construction, in the absence of mitigation
Depth of macrophyte colonisation	Macrophyte colonisation to at least 2m depth	No- The Proposed Development will not result in any changes to the depth of macrophyte colonisation associated with this QI habitat in the SAC

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Typical plant species	Maintain number and extent of listed lagoonal specialists, subject to natural variation	No- The Proposed Development will not result in any composition or extent of typical plant species associated with this QI habitat in the SAC
Typical animal species	Maintain listed lagoon specialists, subject to natural variation	No- The Proposed Development will not result in any composition of typical animal species associated with this QI habitat in the SAC
Negative indicator species	Negative indicator species absent or under control	No – The Proposed Development will not result in the introduction of negative indicator species to this QI habitat in the SAC

5.1.1.3.3 [1160] Large shallow inlets and bays

Description from SSCO document

Large shallow inlets and bays are coastal features which cut into coastlines with limited freshwater influence. Large shallow inlets and bays exhibit a wide diversity of habitats and species which is determined by each areas unique location, level of exposure, geology and sediment composition, thus dictating the present constituent habitat communities. Pressures on this habitat such as nutrient enrichment, dredging and invasive alien species have been identified as the cause for the Overall Status for this habitat as Bad and a deteriorating trend since 2013 (NPWS, 2019).

The habitat area was estimated to be 10824.50ha according to the Site-Specific Conservation Objectives (SSCO) document (NPWS, 2013), with a distribution map (Map 3, of the SSCO document) of this habitat within the SAC provided. The Annex I habitat Large shallow inlets and bays is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including mudflats and sandflats and reefs within its area. Potential for indirect impacts on this Qualifying Interest exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. The targets and attributes for this QI habitat is shown below in Table 5-5.

Targets and Attributes

Table 5-5 Targets and Attributes for [1160] Large shallow inlets and bays

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes. See map 5	No – The Proposed Development will not involve activities or operations which would permanently remove this QI habitat from within the SAC
Community extent	Maintain the extent of the <i>Zostera</i> -dominated community complex and the maërl-dominated community, subject to natural processes. See map 7	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat
Community structure: <i>Zostera</i> density	Conserve the high quality of <i>Zostera</i> -dominated communities, subject to natural processes	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat
Community structure	Conserve the high quality of the maërl-dominated community, subject to natural processes	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat
Community distribution	Conserve the following community types in a natural condition: Intertidal sandy mud community complex; Intertidal sand community complex; Fine to medium sand with bivalves' community complex; Sandy mud to mixed sediment community complex; Mixed sediment dominated by <i>Mytilidae</i> community complex; Shingle; Furoid-dominated community complex; <i>Laminaria</i> -dominated community complex; and Shallow sponge-dominated community complex. See map 7	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat

5.1.1.3.4 [1170] Reefs

Description from SSCO document

Reefs are marine features comprised of hard substrate which allows for the colonisation of flora and faunal species. In Irish waters reef habitat ranges from intertidal waters to depths of 4,500m and are found more than 400km from the Irish coast. Species assemblages which colonise reefs are determined by the physical processes which a reef experiences. Fishing methods which physically damage the seafloor have been identified as the main pressure upon this habitat.

Currently the Overall Status is Inadequate but is showing a stable trend (NPWS, 2019).

The habitat area was estimated to be 2772.70ha according to the Site-Specific Conservation Objectives (SSCO) document (NPWS, 2013), with a distribution map (Map 6, of the SSCO document) of this habitat within the SAC provided. The Annex I habitat Reefs is found within a large physiographic feature that may wholly or partly be incorporated with other Annex I habitats including mudflats and sandflats and Large shallow inlets and bays within its area. Potential for indirect impacts on this Qualifying Interest exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. The targets and attributes for this QI habitat is shown below in Table 5-6.

Targets and Attributes

Table 5-6 Targets and Attributes for [1170] Reefs

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Distribution	The distribution of reefs is stable or increasing, subject to natural processes. See map 6 for mapped distribution	No – The Proposed Development will not involve activities or operations which would permanently remove this QI habitat from within the SAC
Habitat area	The permanent habitat area is stable, subject to natural processes. See map 6	No – The Proposed Development will not involve activities or operations which would permanently remove this QI habitat from within the SAC
Community extent	Maintain the extent of the <i>Mytilus</i> -dominated reef community, subject to natural processes. See map 7	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat
Community structure: <i>Mytilus</i> density	Conserve the high quality of the <i>Mytilus</i> -dominated reef community, subject to natural processes	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat
Community structure	Conserve the following community types in a natural condition: Furoid-dominated community complex; <i>Laminaria</i> -dominated community complex; and Shallow sponge-dominated community complex See map 7	No – The Proposed Development will not involve any activities or operations which could result in disturbance to the community groups associated with this QI habitat

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5.1.1.3.5 [1355] Otter (*Lutra lutra*)

Description from SSCO document

Ireland remains as one of the strongholds for European otter (*Lutra lutra*) populations within Europe. The most recent survey data illustrates that there continues to be widespread distribution of Otter in Ireland, recorded in every county in a wide variety of habitat types such as along rivers, lakes and coasts with abundant prey option and natural features which provide cover. Otter habitation requires necessities of aquatic prey and places of safe refuge for rest and breeding. The Overall Status for Otter is considered to be Favourable, unchanged since 2013, with a positive trend (NPWS, 2019).

The habitat area within the SAC was calculated as 262ha terrestrial habitat (above high-water mark, 14ha along river banks/around ponds), 2040ha of marine habitat, 4km of freshwater (river) habitat, and 21ha of freshwater (lake/lagoon) habitat according to the Site-Specific Conservation Objectives (SSCO) document (NPWS, 2013), with a distribution map (Map 11, of the SSCO document) of this habitat within the SAC provided. The immediate area near the Proposed Development site does not provide a suitable habitat for Otter. Potential for indirect impacts on this Qualifying Interest exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. The targets and attributes for this QI habitat is shown below in Table 5-7.

Targets and Attributes

Table 5-7 Targets and Attributes for [1355] Otter (*Lutra lutra*)

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Distribution	No significant decline	Yes - The Proposed Development could, in the absence of mitigation, result in a deterioration in water quality and habitat degradation as a result of silt-laden run-off and other pollutants which could undermine this target (via reduced prey availability)
Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 262ha above high-water mark (HWM); 14ha along riverbanks/around ponds	No – The Proposed Development will not result in any reduction in terrestrial otter habitat
Extent of marine habitat	No significant decline. Area mapped and calculated as 2040ha	No – The Proposed Development will not result in any reduction in marine otter habitat
Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 4km	No – The Proposed Development will not result in any reduction in freshwater (river) otter habitat
Extent of freshwater	No significant decline. Area mapped and calculated as 21ha	No – The Proposed Development will not result

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
(lake/lagoon) habitat		in any reduction in lake/lagoon otter habitat
Couching sites and holt	No significant decline	No – The Proposed Development will not result in any loss of couching or holt sites
Fish biomass available	No significant decline	Yes - The Proposed Development could, in the absence of mitigation, result in a deterioration in water quality and habitat degradation as a result of silt-laden run-off and other pollutants which could undermine this target (via reduced prey availability)
Barriers to connectivity	No significant increase.	No- The Proposed Development will not result in any increase of barriers to connectivity

5.1.1.3.6 [1365] Harbour seal (*Phoca vitulina*)

Description from SSCO document

Harbour Seals inhabit estuarine, coastal and fully marine water throughout Ireland's coastline and adjacent "haul-out sites" which Seals use to breed, moult, rest and engage in social activity. These areas are often found in enclosed sheltered bays; however, Seals also utilise offshore islands and rocky skerries. Within Irish waters the identified pressures on this species include commercial vessel-based activities i.e., local/regional prey removal by fisheries or by-catch in fisheries, or geophysical seismic exploration, and localised human disturbance at haul-out sites. The Overall Status of the harbour seal in Ireland is considered to be Favourable (NPWS, 2019).

A distribution map is available for this species is found within the SSCO document (Map 12, of the SSCO document) (NPWS, 2013). The immediate area near the Proposed Development site does not provide a suitable habitat for Harbour seal. Potential for indirect impacts on this Qualifying Interest exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. The targets and attributes for this QI habitat is shown below in Table 5-8.

Targets and Attributes

Table 5-8 Targets and Attributes for [1365] Harbour seal (*Phoca vitulina*)

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use.	No – The Proposed Development will not involve any activities or operations which could result in the permanent exclusion of harbour seal from part of its range within the site, or permanently prevent access for the species to suitable habitat within the SAC
Breeding behaviour	Conserve breeding sites in a natural condition.	No – The Proposed Development will not involve any activities or operations which could result in disturbance or displacement effects to breeding harbour seals within the SAC
Moulting behaviour	Conserve moult haul-out sites in a natural condition.	No – The Proposed Development will not involve any activities or operations which could result in disturbance or displacement effects to moulting harbour seals within the SAC
Resting behaviour	Conserve resting haul-out sites in a natural condition.	No – The Proposed Development will not involve any activities or operations which could result in disturbance or displacement effects to resting harbour seals within the SAC
Disturbance	Human activities should occur at levels that do not adversely affect the harbour seal population at the site	No – The Proposed Development will not result in any increase in human activity levels within the boundary of the SAC which could affect the QI harbour seal population

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5.1.2 Inner Galway Bay SPA [004031]

The potential for likely significant effects on this SAC were identified in Section 4.1 above. The identified pathways for effect include the following:

- The construction and operational phases of the Proposed Development may result in the deterioration of water quality within Inner Galway Bay SPA, via pollution to groundwaters through the percolation of polluting materials through the bedrock underlying the site and to surface waters, adversely impacting the water quality/habitat quality and supporting habitats for SCIs designated as part of this SPA.
- The construction phase of the Proposed Development may result in the degradation of the QI [A999] Wetlands] in Inner Galway Bay SPA via the downstream spread or introduction of the invasive species recorded within and in close proximity to the Proposed Development site, via surface waters or the local drainage network, in the absence of mitigation.

Table 5-9 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.2.1 Identification of Individual Qualifying Features with the Potential to be Affected

Table 5-9. Assessment of Qualifying features potentially affected

Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013 ¹⁴),	Rationale	Potential for Adverse Effects Y/N
[A003] Great Northern Diver (<i>Gavia immer</i>) [A017] Cormorant (<i>Phalacrocorax carbo</i>) [A028] Grey Heron (<i>Ardea cinerea</i>) [A046] Brent Goose (<i>Branta bernicla hrota</i>)	To maintain the favourable conservation condition of the Special Conservation interest species within the Inner Galway Bay SPA Conservation Objectives documents (NPWS, Version 1, May 2013).	The Proposed Development site is located approximately 1.3km to the north of the Inner Galway Bay SPA. The potential for <i>ex-situ</i> habitat loss effects on SCI bird species has been excluded at the Appropriate Assessment Screening Stage (refer to Section 4.1). There is potential hydrological connectivity between the Proposed Development site and this SPA in the form of surface and groundwater connection. The Knocknacarragh stream (EPA	Yes

¹⁴ NPWS (2013) Conservation Objectives: Inner Galway Bay SPA 004031. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013 ¹⁴),	Rationale	Potential for Adverse Effects Y/N
[A050] Wigeon (<i>Anas Penelope</i>) [A052] Teal (<i>Anas crecca</i>) [A056] Shoveler (<i>Anas clypeata</i>) [A069] Red-breasted (<i>Merganser Mergus serrator</i>) [A137] Ringed Plover (<i>Charadrius hiaticula</i>) [A140] Golden Plover (<i>Pluvialis apricaria</i>) [A142] Lapwing (<i>Vanellus vanellus</i>) [A149] Dunlin Calidris (<i>alpina alpina</i>) [A157] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A160] Curlew (<i>Numenius Arquata</i>) [A162] Redshank (<i>Tringa tetanus</i>) [A169] Turnstone (<i>Arenaria interpres</i>) [A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A182] Common Gull (<i>Larus canus</i>) [A191] Sandwich Tern (<i>Sterna sandvicensis</i>)		Code: 31K16) flows culverted along the northern boundary of the Proposed Development site, in a south-westerly direction, before discharging into Rusheen Bay, which is designated as part of Inner Galway Bay SPA approx 1.8km downstream. The Proposed Development site and SPA are located within/adjacent to the hydrological sub-catchment (Knock [Furbo]_SC_010) and are both underlain by the Spiddal groundwater body. Given the coastal terrestrial nature of wetland habitat, and buffering distance that exists between the Proposed Development site and this supporting wetland habitat, it is unlikely that the invasive species recorded on site (Three-cornered leek and Sea buckthorn) could survive being transferred downstream via surface waters or the local drainage networks. Therefore, the potential for this QI habitat to be degraded as a result of the introduction of invasive species during the construction phase of the Proposed Development can be excluded. Any potential pathways for indirect effects identified in the form of deterioration of water quality and supporting wetland habitat within this SPA has been assessed below under Wetland and Waterbirds [A999]. A complete source-pathway-receptor chain for adverse effects on wetlands was identified and it is assessed further in this NIS.	

Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013 ¹⁴),	Rationale	Potential for Adverse Effects Y/N
[A193] Common Tern (<i>Sterna hirundo</i>) [A999] Wetlands			

5.1.2.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5-10.

Table 5-10 Site-specific threats, pressures and activities

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
Medium	G01.02	Walking, horse riding, and non-motorised vehicles	inside
Medium	J02.12	Dykes, embankments, artificial beaches, general	inside
Medium	E02	Industrial or commercial areas	inside
Low	F03.01	Hunting	inside
Medium	F01	Marine and Freshwater Aquaculture	inside
High	J02.01.02	Reclamation of land from sea, estuary or marsh	inside
Medium	G01.01	Nautical sports	inside
Low	A04	Grazing	inside
High	E01	Urbanised areas, human habitation	outside
High	E03	Discharges	inside
Medium	F02.03	Leisure fishing	inside
Medium	D01.02	Roads, motorways	outside
Medium	A08	Fertilisation	outside

Potential pathways for effect with regard to site-specific threats, pressures and activities have been identified in relation to potential for 'Urbanisation, residential and commercial development'- i.e. 'Urbanised areas, human habitation, Discharges'.

5.1.2.3 Species Specific Information

5.1.2.3.1 [A999] Wetlands

Description from SSCO document

According to the Site-Specific Conservation Objectives (SSCO) document (NPWS, 2013), wetland habitat area was estimated as 13,267ha within this SPA. Potential for indirect impacts on this Special Conservation Interest habitat exists via potential for deterioration in water quality associated with the construction and operation of the Proposed Development. Therefore, a potential pathway for indirect effects on all Special Conservation Interest bird species has been identified via impacts on their supporting wetland habitat due to deterioration of water quality. All SCI bird species are considered

here under the Special Conservation Interest habitat [A999] Wetlands. The targets and attributes for this QI habitat is shown below in Table 5-11.

Targets and Attributes

Table 5-11 Targets and Attributes for [A999] Wetlands

Attribute	Target	Potential for Proposed Development to Undermine Conservation Objective Target
Habitat area	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 13,267ha, other than that occurring from natural patterns of variation	Yes- In the absence of mitigation, the Proposed Development has the potential to result in a deterioration of the quality of downstream wetland habitat associated with the SPA via pollution to ground and surface waters during construction

6.

ASSESSMENT OF POTENTIAL EFFECTS & ASSOCIATED MITIGATION

This section of the NIS assesses the potential effects of the Proposed Development on the identified relevant Qualifying Interests/Special Conservation Interests. This assessment is undertaken in the absence of any mitigation and in respect of the conservation objectives of the relevant European Sites. The Conservation Objectives for each of the European Sites assessed were reviewed on the 7th October 2025. The Conservation Objectives for these sites are available at the following locations:

- Galway Bay Complex SAC [000268] - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000268.pdf
- Inner Galway Bay SPA [004031] - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004031.pdf

Following the initial impact assessment, mitigation is prescribed where necessary to avoid adverse effects on the Conservation Objectives of the relevant QIs/SCIs.

6.1

Potential for Direct Effects on the European Sites

The Proposed Development site lies entirely outside of the boundary of any European Site. As such, there is no potential for direct effects on the Qualifying Features of Galway Bay Complex SAC and/or Inner Galway Bay SPA or any other European Site.

No Annex I habitats were recorded within the Proposed Development site. Further, no QI habitats associated with Galway Bay Complex SAC were identified within the boundary of the Proposed Development site during the surveys undertaken. As fully described in Section 3.5.1 above, the habitats identified within the boundary of the proposed development site include Dry calcareous and neutral grassland (GS1), Treeline (WL2), Hedgerow (WL1), Stone walls and other stonework (BL1), Buildings and Artificial Surfaces (BL3), Scrub (WS1), Recolonising Bare Ground (ED3), Drainage Ditch (FW4), Spoil and bare ground (ED2) and Dry meadows and grassy verges (GS2), none of which correspond to any habitats listed under Annex I of the Habitats Directive.

No significant suitable supporting habitat for any QI species or SCI bird species associated with any European Site was recorded within or directly adjacent to the Proposed Development site. Therefore, there is no potential for direct effects on any European Site as a result of the Proposed Development.

6.2 Potential for Indirect Effects on the European Sites

6.2.1 Deterioration to Water Quality via Surface water and Groundwater

The Proposed Development site, Galway Bay Complex SAC and Inner Galway Bay SPA are all located within the same hydrological sub-catchment (Knock [Furbo]_SC_010) and partially underlain by the same ground water body (Spiddal groundwater body). There is potential hydrological connectivity between the Proposed Development site, Galway Bay Complex SAC and Inner Galway Bay SPA in the form of surface water connection. Further, the Knocknacarragh stream (EPA Code: 31K16) is culverted along the L-1010 to the north-west of the Proposed Development site. This watercourse flows 1.7km downstream (d/s), in a south-westerly direction, into Rusheen Bay, which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA. Taking a precautionary approach, there is potential for indirect effects to the aquatic influenced QI species and habitats associated with this SAC and the SCIs associated with this SPA.

Following a precautionary approach, the construction phase of the proposed development may result in the deterioration of water quality in the Knocknacarragh stream which flows into Rusheen Bay (which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA) via pollution to water quality from pollutants entering surface water runoff. There is also potential for deterioration of groundwater quality through the percolation of polluting materials through the bedrock underlying the site.

Therefore, a potential pathway for indirect effects on the aquatic Qualifying Interests (QIs) of Galway Bay Complex SAC and the Special Conservation Interests (SCIs) of Inner Galway Bay SPA was identified in the form of deterioration of water quality and supporting habitats for aquatic fauna via pollution to water quality during the construction phase of the proposed development. In the absence of mitigation, this may result in adverse effects on the surface water and groundwater influenced QI/SCI habitats and species for which Galway Bay Complex SAC and Inner Galway Bay SPA are designated for.

The QIs/ SCIs of the relevant European Sites, on which a potential pathway for adverse effects due to deterioration of water quality has been identified, are listed below:

Galway Bay Complex SAC [000268]

- > [1140] Mudflats and sandflats not covered by seawater at low tide
- > [1150] Coastal lagoons
- > [1160] Large shallow inlets and bays
- > [1170] Reefs
- > [1355] Otter (*Lutra lutra*)
- > [1365] Harbour seal (*Phoca vitulina*)

Inner Galway Bay SPA [004031]

- > [[A003] Great Northern Diver (*Gavia immer*)
- > [A017] Cormorant (*Phalacrocorax carbo*)
- > [A028] Grey Heron (*Ardea cinerea*)
- > [A046] Brent Goose (*Branta bernicla hrota*)
- > [A050] Wigeon (*Anas Penelope*)
- > [A052] Teal (*Anas crecca*)
- > [A056] Shoveler (*Anas clypeata*)
- > [A069] Red-breasted Merganser (*Mergus serrator*)

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- > [A137] Ringed Plover (*Charadrius hiaticula*)
- > [A140] Golden Plover (*Pluvialis apricaria*)
- > [A142] Lapwing (*Vanellus vanellus*)
- > [A149] Dunlin (*Calidris alpina alpina*)
- > [A157] Bar-tailed Godwit (*Limosa lapponica*)
- > [A160] Curlew (*Numenius arquata*)
- > [A162] Redshank (*Tringa tetanus*)
- > [A169] Turnstone (*Arenaria interpres*)
- > [A179] Black-headed Gull (*Chroicocephalus ridibundus*)
- > [A182] Common Gull (*Larus canus*)
- > [A191] Sandwich Tern (*Sterna sandvicensis*)
- > [A193] Common Tern (*Sterna hirundo*)
- > [A999] Wetlands

6.2.1.1 Construction Phase

The construction of the Proposed Development will involve excavations and earth moving which create the potential for pollution in various forms, i.e. the generation of suspended solids and the potential for spillage of fuels associated with the refuelling of excavation machinery. There is also a risk of the percolation of pollutants to ground water during the above activities. Taking a precautionary approach, and in the absence of mitigation, the works have potential to impact on water quality and therefore adversely affect the QIs/ SCI species and habitat associated with the above listed European Sites.

Excavation works are required to facilitate the construction and installation of new watermain, surface water drainage design and wastewater system, as well as the formation of foundations for construction of proposed residential and childcare buildings within the Proposed Development site.

Taking a highly precautionary approach, there is potential surface water and groundwater connectivity to the Knocknacarragh stream (31K16) watercourse located approx. 10m from the Proposed Development site. Additionally, there is potential hydrological connectivity to the sea via natural sloping topography and existing drainage in the surrounding urban landscape.

Taking a precautionary approach, during construction a potential pathway for indirect effects on the aquatic (surface water and groundwater) dependent QIs/ SCIs of the Galway Bay Complex SAC and Inner Galway Bay SPA was identified in the form of deterioration of water quality resulting from pollution, associated with the construction of the Proposed Development. As such, the construction phase of the Proposed Development may result in deterioration in water quality adversely affecting the qualifying features of Galway Bay Complex SAC and Inner Galway Bay SPA.

6.2.1.1.1 Mitigations Measures

To prevent potential pathways for pollution to water quality, a Construction and Environmental Management (CEMP) has been prepared by MKO, and is attached as **Appendix 6**.

The CEMP measures have been incorporated into the design of the proposed development and are summarised in the following subsections. An experienced main contractor will be appointed for the civil works for the construction phase. The main contractor for the works will be required to comply with this CEMP and any revisions made to this document. The full CEMP is submitted as part of this application.

The mitigation measures described below in subsections, ensure that the proposed development does not prevent or obstruct any of the Qualifying Features from reaching favourable conservation status as per Article 1 of the EU Habitats Directive, ensuring that the proposed development does not adversely affect the integrity of any European Site.

Following the mitigation measure as prescribed below, the Proposed Development will not contribute to any effect on the hydrological regime in the area or to any water pollution effects.

Pollution Prevention Control Measures

The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including watercourses/drains within or near the site:

- There are no watercourses on site and surface water will not be directly discharged into any external water bodies, surrounding land, or adjacent roadways. Any run-off generated on-site will undergo the necessary filtration process.
- The works will be managed to ensure there will be no silt-laden run-off beyond the site boundary. This will be achieved through the use of appropriate excavation techniques during the initial construction works. Where necessary, silt fencing will be installed downslope of the construction areas, particularly where drains or drainage pathways are present. These measures will serve as a protective measure to contain silt material within the site.
- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall.
- Excavations will be carried out using a suitably sized excavator and, in all circumstances, excavation depths and volumes will be minimised where practically possible.
- Excavated spoil will be stockpiled and contained entirely within the confines of the site boundaries. Any stockpile areas will be surrounded with silt fencing, if deemed necessary to prevent runoff.
- The minimum number of soil/subsoils and bedrock material should be removed from site. Soil may be reused for landscaping elsewhere on the site. However, any excess construction material shall be removed from the area and sent to an authorized waste recovery facility.
- Works shall not take place at periods of high rainfall and shall be scaled back if or suspended if heavy rain is forecast during excavation works.
 - High rainfall' is defined as follows:
 - >10 mm/hr (i.e. high intensity local rainfall events);
 - >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day);
- In the event of encountering groundwaters during excavation, groundwater will be pumped out of the excavation using a pump equipped with a silt bag on the discharge pipe, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The area surrounding the silt bag will be surrounded by silt fencing if deemed necessary.
- No wastewater will be discharged on-site during the construction phase. Toilet facilities will be provided in a prefabricated sanitary unit which will be placed in the construction compound. This unit will have an enclosed wastewater holding tank which will be fitted with a fill level alarm and will be emptied on an as needed basis by the appropriately licensed contractor.
- Good construction practices will be implemented at the site. This will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provides guidance on the control and management of water pollution from construction sites, as outlined in *Control of Water Pollution from Construction Sites, guidance for consultants and contractors* (CIRIA, 2001). This guidance will be adhered to throughout the construction phase to ensure that surface water generated on site contains minimum sediment.
- Adjacent drainage systems/groundwater need to be protected from sedimentation and erosion due to direct surface water runoff generated onsite during the construction phase. To prevent this from occurring surface water discharge from site will be managed and controlled within the site boundary for the duration of the construction works until the permanent surface water drainage system of the

proposed site is complete. There will be no temporary construction phase uncontrolled discharges to surface water from the site.

- A temporary drainage system shall be installed, comprising sump areas which will allow existing runoff regimes to be maintained, prior to the commencement of the construction works to collect surface water runoff from the site during construction.
- As construction advances there may be a requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required water will be pumped from the swales into sediment bags prior to overland discharge allowing water to percolate naturally to ground.
- Any proposed discharge area will avoid potential surface water ponding areas, and will only be located where suitable subsoils are present;
- All works shall be undertaken in accordance with the CIRIA document, 'Control of Water Pollution from Construction Sites, guidance for consultants and contractors.
- All stockpiles will be damped down or covered in a sheet of polythene, as required, which will prevent the creation of nuisance dust, and will also prevent sediment runoff in times of heavy precipitation. Silt fencing will be installed around these stockpiles, if required.
- Material stockpiles will be kept at least 10m from any manholes.
- Preventative measures during construction have been incorporated into the Construction and Environmental Management Plan (CEMP), which will be updated upon grant of permission and to provide any additional measures required pursuant to planning conditions and agreements with the planning authority.
- Self-contained port-a-loo toilets within portacabins with an integrated waste holding tank will be used at the site compounds, maintained by the providing contractor, and removed from site on completion of the construction works; and,
- No wastewater will be discharged on-site during either the construction or operational phase.

Cement Based Products Control Measures

The complete washing out of concrete trucks will not be permitted at the site. Suppliers will be directed back to their own facility to complete the washout process. However, a washout area for chute cleaning will be provided at various locations in close proximity to the concrete pour locations.

The following mitigation measures are proposed to avoid release of cement leachate from the site:

- No batching of wet-cement products will occur on site.
- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for culverts and concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site.
- Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

Refuelling, Fuel and Hazardous Materials Storage

The following measures are proposed to avoid release of hydrocarbons at the site: