SCOTT CAWLEY

Natura Impact Statement

Galway City Council Proposed Development at Dyke Road, Terryland, Co. Galway

prepared for Land Development Agency

on behalf of Galway City Council

Scott Cawley, College House, 71 – 73 Rock Road, Blackrock, Co. Dublin, A94 F9X9, Ireland

Tel+353(1)676-9815 Fax +353(1) 676-9816

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Appendix I: Planning polices/objectives relating to the protection of European sites, Biodiversity and water quality

Appendix II: Bird Species Identified during the Winter Bird Survey across the Proposed Development site

Appendix III: Bird Species Identified during the 2024 Breeding Bird Survey across Proposed Development site.

Appendix IV: In Combination assessment of Plans and Projects

1 Introduction

1 This Natura Impact Statement (NIS) has been prepared by Scott Cawley Ltd., for the applicant, Land Development Agency on behalf of Galway City Council who is seeking permission for the Proposed Development consisting of the construction of 219 residential units and a childcare facility with associated car parking, bicycle parking, public and communal open spaces, and all ancillary works.

2 This NIS has been prepared in accordance with the provisions of Part XAB of the Planning and Development Act, 2000 (as amended) and in accordance with the requirements of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive).

3 It considers the implications of the Proposed Development, on its own and in combination with other plans or projects, for European sites[1] in view of the conservation objectives of those sites. It includes a scientific examination of evidence and data to identify and assess the implications of the Proposed Development for any European sites in view of the conservation objectives of those sites. The NIS considers whether the Proposed Development, by itself and in combination with other plans or projects, would adversely affect the integrity of any European sites. In reaching a conclusion in this regard consideration is given to any mitigation measures necessary to avoid or reduce any potential negative impacts.

4 This NIS has been prepared following an assessment in view of best scientific knowledge of the potential for, the Proposed Development to have significant effects, either individually or in combination with other plans or projects on European sites, set out in an Appropriate Assessment (AA) Screening Report (Scott Cawley Ltd., 2025).

5 The purpose of this NIS is to provide an examination, analysis and evaluation of the potential impacts of the Proposed Development on European sites and to present findings and conclusions with respect to the Proposed Development in light of the best scientific knowledge in the field. This NIS will inform and assist the competent authority, in carrying out its Appropriate Assessment as to whether or not the Proposed Development will adversely affect the integrity of any European sites, either alone or in combination with other plans and projects, taking into account their conservation objectives.

6 The Proposed Development is neither connected with nor necessary to the management of any European sites.

7 It is the considered view of the authors of this NIS (Scott Cawley Ltd), that, following the effective implementation of the mitigation measures proposed in Section 7.1.4 the Proposed Development will not, individually or in combination with other plans or projects, have any adverse effect on the integrity of any European sites in view of their conservation objectives.

2 Legislative Context

8 The Birds and Habitats Directives - Council Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the Birds Directive) and Council Directive 92 /43 /EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) – require Ireland to establish protected sites as part of a European wide network of sites (the Natura 2000 network which are known in Ireland as European sites) for habitats and species that are of international importance for conservation. In Ireland, European sites include Special Areas of Conservation

[1] The Natura 2000 network of sites are defined under the Habitats Directive (Article 3) as a European ecological network of Special Areas of Conservation, composed of sites hosting the natural habitat types listed in Annex I and species listed in Annex II, and Special Protection Areas classified pursuant to the Birds Directive (2009/147/EC). The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland, these sites are designed as *European sites* – as defined under the Planning and Development Acts and/or Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate Special Area of Conservation, (d) a Special Area of Conservation, (e) a candidate Special Protection Area, or (f) a Special Protection Area. They are commonly referred to in Ireland as candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs).

(SACs) and Special Protection Areas (SPAs). SACs are selected for habitats listed on Annex I of the Habitats Directive (including priority Annex I habitat types which are in danger of disappearance) and species listed on Annex II. SPAs are selected for bird species (listed on Annex I of the Birds Directive), regularly-occurring populations of migratory bird species (such as ducks, geese and waders), and areas of international importance for migratory birds. The specified habitats and species for which each SAC and SPA is selected, correspond to the Qualifying Interests (in the case of SACs) or Special Conservation Interest species (in the case of SPAs) for the sites, for which conservation objectives are prepared.

9 Article 6(3) of the Habitats Directive states that:

> 'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'

10 This provision is transposed into Irish law by Part XAB of the Planning and Development Acts 2000 as amended. Section 177U(4) of the said Acts provides for screening for Appropriate Assessment as follows:

> *'The competent authority shall determine that an appropriate assessment of [...] a proposed development [...] is required if it cannot be excluded, on the basis of objective information, that the [...] proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.'*

11 Section 177U(5) provides as follows:

> *'The competent authority shall determine that an appropriate assessment of a […] proposed development, […], is not required if it can be excluded, on the basis of objective information, that the […] proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.'*

12 Section 177T(1) and (2) provide that a NIS is '*a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites*' *and specifies that it 'shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites'*.

13 The Court of Justice of the European Union (CJEU) has made a number of rulings in relation to Appropriate Assessment, regarding when it is required, its purpose and the standards it should meet. Two of the key rulings include, Case C-127/02 Waddenzee where the CJEU found that '*Any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects*' and that the plan or project may only be authorised '*where no reasonable scientific doubt remains as to the absence of such effects*', and Case C-258/11 where the CJEU found that *'[The Appropriate Assessment] cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned*'.

14 Consideration has been given in the preparation of this NIS to the evolution in interpretation and application of directives and national legislation arising from jurisprudence of the European and Irish courts, in respect of Article 6 of the Habitats Directive.

3 Methodology

3.1 Scientific and Technical Competence Relied Upon

15 This NIS was authored by Alison Bourke and Jared Bennett reviewed by Tim Ryle and Colm Clarke of Scott Cawley Ltd. The background and experience of the author and contributors to this report are set out below.

Alison Bourke

16 Alison Bourke is a Consultant Ecologist at Scott Cawley Ltd. She holds a bachelor's degree in Agricultural Environmental Science from University College Dublin. She is experienced is carrying out field surveys in several protected species; bats, otters, badges, birds and reptiles. Alison was a contributing author to this report.

Jared Bennet

17 Jared Bennett is a Senior Consultant Ecologist with Scott Cawley Ltd., and is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM). He obtained a Master's degree in Environmental Science from University College Dublin. Since joining Scott Cawley Ltd., he has carried out with field surveys on major road schemes for protected species including bat, wintering birds, and marsh fritillary, and has conducted habitat and invasive plant species surveys. Jared has experience in Ecological Impact Assessment and Appropriate Assessment reports and was a contributing author to this report.

Sorcha Shanley

18 Sorcha Shanley is a Senior Consultant Ecologist with Scott Cawley Ltd. She holds an honours degree in Natural Sciences with a specialisation in Zoology from Trinity College Dublin, and a master's degree in Marine Biology from the University of Essex. She has over three years' professional experience in ecological consultancy in Ireland, carrying out a range of habitat and protected species surveys, including bat, otter, badger and breeding and wintering birds. She has undertaken Ecological Clerk of Works roles, overseeing the implementation of mitigation measures, and has prepared and contributed to Appropriate Assessment (AA) Screening reports, Natura Impact Statements (NIS) and Ecological Impact Assessments (EcIA) for a range of development projects across the country.

Tim Ryle

19 Tim Ryle is a Principal Ecologist with Scott Cawley Ltd. He holds an honours degree in Botany from University College Dublin and was later awarded a Ph.D. from the same institution. He is a full Member of the Institute of Environmental Scientists. Tim is an experienced ecological consultant with twenty years' experience in in private consultancy in designing, undertaking and managing a wide range of ecological surveys and in assessing impacts and designing mitigation measures and biodiversity enhancements, in particular for protected species including badgers, otters, bats, birds, amphibians as well as habitats of conservation importance. He is also experienced in undertaking Appropriate Assessment for small-scale development projects and larger infrastructural projects, land plans as well as national/government plans. Tim completed the initial review of this report as part of Scott Cawley's quality assurance procedures.

Colm Clarke

20 Colm Clarke is Associate Director at with Scott Cawley Ltd., and has over nine year's professional experience in ecological consultancy. He obtained an honours degree in Natural Sciences from Trinity College Dublin, and a Masters in Biodiversity and Conservation from the same institution. Colm is a full member of CIEEM, a member of Bat Conservation Ireland and Chairperson of the Dublin Bat Group. Colm is on the CIEEM's EcIA Accreditation Working group, which aims to improve the quality of Ecological Impact Assessment (EcIA) Reports through an accreditation process, and he is an assessor on the EcIA Pilot Accreditation Scheme. Colm is experienced in scoping, preparing, and reviewing EcIA (including EIA Biodiversity Chapters) and in the completion of Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS), and has prepared these reports and acted as internal reviewer (as part of Scott Cawley's quality assurance process) on a range of projects from residential to industrial and large-scale infrastructure (e.g. national road and rail projects). Colm undertook final review and sign off of this report.

3.2 Guidance and Approach

21 This NIS has been prepared having regard to the following documents.

European Commission Guidance

- *Assessment of Plans and Projects in Relation to Natura 2000 sites: Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021);
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019);
- *Communication from the Commission on the Precautionary Principle* (European Commission 2000)[2];
- *Nature and Biodiversity Cases – Ruling of the European Court of Justice* (European Commission 2006);
- *Article 6 of the Habitats Directive – Rulings of the European Court of Justice* (European Commission Final Draft September 2014); and
- Interpretation Manual of European Union Habitats. Version EUR 28. (European Commission, 2013).

Irish Guidance

- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government 2010 revision)
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. *Circular NPW 1/10 & PSSP 2/10* (NPWS, 2010)
- *OPR Practice Note PN01. Appropriate Assessment Screening for Development Management* (Office of the Planning Regulator, 2021)

22 In addition, regard has been had to the following guidance in characterising impacts, including determining magnitude and significance of impacts, as relevant in the application to Appropriate Assessment and European sites:

- *Guidelines for Ecological Impact Assessment in the UK and Ireland* (Chartered Institute of Ecology and Environmental Assessment, 2024)

3.3 Assessment Methodology

23 The assessment presented in this NIS has been undertaken with respect to the requirements of Article 6(3) of the Habitats Directive and in consideration of all potential impact sources and pathways connecting the Proposed Development to European sites, in view of the conservation objectives supporting the conservation condition of all European sites' QIs / SCIs, as detailed below.

[2] The precautionary principle is a guiding principle that derives from Article 191 of the Treaty on the Functioning of the European Union and has been developed in the case law of the European Court of Justice (e.g. ECJ case C-127/02 – Waddenzee, Netherlands).

This guidance document notes that the precautionary principle "*covers those specific circumstances where scientific evidence is insufficient, inconclusive or uncertain and there are indications through preliminary objective scientific evaluation that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the chosen level of protection*".

Applying the precautionary principle in the context of screening for appropriate assessment requires that where there is uncertainty or doubt about the risk of significant effects on a European site(s), it should be assumed that significant effects are likely and AA must be carried out.

24 The Proposed Development (including the proposed design, construction methodologies and operational effects) was analysed and assessed to identify the potential impacts associated with the Proposed Development that could affect the ecological environment.

25 From this, the zone of influence of the Proposed Development was defined, as is discussed further below. Based on the identified impacts, and their zone of influence, the European sites potentially at risk of any direct or indirect impacts were identified.

26 In establishing which European sites are potentially at risk (in the absence of mitigation) from the Proposed Development, a source-pathway-receptor approach was applied. In order for an impact to occur, there must be a risk enabled by having a source (e.g. water abstraction or construction works), a receptor (e.g. a European site or its Qualifying Interest(s) (QIs) or Special Conservation Interest(s) (SCIs) species), and a pathway between the source and the receptor (e.g. pathway by air for air borne pollution, or a pathway by a watercourse for mobilisation of pollution). For an impact to occur, all three elements must exist; the absence or removal of one of the elements means there is no possibility for the impact to occur.

27 The identification of source-pathway-receptor connection(s) between the Proposed Development and European sites essentially is the process of identifying which European sites are within the zone of influence of the Proposed Development, and therefore potentially at risk of significant effects. The zone of influence is defined as the area within which the Proposed Development could affect the receiving environment such that it could potentially have significant effects on the QI habitats or QI/SCI species of a European site, or on the achievement of their conservation objectives (as defined in CIEEM, 2024).

28 The identification of a source-pathway-receptor risk does not automatically mean that significant effects will arise. The likelihood of significant effects will depend upon the characteristics of the source (e.g. extent and duration of construction works), the characteristics of the pathway (e.g. direction and strength of prevailing winds for air borne pollution) and the characteristics of the receptor (e.g. the sensitivities of the European site and its QIs/SCIs). However, identification of the risk does mean that there is a possibility of ecological or environmental damage occurring, with the significance of the effect depending upon the nature and exposure to the risk and the characteristics of the receptor. In this case, where there is uncertainty, the precautionary principle has been applied.

29 This assessment has been undertaken in consideration of all potential impact sources and pathways connecting the Proposed Development to European sites, in view of the conservation objectives supporting the conservation condition of the sites' QIs/SCIs.

30 The conservation objectives relating to each European site and its QIs/SCIs are expressed generally for SACs as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected", and for SPAs "to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".

31 Following on from this, and as defined in the Habitats Directive, favourable conservation status (or condition, at a site level) of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing;
- the specific structure and functions which are necessary for its long-term maintenance exist; and, are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

32 The favourable conservation status (or condition, at a site level) of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and,
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

33 Where site-specific conservation objectives have been prepared for a given European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured, i.e. an impact which affects the achievement of favourable conservation condition, as measured by the attributes and targets, is an impact on site integrity.

34 In the case of some QIs/SCIs in certain European sites, the conservation objective is to restore rather than maintain conservation condition and this distinction is taken into account in the assessment; as is any legacy damage to European sites that has occurred since their designation, insofar as possible.

3.4 Desktop Study

35 The desktop data sources used to inform the assessment presented in this report are as follows (accessed in March 2025):

- Online data available on European sites and protected habitats/species within 2km of the Proposed Development as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie[3], including conservation objectives documents. The use of a 2km radius for desk studies is frequently applied to evaluate potential impacts on protected species, habitats, and the surrounding landscape. A 2km radius allows for the capture of relevant data on species that may use habitats in the area surrounding a Proposed Development site. This distance is useful for species with broader ranges, like certain bird or mammal species, and also helps identify potential corridors or linkages between habitats. It allows for the consideration of species that may be present in the broader landscape while focusing on those that are most likely to be impacted by activities within the development area.
- Online data available on protected species as held by the National Biodiversity Data Centre (NBDC) from www.biodiversityireland.ie
- Information on the surface water network and surface water quality in the area available from www.epa.ie
- Information on groundwater resources and groundwater quality in the area available from www.epa.ie and www.gsi.ie
- Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie
- Information on the location, nature and design of the Proposed Development supplied by the applicant's design team
- Information on the conservation status of birds in Ireland from Birds of Conservation Concern in Ireland 4 (Gilbert *et al*., 2021)
- Hydrological and Hydrogeological Risk Assessment Report for Proposed Development at Dyke Road, Terryland, Co. Galway (Enviroguide Consulting, 2025)
- N6 Galway City Ring Road Project (GCRR) (Bord Pleanála Case reference: MA07.302885) submitted 2014

3.5 Baseline Surveys

36 Baseline ecological surveys were undertaken as necessary to inform environmental assessments of the Proposed Development. This section describes all ecological surveys which are relevant to and have informed the assessment of likely significant effects on European sites, presented in this NIS. Surveys were

[3] The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2024_12 and SPA_ITM_2024_01.

initially carried out between July 2023 and May 2024 and additional surveys were carried out between January 2025 and March 2025. Table 1 lists the survey details.

Table 1 : Ecological Surveys, Survey Dates and Surveyors

Survey	Survey Date(s)	Surveyor(s)
Multidisciplinary survey – habitats, flora and fauna (excluding bat surveys)	17th July 2023 5th March 2025 – verification survey	Scott Cawley Ltd
Wintering bird surveys	March 5th 2024 and March 13th 2024 28th January 2025, 18th February 2025 and 5th March 2025	Scott Cawley Ltd.
Breeding bird survey	27th March 2024, 18th April 2024, 29th May 2024	Scott Cawley Ltd.
Bat activity transects	8th August 2023 and 22nd August 2023	Scott Cawley Ltd.

3.5.1 Habitats and Flora

37 A habitat survey of the Proposed Development was undertaken on the 17th of July 2023, following the methodology described in *Best Practice Guidance for Habitat Survey and Mapping*[4]. All habitat types were classified using the *Guide to Habitats in Ireland*[5], and recording any species of conservation interest. Vascular and bryophyte plant nomenclature generally follow that of *The National Vegetation Database*[6], having regard to more recent taxonomic changes to species names after *the New Flora of the British Isles*[7] and the British Bryological Society's *Mosses and Liverworts of Britain and Ireland: A Field Guide*[8]. A verification site walkover was carried out on the 5th March 2025 to ensure there were no changes in habitats and flora within the site.

3.5.2 Terrestrial Mammals (excluding bats)

38 A terrestrial fauna survey was undertaken on the 17th of July 2023 by Scott Cawley Ltd. The presence/absence of terrestrial fauna species were surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species. Surveys included checks for the presence of badger setts and otter holts within and adjacent to the subject lands, and to record any evidence of use. A verification site walkover was carried out on the 5th of March 2025, confirming land use and habitats are unchanged surveying for any evidence of mammal presence within the Proposed Development site.

[4] Smith, G.F., O'Donoghue, P., O'Hora, K. & Delaney, E. (2011) *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council Church Lane, Kilkenny, Ireland.

[5] Fossitt, J.A. (2000) A Guide to Habitats in Ireland. Heritage Council, Kilkenny.

[6] Weekes, L.C. & FitzPatrick, Ú. (2010) *The National Vegetation Database: Guidelines and Standards for the Collection and Storage of Vegetation Data in Ireland.* Version 1.0. Irish Wildlife Manuals, No. 49. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

[7] Stace, C. (2019) *New Flora of the British Isles*. *4th Edition*. C&M Floristics.

[8] Atherton, I., Bosanquet, S. & Lawley, M. (2010) *Mosses and Liverworts of Britain and Ireland: A Field Guide*. Latimer Trend & Co., Plymouth.

3.5.3 Bats

39 A ground-level assessment was conducted to evaluate the suitability of buildings and vegetation within the Proposed Development site for supporting roosting bats and their potential importance for commuting and foraging bats. This assessment was based on guidelines from "Bat Surveys for Professional Ecologists: Good Practice Guidance" (Collins ed., 2016), as detailed in Table 2. The evaluation included inspections of buildings and trees for potential roost features (PRFs), looking for signs of bats such as staining at roost entrances, droppings, carcasses, and insect remains.

40 Two activity surveys were completed on the 8th and 22nd of August 2023 and covered the Proposed Development as well as the surrounding area to capture the adjacent industrial area, part of the Terryland Forest Park that borders the site, as well as the surrounds of the amenity grassland across the road alongside the walkway of the River Corrib.

Table 2 Guidelines for assessing the potential suitability of subject lands for bats, based on the presence of habitat features within the landscape, applied according to professional judgement. (Taken from Collins (2016))[9]

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size,	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams,

[9] The newest edition of the guidelines was released in September 2023 – Collins, J. (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition.* The 2016 edition of guidelines was used at the time of surveys and guidance followed is still relevant.

Suitability	Description Roosting habitats	Commuting and foraging habitats
	shelter, protection, conditions and surrounding habitat.	hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts.

3.5.4 Wintering Birds

41 A full wintering bird survey was not conducted due to the urban nature of the site, which lacks suitable habitats for wintering birds. However, there are suitable winter bird habitats approximately 15m from the site along the River Corrib and in the open grassland areas along Dyke Road.

42 During the initial review, the site was deemed unsuitable due to the absence of appropriate habitat within the Proposed Development area. Additionally, the adjacent parkland offers limited suitable habitat, as it comprises a small area with a heavily trafficked walkway running through its centre and directly opens onto Dyke Road.

43 To assess the presence of wintering birds within the Proposed Development site, two wintering bird counts were undertaken on the 5th and 13th of March 2024. An additional three wintering bird surveys were conducted on the 28th of January 2025, 18th of February 2025 and 5th of March 2025. Surveys were completed by Sorcha Shanley MSc using a methodology based on the "*Bird Monitoring Methods - A Manual of Techniques for Key UK Species".* The study area covered the Proposed Development and was surveyed visually using binoculars/scope from a vantage point at the edge of the study area followed by a walkover of the area to identify birds which may not be visible from a distance (e.g. waders) and evidence of usage by wildfowl such as swans or geese (e.g. droppings). Birds were identified by sight and general location and activity were recorded using the British Trust for Ornithology (BTO) species and activity codes.

3.5.5 Breeding Birds

44 Breeding bird surveys were undertaken on the 27th of March 2024, 18th of April 2024 and the 29th of May 2024 by Sorcha Shanley using a methodology adapted from the *Bird Monitoring Methods - A Manual of Techniques for Key UK Species* [10]. Three surveys are considered sufficient to determine the potential presence or absence of breeding birds on a site with low habitat quality. In line with the *Bird Survey Guidelines for assessing ecological impacts*[11], the need for breeding bird surveys is informed by the habitat type and its capacity to support breeding birds. The Proposed Development site is a car park composed entirely of built land with minimal natural habitat features, which limits its ability to support breeding bird populations. While some species may use built urban spaces, it is unlikely that the site would support important populations of species of conservation concern or those dependent on specific habitats (e.g., woodland or wetland species). The verification walkover on the 5th of March 2025 confirmed no change in habitats at the site. The study area covered the Proposed Development. Lands within the study area were slowly walked in a manner allowing the surveyor identify any birds within or directly adjacent to the

[10] Gilbert, G., Gibbons, D.W. & Evans, J. (1998) *Bird Monitoring Methods - A Manual of Techniques for Key UK Species*. RSPB: Sandy

[11] Bird Survey & Assessment Steering Group. (2025) *Bird Survey Guidelines for assessing ecological impacts*, https://birdsurveyguidelines.org

Proposed Development site. Birds were identified by sight and song, and general location and activity were recorded using the British Trust for Ornithology (BTO) species and activity codes.

4 Description of the Proposed Development

45 The following sections provide information to facilitate the Appropriate Assessment of the Proposed Development to be undertaken by the competent authority.

46 A description of the Proposed Development and the receiving environment is provided to identify the potential ecological impacts. The environmental baseline conditions are discussed, as relevant to the assessment of ecological impacts where they may highlight potential pathways for impacts associated with the Proposed Development to affect the receiving ecological environment (e.g. geological, hydrogeological and hydrological data).

47 The potential impacts are examined in order to define the potential zone of influence of the Proposed Development on the receiving environment. This then informs the assessment of whether the Proposed Development will result in significant effects on any European sites; i.e. affect the conservation objectives supporting the favourable conservation condition of the European site's QIs or SCIs.

4.1 Description of the Proposed Development

48 The overall masterplan aims to deliver a three-phase development. Galway City Council (GCC) and the LDA propose to apply for approval of development of the first phase of development. It is not currently known when the second and third phases, which aim to deliver mixed use development and additional residential use, will be brought forward for planning.

49 The proposal will consist of the construction of a new residential development of 219 no. apartment units and a childcare facility (approximately 241m^2) in the form of 1 no. new residential block (5 - 9 storeys over lower ground floor level) with associated car parking, bicycle parking, public and communal open spaces, and all ancillary works on a site area of 1.144 ha (Figure 1).

50 The development will provide for:

- 219 no. residential apartment units (109 no. 1-bedroom units, 100 no. 2-bedroom units and 10 no. 3-bedroom units) each with an associated private open space area in the form of a balcony/terrace.
- A new raised pedestrian boardwalk along the western elevation of the building.
- Open Space (approximately 2778 sqm) is proposed in the form of (a) public open space (approximately 1,183 sqm) to the west of the proposed building fronting on to Dyke Road accommodating outdoor seating, planting, a sunken garden and pedestrian pathways and connections; and (b) communal open space (approx. 1,065 sqm) to the east of the proposed building in the form of a courtyard including outdoor seating, planting, a children's play area and outdoor sports equipment.
- A childcare facility (approximately 241 sqm) with dedicated external play area (approximately. 60 sqm) at ground floor level.
- A total of 33 no. car parking spaces at surface level to include 2 no. accessible spaces and 2 no. set down / drop off spaces to serve the childcare facility.
- A total of 455 no. bicycle parking spaces to include 330 no. standard spaces, 100 no. visitor spaces and 25 no. cargo bicycle spaces all at surface / lower ground floor level.
- Vehicular access is proposed via Dyke Road at 2 no. locations (to the north west and south west of the site). Pedestrian and Cyclist access is also delivered throughout the site via Dyke Road and includes a pedestrian crossing at Dyke Road. Pedestrian / cyclist connections to adjoining development to the north east and south east are also delivered.
- The proposal also provides for a further vehicular access point to the south of the main development site to facilitate new access to the existing southern car park. A total of 10 no. of car parking spaces are removed with 158 no. car parking spaces remaining at this location.

- 2 no. telecommunications lattice towers (overall height 6.45 m and 7.67 m) affixed to the rooftop supporting 9 no. 2m 2G/3G/4G antennas; 9 no. 0.8m 5G antennas; 6 no. 0.3m microwave transmission links; together with all associated telecommunications equipment and cabinets

51 The Proposed Development will also provide for all associated site development works, infrastructure, excavation and clearance works including decommissioning the existing Black Box Theatre waste water pumping station and providing a new pumping station complete with emergency storage, all boundary treatment, public lighting, internal roads and pathways, ESB substations, switch room, water tank rooms, storage room, meter rooms, sprinkler tank room, parcel stores, comms room, bin storage, bicycle stores, hard and soft landscaping, play equipment, below ground attenuation tanks, nature based SUDs features, green roofs, roof plant, site services and connections for foul drainage, surface water drainage and water supply.

Surface water

52 As documented in the Infrastructure Report (AECOM, 2025a), the Proposed Development will include the installation of a new surface water piped gravity network which will discharge to the existing 525mm diameter concrete pipe which runs from south to north along the western boundary of the site and ultimately discharges to the Terryland Stream located approximately 130m north of the site. It will also divert the surface water pipe running through the site which serves the retail development on the Headford Road before reconnecting to the existing the existing 525mm diameter concrete pipe. Surface water will be managed in accordance with the principles and objectives of SuDS to treat and attenuate water prior to discharging offsite.

Foul Water

53 As part of the Proposed Development it is proposed to relay the gravity foul sewer serving the Black Box Theatre and install a new gravity sewer network to serve the Proposed Development. The existing wastewater pumping station (WWPS) that serves the Black Box Theatre is to be decommissioned and a new WWPS will be constructed.

54 The new WWPS has been positioned based on the flood extents within the site and to maximize the separation from buildings. The existing 150mm rising main serving the existing WWPS is to be retained and reused. Uisce Éireann (UÉ) have confirmed that a 20m upgrade of a 150mm diameter sewer from Dyke Road to Wood Quay will be required. As documented in the Infrastructure Report (AECOM, 2025a), the UÉ Confirmation of Feasibility (CoF) dated the 26th of June 2024 notes that the foul water connection is feasible subject to infrastructure upgrades by UÉ. These upgrades will be undertaken by UÉ prior to any connections from the Proposed Development.

Figure 1 Red line boundary for phase 1 of the Proposed Development.

5 Overview of the Receiving Environment

5.1 European Sites

55 The Proposed Development lands are not located within any European sites, but are adjacent to Lough Corrib SAC (000297) which is situated approximately 15m due west (see Figure 2). The Corrib river which forms part of the Lough Corrib SAC flows along the western side of the development and the following European sites in Galway Bay lie *c.* 700m downstream: Inner Galway Bay SPA, Galway Bay SAC

56 There is no direct surface water hydrological link between the Proposed Development site and Lough Corrib SAC, however surface water likely drains from the site into the River Corrib and European sites downstream.

57 The European sites present in the vicinity of the Proposed Development are listed in Table 3, along with their Qualifying Interests/Special Conservation Interests and proximity to the Proposed Development, and shown on Figure 2.

Table 3 European sites in the vicinity of the Proposed Development

European Site Name [Code]	Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
Special Area of Conservation (SAC)		
Lough Corrib SAC [000297]	1029 Freshwater Pearl Mussel *Margaritifera margaritifera* 1092 White-clawed Crayfish *Austropotamobius pallipes* 1095 Sea Lamprey *Petromyzon marinus* 1096 Brook Lamprey *Lampetra planeri* 1106 Salmon *Salmo salar*	Approximately 15m west of the Proposed Development site.

European Site Name [Code]	Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
	1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 1355 Otter *Lutra lutra* 1393 Slender Green Feather-moss *Drepanocladus vernicosus* 1833 Slender Naiad *Najas flexilis* 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 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 *Cladium mariscus* and species of the Caricion davallianae* 7220 Petrifying springs with tufa formation (Cratoneurion)* 7230 Alkaline fens 8240 Limestone pavements* 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles 91D0 Bog woodland* *S.I. No. 384/2022 - European Union Habitats (Lough Corrib Special Area of Conservation 000297) Regulations 2022.* NPWS (2017*) Conservation Objectives: Lough Corrib SAC 000297.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [12]	
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 1220 Perennial vegetation of stony banks 1310 *Salicornia* and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1355 Otter *Lutra lutra* 1365 Harbour seal *Phoca vitulina* 1410 Mediterranean salt meadows (Juncetalia maritimi) 3180 Turloughs*	Approximately 700m south of the Proposed Development site.

[12] The versions of the conservation objectives documents referenced in this table are the most recent published versions at the time of writing

European Site Name [Code]	Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
	5130 *Juniper communis* formations on heaths or calcareous grasslands 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates(Festuco Brometalia)(*important orchid sites) 7210 Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae* 7230 Alkaline fens *S.I. No. 548/2021 - European Union Habitats (Galway Bay Complex Special Area of Conservation 000268) Regulations 2021.* NPWS (2013*) Conservation Objectives: Galway Bay Complex SAC 000268.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	
Connemara Bog Complex SAC [002034]	1065 Marsh Fritillary *Euphydryas aurinia* 1106 Salmon *Salmo salar* 1150 Coastal lagoons* 1170 Reefs 1355 Otter *Lutra lutra* 1833 Slender Naiad *Najas flexilis* 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3160 Natural dystrophic lakes and ponds 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 4010 Northern Atlantic wet heaths with *Erica tetralix* 4030 European dry heaths 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 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 *Ilex* and *Blechnum* in the British Isles NPWS (2015) *Conservation Objectives: Connemara Bog Complex SAC 002034.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Approximately 12.7km west of the Proposed Development site.
Ross Lake and Woods SAC [001312]	1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. *S.I. No. 656/2019 - European Union Habitats (Ross Lake and Woods Special Area of Conservation 001312) Regulations 2019* NPWS (2018) *Conservation Objectives: Ross Lake and Woods SAC 001312.* Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.	Approximately 13.5km northwest of the Proposed Development site.

European Site Name [Code]	Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
Lough Fingall Complex SAC [000606]	1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 3180 Turloughs* 4060 Alpine and Boreal heaths 5130 *Juniper communis* formations on heaths or calcareous grasslands 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 7210 Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae* 8240 Limestone pavements* NPWS (2019) *Conservation Objectives: Lough Fingall Complex SAC 000606. Version 1.* National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.	Approximately 14km southeast of the Proposed Development site.
East Burren Complex SAC [001926]	1065 Marsh Fritillary *Euphydryas aurinia* 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 1355 Otter *Lutra lutra* 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. 3180 Turloughs* 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 4060 Alpine and Boreal heaths 5130 *Juniperus communis* formations on heaths or calcareous grasslands 6130 Calaminarian grasslands of the Violetalia calaminariae 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) 7210 Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae* 7220 Petrifying springs with tufa formation (Cratoneurion)* 7230 Alkaline fens 8240 Limestone pavements* 8310 Caves not open to the public 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnionincanae, Salicion albae)* *S.I. No. 463/2023 - European Union Habitats (East Burren Complex Special Area of Conservation 001926) Regulations 2023* NPWS (2022) *Conservation Objectives: East Burren Complex SAC 001926. Version 1.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	Approximately 14.4km south of the Proposed Development site.
Special Protection Area (SPA)		
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*	Approximately 700m south of the Proposed Development site.

European Site Name [Code]	Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
	A052 Teal *Anas crecca* A056 Shoveler *Anas clypeata* A069 Red-breasted Merganser *Mergus serrator* 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 totanus* 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 *S.I. No. 515/2019 - European Union Conservation of Wild Birds (Inner Galway Bay Special Protection Area 004031) Regulations 2019* NPWS (2013*) Conservation Objectives: Inner Galway Bay SPA 004031. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	
Lough Corrib SPA [004042]	A051 Gadwall *Anas strepera* A056 Shoveler *Anas clypeata* A059 Pochard *Aythya ferina* A061 Tufted Duck *Aythya fuligula* A065 Common Scoter *Melanitta nigra* A082 Hen Harrier *Circus cyaneus* A125 Coot *Fulica atra* A140 Golden Plover *Pluvialis apricaria* A179 Black-headed Gull *Chroicocephalus ridibundus* A182 Common Gull *Larus canus* A193 Common Tern *Sterna hirundo* A194 Arctic Tern *Sterna paradisaea* A395 Greenland White-fronted Goose *Anser albifrons flavirostris* A999 Wetlands *S.I. No. 455/2012 - European Communities (Conservation of Wild Birds (Lough Corrib Special Protection Area 004042)) Regulations 2012.* NPWS (2023a) *Conservation Objectives: Lough Corrib SPA 004042. Version 1.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	Approximately. 2.8km north of the Proposed Development site.
Cregganna Marsh SPA [004142]	A395 Greenland White-fronted Goose *Anser albifrons flavirostris* *S.I. No. 514/2019 - European Union Conservation of Wild Birds (Cregganna Marsh Special Protection Area 004142) Regulations 2019*	Approximately 8.1km east of the Proposed Development site.

European Site Name [Code]	Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Development Site
	NPWS (2023b) *Conservation Objectives: Cregganna Marsh SPA 004142. Version 1.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	

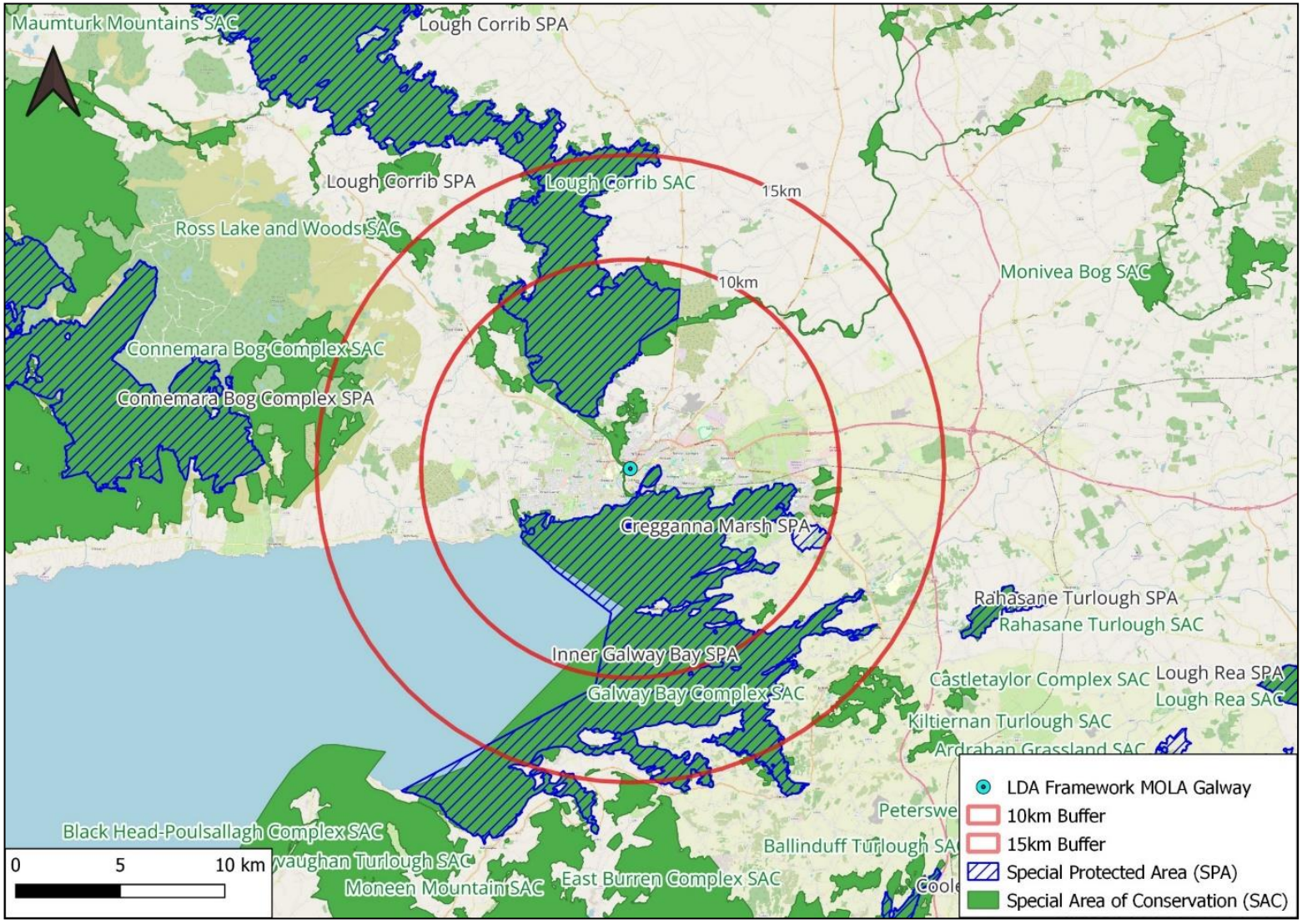

Figure 2 European sites within the vicinity of the Proposed Development

5.1.1 Habitats

58 The Proposed Development site is characterised by buildings and urban development, as well as some recolonising bare ground. The development site does not contain any habitats for which any of the listed European sites have been designated. Based on the desk study and site walkover, they do not contain any suitable Annex I habitat for any species for which any European sites have been designated.

59 The following habitat types, as described by the Heritage Council classification system[13], are present within the Proposed Development site:

- Buildings and artificial surfaces (BL3);
- Recolonising bare ground (ED3).

60 None of the recorded habitats on site correspond with Annex I habitats as per *the Interpretation Manual of European Union Habitats* (European Commission, 2013).

61 To the north of the site, outside the development line, there is wooded area and parkland associated with Terryland Forest park and the Terryland River. To the east, along the River Corrib, wet grassland, marsh, scattered trees and parkland form part of the Dyke Road River Corrib walkway and green space. The lands are bound by the Dyke Road to the south and west and the Headford Road to the southeast while retail units lie to the east. Street lights run along all roads and the subjects lands are lit by flood lighting and overspill from the adjacent buildings.

62 The River Corrib which is adjacent to the Proposed Development site supports Wet pedunculate oak-ash woodland (WN4), which on alluvial sites can correspond with the Priority Annex I Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-padion, Alnion incanae, Salicion albae) [91E0].

5.1.2 Flora

63 A search of the NBDC database returned no records of rare or protected species as occurring within 15 km of the Proposed Development lands. However, it did return records for seven non-native invasive species, listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), *Reynoutria japonica* x *sachalinensis* = *R*. x *bohemica*, *Heracleum mantegazzianum*, *Gunnera tinctoria*, *Impatiens glandulifera*, *Reynoutria japonica*, *Hyacinthoides hispanica* and *Allium triquetrum*; which were not recorded within the vicinity of the subject lands. In addition it also returned a record for *Elodea canadensis*, which has been delisted as a Third Schedule specie by virtue of SI 355/2015.

64 The surveys undertaken on the 17th of July 2023 and additional verification survey on the 5th of March 2025 did not find any protected or rare species, or non-native invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 within the Proposed Development lands. While the 2025 verification study was carried out early in the growing season, due to the urban nature of the Proposed Development site and lack of evidence of any protected or Third Schedule non-native invasive plant species over the course of 2023, 2024 and 2025 site visits it is deemed highly unlikely that these species are present.

65 There are seven plants listed on the Ireland Red List No. 10: Vascular Plants 2016 (Wyse Jackson *et al*., 2016) including *Ranunculus baudotii*, *Centaurea scabiosa*, *Veronica agrestis*, *Carex acuta*, *Carex spicata*, *Arbutus unedo* and *Oenanthe fistulosa* noted from within the vicinity of the Proposed Development lands. These species were not found during surveys at the site and are not likely to be found due the urban habitats present.

[13] Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

5.1.3 Fauna Species

66 A search of the NBDC database of species returned records for several fauna species within approximately 2km (refer to Section 3.4) of the subject lands.

5.1.3.1 Otter

67 The NBDC database holds records for the Annex II listed otter *Lutra lutra* within approximately 2km (refer to Section 3.4) of the subject lands, with the latest record being from 2015, approximately 200m west of the Proposed Development lands along the River Corrib.

68 Adjacent to the site there are areas of local amenity grassland (GA2), open track (ED2), treelines (WL2) & scattered trees, hedgerow (WD5), (low) stone walls (BL1/3, where cemented over) and a busy public road (BL3) between the south-western site boundary and the banks of the River Corrib. There is a lack of scrub cover throughout to provide safe passage between the riverbank and the open urban areas, for any potentially wide-foraging otters.

69 As such, the Proposed Development itself does not contain habitat (neither habitation nor feeding grounds) suitable to otter, and is therefore considered unsuitable for otter activity. Suitable habitats for otter exist off-site to the north in Terryland Forest Park.

70 Otter and their breeding and resting places, are protected under the Wildlife Act 1976 (as amended). Otter are also listed on Annex II and Annex IV of the EU Habitats Directive and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended). Otter have a widespread distribution in Ireland and typically otter territories are within the range of 7.5km for females and up to 21km for males[14]. Otter is a QI species of Lough Corrib SAC and Galway Bay Complex SAC, which are located c. 15m west and 700m south of the Proposed Development, respectively.

5.1.3.2 Bats

71 The NBDC database holds records of Annex II Lesser horseshoe Bat *Rhinolophus hipposideros*, within approximately 2km (refer to Section 3.4) of the subject lands. The distribution of lesser horseshoe bat, is restricted to six western counties including Cork, Kerry, Limerick, Clare, Galway and Mayo and is confined to discrete clusters within these counties[15]. The lesser horseshoe bat is also listed in Annex II of the Habitat Directive, necessitating the establishment of SACs for their protection. Lough Corrib SAC is the closest European site designated for the protection of the lesser horseshoe bat. All bats in Ireland are listed as being of "least concern" (Nelson *et al*., 2019).

72 Although there are Lesser horseshoe bat records from the locality, the local Lesser horseshoe bat population (associated with a network of roost sites around Galway City, including a known maternity roost site at Menlo Castle) is not part of, and does not support, the Qualifying Interest lesser horseshoe bat population of any SAC sites[16]. While, Lough Corrib SAC is the closest European site selected for the Lesser horseshoe bat *Rhinolophus hipposideros*, the roost that forms the QI population for this European site (buildings at Ebor Hall, Clonbur, Co. Galway) is *c*. 35km away from the Project, on the northern shores of Lough Corrib. Ross Lake and Woods SAC is the next closest European site selected for the Lesser horseshoe

[14] Ó'Neill, L., Veldhuizen, T., de Jongh, A. & Rochford, J. (2009). Ranging behaviour and socio-biology of Eurasian otters (*Lutra lutra*) on lowland mesotrophic river systems. European Journal of Wildlife Research. 55:363-370.

[15] NPWS & VWT (2022) Lesser Horseshoe Bat Species Action Plan 2022- 2026. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

[16] Arup (2018). *N6 Galway City Ring Road Project*. EIAR Chapter 8 Biodiversity and Natura Impact Statement prepared by Scott Cawley Ltd. On behalf of Galway City and County Council. Reports available online at https://www.n6galwaycityringroad.ie/

bat. The roost that forms the QI population for this European site (buildings at Ross House) is more than 17km from the Proposed Development. Lesser horseshoe bat were not recorded during any of the bat activity surveys.

5.1.3.3 Birds

73 The NDBC desk study identified records of 21 SCI bird species within c. 2km of the Proposed Development site. Records for five species that are listed under Annex I of the Birds Directive were recorded within a 2km (refer to Section 3.4) of the Proposed Development.

Wintering Birds

74 The desk study returned records of four species listed under Annex I of the Birds Directive and 12 SCI species.

75 The majority of wintering bird species identified in the desk study are typically found in coastal, estuarine, and wetland habitats, including Galway Bay, and wetland/marsh habitat in the River Corrib and Lough Corrib, e.g. bar-tailed godwit *Limosa lapponica*, goldeneye *Bucephala clangula,* greenshank *Tringa nebularia*, wigeon *Anas Penelope*, great northern diver *Gavia immer*, grey plover *Pluvialis squatarola*, Jack snipe *Lymnocryptes minimus*, northern pintail *Anas acuta*, purple sandpiper *Calidrus maritima*, red knot *Calidrus canutus*, and whimbrel *Numenius phaeopus*. There is no suitable habitat for these species within the Proposed Development, as it is comprised of man-made urban habitats. Suitable habitat for these species is located in close proximity to the site however, along the River Corrib, and in Terryland Forest Park.

76 No wintering bird species were observed foraging within the site during wintering bird surveys. Five species were observed flying over the site: black-headed gull *Chroicocephalus ridibundus*, herring gull *Larus argentatus,* common gull *Larus canus*, lesser black-backed gull *Larus fuscus* and oystercatcher *Haematopus ostralegus*. Mallard *Anas platyrhynchos* were observed flying over the River Corrib, adjacent to the Proposed Development site.

77 The nearest site designated for black-headed gull is Inner Galway Bay SPA, approximately 700m south of the Proposed Development site. The nearest site designated for herring gull, is Inishkea Islands SPA, located c. 120km northwest of the Proposed Development site. The nearest designated site for common gull is Inner Galway Bay SPA, approximately 700m south of the Proposed Development site. The nearest designated site for lesser black-backed gull is Lough Mask SPA, located *c*. 36.5km north west of the Proposed Development site. The nearest designated site for oystercatcher is Cumeen Strand SPA, located *c*. 115km north east of the Proposed Development site. The nearest site designated for mallard is Lough Ree SPA, located *c.* 74km east of the Proposed Development site.

78 Appendix II provides a list of all wintering birds recorded during the surveys.

Breeding Birds

79 The NBDC desk study returned records of three breeding bird species listed under Annex I of the Birds Directive. The three Annex I species include black-throated diver *Gavia artica*, little egret *Egretta garzetta*, and Mediterranean gull *Larus melanocephalus*, all of which are birds typically found in coastal and estuarine habitats. The nearest site designated for black-throated diver is Inner Galway Bay SPA, approximately 700m south of the Proposed Development site. The nearest site designated for black-throated diver is Seas off Wexford SPA, a considerable distance from the Proposed Development site.

80 No SCI bird species were recorded during the breeding bird surveys of the Proposed Development site.

81 Several bird species for which records were returned in the desk study are those typically found in coastal, estuarine and intertidal habitats, such as Galway Bay. Gulls favour nesting along coasts on shingle and cliffs but may utilise inland public areas for scavenging and buildings for roof nesting as per habitat preferences associated with the species as listed on BirdWatch Ireland (BirdWatch Ireland 2023). As such, some gull species may utilise the buildings adjacent to the Proposed Development for nesting. However, other species associated with estuarine and coastal habitats are not deemed likely to breed within the Proposed Development but could utilise the habitats adjacent to the Proposed Development site along the River

Corrib. The majority of records along the Proposed Development comprise bird species common to suburban habitats (including residential and parkland areas), such as gull and garden bird species. These species are therefore likely to use lands adjacent to the Proposed Development for breeding.

5.1.3.4 Aquatic Species

82 The desk study for the Proposed Development in the River Corrib revealed records of several significant fish species. Records of sea lamprey *Petromyzon marinus*, brook lamprey *Lampetra planeri*, and salmon *Salmo salar* were found in the vicinity of the site, which is approximately 15m from Lough Corrib SAC. There were no records of any other aquatic species that are QIs for European sites within the ZoI of the Proposed Development were found within 2km (refer to Section 3.4) of the Proposed Development site.

83 No aquatic surveys were undertaken as the Proposed Development site does not intersect with any watercourses. However due to the proximity of the Proposed Development to the River Corrib there is a possibility that surface runoff water during operation and construction could impact fish species in nearby water bodies.

5.1.3.5 Marine Mammals

84 Harbour seal *Phoca vitulina*, grey seal *Halichoerus grypus*, harbour porpoise *Phocoena phocoena*, and bottlenose dolphin *Tursiops truncatus* are known to be present in Galway Bay, and along the west coast. These species are all protected listed on Annex II of the Habitats Directive, whilst all cetaceans are also listed on Annex IV of the Habitats Directive.

85 There are NBDC records of harbour seal, grey seal, harbour porpoise and bottlenose dolphin within the vicinity of the Proposed Development. Harbour seal is a QI for Galway Bay Complex SAC, approximately 700m south of the site. Harbour porpoise is a QI for Inishmore Island SAC, located *c.* 38km southwest of the Proposed Development in Galway Bay. The nearest European site designated for grey seal and bottlenose dolphin is Slyne Head SAC, located *c.* 76km west of the Proposed Development.

5.2 Hydrology

86 There are no surface water features within the site, however the River Corrib is located c. 15m west of the Proposed Development. Terryland Stream lies approximately 130m north of the Proposed Development. The watercourses do not flow directly through the development and there is no direct hydrological connectivity between the Proposed Development and the River Corrib or Terryland Stream.

87 According to the EPA Map Viewer, the Water Framework Directive (WFD) (2000/60/EC) the status of the River Corrib is 'Good' and the status of Terryland Stream is 'Moderate' for the 2016 - 2021 monitoring period.

88 The Transitional Waterbody Quality 2018-2020 status for Corrib Estuary (IE_WE_170_0700) is "unpolluted". The river Corrib flows out to Galway Bay and the Coastal Waterbody Quality 2018-2020 status for Inner Galway Bay North (IE_WE_170_0000) is "unpolluted".

89 The Proposed Development straddles two separate River Sub Basins Terryland_010 (IE_WE_30T010500) and "Corrib_20" (IE_WE_30C020600), the majority of the development will be located on the Corrib_20 river sub basin only a small area encompassing The Black Box theatre (outside of the Proposed Development boundary) is located on the Terryland_010 river sub basin. Both are in the Corrib catchment area flowing into the River Corrib and Lough Corrib SAC and then on to Galway bay and Galway bay Complex SAC.

5.3 Hydrogeology

90 The Geological Survey of Ireland (GSI) data states that the study area for the development beneath the site and within the surrounding areas as a 'Regionally Important Aquifer - Karstified (conduit) (RKc). The Environmental Protection Agency (EPA) maps the groundwater body (GWB) beneath the Proposed Development site as the Clare-Corrib GWB. The Clare-Corrib GWB covers some 642 km^2 and occupies an

area across Co. Galway, Co. Mayo and Co. Roscommon (GSI, 2024)[17]. During periods of elevated groundwater levels, these sinks undergo a transformation into resurgences, releasing groundwater into the Terryland Stream. This augmented flow eventually converges with the River Corrib (IE_WE_30C020600), located approximately 70m west of the Proposed Development site at its closest point.

91 The karstic systems within the Clare-Corrib GWB exhibit high levels of interconnection, facilitating regional-scale flow systems. Groundwater can bypass surface water catchments by flowing beneath surface water channels and across catchment divides. Flow paths within karst areas can extend up to 10km in length. In the vicinity of the Proposed Development site groundwater flow likely follows a path that ultimately leads towards the River Corrib.

92 The Clare-Corrib GWB (IE_WE_G_0020) is currently classified by the EPA as having "Good" groundwater status and the groundwater risk is currently "Not at Risk".

93 The GSI (2017) Interim Vulnerability Map presently classifies the Groundwater vulnerability of the Project study area as High (Category H), and Subsoil Permeability is "Moderate".

5.4 Air Quality

94 The EPA produces an annual report on air quality[18], which includes results from air quality monitoring stations across various Air Quality Zones within Ireland. The EPA has divided the country into zones for the assessment and management of air quality. The zones adopted in Ireland are Zone A, the Dublin conurbation; Zone B, the Cork conurbation; Zone C, comprising 21 large towns in Ireland with a population >15,000; and Zone D, the remaining area of Ireland. The background air quality in the area of the Development is of good quality and the site is located in 'Zone C' as denoted by the EPA.

95 In terms of potential air quality impact assessment, the project has the potential to give rise to construction dust impact during the construction stage and during the operation of the development, there is the potential for air quality impact due to associated road traffic movements and space heating emissions.

96 The effects of air pollution derived from anthropogenic activities is known to have negative impacts on the environment, either directly by causing vegetation die-back, or indirectly by affecting the acidity and nutrient status of soils and waters[19]. Governments have set limit values for a range of air pollutants in ambient air, known as Air Quality Standards (AQS). The Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) transpose EU Directive 2008/50/EC into Irish law.

97 Construction works will take place <20m from Lough Corrib SAC which in accordance with the IAQM Guidance [20] it is considered a high sensitivity receiver. Therefore, the sensitivity of the Area to Ecological Impacts is High; in terms of potential earthworks, construction and track out dust impacts.

6 Potential Impacts, Zone of Influence and Identifying European Sites at Risk of Effects

98 Based on the baseline and receiving ecological environment and the nature and characteristics of the Proposed Development the following potential impacts have been identified:

- Habitat loss and fragmentation
- Habitat degradation as a result of hydrological impacts;

[17] https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/ClareCorribGWB.pdf

[18] Air Quality in Ireland 2021 (2022)

[19] Aherne, J. (2021) *Nitrogen–sulfur critical loads: Assessment of the impacts of air pollution on habitats.* Available at: https://www.epa.ie/publications/research/air/Research_Report_390.pdf (Accessed: June, 2023).

[20] IAQM (2024). *Guidance on the Assessment of Dust from Demolition and Construction*

- Habitat degradation as a result of hydrogeological impacts;
- Habitat degradation as a result of introducing/spreading non-native invasive species;
- Habitat degradation as a result of air quality impacts;
- Disturbance and displacement impacts; and
- Collision Risk

6.1 Habitat loss and fragmentation

99 The Proposed Development does not lie within or overlap with the boundary of any European site. Therefore, there are no European sites at risk of direct habitat loss impacts. As the Proposed Development does not traverse any European sites there is no potential for habitat fragmentation to occur.

100 The habitats within the Proposed Development do not support significant populations of any fauna species linked with the QI/SCI populations of any European site(s) in Appendix I for the following reasons:

- The Proposed Development provides no suitable habitat for otter given the lack of on-site watercourses. There are areas of local amenity grassland (GA2), open track (ED2), treelines (WL2) & scattered trees, hedgerow (WD5), stone walls (BL1) and a busy public road (BL3) between the western site boundary and the banks of the River Corrib. There is a lack of scrub cover throughout to provide safe passage between the riverbank and open urban areas for any potentially wide-foraging otter. As such, the proposed site does not contain habitat (habitation or feeding grounds) suitable to otter, and is therefore considered unsuitable for otter activity.
- Bird species that are SCIs of European sites have been recorded in the vicinity of the Proposed Development however the site is dominated by buildings artificial surfaces and provides very low suitability for SCI species. Low numbers of flying herring gull, common gull, lesser black-backed gull, black-headed gull, mallard and oystercatcher, and lack of evidence of usage by these or any other SCI species, indicates that the site does not support SCI species that may be associated with European sites in Appendix I. Therefore, this site does not represent an *ex-situ* site or habitat for the SCI species.
- A local Lesser horseshoe bat population is known to utilise a network of roost sites around Galway City, including a known maternity roost site at Menlo Castle. Research carried out on this species has suggested that the majority of feeding activity takes place within *c.* 2-3km of roosts during the year with occasional movements in excess of *c*. 4km (Bontadina *et al*. 2002[21]; and Biggane, 2003[22]). A review carried out by BCT of radio-tracked individuals, has defined the CSZ as within 2.5km of their roosts. From research carried out in Galway on radio-tracked Lesser horseshoe bats, this species has been shown to travel as far as *c.* 5.15km from roosts for foraging (Rush and Billington, 2014)[23]. As such, this local Galway City population is not included within or supporting, the Qualifying Interest Lesser horseshoe bat population of any SAC sites, with the closest SAC population being the Ross Lake and Woods SAC [001312] approximately 14.8km northwest, well beyond the normal and maximum foraging ranges of this species. Lesser horseshoe bats are known

[21] Bontadina, F., Schofield, H., and Naef-Daenzer, B. (2002). *Radio-tracking reveals that lesser horseshoe bats (Rhinolophus hipposideros) forage in woodland*. Journal of the Zoological Society of London, 258, 281-290. Available online at https://www.vincentwildlife.ie/wp-content/uploads/2015/04/bontadina-f-et-al-2002-radio-tracking-reveals-that-lesser-horseshoe-bats-forage-in-woodland.pdf

[22] Biggane, S. (2003) *The lesser horseshoe bat Rhinolophus hipposideros (Bechstein 1800) at Dromore, Co. Clare: diet, foraging activity, habitat selection and nocturnal behaviour*. Ph.D. Thesis, National University of Ireland, Galway, Ireland.

[23] Rush, T., and Billington, G. (2014). *Galway bat radio-tracking project. Radio tracking studies of lesser horseshoe and vesper bat species, August and September 2014*. Greena Ecological Consultancy. Witham Friary, 2014. Produced on behalf of Scott Cawley Ltd. to inform an Environmental Impact Assessment Report and Natura Impact Statement for the N6 Galway City Ring Road Project. Report available online at https://n6galwaycityringroad.ie/media/A.8.7.pdf

to preferably forage within broadleaved woodland and wetland areas, the Proposed Development will therefore not result in the loss of any of this populations preferred commuting or foraging habitat, as there is no suitable habitat within or directly adjacent to the Proposed Development Extents Boundary. Given the lack of recent evidence of use of the castle by Lesser horseshoe bats and the fact that this small local Galway City population is not linked with the QI populations of any European sites, likely significant effects can be ruled out for this species.

101 As the Proposed Development will not result in habitat loss or habitat fragmentation within any European site and will not affect any *ex-situ* sites used by SCI bird species/populations, there is no potential for any in combination effects to occur in that regard.

6.2 Habitat degradation as a result of hydrological impacts

102 The potential release of contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water drainage during construction, or operation, has the potential to affect water quality in the receiving environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and/or leaks of contaminants into receiving waters.

103 Based on the findings of the Hydrological and Hydrogeological Risk Assessment Report for the Proposed Development (Enviroguide Consulting, 2025), it is considered that in the absence of any mitigation or avoidance measures that there would be a potential impact on water quality of the Corrib River, the Corrib Estuary and associated downstream European sites. There is also a potential risk associated with the indirect (mains drainage) discharge of surface water runoff from the Proposed Development on the receiving water quality of the Terryland Stream, the Corrib River, the Corrib Estuary and associated downstream European sites.

104 A pollution event, of a sufficient magnitude, has the potential to affect the receiving aquatic and marine environments (either alone or in combination with other pressures on water quality) to an extent that undermines the conservation objectives of Lough Corrib SAC and the European sites downstream in Galway Bay – Galway Bay Complex SAC and Inner Galway Bay SPA

105 A reduction in water quality as a result of an accidental pollution event or additional sediment load (either alone or in combination with other pressures on water quality) could result in the degradation of the local aquatic environment, which could in turn negatively affect QI species including otter, fish species such as Atlantic salmon, sea lamprey and brook lamprey, as well as marine mammals. This could also result in the degradation of sensitive QI habitats present within these European sites, which in turn would negatively affect the QI and SCI species that rely upon these habitats.

106 Therefore, there is the possibility of the Proposed Development undermining the conservation objectives of the qualifying interests or special conservation interests of Lough Corrib SAC, Lough Corrib SPA, Galway Bay SAC and Inner Galway Bay SPA, either alone or in combination with any other plans or projects, as a result of hydrological effects.

Foul Water

107 Foul water discharge from the temporary welfare units at the site during the construction phase will be either tankered offsite in accordance with waste management legislation or discharged under temporary consent to the UÉ mains foul network for treatment at Galway WWTP.

108 Foul water from the Proposed Development will only be discharged to the UÉ network under the appropriate consents from UÉ. The Galway WWTP (EPA Licence No. D0050-01) was identified by UÉ to have sufficient capacity to accept foul water from the Proposed Development subject to provision of the new WWPS and upgrade works to the existing 150mm diameter sewer from Dyke Road to Wood Quay, which will be completed by UÉ in advance of any connection from the site.

109 Therefore, based on the findings of Hydrological and Hydrogeological Risk Assessment Report (Enviroguide Consulting, 2025), it is considered that the Proposed Development will not cause a potential impact on any

receiving waterbody or European sites associated with foul water discharges from the Proposed Development site.

6.3 Habitat degradation as a result of hydrogeological impacts

110 The Proposed Development lies within the Clare-Corrib GWB. While the overall groundwater flow direction of Clare-Corrib GWB generally trends towards the River Clare and Lake Corrib, the highly karstified bedrock introduces significant local variability in flow directions. In the vicinity of the site groundwater flow likely follows a path that ultimately leads towards the River Corrib (Enviroguide Consulting, 2025). During groundworks and excavations, the groundwater vulnerability will be increased and there will be a more direct pathway for surface contaminants to enter the underlying bedrock aquifer and migrate towards downgradient receiving surface water bodies.

111 The Clare-Corrib GWB beneath the site is considered to have high levels of interconnection between groundwater and surface water with limited potential for attenuation of dissolved phase contaminants which have the potential to rapidly migrate towards receiving watercourses and European sites.

112 Based on the findings of the Hydrological and Hydrogeological Risk Assessment Report (Enviroguide Consulting, 2025), in an unmitigated scenario, there is a potential risk associated with the discharge of contaminants to ground affecting both the underlying aquifer and downstream waterbodies including the Corrib River, the Corrib Estuary and associated downstream European sites.

113 Five of the Qualifying Interests of Lough Corrib SAC, including priority Annex I habitats Petrifying springs with tufa formation, Active raised bogs, Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* as well as Alkaline fens and Degraded raised bogs still capable of natural regeneration, are dependent upon the existing condition and functioning of the groundwater regime. Three of the Qualifying Interests of Galway Bay SAC, including priority Annex I habitats, Turloughs and Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* as well as Alkaline fens are also groundwater-dependent.

114 As the GWB underlying the Proposed Development site is considered to have high levels of interconnection between groundwater and surface water, there is potential for water quality impacts to affect QI species of Lough Corrib SAC including otter and aquatic species such as Atlantic salmon, sea lamprey and brook lamprey, as well as QI species of Inner Galway Bay, otter and harbour seal. Groundwater and surface water quality impacts could also affect potential *ex-situ* sites used by wintering bird species listed as SCIs for Lough Corrib SPA and/or Inner Galway Bay SPA. This impact could affect the type, quality and extent of suitable habitat available to SCI bird species at *ex-situ* sites which lie within the hydrogeological ZoI.

115 Therefore, there is the possibility of the Proposed Development undermining the conservation objectives of all of the Qualifying Interests or Special Conservation Interests of Lough Corrib SAC, Lough Corrib SPA, Galway Bay SAC and Inner Galway Bay SPA , either alone or in combination with any other plans or projects, as a result of hydrogeological effects.

6.4 Habitat degradation as a result of introducing/spreading non-native invasive species

116 No non-native invasive plant species were recorded within the Proposed Development and no species currently listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 were recorded within the site during the 2023 and 2025 surveys. As the site is largely built ground, there is little which is unsuitable for plant species. As such, there is no possibility of the Proposed Development undermining the conservation objectives of the qualifying interests or special conservation interests of the European site as a result of accidentally spreading or introducing non-native invasive species.

117 As such, there is no possibility of the Proposed Development undermining the conservation objectives of the QIs or SCIs of any European site as a result of accidentally spreading or introducing non-native invasive species

6.5 Disturbance and displacement impacts

118 Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the Proposed Development. For mammal species such as otter, disturbance effects would not be expected to extend beyond 150m[24]. For birds, disturbance effects would not be expected to extend beyond a distance of *c*. 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance[25].

119 Lough Corrib SAC is within the disturbance ZoI and there is the potential for Qualifying Interest species to be disturbed and displaced from foraging habitat within the site for the duration of construction and/or operation. Whilst Galway Bay Complex SAC is not within the disturbance ZoI of the Proposed Development, it is possible that the QI otter population from this SAC, overlap with the Lough Corrib population. Research carried out by Ó Néill *et al.,* (2009)[26] on ranging behaviours of otter on river systems in Ireland found that female otter ranges averaged *c*. 7.5km while male otter home ranges varied between *c.* 7-19km. Increased human presence and/or noise and vibration associated with construction works may temporarily displace commuting or foraging otter, particularly during noisy activities. Otter are known to tolerate human disturbance under certain circumstances[27],[28]. Construction works will typically be undertaken during normal daylight working hours. Whilst otters are generally nocturnal in habit, and can (in many circumstances) tolerate high levels of human presence and disturbance, temporary displacement in the vicinity of the Proposed Development noise and vibration associated with construction works could temporarily displace commuting or foraging otter during the construction phase of the development. Therefore, there is potential for the Proposed Development to result in significant effects (albeit short-term) which could have implications for the conservation objectives of Lough Corrib SAC and Galway Bay Complex SAC as a result of disturbance/displacement impacts on otter during construction.

120 The measured ambient noise level (rounded to the nearest 5 dB) in proximity to the site is in the range of 60 - 65 dB LAeq,12 Hour during daytime. Therefore, all noise sensitive receptors fall into Category A of the 'ABC' assessment methodology. Hence, daytime construction noise will be subject to a limit of 65 dB LAeq,12 Hour. No night-time or evening construction works is expected to take place. There will be instances where the noise levels exceed this, i.e. a dump truck within the site at 82dB, however these instances are very short term and not expected to cause a population effect on local wintering bird species, particularly as suitable habitats are present in the wider landscape within the River Corrib, Lough Corrib and Galway Bay.

[24] This is consistent with Transport Infrastructure Ireland (TII) guidance (*Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes* and *Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes*) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual ZoI of construction related disturbance likely to be much less in reality.

[25] The disturbance zone of influence for waterbirds is based on the relationship between the noise levels generated by general construction traffic/works (BS 5228:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 Noise) and the proximity of those noise levels to birds – as assessed in Cutts, N. Phelps, A. & Burdon, D. (2009) *Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance*, and Wright, M., Goodman, P & Cameron, T. (2010) *Exploring Behavioural Responses of Shorebirds to Impulsive Noise*. Wildfowl (2010) 60: 150–167. At 300m, noise levels are below 60dB or, in most cases, are approaching the 50dB threshold below which no disturbance or displacement effects would arise.

[26] Ó'Néill, L., Veldhuizen, T., de Jongh, A., and Rochford, J. (2009). *Ranging behaviour and socio-biology of Eurasian otters (Lutra lutra) on lowland mesotrophic river systems*. European Journal of Wildlife Research 55(4):363-370.

[27] Bailey, M. and Rochford J. (2006) *Otter Survey of Ireland 2004/2005*. Irish Wildlife Manuals, No. 23. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

[28] The Environment Agency (2010). *Fifth otter survey of England 2009-2010*. Environment Agency, Almondsbury, Bristol, England

6.6 Habitat degradation as a result of air quality impacts

Construction

121 The Proposed Development has the potential to generate dust during construction works which could affect vegetation in habitat areas adjacent to the Proposed Development. This includes reduction in photosynthesis due to smothering from dust on the plants and chemical changes such as acidity to soils. Whilst potential impacts on vegetation and habitats arising from air pollution associated with a project of this nature is generally greatest within *c.* 50-100m; impacts may also occur beyond this to a maximum distance of *c.* 200m from the road development and haul routes construction vehicles (NRA, 2011; Natural England, 2016; Bignal *et al*., 2004).

122 Dust deposition due to demolition, earthworks, construction and trackout has the potential to affect sensitive habitats and plant communities. Dust can have two types of effect on vegetation: physical and chemical. Direct physical effects include reduced photosynthesis, respiration and transpiration through smothering. Chemical changes to soils or watercourses may lead to a loss of plants or animals for example via changes in acidity. Indirect effects can include increased susceptibility to stresses such as pathogens and air pollution. These changes are likely to occur only as a result of long-term demolition and construction works adjacent to a sensitive habitat. Often impacts will be reversible once the works are completed, and dust emissions cease.

123 Lough Corrib SAC is located approximately 15m west of the site boundary. Construction works will take place <20m from Lough Corrib SAC which in accordance with IAQM Guidance (IAQM, 2024) is considered a high sensitivity receiver. Therefore, the sensitivity of the Area to Ecological Impacts is High; in terms of construction and track out dust impacts, and low risk for earthworks. Therefore, European sites within 200m of the Proposed Development have the potential to be impacted by dust during the construction phase of the development, i.e. Lough Corrib SAC.

Operation

124 Interactions between air quality and traffic can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the Proposed Development on air quality were assessed by reviewing the change in annual average daily traffic on roads close to the site. Additional traffic as a result of the Proposed Development is predicted to cause an increase in NOx concentrations within Lough Corrib SAC. TII guidelines state that as the potential impact of a development is limited to a local level, detailed consideration need only be given to roads where there is a significant change to traffic flows (>5%) and the designated / ecologically sensitive site is located within 200m of the road centre line.

The predicted Annual Average Daily Traffic (AADT) on Dyke Road and the Headford Road with the Proposed Development do not increase by more than 5% (refer to Chapter 13 of this EIAR). Therefore, an assessment of traffic emissions on the designated / ecologically sensitive site is not required. This increase is below the assessment criteria stipulated in the TII and Design Manual for Roads and Bridges (DMRB) guidance (TII, 2022[29] and Highways Agency, 2020[30]) and therefore is not considered significant.

6.7 Collision Risk

125 The presence of new multi-storey structures within the Proposed Development site could potentially result in direct mortality of bird species that utilise the site for commuting, due to collisions. Bird collisions with

[29] Transport Infrastructure Ireland (2022) Air Quality Assessment of Specified Infrastructure Projects Overarching Technical Guidance, PE-ENV-01106

[30] Highways Agency (2020) DMRB Sustainability & Environment. Appraisal LA 105 Air quality. DMRB LA105 Air quality (formerly HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15)

man-made structures are common and well documented[31] with migratory passerine species the most prevalent collision victims[32]. Bird collision with buildings is generally associated with reflective material such as windows or large surfaces of glass which create a mirror and appear to show the continuation of the sky or surrounding landscape, an effect that can be exacerbated by lighting[33]. Whilst the design of the facades of the Proposed Development do include windows, no large surfaces of glass are proposed.

126 The use of different materials and design in the facades and elevations will minimise the effect of glazing, making the building more detectable to birds and therefore reduce the potential for collisions to occur. In the absence of mitigation there could be a low level of mortality attributable to bird collision with glazing on the proposed buildings, however this impact is unlikely to cause any significant effect at a local scale or any other geographic scale.

127 SCI species for SPAs within the ZoI of the Proposed Development regularly navigate the urban environment and travel over built structures. For context on their avoidance capabilities, in a different setting and for use in collision risk modelling for onshore wind turbines, an avoidance rate of 99.5% is applied for large gull species and an avoidance rate of 99.2% is applied for small gull species (Furness, 2019)[34], which means that 99.5% and 99.2% of gull flights, respectively, will avoid collision with a moving turbine. For curlew the avoidance rate applied is 98% (SNH, 2018)[35]. The risk of collision is even lower with a static, detectable building. While the presence of the Proposed Development might alter flight patterns of bird species to avoid the proposed building structures the risk of collision is extremely low.

128 Considering the low collision risk associated with the species in question, in combination with the building location, design and materials used, the potential for mortality due to building collisions is low. It is acknowledged that there could be a low level of mortality attributable to bird collision with glazing on the proposed buildings. However, due to the low numbers of species and individuals recorded over the Proposed Development site and their avoidance capabilities, this impact would not result in any population level effect or change in distribution of any species, including any SCI species for SPAs within the ZoI of the Proposed Development.

6.8 Summary

129 The potential impacts associated with the Proposed Development have the potential to affect the receiving environment and, as a result, the conservation objectives supporting the Qualifying Interest/Special

[31] Banks, R.C (1979). *Human related mortality of birds in the United States*. U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl. 215. 16 pp.

Jenkins, A., Smallie, J.J. and Diamond, M. (2010). Avian collisions with power lines: A global review of causes and mitigation with a South African perspective. *Bird Conservation International*, 20(03), 263 – 278.

Klem, D. (1990). Collisions between birds and windows: mortality and prevention. *Journal of Field Ornithology*, 61, 120–128.

Erickson, W.P., Johnson, G.D. and Young, P.D. (2005). *A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions*. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191. 2005.

Erickson, W. P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K. J. Sernka, and R. E. Good. (2001). *Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States*. National Wind Coordinating Committee, c/o RESOLVE, Inc., Washington, D.C.

[32] Bing G.-C., Choi C.-Y., Nam H.-Y., Park J.-G., Hong G.-P., Sung J.-K., Chae H.-Y & Choi Y.-B. (2012). Causes of mortality in birds at stopover islands. *Korean J. Ornithol*., 19, 23–31.

Longcore, T. Rich, C., Mineau, P., MacDonald, B., Bert, D.G., Sullivan, L.M., Mutrie, E., et al. (2013). Avian mortality at communication towers in the United States and Canada: which species, how many, and where? *Biological Conservation,* 158, 410-419.

[33] Sheppard, C. & Phillips, G. (2015). *Bird-Friendly Building Design*, 2nd Ed. The Plains, VA: American Bird Conservancy, 2015.

[34] Furness, R.W. (2019) Avoidance rates of herring gull, great black-backed gull and common gull for use in the assessment of terrestrial wind farms in Scotland. Scottish Natural Heritage Research Report No. 1019.

[35] Scottish Natural Heritage (SNH). (2018) Avoidance Rates for the onshore SNH Wind Farm Collision Risk Model. September 2018 v2.

Conservation Interests of Galway Bay Complex SAC, Inner Galway Bay SPA, Lough Corrib SAC and Lough Corrib SPA

130 The potential impacts of the Proposed Development on the receiving environment, their zone of influence, and the European sites at risk of likely significant effects are summarised in **Table 4** below.

Table 4 Summary of the potential impacts of the Proposed Development on the receiving environment, their potential zone of influence, and the European sites within the zone of influence

Potential Direct or Indirect Impacts and zone of influence of the Potential Effects	**Are there any European sites within the zone of influence?**
Habitat loss Habitat loss will be confined to the lands within the Proposed Development boundary.	No There are no European sites within the Proposed Development boundary.
Habitat degradation as a result of hydrological impacts Habitats and species downstream of the Proposed Development site and the associated surface water drainage discharge points, and downstream of offsite wastewater treatment plants.	Yes Lough Corrib SAC, Galway Bay Complex SAC and Inner Galway Bay SPA are potentially at risk of hydrological effects arising from surface water run-off and pollution associated with the construction and/or operational phases of the Proposed Development.
Habitat degradation as a result of hydrogeological impacts Groundwater-dependant habitats, and the species those habitats support, in the local area that lie downgradient of the Proposed Development site.	Yes Lough Corrib SAC, Lough Corrib SPA, Galway Bay SAC and Inner Galway Bay SPA are potentially at risk of hydrogeological effects associated with the Proposed Development.
Habitat degradation as a result of introducing/spreading non-native invasive species Habitat areas within, adjacent to, and potentially downstream of the Proposed Development site.	No There are no non-native invasive species present on the Proposed Development site and, therefore, no risk associated with the Proposed Development to any European sites from the spread/introduction of non-native invasive species.
Disturbance and displacement impacts Potentially up to several hundred metres from the Proposed Development boundary, dependent upon the predicted levels of noise, vibration and visual disturbance associated with the Proposed Development, taking into account the sensitivity of the qualifying interest species to disturbance effects	Yes Lough Corrib SAC and Galway Bay Complex SAC are within the potential zone of influence of disturbance effects associated with the construction the Proposed Development.
Habitat degradation as a result of air quality impacts QI habitats, and QI/SCI species that rely upon these habitats for forage/roosting within 20km of the Proposed Development site are potentially at risk.	Yes Lough Corrib SAC is potentially at risk of air quality impacts associated with the Proposed Development.
Collision Risk for bird species that utilise the site for commuting due to the new multi-storey building.	No No possibility of the Proposed Development undermining the conservation objectives of the QIs or

	SCIs of any European sites as a result of mortality from building collisions.

7 Assessment of Effects on European Sites

131 This section of the NIS assesses the direct and indirect impacts of the Proposed Development on the European sites which fall within its zone of influence. For each of these European sites, the assessment below sets out the relevant ecological baseline information, the analysis of the potential impacts, the Qualifying Interests/Special Conservation Interests at risk of these potential impacts, in view of the sites' conservation objectives, and the mitigation measures (if required) to avoid/reduce the effects of any potential impacts.

132 The assessment of the Proposed Development in combination with any other plans or projects on European sites is presented in Section 8.

7.1 Lough Corrib SAC [000297]

7.1.1 Ecological Baseline Description for Lough Corrib SAC

133 The Natura 2000 Standard Data Form[36] lists the site as one of the best examples of a large lacustrine catchment system in Ireland, taking in rivers that include the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. The SAC also takes in a range of habitats (total of 15 Annex I habitats of the E.U. Habitats Directive), six of which are priority Annex I habitats that includes broad range of grasslands, bogs, fens, springs, exposed limestone and woodland. Nine species which are listed on Annex II are present within the SAC and rely on both protected and not protected habitats.

7.1.2 Qualifying Interests and Conservation Objectives of Lough Corrib SAC

134 The QIs of Lough Corrib SAC and its overall conservation objective are listed in Table 5.

[36]NPWS (2022) *Lough Corrib SAC [000297] Site Synopsis*

Table 5 Qualifying Interests and Conservation Objectives of Lough Corrib SAC

Interest(s)	Conservation Objective(s)
1029 Freshwater Pearl Mussel *Margaritifera margaritifera*	To restore the favourable conservation condition
1092 White-clawed Crayfish *Austropotamobius pallipes*	To maintain the favourable conservation condition
1095 Sea Lamprey *Petromyzon marinus*	To restore the favourable conservation condition
1096 Brook Lamprey *Lampetra planeri*	To maintain the favourable conservation condition
1106 Salmon *Salmo salar*	To maintain the favourable conservation condition
1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	To restore the favourable conservation condition
1355 Otter *Lutra lutra*	To maintain the favourable conservation condition
1393 Slender Green Feather-moss *Drepanocladus vernicosus*	To maintain the favourable conservation condition
1833 Slender Naiad *Najas flexilis*	To restore the favourable conservation condition
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	To restore the favourable conservation condition
3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea	To restore the favourable conservation condition
3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	To restore the favourable conservation condition
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	To maintain the favourable conservation condition
6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	To maintain the favourable conservation condition
7110 Active raised bogs*	To restore the favourable conservation condition
7120 Degraded raised bogs still capable of natural regeneration	The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Lough Corrib SAC
7150 Depressions on peat substrates of the Rhynchosporion	Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Lough Corrib SAC

Interest(s)	Conservation Objective(s)
7210 Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae*	To maintain the favourable conservation condition
7220 Petrifying springs with tufa formation (Cratoneurion)*	To maintain the favourable conservation condition
7230 Alkaline fens	To maintain the favourable conservation condition
8240 Limestone pavements*	To maintain the favourable conservation condition
91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	To maintain the favourable conservation condition
91D0 Bog woodland*	To maintain the favourable conservation condition

135 In conjunction with considering the generic conservation objective for this SAC "To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected", the site specific conservation objectives document for Lough Corrib SAC also informed this assessment.

136 The site specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the Qualifying Interests within the European site. Affecting the conservation condition of the Qualifying Interests/Special Conservation Interests is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the Qualifying Interests of for Lough Corrib SAC are presented in Table 6.

7.1.3 Examination and Analysis of Potential Direct and Indirect Impacts

137 The direct and/or indirect impacts by which the Proposed Development could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the Qualifying Interests of Lough Corrib SAC are:

- Habitat degradation as a result of hydrological impacts;
- Habitat degradation as a result of hydrogeological impacts;
- Habitat degradation as a result of air quality impacts; and
- Disturbance and displacement impacts.

7.1.3.1 Habitat degradation as a result of hydrological impacts

138 Surface water run-off discharges from the Proposed Development will drain into the existing local surface water drainage network. The potential Zone of Influence of potential effects on water quality from the Proposed Development could extend downstream of the study area, via the local surface water network.

139 The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during Construction, or Operation phases, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and the accidental spillage and/or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge.

140 Due to the close proximity of surface water features to the Proposed Development site (see Figure 1), in the absence of mitigation, the associated effects of a reduction of surface water quality could potentially

extend for a considerable distance downstream of the discharge point or location of the accidental pollution event. Such an occurrence, of a sufficient magnitude, either alone or in combination with other pressures on water quality, and in the absence of mitigation could undermine the conservation objectives of Lough Corrib SAC. This reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect QI species which rely upon these habitats. It could also result in the degradation of the local aquatic environment, which could in turn negatively affect QI species including otter and fish species such as Atlantic salmon, sea lamprey and brook lamprey.

7.1.3.2 Habitat degradation as a result of hydrogeological impacts

141 An accidental pollution event during construction, or operation, has the potential to affect groundwater quality locally and any groundwater dependent habitat downgradient of the Proposed Development. The local hydrogeological regime potentially contributes to and supports Qualifying Interest priority Annex I habitats within Lough Corrib SAC. As the surface drainage from the Proposed Development discharges into the Terryland Stream and the wetlands of Lough Corrib SAC, there is the potential for the Proposed Development to result in significant effects which could have implications for the conservation objectives of Lough Corrib SAC.

7.1.3.3 Habitat degradation as a result of air quality impacts

Construction

142 The Proposed Development has the potential to generate dust during construction works which could affect vegetation in habitat areas adjacent to the Proposed Development. This includes reduction in photosynthesis due to smothering from dust on the plants and chemical changes such as acidity to soils. Whilst potential impacts on vegetation and habitats arising from air pollution associated with a project of this nature is generally greatest within c. 50-100m; impacts may also occur beyond this to a maximum distance of c. 200m from the road development and haul routes construction vehicles (NRA, 2011; Natural England, 2016; Bignal *et al*., 2004).

143 Dust deposition due to demolition, earthworks, construction and trackout has the potential to affect sensitive habitats and plant communities. Dust can have two types of effect on vegetation: physical and chemical. Direct physical effects include reduced photosynthesis, respiration and transpiration through smothering. Chemical changes to soils or watercourses may lead to a loss of plants or animals for example via changes in acidity. Indirect effects can include increased susceptibility to stresses such as pathogens and air pollution. These changes are likely to occur only as a result of long-term demolition and construction works adjacent to a sensitive habitat. Often impacts will be reversible once the works are completed, and dust emissions cease.

144 Lough Corrib SAC is located approximately 15m west of the site boundary. Construction works will take place <20m from Lough Corrib SAC which in accordance with IAQM Guidance (IAQM, 2024) is considered a high sensitivity receiver. Therefore, the sensitivity of the Area to Ecological Impacts is High; in terms of construction and track out dust impacts, and low risk for earthworks. Therefore, European sites within 200m of the Proposed Development have the potential to be impacted by dust during the construction phase of the development, i.e. Lough Corrib SAC.

Operation

145 Interactions between air quality and traffic can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the Proposed Development on air quality were assessed by reviewing the change in annual average daily traffic on roads close to the site. Additional traffic as a result of the Proposed Development is predicted to cause an increase in NOx concentrations within Lough Corrib SAC. TII guidelines state that as the potential impact of a development is limited to a local level, detailed consideration need only be given to roads where there is a significant change to traffic flows (>5%) and the designated / ecologically sensitive site is located within 200m of the road centre line.

146 The predicted AADT traffic flows on Dyke Road and the Headford Road with the Proposed Development do not increase by more than 5%. Therefore, an assessment of traffic emissions on the designated / ecologically sensitive site is not required. This increase is below the assessment criteria stipulated in the TII[37] and DMRB[38] guidance and therefore is not considered significant.

7.1.3.4 Disturbance and displacement impacts

147 Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the Proposed Development. For mammal species such as otter, disturbance effects would not be expected to extend beyond 150m[24]. For birds, disturbance effects would not be expected to extend beyond a distance of *c.* 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance[25].

148 Lough Corrib SAC is within the disturbance ZoI and there is the potential for Qualifying Interest species to be disturbed and displaced from foraging habitat within the site for the duration of construction and/or operation. Whilst Galway Bay Complex SAC is not within the disturbance ZoI of the Proposed Development, it is possible that the QI otter population from this SAC, overlap with the Lough Corrib population. Research carried out by Ó Néill *et al*., (2009) on ranging behaviours of otter on river systems in Ireland found that female otter ranges averaged *c.* 7.5km while male otter home ranges varied between *c.* 7-19km. Increased human presence and/or noise and vibration associated with construction works may temporarily displace commuting or foraging otter, particularly during noisy activities. Otter are known to tolerate human disturbance under certain circumstances. Construction works will typically be undertaken during normal daylight working hours. Whilst otters are generally nocturnal in habit, and can (in many circumstances) tolerate high levels of human presence and disturbance, temporary displacement in the vicinity of the Proposed Development noise and vibration associated with construction works could temporarily displace commuting or foraging otter during the construction phase of the development. Therefore, there is potential for the Proposed Development to result in significant effects (albeit short-term) which could have implications for the conservation objectives of Lough Corrib SAC and Galway Bay Complex SAC as a result of disturbance/displacement impacts on otter during construction.

149 The measured ambient noise level (rounded to the nearest 5 dB) in proximity to the site is in the range of 60 - 65 dB LAeq,12 Hour during daytime. Therefore, all noise sensitive receptors fall into Category A of the 'ABC' assessment methodology. Hence, daytime construction noise will be subject to a limit of 65 dB LAeq,12 Hour. No night-time or evening construction works is expected to take place. There will be instances where the noise levels exceed this, i.e. a dump truck within the site at 82dB, however these instances are very short term and not expected to cause a population effect on local wintering bird species, particularly as suitable habitats are present in the wider landscape within the River Corrib, Lough Corrib and Galway Bay.

7.1.3.5 Summary

150 Table 6 presents a summary of the potential impacts of the Proposed Development on the Qualifying Interests of Lough Corrib SAC, and how these impacts relate to affecting the site's conservation objectives.

[37] Transport Infrastructure Ireland (2022) Air Quality Assessment of Specified Infrastructure Projects Overarching Technical Guidance, PE-ENV-01106

[38] Highways Agency (2020) DMRB Sustainability & Environment. Appraisal LA 105 Air quality. DMRB LA105 Air quality (formerly HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15)

Table 6 Potential Impacts/Effects on the Conservation Objectives of Lough Corrib SAC

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Lough Corrib SAC			
Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Typical species / Occurrence / Typical species present, in good condition, and demonstrating typical abundances and distribution			
Vegetation composition: characteristic zonation / Occurrence / All characteristic zones should be present, correctly distributed and in good condition			
Vegetation distribution: maximum depth / Metres / Restore maximum depth of vegetation, subject to natural processes			
Hydrological regime: water level fluctuations / Metres / Maintain appropriate natural hydrological regime necessary to support the habitat			
Lake substratum quality / Various / Restore appropriate substratum type, extent and chemistry to support the vegetation			
Water quality: transparency / Metres / Restore appropriate Secchi transparency. There should be no decline in Secchi depth/transparency			
Water quality: nutrients / µ/l P; mg/l N / Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species			
Water quality: phytoplankton biomass / µ/l Chlorophyll a / Restore appropriate water quality to support the habitat, including high chlorophyll a status			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Water quality: phytoplankton composition / EPA phytoplankton composition metric / Maintain appropriate water quality to support the habitat, including high phytoplankton composition status			
Water quality: attached algal biomass / Algal cover and EPA phytobenthos metric / Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status			
Water quality: macrophyte status / EPA macrophyte metric (The Free Index) / Maintain high macrophyte status			
Acidification status / pH units; mg/l / Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes			
Water colour / mg/l PtCo / Restore/maintain appropriate water colour to support the habitat			
Dissolved organic carbon (DOC) / mg/l / Restore/maintain appropriate organic carbon levels to support the habitat			
Turbidity / Nephelometric turbidity units/ mg/l SS/ other appropriate units / Restore/maintain appropriate turbidity to support the habitat			
Fringing habitat : area and condition / Hectares / Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3110			
Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is protected during construction and	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Typical species / Occurrence / Typical species present, in good condition, and demonstrating typical abundances and distribution			
Vegetation composition: characteristic zonation / Occurrence / All characteristic zones should be present, correctly distributed and in good condition			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation distribution: maximum depth / Metres / Restore maximum depth of vegetation, subject to natural processes	cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	operation of the Proposed Development.	
Hydrological regime: water level fluctuations / Metres / Maintain appropriate natural hydrological regime necessary to support the habitat			
Lake substratum quality / Various / Restore appropriate substratum type, extent and chemistry to support the vegetation			
Water quality: transparency / Metres / Restore appropriate Secchi transparency. There should be no decline in Secchi depth/transparency			
Water quality: nutrients / µ/l P; mg/l N / Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species			
Water quality: phytoplankton biomass / µ/l Chlorophyll a / Restore appropriate water quality to support the habitat, including high chlorophyll a status			
Water quality: phytoplankton composition / EPA phytoplankton composition metric / Maintain appropriate water quality to support the habitat, including high phytoplankton composition status			
Water quality: attached algal biomass / Algal cover and EPA phytobenthos metric / Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status			
Water quality: macrophyte status / EPA macrophyte metric (The Free Index) / Maintain high macrophyte status			
Acidification status / pH units; mg/l / Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes			
Water colour / mg/l PtCo / Restore/maintain appropriate water colour to support the habitat			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Dissolved organic carbon (DOC) / mg/l / Restore/maintain appropriate organic carbon levels to support the habitat			
Turbidity / Nephelometric turbidity units/ mg/l SS/ other appropriate units / Restore/maintain appropriate turbidity to support the habitat			
Fringing habitat : area and condition / Hectares / Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3130			
Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. [3140] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Typical species / Occurrence / Typical species present, in good condition, and demonstrating typical abundances and distribution			
Vegetation composition: characteristic zonation / Occurrence / All characteristic zones should be present, correctly distributed and in good condition			
Vegetation distribution: maximum depth / Metres / Restore maximum depth of vegetation, subject to natural processes			
Hydrological regime: water level fluctuations / Metres / Maintain appropriate natural hydrological regime necessary to support the habitat			
Lake substratum quality / Various / Restore appropriate substratum type, extent and chemistry to support the vegetation			
Water quality: transparency / Metres / Restore appropriate Secchi transparency. There should be no decline in Secchi depth/transparency			
Water quality: nutrients / µ/l P; mg/l N / Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species			
Water quality: phytoplankton biomass / µ/l Chlorophyll a / Restore appropriate water quality to support the habitat, including high chlorophyll a status			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Water quality: phytoplankton composition / EPA phytoplankton composition metric / Maintain appropriate water quality to support the habitat, including high phytoplankton composition status			
Water quality: attached algal biomass / Algal cover and EPA phytobenthos metric / Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status			
Water quality: macrophyte status / EPA macrophyte metric (The Free Index) / Maintain high macrophyte status			
Acidification status / pH units; mg/l / Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes			
Water colour / mg/l PtCo / Restore/maintain appropriate water colour to support the habitat			
Dissolved organic carbon (DOC) / mg/l / Restore/maintain appropriate organic carbon levels to support the habitat			
Turbidity / Nephelometric turbidity units/ mg/l SS/ other appropriate units / Restore/maintain appropriate turbidity to support the habitat			
Fringing habitat : area and condition / Hectares / Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3140			
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Kilometres / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Hydrological regime: river flow / Metres per second / Maintain appropriate hydrological regimes			
Hydrological regime: groundwater discharge / Metres per second / Maintain appropriate hydrological regimes			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Substratum composition: particle size range / Millimetres / Maintain appropriate substratum particle size range, quantity and quality, subject to natural process	magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	protected during construction and operation of the Proposed Development.	
Water quality / Various / Maintain appropriate water quality to support the natural structure and functioning of the habitat			
Vegetation composition: typical species / Occurrence / Typical species of the relevant habitat sub-type should be present and in good condition			
Floodplain connectivity: area / Hectares / The area of active floodplain at and upstream of the habitat should be maintained			
Riparian habitat: area / Hectares / Maintain the area and condition of fringing habitats necessary to support the habitat and its sub-types			
***Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]** To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Vegetation composition: typical species / Number at a representative number of monitoring stops / At least seven positive indicator species present, including one "high quality" species as listed in O'Neill *et al.* (2013)			
Vegetation composition: negative indicator species / Percentage at a representative number of monitoring stops / Negative indicator species collectively not more than 20% cover, with cover by an individual species not more than 10%			
Vegetation composition: nonnative species / Percentage at a representative number of monitoring stops / Cover of non-native species not more than 1%			
Vegetation composition: moss species / Percentage at a representative number of monitoring stops / Hair mosses (*Polytrichum* spp.) not more than 25% cover			
Vegetation structure: woody species and bracken / Percentage at a representative number of monitoring stops / Cover of woody species and bracken (*Pteridium aquilinum*) not more than 5%			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation structure: broadleaf herb: grass ratio / Percentage at a representative number of monitoring stops / Broadleaf herb component of vegetation between 40% and 90%			
Vegetation structure: sward height / Percentage at a representative number of monitoring stops / At least 30% of sward between 10cm and 80cm tall			
Vegetation structure: litter / Percentage at a representative number of monitoring stops / Litter cover not more than 25%			
Physical structure: bare soil / Percentage at a representative number of monitoring stops / Not more than 10% bare soil			
Physical structure: disturbance / Square metres / Area showing signs of serious grazing or other disturbance less than 20m²			
Active raised bogs [7110]* To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Restore the area of active raised bog to 78.8ha, subject to natural processes	None, this QI is located within a separate WFD catchment and GWB, and is not located downstream of the Proposed Development.	No	No
Habitat distribution / Occurrence / Restore the distribution and variability of active raised bog across the SAC			
High bog area / Hectares / No decline in extent of high bog subject to the conservation requirements of the SAC.			
Hydrological regime: water levels / Centimetres / Restore appropriate water levels throughout each site			
Hydrological regime: flow patterns / Flow direction; slope / Restore, where possible, appropriate high bog topography, flow directions and slopes.			
Transitional areas between high bog and adjacent mineral soils (including cutover areas) / Hectares; distribution / Restore adequate transitional areas to support/protect the raised bog ecosystem and the services it provides			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation quality: central ecotope, active flush, soaks, bog woodland / Hectares / Restore 39.4ha of central ecotope/active flush/soaks/bog woodland as appropriate			
Vegetation quality: microtopographical features / Hectares / Restore adequate cover of high quality microtopographical features			
Vegetation quality: bog moss (*Sphagnum*) species / Percentage cover / Restore adequate cover of bog moss (*Sphagnum*) species to ensure peat-forming capacity			
Typical ARB species: flora / Occurrence / Restore, where appropriate, typical active raised bog flora			
Typical ARB species: fauna / Occurrence / Restore, where appropriate, typical active raised bog fauna			
Elements of local distinctiveness / Occurrence / Maintain features of local distinctiveness, subject to natural processes			
Negative physical indicators / Percentage cover / Negative physical features absent or insignificant			
Vegetation composition: native negative indicator species / Percentage cover / Native negative indicator species at insignificant levels			
Vegetation composition: nonnative invasive species / Percentage cover / Non-native invasive species at insignificant levels and not more than 1% cover			
Air quality: nitrogen deposition / kg N/ha/yr / Air quality surrounding the bogs close to natural reference conditions. The total nitrogen deposition should not exceed 5kg N/ha/yr			
Water quality / Hydrochemical measures / Water quality on the high bog and in transitional areas close to natural reference conditions			
Degraded raised bogs still capable of natural regeneration [7120] The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Lough Corrib SAC			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Depressions on peat substrates of the Rhynchosporion [7150] Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Lough Corrib SAC			
Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae [7210]* To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Ecosystem function: hydrology / Metres / Maintain appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat			
Ecosystem function: peat formation / Flood duration / Maintain active peat formation, where appropriate			
Ecosystem function: water quality / Water chemistry measures / Maintain appropriate water quality, particularly nutrient levels, to support the natural structure and functioning of the habitat			
Vegetation structure: typical species / Presence / Maintain vegetation cover of typical species including brown mosses and vascular plants			
Vegetation composition: nonnative species / Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops / Cover of non-native species less than 1%			
Vegetation composition: trees and shrubs / Percentage cover in local vicinity of a representative number of monitoring stops / Cover of scattered native trees and shrubs less than 10%			
Physical structure: disturbed bare ground / Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops / Cover of disturbed bare ground not more than 10%. Where tufa is present, disturbed bare ground not more than 1%			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Physical structure: drainage / Percentage area in local vicinity of a representative number of monitoring stops / Areas showing signs of drainage as a result of drainage ditches or heavy trampling not more than 10%			
Indicators of local distinctiveness / Occurrence and population size / No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat			
Petrifying springs with tufa formation (Cratoneurion) [7220]*			
To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Square metres / Area stable or increasing, subject to natural processes	None, this priority QI is located within a separate GWB, and is not located downstream of the Proposed Development	No	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Hydrological regime: height of water table; water flow / Metres; metres per second / Maintain appropriate hydrological regimes			
Water quality - nitrate level / mg/l / No increase from baseline nitrate level and less than 10mg/l			
Water quality - phosphate level µg/l No increase from baseline phosphate level and less than 15µg/l			
Vegetation composition: positive indicator species / Number per spring / At least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number			
Vegetation composition: negative indicator species / Cover (DAFOR scale) / Potentially negative indicator species should not be Dominant or Abundant; invasive species should be absent			
Vegetation structure: sward height / Centimetres / Field layer height between 10cm and 50cm (except for bryophyte-dominated ground			
Physical structure: trampling/dung / Cover (DAFOR scale) / Cover should not be Dominant or Abundant			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Alkaline fens [7230] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface or ground water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to the Terryland River, lower River Corrib is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Ecosystem function: soil nutrients / Soil pH and appropriate nutrient levels at a representative number of monitoring stops / Maintain soil nutrient status within natural rang			
Ecosystem function: peat formation / Flood duration / Maintain active peat formation, where appropriate			
Ecosystem function: hydrology / Metres / Maintain appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat			
Ecosystem function: water quality / Water chemistry measures / Maintain appropriate water quality, particularly nutrient levels, to support the natural structure and functioning of the habitat			
Community diversity / Abundance of variety of vegetation communities / Maintain variety of vegetation communities, subject to natural processes			
Vegetation composition: number of positive indicator species (brown mosses) / Number of species at a representative number of 2m x 2m monitoring stops / Number of brown moss species present at each monitoring stop is at least one			
Vegetation composition: number of positive indicator species (vascular plants) / Number of species at a representative number of 2m x 2m monitoring stops / Number of positive vascular plant indicator species present at each monitoring stop is at least two for small-sedge flushes and at least three for black bog-rush (*Schoenus nigricans*) flush and bottle sedge (*Carex rostrata*) fen			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation composition: cover of positive indicator species / Percentage cover at a representative number of 2m x 2m monitoring stops / Total cover of brown moss species and positive vascular plant indicator species at least 20% for small-sedge flushes and at least 75% cover for black bog-rush (*Schoenus nigricans*) flush and bottle sedge (*Carex rostrata*) fen			
Vegetation composition: negative indicator species / Percentage cover at a representative number of 2m x 2m monitoring stops / Total cover of negative indicator species less than 1%			
Vegetation composition: nonnative species / Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops / Cover of non-native species less than 1%			
Vegetation composition: native trees and shrubs / Percentage cover in local vicinity of a representative number of monitoring stops / Cover of scattered native trees and shrubs less than 10%			
Vegetation composition: soft rush and common reed cover / Percentage cover in local vicinity of a representative number of monitoring stops / Total cover of soft rush (*Juncus effusus*) and common reed (*Phragmites australis*) less than 10%			
Vegetation structure: height / Percentage of leaves/shoots at a representative number of 2m x 2m monitoring stops / Proportion of live leaves and/or flowering shoots of vascular plants that are more than 5cm above the ground surface should be at least 50%			
Physical structure: disturbed bare ground / Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops / Cover of disturbed bare ground less than 10%			
Physical structure: drainage / Percentage area in local vicinity of a representative number of monitoring stops / Area showing signs of drainage as a result of drainage ditches or heavy trampling less than 10%			
Physical structure: tufa formations / Percentage cover in local vicinity of a representative number of 2m x 2m monitoring stops / Disturbed proportion of vegetation cover where tufa is present is less than 1%			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Indicators of local distinctiveness / Occurrence and population size / No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat			
Limestone pavements [8240] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	No there is no direct loss of any habitat corresponding to this priority Annex I habitat type nor potential for hydrological/hydrogeological impacts arising from the Proposed Development.	No	No
Distribution / Occurrence / No decline, subject to natural processes.			
Vegetation composition: typical species / Number at a representative number of monitoring stops / At least seven positive indicator species present			
Vegetation composition: bryophyte layer / Percentage at a representative number of monitoring stops / Bryophyte cover at least 50% on wooded pavement			
Vegetation composition: negative indicator species / Percentage at a representative number of monitoring stops / Collective cover of negative indicator species on exposed pavement not more than 1%			
Vegetation composition: nonnative species / Percentage at a representative number of monitoring stops / Cover of non-native species not more than 1% on exposed pavement; on wooded pavement not more than 10% with no regeneration			
Vegetation composition: scrub / Percentage at a representative number of monitoring stops / Scrub cover no more than 25% of exposed pavement			
Vegetation composition: bracken cover / Percentage at a representative number of monitoring stops / Bracken (*Pteridium aquilinum*) cover no more than 10% on exposed pavement			
Vegetation structure: woodland canopy / Percentage at a representative number of monitoring stops / Canopy cover on wooded pavement at least 30%			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation structure: dead wood / Occurrence in a representative number of monitoring stops / Sufficient quantity of dead wood on wooded pavement to provide habitat for saproxylic organisms			
Physical structure: disturbance / Occurrence in a representative number of monitoring stops / No evidence of grazing pressure on wooded pavement			
Indicators of local distinctiveness / Occurrence / Indicators of local distinctiveness are maintained			
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	No there is no direct loss of any habitat corresponding to this Annex I habitat type nor potential for hydrological/hydrogeological impacts arising from the Proposed Development.	No	No
Habitat distribution / Occurrence / No decline			
Woodland size / Hectares / Area stable or increasing. Where topographically possible, "large"; woods at least 25ha in size and “small” woods at least 3ha in size.			
Woodland structure: cover and height / Percentage and metres / Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semimature trees and shrubs; and well-developed herb layer			
Woodland structure: community diversity and extent / Hectares / Maintain diversity and extent of community types			
Woodland structure: natural regeneration / Seedling: sapling: pole ratio / Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy			
Woodland structure: dead wood / m^3 per hectare; number per hectare / At least 30m^3/ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter			
Woodland structure: veteran trees / Number per hectare / No decline			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Woodland structure: indicators of local distinctiveness / Occurrence / No decline			
Vegetation composition: native tree cover / Percentage / No decline. Native tree cover not less than 95%			
Vegetation composition: typical species / Occurrence / A variety of typical native species present, depending on woodland type, including oak (*Quercus petraea*) and birch (*Betula pubescens*)			
Vegetation composition: negative indicator species / Occurrence / Negative indicator species, particularly non-native invasive species, absent or under control			
Bog woodland [91D0]* To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes. At least 1.22ha.	No there is no direct loss of any habitat corresponding to this priority Annex I habitat type nor potential for hydrological/hydrogeological impacts arising from the Proposed Development.	No	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Vegetation composition: positive indicator species / Number in a representative number of monitoring stops / Birch (*Betula pubescens*), bog moss (*Sphagnum*) species and at least five other indicator species present			
Vegetation composition: negative indicator species / Percentage cover at a representative number of monitoring stops / Both native and non-native invasive species absent or under control. Total cover should be less than 10%			
Woodland structure: cover and height of birch / Percentage cover and metres at a representative number of monitoring stops / A minimum 30% cover of birch (*Betula pubescens*) with a median canopy height of 4m			
Woodland structure: dwarf shrub cover / Percentage cover at a representative number of monitoring stops / Dwarf shrub cover not more than 50%			
Woodland structure: ling cover / Percentage cover at a representative number of monitoring stops / Ling (*Calluna vulgaris*) cover not more than 40%			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Woodland structure: bryophyte cover / Percentage cover at a representative number of monitoring stops / Bryophyte cover at least 50%, with bog moss (*Sphagnum* spp.) cover at least 25%			
Woodland structure: tree size classes / Occurrence / Each size class present			
Woodland structure: senescent and dead wood / Occurrence / Senescent or dead wood present			
Freshwater Pearl Mussel *Margaritifera margaritifera* [1029] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution / Kilometres / Maintain at 9.1km	Yes The population of freshwater pearl mussel for which the site is designated relates to the Owenriff catchment which, itself, is hydrologically isolated and upstream of the Terryland River and Lower River Corrib and is, therefore at no risk of water quality or groundwater effects. However, salmonid species passing through the lower River Corrib, form a key supporting role to the qualifying interest freshwater pearl mussel population and are at risk of water quality impact in the lower River Corrib. An accidental pollution event during construction or operation at times of high water could affect groundwater inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that groundwater quality inputting to the Terryland River and lower River Corrib is protected during construction and operation of the Proposed Development.	No
Population size / Number of adult mussels / Restore Owenriff population to at least one million adult mussels			
Population structure: recruitment / Percentage per size class / Restore to at least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length			
Population structure: adult mortality / Percentage / No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution			
Suitable habitat: extent / Kilometres / Restore suitable habitat in more than 8.3km in the Owenriff and Glenawbeg rivers and any additional stretches necessary for salmonid spawning			
Water quality: macroinvertebrate and phytobenthos (diatoms) / Ecological quality ratio (EQR) / Restore water quality - macroinvertebrates: EQR greater than 0.90 (Q4-5 or Q5); phytobenthos: EQR greater than 0.93			
Substratum quality: filamentous algae (macroalgae); macrophytes (rooted higher plants) / Percentage / Restore substratum quality - filamentous algae: absent or trace (less than 5%); macrophytes: absent or trace (less than 5%)			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Substratum quality: sediment / Occurrence / Restore substratum quality - stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment	sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the salmonid fish populations they support.		
Substratum quality: oxygen availability / Redox potential / Restore to no more than 20% decline from water column to 5cm depth in substrate			
Hydrological regime: flow variability / Metres per second / Restore appropriate hydrological regimes			
Host fish / Number / Maintain sufficient juvenile salmonids to host glochidial larvae			
Fringing habitat: area and condition / Hectares / Maintain the area and condition of fringing habitats necessary to support the population			
White-clawed Crayfish *Austropotamobius pallipes* [1092] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution: rivers / Occurrence / No reduction from baseline	No White-clawed crayfish are not present in the SAC downgradient of the Project or downstream of the Terryland River (as per the results of white-clawed crayfish surveys of the lower River Corrib presented in the application documents for the N6 GCRR project). Therefore, there are no risks of impacting white-clawed crayfish in Lough Corrib SAC.	No	No
Distribution: Lough Corrib / Occurrence / No reduction from baseline			
Population structure: recruitment / Occurrence of juveniles and females with eggs / Juveniles and/or females with eggs in all occupied tributaries and occupied parts of Lough Corrib			
Negative indicator species / Occurrence / No alien crayfish species			
Disease / Occurrence / No instances of disease			
Water quality / EPA Q value / At least Q3-4 at all sites sampled by EPA			
Habitat quality: heterogeneity / Occurrence of positive habitat features / No decline in habitat heterogeneity or habitat quality			
Sea Lamprey *Petromyzon marinus* [1095] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Distribution: extent of anadromy / Percentage of river accessible / Greater than 75% of main stem length of rivers accessible from estuary	Yes An accidental pollution event during construction or operation could affect ground water inputting to the Terryland River and downstream in the lower River Corrib and Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that ground water quality inputting to the Terryland River, lower River Corrib, the Corrib Estuary and Galway Bay is protected during construction and operation of the Proposed Development.	No
Population structure of juveniles / Number of age/size groups / At least three age/size present			
Juvenile density in fine sediment / Juveniles/m² / Mean catchment juvenile density at least 1/m²			
Extent and distribution of spawning habitat / m² and occurrence / No decline in extent and distribution of spawning beds			
Availability of juvenile habitat / Number of positive sites in 3rd order channels (and greater), downstream of spawning areas / More than 50% of sample sites positive, with a minimum of four positive sites in a catchment, which are at least 5km apart			
Brook Lamprey *Lampetra planeri* [1096] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution / Percentage of river accessible / Access to all watercourses down to first order streams	Yes An accidental pollution event during construction or operation could affect surface water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to the Terryland River, lower River Corrib, is protected during construction and operation of the Proposed Development..	No
Population structure of juveniles / Number of age/size groups / At least three age/size groups of brook/river lamprey present			
Juvenile density in fine sediment / Ammocoetes/m² / Mean catchment ammocoete density of brook/river lamprey at least 5/m²			
Extent and distribution of spawning habitat / m² and occurrence / No decline in extent and distribution of spawning beds			
Availability of juvenile habitat / Number of positive sites in 2nd order channels (and greater), downstream of spawning areas / More than 50% of sample sites positive			
Salmon *Salmo salar* [1106] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Distribution: extent of anadromy / Percentage of river accessible / 100% of river channels down to second order accessible from estuary	Yes An accidental pollution event during construction or operation could affect surface water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to the Terryland River, lower River Corrib, is protected during construction and operation of the Proposed Development..	No
Adult spawning fish / Number / Conservation limit (CL) for each system consistently exceeded			
Salmon fry abundance / Number of fry/5 minutes electrofishing / Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling			
Out-migrating smolt abundance / Number / No significant decline			
Number and distribution of redds / Number and occurrence / No decline in number and distribution of spawning redds due to anthropogenic causes			
Water quality / EPA Q value / At least Q4 at all sites sampled by EPA			
Lesser Horseshoe Bat *Rhinolophus hipposideros* [1303] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Population per roost / Number / Minimum number of 100 bats for summer roost (roost id. 217 in NPWS database)	No. The main roost associated with this QI species, is located at Ebor Hall, on the northern shores of Lough Corrib, approximately 36km from the Proposed Development. As such, there is no potential for likely significant effects on this species.	No	No
Summer roosts / Condition / No decline			
Number of auxiliary roosts / Number and condition / No decline			
Extent of potential foraging habitat / Hectares / No significant decline			
Linear features / Kilometres / No significant loss, within 2.5km of qualifying roosts			
Light pollution / Lux / No significant increase in artificial light intensity adjacent to named roost or along commuting routes within 2.5km of the roost			
Otter *Lutra lutra* [1355] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution / Percentage positive survey sites / No significant decline	Yes	Yes	No

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Extent of terrestrial habitat / Hectares / No significant decline. Area mapped and calculated as 1,054ha along river banks/ lake shoreline/around ponds	An accidental pollution event during construction or operation could affect surface water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support. Noise, vibration and increased works, with the proposed construction, particularly if required at night-time which otter utilise could potentially result in negative impacts to QI otter populations.	The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to the Terryland River, lower River Corrib, is protected during construction and operation of the Proposed Development. The mitigation measures described in Section 7.2.5 to manage a range of potential disturbance risk will minimise the potential impacts to QI otter population.	
Extent of freshwater (river) habitat / Kilometres / No significant decline. Length mapped and calculated as 314.2km			
Extent of freshwater (lake) habitat / Hectares / No significant decline. Area mapped and calculated as 4,178ha			
Couching sites and holts / Number / No significant decline			
Fish biomass available / Kilograms / No significant decline			
Barriers to connectivity / Number / No significant increase			
Slender Green Feather-moss *Drepanocladus vernicosus* [1393] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution of populations / Number and geographical spread of populations / No decline, subject to natural processes	No, the known distribution of this QI species are located within a separate WFD catchment and GWB, and are not located downstream of the Proposed Development (NPWS, 2017).	No	No
Population size / Number of individuals / No decline, subject to natural processes			
Population cover / Percentage cover in a representative number of 2m x 2m monitoring plots / Mean percentage cover of slender green feather-moss (*Hamatocaulis vernicosus*) should be at least 45%			
Area of suitable habitat / Hectares / No decline, subject to natural processes			
Hydrological conditions: water table level / Metres / Maintain suitable hydrological conditions			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation composition: tree cover / Percentage cover in a representative number of 2m x 2m monitoring plots / Mean percentage tree cover should be less than 15%			
Vegetation composition: shrub cover / Percentage cover in a representative number of 2m x 2m monitoring plots / Mean percentage shrub cover should be less than 20%			
Vegetation composition: grass cover / Percentage cover in a representative number of 2m x 2m monitoring plots / Mean percentage grass species cover should be less than 25%			
Vegetation composition: bryophyte cover / Percentage cover in a representative number of 2m x 2m monitoring plots / Mean percentage bryophyte cover should be more than 50%			
Vegetation composition: cover of *Calliergonella cuspidata* / Percentage cover in a representative number of 2m x 2m monitoring plots / Mean percentage cover of *Calliergonella cuspidata* should be less than 15%			
Vegetation structure: vegetation height / Centimetres in a representative number 2m x 2m monitoring plots / Mean vegetation height should not exceed 40cm			
Slender Naiad *Najas flexilis* [1833] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Population extent / Hectares; distribution / Restore the spatial extent of *Najas flexilis* within the lake, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface water inputting to the Terryland River and downstream in the lower River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the	Yes The mitigation measures described in Section 7.1.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to the Terryland River, lower River Corrib, is protected during construction and operation of the Proposed Development..	No
Population depth / Metres / Restore the depth range of *Najas flexilis* within the lake, subject to natural processes			
Population viability / Plant traits / Restore plant fitness, subject to natural processes			
Population abundance / Square metres / Restore the cover abundance of *Najas flexilis*, subject to natural processes			
Species distribution / Occurrence / Restore to at least the southwestern bay, subject to natural processes			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Habitat extent / Hectares / Restore, subject to natural processes	habitats and the fauna communities they support.		
Hydrological regime: water level fluctuations / Metres / Maintain appropriate natural hydrological regime necessary to support the habitat for the species			
Lake substratum quality / Various / Restore appropriate substratum type, extent and chemistry to support the population of the species			
Water quality / Various / Restore appropriate water quality to support the population of the species			
Acidification status / pH units; mg/l / Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the population of *Najas flexilis*, subject to natural processes			
Water colour / mg/l PtCo / Restore/maintain appropriate water colour to support the population of *Najas flexilis*			
Associated species / Species composition and abundance / Restore appropriate associated species and vegetation communities to support the population of *Najas flexilis*			
Fringing habitat: area and condition / Hectares / Maintain the area and condition of fringing habitats necessary to support the population of *Najas flexilis*			

7.1.4 Mitigation Measures

151 This section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Development on Lough Corrib SAC. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

7.1.4.1 Measures to Protect Surface and Ground Water Quality during Construction

152 During the Construction Phase, all works will be undertaken in accordance with the Construction Environmental Management Plan (CEMP) (AECOM, 2025b). Following appointment, the contractor will be required to further develop the CEMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532', CIRIA, 2001). The CEMP will be implemented for the duration of the Construction Phase, covering construction and waste management activities that will take place during the Construction Phase of the Proposed Development. Mitigation works will be adopted as part of the construction works for the Proposed Development. These measures will address the main activities of potential impact which include:

- Control and Management of surface water runoff;
- Control and management of shallow groundwater during excavation and dewatering;
- Management and control of soil and materials;
- Appropriate fuel and chemical handling, transport and storage; and,
- Management of accidental release of contaminants at the site.

153 Surface water runoff management will be required to prevent runoff entering excavations during construction. Surface water will require diversion around the open excavations using standard temporary drainage methods to ensure that surface water is effectively conveyed around works areas.

154 The dewatering methodology to be implemented by the appointed Contractor will ensure that any dewatering is confined to the localised zone and does not extend towards the site boundaries.

155 There will be no authorised discharge of water to ground during the construction phase. Where water must be pumped from the excavations, water will be discharged by the contractor, following appropriate treatment (e.g., settlement or hydrocarbon interceptor) to sewer in accordance with the necessary discharge licences issued by UÉ under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from FCC under Section 4 of the Local Government (Water Pollution) Act 1977, as amended for discharges to surface water. Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released offsite. Where required, all public sewers will be protected to ensure that any untreated wastewater generated onsite does not enter the public sewers.

156 Where required, standard design and construction measures (i.e., groundwater drainage around impermeable subsurface structures) will ensure that groundwater flow across the site is maintained and that there will be no impact on groundwater levels.

157 During the construction phase, fuelling and lubrication of equipment will be carried out in accordance with the procedures outlined in the CEMP in a designated area of the Proposed Development site away from any watercourses and drains (where not possible to carry out such activities onsite). Any diesel, fuel or hydraulic oils stored onsite will be stored in designated areas. These areas will be bunded and located away from surface water drainage and features. Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). The main contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing.

158 Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised on-site is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the Proposed Development site. Only emergency breakdown maintenance will be carried out on-site. Drip trays and spill kits will be available on-site to ensure that any spills from vehicles are contained and removed off-site. There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the Proposed Development, which will be placed on suitable drip trays. Regular monitoring of drip tray content will be undertaken to ensure sufficient capacity is maintained at all times.

159 Emergency procedures will be developed by the appointed Contractor in advance of works commencing and spillage kits will be available on-site including in vehicles operating on-site. Construction staff will be familiar with emergency procedures in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements. The emergency procedures shall be cognisant of the following:

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.
- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the Proposed Development site and compliantly disposed of off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- All construction works staff on-site will be fully trained on the use of equipment.

160 Pumping of concrete will be monitored to ensure that there is no accidental discharge. All work will be carried out in the dry and effectively isolated from any onsite drains. A suitable risk assessment for wet concreting will be completed prior to works being carried out. There will be no mixer washings or excess concrete discharged onsite. All excess concrete is to be removed from site and all washout of concrete chutes to be captured in a tank which shall be removed offsite for disposal at an authorised waste facility.

161 Given the vulnerability of the underlying groundwater at the site, the shallow groundwater table, the potential presence of karst landforms and the detectable concentrations of hydrocarbons in shallow soils (GII, 2024), it is recommended that a piling risk assessment is completed by the appointed Contractor at detailed design stage and in advance of construction works commencing onsite. The proposed piling methodology will give cognisance to the Environment Agency's (EA) guidance on '*Piling into Contaminated Sites*' (EA, 2002) and '*Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention*' (EA, 2001), in order to minimise the potential for the introduction of any temporary conduit between any potential sources of contamination at the ground surface and underlying groundwater. The piling method will also include procedures to ensure any potential impact to water quality is prevented including preventing surface runoff or other piling/drilling fluids from entering the pile bores and surrounding formation. Where there is a requirement to use lubricants, drilling fluids or additives the contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.

162 All below ground drainage infrastructure will be constructed in accordance with current UÉ requirements to ensure that there are no potential impacts to groundwater quality. Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the construction phase of the Proposed

Development will either be discharged to temporary holding tank(s), the contents of which will periodically be tankered offsite to a licensed facility, or discharged to public sewer in accordance with the necessary temporary discharge licences issued by UÉ. The Galway WWTP is operated in accordance with relevant statutory approvals issued by UÉ. The increase discharge to the Galway WWTP as a result of the Proposed Development is considered to be insignificant in terms of the overall scale of the facility. The increased load does not have the capacity to alter the effluent released from the WWTP to such an extent as to result in likely significant effects on its receiving waters.

7.1.4.2 Measures to prevent disturbance/displacement

163 Night working within/directly adjacent to watercourses where otter are known to commute will be avoided, where possible, and will only be permitted with the prior approval of the planning authority. Where night-working adjacent to watercourses known to support otter, is required, the advice of a suitably qualified ecologist/ECoW must be sought and a derogation licence, if necessary, will be sought from NPWS permitting such works.

164 Security lighting in active works areas in close proximity to watercourses with known otter activity will be designed in conjunction with a suitably qualified ecologist to minimise light spill. Similarly, where any new or amended lighting design is required at a watercourse crossing, it should be cognisant of downward light-spill onto watercourses. Measures to reduce light spill may include the following:

- The use of sensor/timer triggered lighting;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- Column heights should be considered to minimise light spill; and
- Accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only where needed.

7.1.4.3 Measures to Prevent Habitat Degradation as a result of Air Quality during construction

165 Construction site dust control measures and good construction site management and practice is capable of effectively mitigating the potential for significant impact of fugitive dust emissions. Therefore, the potential for fugitive dust emission effects at the nearest sensitive ecological receptors will be controlled to ensure impacts are of negligible significance.

166 Using the IAQM methodology for the assessment of air quality impacts from construction activities has indicated that the ecological impacts are low risk for earthworks and are high risk for construction and trackout.

167 In accordance with the IAQM Guidance, the highest risk category should be applied when determining proposed mitigation measures. Therefore, the mitigation measures applicable to a High Risk site will be applied:

168 <u>General Measures</u>

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
- Display the head or regional office contact information.

Dust Management

- Develop and implement a Dust Management Plan (DMP), which shall include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real-time PM10 continuous monitoring and/or visual inspections.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked
- Record any exceptional incidents that cause dust and/or air emissions, either on or offsite, and the action taken to resolve the situation in the logbook.
- Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary if applicable, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site;
- Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below; and
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles will be permitted;
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable;
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas; and,
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate;
- Use enclosed chutes and conveyors and covered skips;
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and,

- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials;
- The IAQM Guidance Mitigation Measures applicable to the specific works undertaken are as follows:

Measures specific *to earthworks*

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and,
- Only remove the cover in small areas during work and not all at once.

Measures specific to construction

- Avoid scabbling (roughening of concrete surfaces) if possible;
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; and,
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Measures specific to trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport;
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
- Record all inspections of haul routes and any subsequent action in a site logbook;
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable);
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits; and
- Access gates to be located at least 10 m from dust sensitive receptors.

7.1.5 Residual Impacts

169 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Development poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the Qualifying Interests of Lough Corrib SAC, and there are therefore, no residual direct or indirect impacts associated with the Proposed Development that could adversely affect the integrity of Lough Corrib SAC.

7.1.6 Conclusion of Assessment for Lough Corrib SAC

170 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the qualifying interests of Lough Corrib SAC, the potential impacts and mitigation measures , and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the Qualifying Interests, it has been concluded that the Proposed Development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Lough Corrib SAC.

7.2 Lough Corrib SPA [004042]

7.2.1 Ecological Baseline Description for Lough Corrib SPA

171 The Natura 2000 Standard Data Form[39] lists the site being considered Internationally Important for wintering waterbirds in excess of 20,000. This includes populations of internationally important numbers of Pochard, and another six nationally important wintering waterfowl species. The site also contains a nationally important communal roost site for Hen Harrier, breeding site for Common Scoter, and breeding populations for Black-headed Gull, Common Gull, Common Tern and Arctic Tern. There is also regularly occurring species listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Greenland White-fronted Goose, Hen harrier, Golden Plover, Common Tern and Arctic Tern. The site is a Ramsar Convention site.

7.2.2 Special Conservation Interests and Conservation Objectives of Lough Corrib SPA

172 The Special Conservation Interests of Lough Corrib SPA and the overall conservation objectives, are listed below in Table 7.

Table 7 Special Conservation Interests and Conservation Objectives of Lough Corrib SPA

Special Conservation Interest(s)	Conservation Objective(s)
A051 Gadwall *Anas strepera* A056 Shoveler *Anas clypeata* A059 Pochard *Aythya ferina* A061 Tufted Duck *Aythya fuligula* A065 Common Scoter *Melanitta nigra* A082 Hen Harrier *Circus cyaneus* A125 Coot *Fulica atra* A140 Golden Plover *Pluvialis apricaria* A179 Black-headed Gull *Chroicocephalus ridibundus* A182 Common Gull *Larus canus* A193 Common Tern *Sterna hirundo* A194 Arctic Tern *Sterna paradisaea* A395 Greenland White-fronted Goose *Anser albifrons flavirostris* A999 Wetlands	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. To maintain the favourable conservation condition of the wetland habitat in the SPA.

173 In conjunction with considering the generic conservation objective for this SPA "To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA", and "*To maintain the favourable conservation condition of the wetland habitat in the SPA*" the site specific conservation objectives document for Lough Corrib SPA also informed this assessment.

174 The site specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the Special Conservation Interests within the European site. Affecting the conservation condition of the Qualifying Interests/Special Conservation Interests is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the Special Conservation Interests for Lough Corrib SPA are presented in Table 8.

[39] NPWS (2014) *Lough Corrib SPA [004042] Site Synopsis*

7.2.3 Examination and Analysis of Potential Direct and Indirect Impacts

175 The direct and/or indirect impacts by which the Proposed Development could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Lough Corrib SPA are:

- Habitat degradation as a result of hydrological impacts.
- Habitat degradation as a result of hydrogeological impacts.

7.2.3.1 Habitat degradation as a result of hydrological impacts.

176 Lough Corrib SPA contains suitable inland foraging/roosting sites located within the potential ZoI of the Proposed Development. Potential impacts may arise due to the direct loss of important ex-situ inland sites that individual SCI bird species of local SPA populations rely upon as feeding and/or roosting habitat where these sites fall within the Proposed Development boundary. An accidental pollution event during construction or operation could affect the surface water inputting to the Terryland River and the River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support. Therefore, there is potential for the Proposed Development to result in significant effects which could have implications for the conservation objectives of Lough Corrib SPA.

7.2.3.2 Habitat degradation as a result of hydrogeological impacts.

177 An accidental pollution event during construction or operation could affect the ground waterbody inputting to the Terryland River and the River Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support. Lough Corrib SPA contains suitable inland foraging/roosting sites located within the potential ZoI of the Proposed Development. Potential impacts may arise due to the direct loss of important ex-situ inland sites that individual SCI bird species of local SPA populations rely upon as feeding and/or roosting habitat where these sites fall within the Proposed Development boundary. Therefore, there is potential for the Proposed Development to result in significant effects which could have implications for the conservation objectives of Lough Corrib SPA.

7.2.3.3 Summary

178 Table 8 below presents a summary of the potential impacts of the Proposed Development on the SCIs of Lough Corrib SPA, and how these impacts relate to affecting the site's conservation objectives.

Table 8 Potential Impacts/Effects on the Conservation Objectives of Lough Corrib SPA

Conservation Objectives Attribute/Measure/Target	**Potential Impacts Requiring Mitigation?**	**Are mitigation measures required?**	**Residual Impacts?**
Lough Corrib SPA [004042]			
Gadwall *Anas strepera* [A051], Shoveler *Anas clypeata* [A056], Pochard *Aythya farina* [A059], Tufted Duck *Aythya fuligula* [A061], Coot *Fulica atra* [A125] To restore the favourable conservation condition of the species in the SPA, which is defined as follows:			
Winter population trend / Percentage change in number of individuals / Long term winter population trend is stable or increasing	Yes An accidental pollution event during construction or operation could affect the surface water in Terryland River and Lough Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.2.4 to protect water quality in the receiving environment will ensure that surface water quality is protected during construction and operation of the Proposed Development.	No
Winter spatial distribution / Hectares, time and intensity of use / Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target			
Disturbance at wintering site / Intensity, frequency, timing and duration / Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution			
Barriers to connectivity and site use / Number, location, shape and hectares / Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA			
Forage spatial distribution, extent and abundance / Location, hectares, and forage biomass / Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target			
Roost spatial distribution and extent / Location and hectares of roosting habitat / Sufficient number of locations, area and availability of suitable roosting habitat to support the population target			
Common Scoter *Melanitta nigra* [A065] To maintain the favourable conservation condition of the common scoter in the SPA, which is defined as follows:			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Breeding population trend / Percentage change in number of potential breeding pairs / Long term trend is stable or increasing	Yes An accidental pollution event during construction or operation could affect the surface water in Terryland River and Lough Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.2.4 to protect water quality in the receiving environment will ensure that surface water quality is protected during construction and operation of the Proposed Development.	No
Productivity rate / Number of young fledged per potential breeding pair / Sufficient productivity to maintain the population trend as stable or increasing			
Distribution of nesting habitat / Spatial distribution / No significant loss of distribution in the long term, other than that occurring due to natural patterns of variation			
Extent and condition of nesting habitat / Hectares of high quality nesting habitat / Sufficient area of high quality habitat to support the population target			
Disturbance at breeding site / Intensity, frequency, timing and duration / Disturbance occurs at levels that do not significantly impact the achievement of targets for breeding population trend and spatial distribution of nesting habitat			
Barriers to connectivity and site use / Number, location, shape and hectares / Barriers do not significantly impact the breeding population's access to the SPA or other ecologically important sites outside the SPA			
Forage spatial distribution, extent and abundance / Location, hectares, and forage biomass / Sufficient number of locations, area of suitable habitat, and available forage biomass to support the population target			
Hen Harrier *Circus cyaneus* [A082] To restore the favourable conservation condition of the hen harrier in the SPA, which is defined as follows:			
Roost attendance: individual hen harriers / Number / Long term winter population trend within the SPA is stable or increasing	Yes An accidental pollution event during construction or operation could affect the ground waterbody inputting to the Terryland River and Galway Bay. An accidental pollution event of a	Yes The mitigation measures described in Section 7.2.4 to protect water quality in the receiving environment will ensure that ground water quality inputting to Galway Bay is protected	No
Forage area spatial distribution, extent and abundance / Location and hectares; prey biomass / Sufficient extent of suitable habitats and biomass of available prey items across the site to help support the population			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Roost spatial distribution and extent / Location and hectares of roosting habitat / Sufficient number of locations, area of suitable roosting habitat to support the population	sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	during construction and operation of the Proposed Development.	
Disturbance at the roost site / Level of impact / Human activities occur at levels that do not significantly impact upon wintering hen harrier			
Golden Plover *Pluvialis apricaria* [A140] and Greenland White-fronted Goose *Anser albifrons flavirostris* [A395] To maintain the favourable conservation condition of the species in the SPA, which is defined as follows:			
Winter population trend / Percentage change in number of individuals / Long term winter population trend is stable or increasing	Yes An accidental pollution event during construction or operation could affect the surface water in Terryland River and Lough Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.2.4 to protect water quality in the receiving environment will ensure that surface water quality is protected during construction and operation of the Proposed Development.	No
Winter spatial distribution / Hectares, time and intensity of use / Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target			
Disturbance at wintering site / Intensity, frequency, timing and duration / Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution			
Barriers to connectivity and site use / Number, location, shape and hectares / Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA			
Forage spatial distribution, extent and abundance / Location, hectares, and forage biomass / Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target			
Roost spatial distribution and extent / Location and hectares of roosting habitat / Sufficient number of locations, area and availability of suitable roosting habitat to support the population target			
Supporting habitat: area and quality / Hectares and quality / Sufficient area of utilisable habitat available in ecologically important sites outside the SPA			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Black-headed Gull *Chroicocephalus ridibundus* [A179], Common Gull *Larus canus* [A182], Common Tern *Sterna hirundo* [A193] and Arctic Tern *Sterna paradisaea* [A194] To restore the favourable conservation condition of the species in the SPA, which is defined as follows:			
Breeding population size / Number of Apparently Occupied Nests (AON) / Long-term population is stable or increasing	Yes An accidental pollution event during construction or operation could affect the surface water in Terryland River and Lough Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.2.4 to protect water quality in the receiving environment will ensure that surface water quality is protected during construction and operation of the Proposed Development.	No
Productivity rate / Number of fledged young per AON / Sufficient to maintain population			
Distribution: extent of available nesting options within the SPA / Numbers and spatial distribution / Sufficient availability of suitable nesting sites throughout the SPA to maintain the population			
Prey biomass available / Kilogrammes / Sufficient extent of biomass of available prey items across the site to help support the population			
Disturbance at the breeding site / Level of impact / Disturbance occurs at levels that do not significantly impact on the species at the breeding site			
Disturbance at areas ecologically connected to the colony / Level of impact / Disturbance occurs at levels that do not significantly impact on species at the breeding site			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Wetlands [A999] To maintain the favourable conservation condition of the wetland habitat in the SPA, which is defined as follows:			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Wetland habitat area / Hectares / No significant loss to wetland habitat within the SPA, other than that occurring from natural patterns of variation	Yes An accidental pollution event during construction or operation could affect the surface water in Terryland River and Lough Corrib. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.2.4 to protect water quality in the receiving environment will ensure that surface water quality is protected during construction and operation of the Proposed Development.	No
Wetland habitat quality and functioning / Quality and function of the wetland habitat / No significant impact on the quality or functioning of the wetland habitat within the SPA, other than that occurring from natural patterns of variation			

7.2.4 Mitigation Measures

179 This section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Development on Lough Corrib SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

7.2.4.1 Measures to Protect Surface and Ground Water Quality during Construction

180 In terms of mitigation, the mitigation measures in Section 7.1.4.1 detail the controls and management measures for avoiding, preventing, or reducing any significant negative effects on the surface and ground water environment during the Construction Phase of the Proposed Development

7.2.5 Residual Impacts

181 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Development poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the SCIs of Lough Corrib SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Development that could adversely affect the integrity of Lough Corrib SPA

7.2.6 Conclusion of Assessment for Lough Corrib SPA

182 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the qualifying interests of Lough Corrib SPA, the potential impacts, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the qualifying interests, it has been concluded that the Proposed Development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Lough Corrib SPA.

7.3 Galway Bay Complex SAC [000268]

7.3.1 Ecological Baseline Description for Galway Bay Complex SAC

183 The Natura 2000 Standard Data Form[40] lists the site as one of the best examples of coastal sites with a mixture of terrestrial habitats. Terrestrial habitats include priority habitats such as lagoon, *Cladium* fen, turloughs and orchid-rich calcareous grassland. Coastal habitats such as shallow bays, reefs, lagoons and saltmarshes are considered the best in Ireland. The habitats within the SAC provided good diverse communities that support other faunal species including common seal colony, a breeding otter population, and regular Annex I E.U. Birds Directive species. The site also has four Red Data Book plant species, plus a host of rare or scarce marine and lagoonal animal and plant species.

7.3.2 Qualifying Interests and Conservation Objectives of Galway Bay Complex SAC.

184 The QIs of Galway Bay Complex SAC and the overall Conservation Objectives are listed in Table 9.

Table 9 Qualifying Interests and Conservation Objectives of Galway Bay Complex SAC

Qualifying Interest(s)	Conservation Objective(s)
1355 Otter *Lutra lutra*	To restore the favourable conservation condition
1365 Harbour seal *Phoca vitulina*	To maintain the favourable conservation condition
1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition
1150 Coastal lagoons*	To restore the favourable conservation condition
1160 Large shallow inlets and bays	To maintain the favourable conservation condition
1170 Reefs	To maintain the favourable conservation condition
1220 Perennial vegetation of stony banks	To maintain the favourable conservation condition
1310 *Salicornia* and other annuals colonising mud and sand	To maintain the favourable conservation condition
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition
1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition
3180 Turloughs*	To maintain the favourable conservation condition
5130 *Juniper communis* formations on heaths or calcareous grasslands	To restore the favourable conservation condition
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites)	To maintain the favourable conservation condition
7210 Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae*	To maintain the favourable conservation condition

[40]NPWS (2015) *Galway Bay Complex SAC [000268] Site Synopsis*

Qualifying Interest(s)	Conservation Objective(s)
7230 Alkaline fens	To maintain the favourable conservation condition

185 In conjunction with considering the generic conservation objective for this SAC "*To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected*", the site specific conservation objectives document for Galway Bay Complex SAC also informed this assessment.

186 The site specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the Qualifying Interests within the European site. Affecting the conservation condition of the Qualifying Interests/Special Conservation Interests is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the QIs of for Galway Bay Complex SAC are presented in Table 10.

7.3.3 *Examination and Analysis of Potential Direct and Indirect Impacts*

187 The direct and/or indirect impacts by which the Proposed Development could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the qualifying interests of Galway Bay Complex SAC are:

- Habitat degradation as a result of hydrological impacts;
- Habitat degradation as a result of hydrogeological impacts; and
- Disturbance/Displacement

7.3.3.1 Habitat degradation as a result of hydrological impacts

188 As the Proposed Development is connected to Galway bay as a result of surface waters from the footprint of the Proposed Scheme via the Terryland Stream and the River Corrib. The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants (e.g., fuel, oils, chemicals and concrete washings) into receiving waters.

189 The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge point and therefore impact downstream waterbodies (Galway Bay Complex SAC). This reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the QI otter and marine mammal species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to QI otter and marine mammal species.

190 An accidental pollution event during construction or operation could affect the ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support. In a worst-case scenario these potential hydrological impacts could occur to such a degree that the conservation objectives of Galway Bay Complex SAC are undermined.

191 As the Proposed Development has the potential to result in habitat degradation of the QI of European sites as the result of hydrological impacts, there is also the potential for in combination effects to occur in association with other plans / projects.

7.3.3.2 Habitat degradation as a result of hydrogeological impacts

192 The local hydrogeological regime contributes to, and supports, the Qualifying Interest priority Annex I Turloughs [3180*], Alkaline fen [7230] and Calcareous fen [7210] habitats within the Galway Bay Complex

SAC. An accidental pollution event during construction, or operation, has the potential to affect groundwater quality locally and any groundwater dependent habitat downgradient of the Proposed Development site in the Galway Complex SAC. An accidental groundwater pollution event could undermine the conservation objectives of the Galway Complex SAC by affecting by affecting the vegetation composition and habitat distribution of the turlough and fen habitats within Galway Bay.

7.3.3.3 Disturbance/Displacement

193 Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the Proposed Development. For mammal species such as otter, disturbance effects would not be expected to extend beyond 150m[24].

194 Lough Corrib SAC is within the disturbance ZoI and there is the potential for Qualifying Interest species to be disturbed and displaced from foraging habitat within the site for the duration of construction and/or operation. Whilst Galway Bay Complex SAC is not within the disturbance ZoI of the Proposed Development, it is possible that the QI otter population from this SAC, overlap with the Lough Corrib population. Research carried out by Ó Néill *et al*., (2009) on ranging behaviours of otter on river systems in Ireland found that female otter ranges averaged *c.* 7.5km while male otter home ranges varied between *c.* 7-19km. Increased human presence and/or noise and vibration associated with construction works may temporarily displace commuting or foraging otter, particularly during noisy activities. Otter are known to tolerate human disturbance under certain circumstances. Construction works will typically be undertaken during normal daylight working hours. Whilst otters are generally nocturnal in habit, and can (in many circumstances) tolerate high levels of human presence and disturbance, temporary displacement in the vicinity of the Proposed Development noise and vibration associated with construction works could temporarily displace commuting or foraging otter during the construction phase of the development. Therefore, there is potential for the Proposed Development to result in significant effects (albeit short-term) which could have implications for the conservation objectives of Galway Bay Complex SAC as a result of disturbance/displacement impacts on otter during construction.

Summary

195 Table 10 below presents a summary of the potential impacts of the Proposed Development on the Qualifying Interests of Galway Bay Complex SAC, and how these impacts relate to affecting the site's conservation objectives.

Table 10 Potential Impacts/Effects on the Conservation Objectives of Galway Bay Complex SAC

Conservation Objectives Attribute/Measure/Target	**Potential Impacts Requiring Mitigation?**	**Are mitigation measures required?**	**Residual Impacts?**
Galway Bay Complex SAC			
1140 Mudflats and sandflats not covered by seawater at low tide) [1140] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / The permanent habitat area is stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Community distribution / Hectares / Conserve the following community types in a natural condition: Intertidal sandy mud community complex; and Intertidal sand community complex			
Coastal lagoons [1150]* To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable, subject to slight natural variation. Favourable reference area 76.7ha	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Salinity regime / Practical salinity units (psu) / Median annual salinity and temporal variation within natural ranges			
Hydrological regime / Metres / Annual water level fluctuations and minima within natural ranges			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Barrier: connectivity between lagoon and sea / Permeability / Appropriate hydrological connections between lagoons and sea, including where necessary, appropriate management	sources, could affect the quality of the habitats and the fauna communities they support.	and operation of the Proposed Development.	
Water quality: Chlorophyll a / µg/L / Annual median chlorophyll a within natural ranges and less than 5µg/L			
Water quality: Molybdate Reactive Phosphorus (MRP) / mg/L / Annual median MRP within natural ranges 0.1mg/L			
Water quality: Dissolved Inorganic Nitrogen (DIN) / mg/L / Annual median DIN within natural ranges and less than 0.15mg/L			
Depth of macrophyte colonisation / Metres / Macrophyte colonisation to at least 2m depth			
Typical plant species / Number and m² / Maintain number and extent of listed lagoonal specialists, subject to natural variation			
Typical animal species / Number / Maintain listed lagoon specialists, subject to natural variation			
Negative indicator species / Number and % cover / Negative indicator species absent or under control			
Large shallow inlets and bays [1160] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / The permanent habitat area is stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction	No
Community extent / Hectares / Maintain the extent of the *Zostera*-dominated community complex and the maërl-dominated community, subject to natural processes.			
Community structure: *Zostera* density / Shoots per m² / Conserve the high quality of *Zostera*-dominated communities, subject to natural processes			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Community structure / Biological composition / Conserve the high quality of the maërl-dominated community, subject to natural processes	sources, could affect the quality of the habitats and the fauna communities they support.	and operation of the Proposed Development.	
Community distribution / Hectares / 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 Mytilidae community complex; Shingle; Fucoid-dominated community complex; *Laminaria*-dominated community complex; and Shallow sponge-dominated community complex			
Reefs [1170] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution / Occurrence / The distribution of reefs is stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Habitat area / Hectares / The permanent habitat area is stable, subject to natural processes			
Community extent / Hectares / Maintain the extent of the *Mytilus*-dominated reef community, subject to natural processes			
Community structure: *Mytilus* density / Individuals per m² / Conserve the high quality of the *Mytilus*-dominated reef community, subject to natural processes			
Community structure / Biological composition / Conserve the following community types in a natural condition: Fucoid dominated community complex; *Laminaria* dominated community complex; and Shallow sponge-dominated community complex			
Perennial vegetation of stony banks [1220] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: functionality and sediment supply / Presence/ absence of physical barriers / Maintain the natural circulation of sediment and organic matter, without any physical obstructions			
Vegetation structure: zonation / Occurrence / Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation composition: typical species and subcommunities / Percentage cover at a representative sample of monitoring stops / Maintain the typical vegetated shingle flora including the range of subcommunities within the different zones. Typical species include sea sandwort (*Honckenya peploides*), sea beet (*Beta vulgaris* ssp *maritima*), rock samphire (*Crithmum maritimum*), sea mayweed (*Tripleurospermum maritimum*), yellow-horned poppy (*Glaucium flavum*) and sea campion (*Silene uniflora*)			
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-natives) to represent less than 5% cover			
***Salicornia* and other annuals colonising mud and sand [1310]** To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Barna House - 0.067ha, Seaweed Point - 0.003ha, Roscam West and South - 0.023ha, Kilcaimin - 0.015, Kileenaran - 0.007ha, Kinvara West - 0.017ha, Scanlan's Island - 0.117ha, Tawin Island - 1.098ha	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground	No

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes	pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	
Physical structure: sediment supply / Presence/ absence of physical barriers / Maintain/restore, natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: creeks and pans / Occurrence / Maintain, or where necessary restore creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.			
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation structure: vegetation cover / Percentage cover at a representative sample of monitoring stops / Maintain more than 90% of area outside creeks vegetated			
Vegetation composition: typical species and subcommunities / Percentage cover / Maintain the range of species-poor communities with typical species listed in SMP (McCorry and Ryle, 2009)			
Vegetation structure: negative indicator species - *Spartina anglica* / Hectares / There is currently no common cordgrass (*Spartina anglica*) in this SAC. Prevent establishment of cordgrass			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Barna House - 2.33ha, Seaweed Point - 1.41ha, Roscam West and South - 3.30ha, Oranmore North - 4.24ha, Kilcaimin - 6.82ha, Tawin Island - 53.85ha, Tyrone House Dunbulcaun Bay - 9.83ha, Kileenaran - 15.37ha, Kinvara West - 13.33ha, Scanlan's Island - 4.13ha	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline or change in habitat distribution, subject to natural processes.			
Physical structure: sediment supply / Presence/ absence of physical barriers / Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: creeks and pans / Occurrence / Maintain creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			
Vegetation structure: zonation / Occurrence / Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation structure: vegetation cover / Percentage cover at a representative sample of monitoring stops / Maintain more than 90% area outside creeks vegetated			
Vegetation composition: typical species and subcommunities / Percentage cover at a representative sample of monitoring stops / Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation structure: negative indicator species - *Spartina anglica* / Hectares / There is currently no common cordgrass *(Spartina anglica*) in this SAC. Prevent establishment of cordgrass			
Mediterranean salt meadows (Juncetalia maritimi) [1410] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Barna House - 0.282ha, Seaweed Point - 0.931ha, Kilcaimin - 0.005ha, Tawin Island - 1.799ha. Tyrone House- Dunbulcaun Bay - 8.184ha, Kileenaran - 0.271ha	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Physical structure: creeks and pans / Occurrence / Maintain creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			
Vegetation structure: zonation / Occurrence / Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: vegetation height / Centimetres / Maintain structural variation in the sward			
Vegetation structure: vegetation cover / Percentage cover at a representative sample of monitoring stops / Maintain more than 90% of area outside creeks vegetated			
Vegetation composition: typical species and subcommunities / Percentage cover at a representative sample of monitoring stops / Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation structure: negative indicator species - *Spartina anglica* Hectares There is currently no common cordgrass (*Spartina anglica*) in this SAC. Prevent establishment of cordgrass			
Turloughs [3180]* To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable at *c*.59ha or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Hydrological regime: flood duration, frequency, area, depth; permanently flooded area / Various / Appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat			
Soil type: area / Hectares / Variety, area and extent of soil types necessary to support turlough vegetation and other biota			
Soil nutrient status: nitrogen and phosphorous / N and P concentration in soil / Nutrient status appropriate to soil types			
Physical structure: bare ground / Presence / Sufficient wet bare ground, as appropriate			
Chemical processes: calcium carbonate deposition and concentration / CaCO3 deposition rate/soil concentration / Appropriate CaCO3 deposition rates and concentration in soil			
Water quality: nutrients; colour; phytoplankton; epiphyton / Various / Appropriate water quality to support the natural structure and functioning of the habitat			
Active peat formation / Flood duration / Active peat formation, where appropriate			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation composition: area of vegetation communities / Hectares / Maintain area of sensitive and high conservation value vegetation communities/units at each turlough			
Vegetation composition: vegetation zonation / Distribution / Maintain vegetation zonation/mosaic characteristic of each turlough			
Vegetation structure: sward height / Centimetres / Sward heights appropriate to the vegetation unit, and a variety of sward heights across each turlough			
Typical species: terrestrial, wetland and aquatic plants, invertebrates and birds / Presence / Maintain typical species within and across all turloughs			
Fringing habitats: area / Hectares / Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations			
Vegetation structure: turlough woodland / Species diversity and woodland structure / Maintain appropriate turlough woodland diversity and structure			
***Juniperus communis* formations on heaths or calcareous grasslands [5130]** To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Occurrence / Area stable or increasing, subject to natural processes. At least 1.4ha at mapped location	None. Terrestrial habitats above the high tide line are beyond the effective range of contaminated water inundation and therefore are not at risk of effects from water pollution in Galway Bay.	No	No
Habitat distribution / Hectares / No decline			
Juniper population size / Number / At least 50 plants			
Formation structure: cover and height / Percentage and metres / Well-developed structure with an open to closed cover of juniper up to or exceeding 0.5 m in height with associated species			
Formation structure: community diversity and extent / Hectares / Appropriate diversity and extent of formation			
Formation structure: cone-bearing plants / Percentage / At least 10% of plants bearing cones			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Formation structure: seedling recruitment / Percentage / At least 10% of juniper plants within the formation are seedlings			
Formation structure: dead plants / Percentage / Not more than 10% of plants dead			
Vegetation composition: typical species / Occurrence / A variety of typical native species with a minimum of 10 species present (excluding negative indicator species)			
Vegetation composition: negative indicator species / Occurrence / Negative indicator species, particularly non-native invasive species, absent or under control			
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites) [6210] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	None. Terrestrial habitats above the high tide line are beyond the effective range of contaminated water inundation and therefore are not at risk of effects from water pollution in Galway Bay.	No	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Vegetation composition: broadleaf herb: grass ratio / Percentage / Broadleaf herb component of vegetation between 40 and 90%			
Vegetation composition: typical species / Number / At least 7 positive indicator species present, including 2 "high quality" species			
Vegetation composition: negative indicator species / Percentage / Negative indicator species collectively not more than 20% cover, with cover by an individual species not more than 10%. Nonnative invasive species, absent or under control			
Vegetation structure: sward height / Percentage/ 30-70% of sward 5-40cm high			
Vegetation structure: woody species and bracken (*Pteridium aquilinum*) / Percentage / Cover of bracken (*Pteridium aquilinum*) and woody species (except juniper (*Juniperus communis*)) not more than 5% cover			
Physical structure: bare ground / Percentage / Not more than 10% bare ground			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* [7210]* To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Hydrological regime / Flow rates, metres / Appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat			
Peat formation / Flood duration / Active peat formation, where appropriate			
Water quality: nutrients / Water chemistry measures / Appropriate water quality to support the natural structure and functioning of the habitat			
Vegetation composition: typical species / Presence / Maintain vegetation cover of typical species including brown mosses and vascular plants			
Vegetation composition: trees and shrubs / Percentage / Cover of scattered native trees and shrubs not more than 10%			
Physical structure: disturbed bare ground / Percentage / Cover of disturbed bare ground not more than 10%. Where tufa is present, disturbed bare ground not more than 1%			
Physical structure: drainage / Percentage / Areas showing signs of drainage as a result of drainage ditches or heavy trampling not more than 10%			
Alkaline fens [7230] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Hydrological regime / Flow rates, metres / Appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Peat formation / Flood duration / Active peat formation, where appropriate	pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	
Water quality: nutrients / Water chemistry measures / Appropriate water quality to support the natural structure and functioning of the habitat			
Vegetation composition: typical species / Presence / Maintain vegetation cover of typical species including brown mosses and vascular plants			
Vegetation composition: trees and shrubs / Percentage / Cover of scattered native trees and shrubs less than 10%			
Physical structure: disturbed bare ground / Percentage / Cover of disturbed bare ground less than 10%. Where tufa is present, disturbed bare ground less than 1%			
Physical structure: drainage / Percentage / Areas showing signs of drainage as a result of drainage ditches or heavy trampling less than 10%			
Otter *Lutra lutra* [1355] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Distribution / Percentage positive survey sites / No significant decline	Yes. An accidental pollution event during construction or operation could affect the ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support. Noise, vibration and increased works, with the proposed construction, particularly if required at night-time which otter utilise could potentially	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development. The mitigation measures described in Section 7.3.4 to manage a range of potential disturbance risk will minimise the potential impacts to QI otter population.	No
Extent of terrestrial habitat / Hectares / No significant decline. Area mapped and calculated as 262ha above high water mark (HWM); 14ha along river banks/around ponds			
Extent of marine habitat / Hectares / No significant decline. Area mapped and calculated as 2040ha			
Extent of freshwater (river) habitat / Kilometres / No significant decline. Length mapped and calculated as 4km			
Extent of freshwater (lake/lagoon) habitat / Hectares / No significant decline. Area mapped and calculated as 21ha			
Couching sites and holts / Number / No significant decline			
Fish biomass available / Kilograms / No significant decline			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Barriers to connectivity / Number / No significant increase	result in negative impacts to QI otter populations.		
Harbour seal *Phoca vitulina* [1365] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Access to suitable habitat / Number of artificial barriers / Species range within the site should not be restricted by artificial barriers to site use	Yes An accidental pollution event during construction or operation could affect the surface or ground waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.3.4 to protect water quality in the receiving environment will ensure that surface and ground water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Breeding behaviour / Breeding sites / Conserve breeding sites in a natural condition	No The Proposed Development is not located close to any haul out or breeding/resting sites for seals	No	
Moulting behaviour / Moult haul-out sites / Conserve moult haul-out sites in a natural condition			
Resting behaviour / Resting haul-out sites / Conserve resting haul-out sites in a natural condition			
Disturbance / Level of impact / Human activities should occur at levels that do not adversely affect the harbour seal population at the site			

7.3.4 Mitigation Measures

196 This section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Development on Galway Bay Complex SAC. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

7.3.4.1 Measures to Protect Surface and Ground Water Quality during Construction

197 In terms of mitigation, the mitigation measures in Section 7.1.4.1 detail the controls and management measures for avoiding, preventing, or reducing any significant negative effects on the surface and ground water environment during the Construction Phase of the Proposed Development

7.3.4.2 Measures to Prevent Disturbance/Displacement

198 In terms of mitigation, the mitigation measures in Section 7.1.4.2 detail the controls and management measures for avoiding, preventing, or reducing any significant negative effects on otters the Construction Phase of the Proposed Development.

7.3.5 Residual Impacts

199 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Development will not have any adverse effect on the conservation objectives, or the favourable conservation condition, of the Qualifying Interest of Galway Bay Complex SAC, and there are therefore, no residual direct or indirect impacts associated with the Proposed Development that could adversely affect the integrity of Galway Bay Complex SAC.

7.3.6 Conclusion of Assessment for Galway Bay Complex SAC

200 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the Qualifying Interests of Galway Bay Complex SAC, the potential impacts and mitigation measures , and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the Qualifying Interests, it has been concluded that the Proposed Development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Galway Bay Complex SAC.

7.4 Inner Galway Bay SPA [004031]

7.4.1 Ecological Baseline Description for Inner Galway Bay SPA

201 The Natura 2000 Standard Data Form[41] lists the site as have two internationally important wintering species, 16 nationally important wintering species, and nationally important breeding colonies of Sandwich Tern, Common Tern and Cormorant. There is also regularly occurring species listed on Annex I of the E.U. Birds Directive, i.e. Black-throated Diver, Great Northern Diver, Golden Plover, Bar-tailed Godwit, Sandwich Tern and Common Tern. The site is a Ramsar Convention site and part of the SPA is a Wildfowl Sanctuary.

7.4.2 Special Conservation Interests and Conservation Objectives of Inner Galway Bay SPA

202 The Special Conservation Interests of Inner Galway Bay SPA and the overall conservation objectives, are listed below in Table 11.

[41]NPWS (2019) *Inner Galway Bay SPA [004031] Site Synopsis*

Table 11 Special Conservation Interests and Conservation Objectives of Inner Galway Bay SPA

Special Conservation Interest(s)	Conservation Objective(s)
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* 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 totanus* 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	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. To maintain the favourable conservation condition of the wetland habitat in the SPA.

203 In conjunction with considering the generic conservation objective for this SPA "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA*", the site specific conservation objectives document for Inner Galway Bay SPA also informed this assessment.

204 The site specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the Special Conservation Interests within the European site. Affecting the conservation condition of the Qualifying Interests/Special Conservation Interests is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the Special Conservation Interests of for Inner Galway Bay SPA are presented in Table 12.

7.4.3 *Examination and Analysis of Potential Direct and Indirect Impacts*

205 The direct and/or indirect impacts by which the Proposed Development could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the Special Conservation Interests of Inner Galway Bay SPA are:

- Habitat degradation as a result of hydrological impacts
- Habitat degradation as a result of hydrogeological impacts.

7.4.3.1 Habitat degradation as a result of hydrological impacts

206 The release of contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and/or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality

could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Development is hydrologically connected to Inner Galway Bay via the Terryland Stream and River Corrib. In addition the Proposed Development is hydrologically connected to Inner Galway Bay as a result of foul waters from the footprint of the Proposed Development which will join the public sewer and will be treated at the Galway WwTP prior to subsequent discharge to the Corrib Estuary. Therefore, there is potential for the Proposed Development to result in significant effects which could have implications for the conservation objectives of Inner Galway Bay SPA as a result of hydrological impacts.

207 Therefore, this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Inner Galway Bay SPA.

7.4.3.2 Habitat degradation as a result of hydrogeological impacts.

208 An accidental pollution event during construction or operation could affect the ground waterbody inputting to the Terryland River, the River Corrib and Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support. Inner Galway Bay SPA contains suitable inland foraging/roosting sites located within the potential ZoI of the Proposed Development. Potential impacts may arise due to the direct loss of important *ex-situ* inland sites that individual SCI bird species of local SPA populations rely upon as feeding and/or roosting habitat where these sites fall within the Proposed Development boundary. Therefore, there is potential for the Proposed Development to result in significant effects which could have implications for the conservation objectives of Inner Galway Bay SPA.

7.4.3.3 Summary

209 Table 12 presents a summary of the potential impacts of the Proposed Development on the Special Conservation interests of Inner Galway Bay SPA, and how these impacts relate to affecting the site's conservation objectives.

Table 12 Potential Impacts/Effects on the Conservation Objectives of Inner Galway Bay SPA

Conservation Objectives Attribute/Measure/Target	**Potential Impacts Requiring Mitigation?**	**Are mitigation measures required?**	**Residual Impacts?**
Inner Galway Bay SPA [004031]			
Great Northern Diver *Gavia immer* [A0003], Grey Heron *Ardea cinerea* [A028], Brent Goose *Branta bernicla hrota* [A046], Wigeon *Anas penelope* [A050], Teal *Anas crecca* [A052], Shoveler *Anas clypeata* [A056], Red-breasted Merganser *Mergus serrator* [A069], Ringed Plover *Charadrius hiaticula* [A137], *Golden Plover Pluvialis apricaria* [A140], Lapwing *Vanellus vanellus* [A142], Dunlin Calidris *alpina alpina* [A149], Bar-tailed Godwit *Limosa lapponica* [A157], Curlew *Numenius Arquata* [A160], Redshank *Tringa tetanus* [A162], Turnstone *Arenaria interpres* [A169], Black-headed Gull *Chroicocephalus ridibundus* [A179], Common Gull *Larus canus* [A182] To maintain the favourable conservation condition of the species in the SPA, which is defined as follows:			
Population trend / Percentage change / Long term population trend stable or increasing	Yes An accidental pollution event during construction or operation could affect the surface waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.4.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing or intensity of use of areas by all species mentioned above, other than that occurring from natural patterns of variation			
Cormorant *Phalacrocorax carbo* [A017] To maintain the favourable conservation condition of Cormorant in the SPA, which is defined as follows:			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect the surface waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the	Yes The mitigation measures described in Section 7.4.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Productivity rate / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase	quality of the habitats and the fauna communities they support.		
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding cormorant population			
Population trend / Percentage change / Long term population trend stable or increasing			
Distribution / Number and range of areas used by waterbirds / No significant decrease in the numbers or range of areas used by cormorant, other than that occurring from natural patterns of variation			
Sandwich Tern *Sterna sandvicensi* [A191] To maintain the favourable conservation condition of Sandwich Tern in the SPA, which is defined as follows:			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect the surface waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.4.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (Hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding sandwich tern population			
Common Tern *Sterna hirundo* [A193] To maintain the favourable conservation condition of Sandwich Tern in the SPA, which is defined as follows:			

Conservation Objectives Attribute/Measure/Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect the surface waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.4.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (Hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding little tern population			
Wetlands [A999] To maintain the favourable conservation condition of the wetland habitat in the SPA, which is defined as follows:			
Habitat area / Hectares / 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 An accidental pollution event during construction or operation could affect the surface waterbody inputting to Galway Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the habitats and the fauna communities they support.	Yes The mitigation measures described in Section 7.4.4 to protect water quality in the receiving environment will ensure that surface water quality inputting to Galway Bay is protected during construction and operation of the Proposed Development.	No

7.4.4 Mitigation Measures

210 This section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Development on Inner Galway Bay SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

7.4.4.1 Measures to Protect Surface and Ground Water Quality during Construction

211 In terms of mitigation, the mitigation measures in Section 7.1.4.1 detail the controls and management measures for avoiding, preventing, or reducing any significant negative effects on the surface and ground water environment during the Construction Phase of the Proposed Development

7.4.5 Residual Impacts

212 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Development will not have any adverse effect on the conservation objectives, or the favourable conservation condition, of the Special Conservation Interests of Inner Galway Bay SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Development that could adversely affect the integrity of Inner Galway Bay SPA.

7.4.6 Conclusion of Assessment for Inner Galway Bay SPA

213 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the Special Conservation Interests of Inner Galway Bay SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the Special Conservation Interests, it has been concluded that the Proposed Development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Inner Galway Bay SPA.

8 In Combination Assessment

8.1 Analysis of Potential In Combination Effects

214 This section of the NIS presents the assessment carried out to examine whether any other plans or projects have the potential to act in combination with the Proposed Development to adversely affect the integrity of Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA. All other European sites fall beyond the zone of influence of the Proposed Development. Therefore, there is no potential for any other plans or projects to act in combination with the Proposed Development to adversely affect the integrity of any other European sites.

215 As assessed in Section 7, none of the potential impacts associated with the Proposed Development will result in any perceptible residual effect on the receiving environment or on the Qualifying Interests/Special Conservation Interests of Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA. Therefore, there will not be any residual impacts associated with the Proposed Development that will adversely affect the conservation objectives supporting the conservation condition of the qualifying interests/special conservation interests of those European sites, and the Proposed Development in isolation will not adversely affect the integrity of those European sites.

216 There is the potential for pollution sources within the Terryland River, Carrowmoneash River, Clare [Galway]_SC_070 subcatchment, Carrowmoneash [Oranmore]_SC_010 subcatchment, the Corrib catchment (WFD Catchment_30) and Galway Bay South East catchment (WFD Catchment_29), or any other catchments that also drain to Galway Bay along the western coastline to cumulatively affect water quality in the receiving estuarine and marine environments.

217 The potential for in combination effects to arise in the Galway Bay from any existing or proposed land use plans or developments is regulated and controlled by the environmental protective policies and objectives of the Galway City Development Plan 2023-2029 and Galway County Development Plan 2022-2028. Any existing/proposed plan or project that could potentially affect European sites in Galway Bay, or any other European site, in combination with the Proposed Development, must adhere to these overarching environmental protective policies and objectives. These policies and objectives will ensure the protection of the European site within the zone of influence of the Proposed Development, and include the requirement for any future plans or projects to undergo Screening for Appropriate Assessment and/or Appropriate Assessment to examine and assess their effects on European sites, alone and in combination with other plans and projects.

218 There are specific objectives and policies in the Galway City Development Plan 2023-2029 and Galway County Development Plan 2022-2028 to protect biodiversity, and specifically European sites. Policies within the Galway City Development Plan 2023-2029 Policy 5.2 (1), Policy 5.2 (2), and Policy 5.2 (11) relate to the protection of European sites, AA and commitments to not permitting projects giving rise to adverse effects on the integrity of European sites without demonstrating there are no alternatives, there are imperative reasons of overriding public interest, and undertaking all compensation measures necessary to ensure the overall coherence of the network of European sites.

219 Policies within the *Galway County Development Plan 2022-2028* NHB 1, NHB 2, and NHB 3 relate to the protection of European sites, AA and commitments to not permitting projects giving rise to adverse effects on the integrity of European sites without demonstrating there are no alternatives, there are imperative reasons of overriding public interest, and undertaking all compensation measures necessary to ensure the overall coherence of the network of European sites.

220 The Galway City Development Plan 2023-2029 also includes policies for protection of European sites regarding its integrity relating to waters (Policy 5.2 (2), Policy 5.2 (4), Policy 5.2 (7), Policy 5.2 (12), Policy 5.2 (18), Policy 9.2 (6)).

221 The Galway County Development Plan 2022-2028 also includes policies to protect water quality, wetland sites and peatlands (from pollution via surface and ground water) (WR 1, WR 2, WTWF 1 and P 1).

222 Land use plans for the other local authorities (e.g. Clare County Council) whose functional areas include surface water features which drain to the Galway Bay, were examined and analysed and those land use plans also include protective environmental policies to protect European sites and the receiving ground water, and surface water environments.

223 Appendix I lists the overarching plan level environmental protection policies from the Regional Spatial & Economic Strategy- Northern and Western Region 2020-2032 (RSES), Galway County Development Plan 2022-2028; Galway City Development Plan 2023-2029; Galway County Heritage and Biodiversity Plan 2017-2022 and the Galway City Biodiversity Action Plan 2014 – 2024.

224 The Proposed Development is compliant with all the plan level biodiversity protection policies and objectives described above. Furthermore, the Proposed Development will not prevent the achievement of any of these plan level biodiversity protection policies and objectives across the identified potential impact pathways.

225 The plans and projects considered to have potential impacts on European sites in combination with the Proposed Development are identified in Table 13. The full assessment of the potential in combination effects of the Proposed Development and plans and projects listed in Table 13 is provided in Appendix VI.

Table 13 Plans and Projects Considered for the In Combination Assessment

National Plans
National Development Plan Ireland 2021-2030
National Energy & Climate Plan 2021-2030
Project Ireland 2040 – National Planning Framework
Climate Action Plan 2024
4th National Biodiversity Action Plan 2023-2030
National Air Pollution Control Programme (NAPCP) Report 2021
National Marine Planning Framework. Project Ireland 2040.
Water Services Strategic Plan 2015
National Water Resources Plan – Framework Plan 2021
Regional Plans
Regional Spatial & Economic Strategy- Northern and Western Region 2020-2032 (RSES)
West Catchment Flood Risk Assessment and Management (CFRAMS) Study
River Basin Management Plan for Ireland 2018-2021
The River Basin Management Plan for Ireland (2022-2027) – draft for public consultation (in review)
County/Local Plans
Galway County Development Plan 2022-2028
Galway County Heritage and Biodiversity Plan 2017-2022
Galway County Council Climate Action Plan 2024-2029
Galway City Council Development Plan 2023-2029
Galway City Biodiversity Action Plan 2014-2024
Galway City Climate Adaption Strategy 2019 - 2024
Projects
Galway City Council, Galway City Ring Road (GCRR) – Live Case
Galway City Council, Development of water sports centre at Dyke Road, Galway - Further consideration needed

Summix BNM Developments Ltd., Corner of Lough Atalia Road and Bóthar na Long, Galway (2460108) - Appealed
Galway City Council, BusConnects Galway Cross-City Link Scheme (314597) - Granted
Cleverson Ltd., Headford Road, Townparks, Galway (22259) - Granted
K. King Construction Claregalway Ltd.33-35 Saint Brendan's Avenue, Woodquay, Galway (20235) – Granted
Irish Water, Dyke Road, Terryland, Galway 19107 – Granted
Seagullpoint Limited, Lands to the rear of Ceannt Train Station, Station Road, Galway (2047) – Granted
Galway City Council with Failte Ireland, Woodquay Park, Terryland, Galway Woodquay (Part X)
Galway City Council, Clifden Railway Bridge Pedestrian and Cycle Bridge

8.2 Conclusion of In Combination Assessment

226 As the Proposed Development itself will not have any effects on the conservation objectives of any European sites, and considering the protective environmental policies and objectives in the Galway City Development Plan 2023-2029 and Galway County Development Plan 2022-2028 and more widely across all of the other land use plans that seek to protect surface water quality in the catchments that drain to Galway Bay, there is no potential for any other plan or project to adversely affect the integrity of any European sites in combination with the Proposed Development.

9 NIS Conclusion

227 This NIS has examined and analysed, in light of the best scientific knowledge, with respect to those European sites within the zone of influence of the Proposed Development, the potential impact sources and pathways, the manner in which these could potentially impact on the sites' Qualifying Interests habitat and species , and Special Conservation Interest species and whether the predicted impacts would adversely affect the integrity of Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA. There are no other European sites at risk of effects from the Proposed Development.

228 Avoidance, design requirements and mitigation measures are set out within this NIS (and its appendices) and the effective implementation of these mitigation measures will ensure that any impacts on the conservation objectives of European sites will be avoided during the Construction and Operational Phases of the Proposed Development such that there will be no adverse effects on any European sites.

229 It has been objectively concluded by Scott Cawley Ltd., following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the Proposed Development and the effective implementation of the prescribed mitigation measures, that the Proposed Development will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects.

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Appendix I: Planning polices/objectives relating to the protection of European sites, Biodiversity and water quality

Northern & Western Regional Assembly (NWRA) Regional Spatial and Economic Strategy (RSES) 2020-2032

Overarching Environmental Regional Policy Objectives

1. The Assembly supports the process whereby applications for development consents for projects emanating from any policies that may give rise to likely significant effects on the environment will need to be accompanied by one or more of the following, as relevant:
    i. An Ecological Impact Assessment Report (EcIA);
    ii. Environmental Report (ER);
    iii. An Environmental Impact Assessment Report (EIAR) if deemed necessary under the relevant legislation (statutory document);
    iv. Natura Impact Statement (NIS) if deemed necessary under the relevant legislation (statutory document).
2. The Assembly supports the implementation of the All-Ireland Pollinator Plan 2015-2020 and support measures to control and manage the spread of invasive and alien species within the region.
3. The Assembly will coordinate the core objectives of the EU Flood Directive and statutory plans across the planning hierarchy, including national guidance on the relationship between the planning system and flood risk management.
4. The Assembly supports the use of Environmental Sensitivity Mapping (e.g. EPA ESM Webtool) to investigate optimum and integrated land use management with particular emphasis on cumulative impacts.
5. The Assembly supports the integration of biodiversity considerations in a positive, proactive and precautionary way and promotes the protections of the environment and biodiversity conservation as key principles of this strategy.

Regional Policy Objective 3.10

Ensure flood risk management informs development by avoiding inappropriate development in areas at risk of flooding and integrate sustainable water management solutions (such as SUDS, non-porous surfacing and green roofs) to create safe places. Development plans should assess flood risk by implementing the recommendations of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014).

Regional Policy Objective 3.11

Local Authorities, DHPLG, OPW, and other relevant Departments and agencies to work together to implement the recommendation of the CFRAM programme to ensure that flood risk management policies and infrastructure are progressively implemented.

Regional Policy Objective 3.7.13

Support the upgrading of the Water Supply System and the Sewage Treatment System (including a Drainage Area Plan) to meet the growth targets set in this strategy.

Regional Policy Objective 4.36

To support the sustainable expansion and upgrade of Galway Harbour and Galway Port as part of the overall vision to grow Galway as a City Region, subject to visual, transport and economic viability considerations and in compliance with the EU Habitats Directive (which may necessitate consideration of IROPI5).

Regional Policy Objective 5.4

Encourage the prioritisation of Site-Specific Conservation Objectives (SSCO) for all sites of Conservation Value, designated in EU Directive (i.e. SACs, SPAs) to integrate with the development objectives of this Strategy.

Regional Policy Objective 5.5

Ensure efficient and sustainable use of all our natural resources, including inland waterways, peatlands, and forests in a manner which ensures a healthy society a clean environment and there is no net contribution to biodiversity loss arising from development supported in this strategy. Conserve and protect designated areas and natural heritage area. Conserve and protect European sites and their integrity.

Regional Policy Objective 5.7

Ensure that all plans, projects and activities requiring consent arising from the RSES are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate.

Regional Policy Objective 5.22

To protect and conserve our designated peatlands and bogs for reasons of biodiversity, ecosystem services, carbon sinks, areas of habitat importance, amenity and landscape value.

Regional Policy Objective 8.16

Water conservation measures should be expanded particularly by rehabilitation and reinforcement of existing water networks.

Regional Policy Objective 8.17

Provide quality water and wastewater services necessary for urban and rural economic development purposes.

Regional Policy Objective 8.18

Ensure the protection and improvement of all waters – rivers, lakes, groundwater, estuaries (transitional waters), coastal waters and their associated habitats and species throughout the region and implement measures to achieve at least Good Status in all water surface bodies.

Regional Policy Objective 8.19

Implement the EC Environmental Objectives (Groundwater) Regulations, 2010 (S.I.No.9); the EC (Good Agricultural Practice for Protection of Waters) Regulations, 2009 (S.I. No.101), the Bathing Water Quality Regulations, 2008 (S.I.79) and EC (Quality of Shellfish Waters) Regulations 2006 and amendment Regulations.

Regional Policy Objective 8.20

Participate in the implementation and promote compliance with the objectives of the 'Water Framework Directive' through the River Basin Management Plans throughout the region.

Regional Policy Objective 8.21

Ensure Drainage Area Plans including investigation on elimination of combined sewers are prepared for Galway, Athlone, Monaghan and Roscommon.

Regional Policy Objective 8.22

Prioritising investment to improve stormwater infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban and rural environment.

Regional Policy Objective 8.23

The Regional Authority will support the achievement of the objectives under the River BMP for the relevant water bodies in the region.

Regional Policy Objective 9.8

To ensure the continuation and strengthening of cross-jurisdictional management of River Basin Management Plans and the implementation of the Water Framework Directive.

Galway County Development Plan 2022-2028

Policy Objectives for Water Supply

WS 7 Water Quality

Require that new development proposals would ensure that there would not be an unacceptable impact on water quality and quantity including surface water, ground water, designated source protection areas, river corridors and associated wetlands.

WS 8 Proliferation of Septic

Tanks Encourage the use of high standard treatment plants to minimise the risk of groundwater pollution

Policy Objectives Wastewater

WW 4 Requirement to Liaise with Irish Water – Wastewater

Ensure that new developments will only be permitted which are adequately serviced with sufficient capacity for appropriate collection, treatment and disposal (in compliance with the Water Framework Directive and River Basin Management Plan) to the public sewer unless provided for otherwise by the plan. Developers shall liaise with Irish Water with regard to the wastewater (and water) infrastructure to ensure sufficient capacity is available prior to the submission of a planning application.

WW 7 Sustainable Drainage Systems

To require the use of Sustainable Drainage Systems to minimise and limit the extent of hard surfacing and paving and require the use of SuDS measures be incorporated in all new development (including extensions to existing developments). All development proposals shall be accompanied by a comprehensive SuDS assessment including run-off quantity, run off quality and impacts on habitat and water quality.

WW 8 Storm Water Infrastructure

To support the improvement of storm water infrastructure and to increase the use of sustainable drainage and reduce the risk of flooding in urban environments.

WW 9 Integrated Wetland Wastewater Treatment Systems

Galway County Council will encourage the use of integrated wetland wastewater treatment systems for both one off and multi-unit housing developments that accord with the prevailing regulations and standards including the relevant EPA Code of Practice.

WW10 Surface Water Drainage

To require all new developments to provide a separate foul and surface water drainage system and to incorporate sustainable urban drainage systems where appropriate in new development and the public realm.

WW11 Protection of Irish Water Collection Systems

To prohibit the discharge of additional surface water to combined (foul and surface water) sewers in order to maximise the capacity of existing collection systems for foul water.

Policy Objectives Waste Management

WM 2 Requirements for Waste Management

Support and promote the circular economy principles, prioritising prevention, reuse, recycling and recovery, and to sustainably manage residual waste. New developments will be expected to take account of the provisions of the Waste Management Plan for the Region and observe those elements of it that relate to waste prevention and minimisation, waste recycling facilities, and the capacity for source segregation.

WM 4 Waste Legalisation

To require that all waste disposal shall be undertaken in compliance with the requirements of the Environmental Protection Agency and relevant Waste Management Legislation.

WM 5 Construction and Environmental Management Plans

Construction Environment Management Plans shall be prepared in advance of the construction of relevant projects and implemented throughout. Such plans shall incorporate relevant mitigation measures which have been integrated into the Plan and any lower tier Environmental Impact Assessment Report or Appropriate Assessment. CEMPs typically provide details of intended construction practice for the proposed works, including: (a) location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse;

(b) location of areas for construction site offices and staff facilities;

(c) details of site security fencing and hoardings;

(d) details of on-site car parking facilities for site workers during the course of construction;

(e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage;

(f) measures to obviate queuing of construction traffic on the adjoining road network;

(g) measures to prevent the spillage or deposit of clay, rubble or other debris;

(h) alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works;

(i) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;

(j) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained (such bunds shall be roofed to exclude rainwater);

(k) disposal of construction/demolition waste and details of how it is proposed to manage excavated soil, including compliance with 2006 Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, Heritage and Local Government;

(l) a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains;

Policy Objectives Air Quality

AQ 1 Ambient Air Quality

To promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFÉ) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as set out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents).

AQ 2 Assessment of Air Quality

To require developments which would have the potential to have adverse impacts on air quality to carry out assessments of the impact of the development on air quality.

AQ 3 Air Quality Mitigation Measures

To require the use of appropriate mitigation measures such as dust dampeners to minimise the potential impacts of developments on air quality.

AQ 4 Air Purification

Galway County Council shall encourage landscaping and deciduous tree planting in an environmentally sensitive manner within towns and villages as a means of air purification, the filtering of suspended particles and the improvement of their micro-climate.

Policy Objectives Noise Pollution

NP3 Noise Impact Assessments

To require an assessment of impact of the development on noise levels, having regard to the provisions of the Environmental Protection Agency Acts 1992 and 2003 and the EPA Noise Regulations 1994 when assessing planning application.

NP 4 Noise Pollution and Regulation

Restrict development proposals causing noise pollution in excess of best practice standards and regulate and control activities likely to give rise to excessive noise, other than those activities which are regulated by the EPA.

NP 5 Noise Mitigation Measures

Require activities likely to give rise to excessive noise to install noise mitigation measures and monitors. The provision of a noise audit may be required where appropriate.

Policy Objectives Light Pollution

LP 1 Lighting Schemes

To require that all developments shall ensure lighting schemes are designed so that excessive light spillage is minimised to ensure light pollution in the surrounding environment including residential amenity, wildlife and near public roads is limited. Such lighting schemes shall be submitted and agreed with the Planning Authority.

LP 2 Lighting and Climate Action

To require the use of low energy LED (or equivalent) lighting in support of Climate Action.

LP 3 Dark Skies

To encourage the maintenance of dark skies in rural areas and to limit light pollution in urban and rural areas.

Policy Objectives Soil Quality

SQ 1 Soil Impact Assessments

Ensure good soil quality throughout the county by requiring developments of a certain nature (as specified in the relevant environmental legislation) to carry out assessments of the impact of the development on soil quality.

SQ 2 Soil Protection Measures

To ensure that adequate soil protection measures are undertaken where appropriate.

SQ 3 Soil Protection, Contamination and Remediation

Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed. All undeveloped, contaminated sites shall be remediated to internationally accepted standards prior to redevelopment. All applications shall be accompanied by a report from a qualified, expert consultant remediation incorporating international best practice and expertise on innovative ecological restoration techniques including specialist planting and green initiatives that create aesthetically improved sites, healthy environments and contribute to the provision of new green open spaces as integral parts of newly created areas. Treatment/management of any contaminated material shall comply as appropriate with the Waste Management Act 1996 (waste licence, waste facility permit), as amended, and under the EPA Act 1992 (Industrial Emissions licensing, in particular the First Schedule, Class 11 Waste), as amended. These measures will ensure that contaminated material will be managed in a manner that removes any risk to human health and ensures that the end use will be compatible with any risk.

Policy Objectives Natural Heritage and Biodiversity

NHB 1 Natural Heritage and Biodiversity of Designated Sites, Habitats and Species

Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan.

Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI 94 of 1999).

Support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas, Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries (and other designated sites including any future designations) and the promotion of the development of a green/ ecological network.

NHB 2 European Sites and Appropriate Assessment

To implement Article 6 of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). All assessments must be in compliance with the European Communities (Birds and Natural Habitats) Regulations 2011. All such projects and plans will also be required to comply with statutory Environmental Impact Assessment requirements where relevant.

NHB 3 Protection of European Sites

No plans, programmes, or projects etc. giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects.*

* Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: (a) no alternative solution available; (b) imperative reasons of overriding public interest for the plan to proceed; and (c) adequate compensatory measures in place.

NHB 4 Ecological Appraisal of Biodiversity

Ensure, where appropriate, the protection and conservation of areas, sites, species and ecological/networks of biodiversity value outside designated sites. Where appropriate require an ecological appraisal, for

development not directly connected with or necessary to the management of European Sites, or a proposed European site and which are likely to have significant effects on that site either individually or cumulatively.

NHB 5 Ecological Connectivity and Corridors

Support the protection and enhancement of biodiversity and ecological connectivity in non designated sites, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife areas where these form part of the ecological network and/or may be considered as ecological corridors in the context of Article 10 of the Habitats Directive.

NHB 6 Implementation of Plans and Strategies

Support the implementation of any relevant recommendations contained in the National Heritage Plan 2030, the National Biodiversity Plan, the All Ireland Pollinator Plan and the National Peatlands Strategy and any such plans and strategies during the lifetime of this plan.

NHB 7 Mitigation Measures

Require mitigating measures in certain cases where it is evident that biodiversity is likely to be affected. These measures may, in association with other specified requirements, include establishment of wildlife areas/corridors/parks, hedgerow, tree planting, wildflower meadows/marshes and other areas. With regard to residential development, in certain cases, these measures may be carried out in conjunction with the provision of open space and/or play areas.

NHB 9 Protection of Bats and Bats Habitats

Seek to protect bats and their roosts, their feeding areas, flight paths and commuting routes. Ensure that development proposals in areas which are potentially important for bats, including areas of woodland, linear features such as hedgerows, stonewalls, watercourses and associated riparian vegetation which may provide migratory/foraging uses shall be subject to suitable assessment for potential impacts on bats. This will include an assessment of the cumulative loss of habitat or the impact on bat populations and activity in the area and may include a specific bat survey. Assessments shall be carried out by a suitably qualified professional and where development is likely to result in significant adverse effects on bat populations or activity in the area, development will be prohibited or require mitigation and/or compensatory measures, as appropriate. The impact of lighting on bats and their roosts and the lighting up of objects of cultural heritage must be adequately assessed in relation to new developments and the upgrading of existing lighting systems.

NHB 10 NPWS & Integrated Management Plans

Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for European sites involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans. The NPWS's current priority is to identify site specific conservation objectives; management plans may be considered after this is done. Where Integrated Management Plans are being prepared by the NPWS for European sites (or parts thereof), the NPWS shall be engaged with in order to ensure that plans are fully integrated with the Plan and other plans and programmes, with the intention that such plans are practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations, including those of local communities.

Policy Objective Water Resources

WR 1 Water Resources

Protect the water resources in the plan area, including rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependant species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the River Basin District Management Plan 2018 – 2021 and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same) and also have regard to the Freshwater Pearl Mussel Sub-Basin Management Plans.

WR 2 River Basin Management Plans

It is a policy objective of the Planning Authority to implement the programme of measures developed by the River Basin District Projects under the Water Framework Directive in relation to: Surface and groundwater interaction, Dangerous substances, Hydromorphology, Forestry, On site wastewater treatment systems, Municipal and industrial discharges, Urban pressures, Abstractions.

Policy Objectives Invasive Species

IS 1 Control of Invasive and Alien Invasive Species

It is a policy objective of the Planning Authority to support measures for the prevention and eradication of invasive species.

IS 2 Invasive Species Management Plan

Ensure that proposals for development do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are currently or were previously present, an invasive species management plan will be required. A landscaping plan will be required for developments near water bodies and such plans must not include alien invasive species.

Policy Objectives Flood Risk Management

FL 6 Surface Water Drainage and Sustainable Drainage Systems (SuDs)

Maintain and enhance, as appropriate, the existing surface water drainage system in the county. Ensure that new developments are adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems in all new developments. Surface water run-off from development sites will be limited to predevelopment levels and planning applications for new developments will be required to provide details of surface water drainage and sustainable drainage systems proposals.

FL 7 Protection of Waterbodies and Watercourses

Protect waterbodies and watercourses within the county from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include protection buffers in riverine, wetland and coastal areas as appropriate.

FL 11 FRA and Environmental Impact Assessment (EIA)

Flood risk may constitute a significant environmental effect of a development proposal that in certain circumstances may trigger a sub-threshold EIA. FRA should therefore be an integral part of any EIA undertaken for projects within the county.

FL 18 Inappropriate Development on Flood Zones

Where a development/land use is proposed within any area subject to this objective the development proposal will need to be accompanied by a detailed hydrological assessment and robust SUDS design which demonstrates the capacity to withstand potential flood events to maintain water quality and avoid potential effects to ecological features.

• Any development proposals should be considered with caution and will be required to comply with 'The Planning System and Flood Risk Management Guidelines for Planning Authorities/Circular PL2/2014' & the associated Development Management Justification Test.

• Climate Change should be duly considered in any development proposal.

• Protect the riparian zones of watercourse systems throughout the plan area through a general 10 metre protection buffer from rivers within the plan area as measured from the near riverbank, (this distance may be increased and decreased on a site by site basis, as appropriate).

• Any development proposals submitted for this site will require a detailed ecological report (s), carried out by suitably qualified personnel for the purposes of informing Appropriate Assessment Screening by Galway County Council, the competent authority.

• The relevant lands will be outlined and flagged with a symbol on the land use zoning map and on the GIS system of Galway County Council so that staff and the public are aware of the special conditions/constraints attached.

• A briefing will be provided to relevant staff within Galway County Council on the special conditions and constraints on relevant lands

Galway City Development Plan 2023-2029

Policy 5.1 Green Network and Biodiversity

1. Support sustainable use and management of areas of ecological importance, parks and recreation amenity areas and facilities through an integrated green network policy approach in line with the Galway Recreation and Amenity Needs Study and where superseded by the Green Space Strategy, where it can be demonstrated that there will be no adverse impacts on the integrity of European sites.

3. Support the retention and enrichment of biodiversity throughout the city in recognition of the need to protect and restore biodiversity to increase the resilience of natural and human systems to climate change.

4. Support the implementation of the National Biodiversity Action Plan (NBAP) 2017- 2021 (and any subsequent NBAP) and the All-Ireland Pollinator Plan (2021-2025) and support the actions of the City Council's Heritage Plan 2016-2021 and Biodiversity Action Plan 2014-2024 and updates relating to the promotion of ecological awareness, biodiversity and best practices.

5. Support climate action through implementation of nature based solutions that enhance biodiversity in the green network, including measures such as tree planting, SuDS, use of green infrastructure. Such measures will be informed by the Green Space Strategy.

6. Promote the integration of nature based solutions and green/blue infrastructure in all new developments as appropriate to contribute to the city's climate resilience and require large scale development proposals to include a green infrastructure and biodiversity plan.

8. Achieve a sustainable balance between meeting future recreational needs (both passive and active) and the preservation of the city's biodiversity and ecological and cultural heritage.

11. Support the Healthy Green Spaces initiative which seeks to improve the quality of green spaces in the city, to enhance climate change resilience, aesthetic value, biodiversity and improve public health and wellbeing.

15. Co-operate with the NPWS, landowners and stakeholders in the preparation and implementation of management plans for designated European sites.

23. Continue to implement measures to increase and restore biodiversity in open spaces and road verges through the no mow grass management initiative, and ornamental pollinator projects such as the perennial bulb planting scheme.

Policy 5.2 Protected Spaces: Sites of European, National and Local Ecological Importance

1. Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC) and associated national legislation.

2. Ensure that all plans or projects within the Plan area will only be authorised and / or supported after the competent authority has ascertained based on scientific evidence, screening for appropriate assessment and /or a Habitats Directive Assessment that:

i. The plan or project will not give rise to an adverse direct, indirect or secondary effect on the integrity of any European site (either individually or in combination with other plans or projects); or

ii. The plan or project will have an adverse effect on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in

legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or

iii. The plan or project will have an adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura

2000.

3. Protect, conserve and promote the nationally designated sites of ecological importance, including existing and proposed Natural Heritage Areas(NHA and pNHAs) in the city.

4. Protect, conserve and support the development of an ecological network throughout the city which will improve the ecological coherence of the Natura 2000 network in accordance with Article 10 of the Habitats Directive.

5. Continue to recognise sites of County Geological Interest in the city identified by the Geological Survey of Ireland (GSI) and protect such sites from inappropriate development and protect geological NHAs should they become designated and notified to the Local Authority, during the lifetime of the Plan.

6. Protect LocalBiodiversityAreas,wildlifecorridorsandsteppingstonesbasedon the Galway Biodiversity Action Plan 2014-2024 and support the biodiversity of the city in the Council's role/responsibilities, works and operations, where appropriate.

7. Encourage, in liaison with the NPWS, the sustainable management of features which are important for the ecological coherence of the network of European sites and essential, by their linear or continuous nature or as stepping stones for the migration, dispersal and genetic exchange of wild species.

8. Support the actions of the Galway City Council Heritage Plan 2016-2021 and any update and Biodiversity Action Plan 2014-2024 relating to the promotion of ecological awareness and biodiversity, the protection of wildlife corridors and the prevention of wildlife habitat fragmentation.

9. Co-operate with the NPWS, landowners and stakeholders in the preparation and implementation of management plans for designated sites and support conservation objectives of lands within Designated Sites for nature conservation Natura 2000 (SAC/SPA) and NHA sites.

10. Protect and conserve rare and threatened habitats and their key habitats, (wherever they occur) listed on Annex I and Annex IV of the EU Habitats Directive (92/43EEC) and listed for protection under the Wildlife Acts 1976-2000 and plant species listed in the Flora Protection Order 2015.

11. Ensure that plans and projects with the potential to have a significant impact on European sites (SAC or SPA) whether directly, indirectly or in combination with other plans or projects are subject to Appropriate Assessment, under Article 6 of the Habitats Directive (92/43EEC) and associated legislation and guidelines, to inform decision making.

12. Achieve a sustainable balance between meeting future recreational needs (both passive and active) and the protection of the city's ecological heritage.

13. Support the inclusion of natural features, such as trees, hedgerows, stone walls, ponds and the use of green design features and the incorporation of biodiversity measures in developments layouts.

14. Support and implement measures to control and manage alien/invasive species, where appropriate in accordance with the EU (Birds and Natural Habitats) Regulations 2011.

15. Protect the ecological integrity of statutory Nature Reserves, Wildfowl Sanctuaries refuges for fauna and Annex 1 Habitats.

Policy 9.2 Water Quality

1. Support the actions of the River Basin Management Plan 2018-2021 and future River Basin Management Plan in order to promote and achieve a restoration of good status, reduce chemical pollution and prevent deterioration of surface, coastal and groundwater quality, where appropriate.

5. Protect the city's groundwater resource in accordance with the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (Groundwater) Regulations, 2010 (SI No. 9 of 2010) or any updated legislation and limit any development which has potential to impact the objectives for protection, enhancement and/or restoration.

6. Minimise and control discharges to inland surface water bodies, in particular Terryland/Sandy River, groundwater and coastal waters to prevent water pollution and protect the environment.

Policy 9.4 Sustainable Urban Drainage Systems (SuDS)

1. Ensure the use of Sustainable Urban Drainage Systems (SuDS) and sustainable surface water drainage management, wherever practical in the design of development to enable surface water run-off to be managed as near to its source as possible and achieve wider benefits such as sustainable development, water quality, biodiversity local amenity and climate adaptation.

2. Promote the use of green infrastructure e.g. green roofs, green walls, bioswales, planting and green spaces for surface water retention purposes as an integrated part of SUDS and to deliver all the ancillary benefits.

Policy 9.6 Air Quality and Noise

1. Maintain air quality to a satisfactory standard by regulating and monitoring atmospheric emissions in accordance with EU policy directives on air quality and Ambient Air Quality and Cleaner Air for Europe (CAFÉ) Directive (2008/50/EC) by promoting and supporting initiatives to reduce air pollution and by increasing the use of sustainable transport modes and developing urban woodlands, encouraging tree planting, conserving and creating green open space.

2. Ensure the design of development incorporates measures to minimise noise levels in their design and reduce the emission and intrusion of any noise or vibration which might adversely impact on amenities, in particular residential amenities where appropriate.

3. Consider the details of Galway City Council Noise Action Plan 2019-2023 in the assessment and design of relevant development applications in the interests of protecting future amenity.

4. Implement environmental noise mitigation measures as outlined in Galway City Council Noise Action Plan 2019-2023.

5. Promote best practice in the implementation of radon prevention and mitigation measures in partnership with relevant agencies.

Policy 9.7 Light Pollution

1. Ensure the design of external lighting minimises the incidence of light pollution, glare and spillage into the surrounding environment and has due regard to the visual and residential amenities of surrounding areas.

2. Require all new developments to be designed with the inclusion of energy efficient lighting schemes.

3. Lighting on linear infrastructures, including greenways and blueways, should be carefully managed to ensure coherence of the supporting habitats of European sites, as outlined in Article 10 of the Habitats Directive

4. Ensure the design of external lighting does not have an adverse impact on wildlife and ecosystems and encourage the use of dark zones and sensor lighting where feasible.

Policy 9.8 Waste Management

7. Ensure that development on contaminated lands include appropriate remediation measures.

Policy 9.10 Energy and Associated Infrastructure

3. Ensure that the infrastructural renewal and development of energy networks avoid negative impacts on European sites and adhere to the requirements of Article 6 of the Habitats Directive (92/43 EEC).

Galway County Heritage and Biodiversity Plan 2017-2022

3. Research and Information

NH 3.1 Collect, collate and procure data and knowledge on biodiversity and natural heritage in County Galway to strengthen the knowledge base of decision makers.

NH 3.2 Maintain and develop links with researchers, educational institutes, museums, libraries.

NH 3.4 Promote and develop biodiversity and natural heritage mapping e.g. geological heritage sites and freshwater and marine heritage sites.

NH 3.5 Seek to share information with relevant organisations and agencies.

4. Galway County Council: People, Property and Works

NH 4.1 Integrate biodiversity and natural heritage into relevant aspects of the work of Galway Co Council.

NH 4.2 Policy: Ensure biodiversity and natural heritage are considered at earliest stages in the development of new plans and strategy documents.

NH 4.3 Projects: Promote the integration of biodiversity into work plans and developments at earliest (design) stage of projects.

NH 4.4 Planning – streamline systems for biodiversity in development applications.

NH 4.5 Develop resources and supports to inform decision makers.

NH 4.6 Seek to establish a full time biodiversity officer position in Galway County Council.

NH 4.7 Seek the employment of full-time ecologists in Galway County Council.

NH 4.8 Galway County Council to take a proactive role in implementing legislative requirements and national strategies for heritage/biodiversity such as: National Pollinator Plan, National habitat and species management plans and the National Biodiversity Plan.

NH 4.9 Implement the Galway County Invasive Species Strategy.

NH 4.10 Promote biodiversity led management of parks and green spaces including verges and hedgerows, drains, ditches and rivers. (Participate in Green Parks scheme).

NH 4.11 Conduct an audit of biodiversity of Galway County Council owned properties.

NH 4.12 Use sustainable and environmentally friendly materials in publications, developments and events.

Galway City Biodiversity Action Plan 2014 - 2024

Galway City Biodiversity Action Plan – Actions

9 Promote creation of new wildlife habitats in developments including housing estates, industrials sites and golf courses

• Examine the feasibility of developing a reward system for developers who make an effort to protect and/ or enhance biodiversity in developments.

• Raise awareness of the economic, social and environmental benefits of having local biodiversity areas within new developments; provide examples from other jurisdictions.

11 Establish a network of Local Biodiversity Areas and associated wildlife corridors (based on the twelve areas already identified in the Galway City Habitats Inventory 2005). See Appendix 2.

• Resurvey proposed Local Biodiversity Areas; map and list these areas in the Galway City Development Plan.
• Resurvey wildlife corridors proposed by Kindermann (2004), map and list in the Galway City Development.
• Seek to identify additional wildlife corridors.

• Develop and publish management plans for each of the Local Biodiversity Areas.

• Monitor and report on the condition of the Local Biodiversity Areas on an annual basis.

• Recommend Development Plan policy to ensure that any new developments that may impact on the Local Biodiversity Areas, and associated wildlife corridors, must complete an appropriate environmental assessment.

• Investigate further mechanisms for protecting these areas.

• Develop criteria for the inclusion of any additional Local Biodiversity Areas.

• Adjust grass cutting schemes in public areas to encourage the establishment and survival of wildflowers.

12 Tree survey and preservation

• Seek to appoint a Tree Officer to conduct survey of trees within city, propose Tree Protection Order, promote the protection and retention of trees, and to offer advice to those working with or near trees.

• Mapping and tagging of all trees in urban areas for creation of tree database.

13 Key habitat: Urban woodlands and hedgerows

• Develop management plans for all the urban woodlands in Galway City.

• Develop woodland recreation-use policies.

• Promote participation in any future Forest Service Neighbourwood Schemes.

• Promote the retention of hedgerows, recognising their importance as wildlife corridors.

• Engage with tree/forest organisations to promote tree planting and management

• Promote the retention of dry stone walls

14 Key habitat: Wetlands and watercourses

• Develop management plans for wetland areas along the Corrib system and the Terryland River.

• Promote the adoption of a policy that aims for no net loss of wetlands within the city.

• Conduct a survey of wetland invertebrates e.g. groups that are indicative of water quality such as water beetles and marsh flies.

• Develop guidelines to promote best practice in relation to works that may impact on freshwater lakes, turloughs, rivers and waterways.

• Initiate preparation of river conservation management plan for the Corrib system in consultation with stakeholders.

• Survey fish in streams that may be impacted upon by urbanisation.

• Investigate means to improve access to Lough Corrib for Sea Lamprey.

15 Key habitat: Exposed limestone habitats

• Map remaining area of exposed limestone rock.

• Develop management plans for these areas.

• Protect remaining area from quarrying.

16 Key Habitat: Peatlands

• Develop habitat management plan for peatlands in the city, including survey and educational information for landowners.

• Survey especially for the protected Marsh Fritillary.

17 Key species group: Bats

• Ensure foraging grounds of bats are protected e.g. urban woodlands, wetlands and hedgerows.

• Ensure a bat survey is carried out before old structures are developed or restored in order to consider possible mitigation measures.

• Ensure public buildings have one aspect unlit to allow bats to roost.

• Bridge repair work preceded by bat survey and bat access points conserved.

• Bat box schemes including workshops

• Develop species action plan for *Rhinolophus hipposideros* (Lesser horseshoe bat)

18 Key species group: Birds

• Ensure adequate protection of important bird habitats in and around the city waterways, urban woodlands and hedgerows.

• Develop guidelines in relation to works in or adjacent to waterways, woodlands and hedgerows in relation to bird conservation.

• Ensure a bird survey is carried out before old structures are developed or restored in order to consider possible mitigation measures.

Key species group: Small mammals

• Continue monitoring small mammal populations in Terryland Forest Park and adjacent wildlife corridors

Key Species: Common swift (*Apus apus*)

• Identify and protect existing nesting sites, identify suitable new nesting sites and install swift nest boxes with simulated calls.

• Encourage developers to install 'swift bricks' into new developments

Key Species: Common seal (*Phoca vitulina*)

• Develop local species action plan

Key Species: Red squirrel (*Sciurus vulgaris*)

• Survey areas with reported sightings, such as Merlin Woods

20 Develop appropriate strategies for preventing the introduction and spread of invasive alien species

• Continue to raise awareness of the threat of invasive alien species to biodiversity and the environment.

Examples of problem species include the zebra mussel, Japanese knotweed and African waterweed.

• Develop a programme for eradicating invasive aliens in co-operation with other relevant agencies.

• Encourage members of the public to record sightings of alien invasives to http://www.invasivespeciesireland.com/alien-watch/

• Support the IFI *Lagarosiphon* and *Dreissena* control programmes

Support implementation of national Species and Habitat Action Plans within Galway City, as appropriate, and current National Biodiversity Action Plan

Appendix II: Bird Species Identified during the Winter Bird Surveys across the Proposed Development.

Date	Common Name	Scientific Name	BTO Code	Max Count	Activity	Height Band	End Flight
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	3	Flying over	20-100	Out of site
05/03/2024	Oystercatcher	*Haematopus ostralegus*	OC	7	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	2	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	2	Flying over	20-100	Out of site
05/03/2024	Mallard	*Anas platyrhnychos*	MA	1	Landing	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100	Out of site
05/03/2024	Herring gull	*Larus argentatus*	HG	2	Flying over	20-100	Out of site
13/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100m	Out of site
13/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100m	Out of site
13/03/2024	Herring gull	*Larus argentatus*	HG	3	Flying over	20-100m	Out of site
13/03/2024	Black-headed gull	*Chroicocephalus ridibundus*	BH	3	Flying over	20-100m	Out of site
13/03/2024	Black-headed gull	*Chroicocephalus ridibundus*	BH	3	Flying over	20-100m	Out of sight

13/03/2024	Black-headed gull	*Chroicocephalus ridibundus*	BH	3	Flying over	20-100m	Out of site
13/03/2024	Herring gull	*Larus argentatus*	HG	3	Flying over	20-100m	Out of site
13/03/2024	Herring gull	*Larus argentatus*	HG	1	Flying over	20-100m	Out of site
28/01/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	50-100	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	6	Flying over	20-50	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	3	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	4	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	4	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
28/01/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	100-200	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	2	Flying over	100-200	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
18/02/2025	Lesser black-backed gull	*Larus fuscus*	LB	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	4	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	3	Flying over	100-200	Out of sight

18/02/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
18/02/2025	Common gull	*Larus canus*	CM	1	Flying over	100-200	Out of sight
18/02/2025	Common gull	*Larus canus*	CM	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
18/02/2025	Lesser black-backed gull	*Larus fuscus*	LB	1	Flying over	100-200	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	3	Flying over	50-100	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	3	Flying over	20-50	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	20-50	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	20-50	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	20-50	Out of sight
18/02/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	20-50	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	20-50	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	20-50	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	20-50	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	20-50	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	20-50	Out of sight
18/02/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	20-50	Out of sight

05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	3	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
05/03/2025	Common gull	*Larus canus*	CM	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Black-headed gull	*Chroicocephalus ridibundus*	BH	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	1	Flying over	100-200	Out of sight
05/03/2025	Herring gull	*Larus argentatus*	HG	2	Flying over	100-200	Out of sight

Appendix III: Bird Species Identified during the Breeding Bird Surveys across Proposed Development site.

Date	Common Name	Latin Name	BTO_Code	Max Count	Activity	BOCCI	SCI	Annex 1
29/05/2024	Goldfinch	*Carduelis carduelis*	GO	1	Singing male/breeding calls	Green	N	N
29/05/2024	Robin	*Erithacus rubecula*	R.	1	Singing male/breeding calls	Green	N	N
29/05/2024	Wren	*Troglodytes troglodytes*	WR	1	Singing male/breeding calls	Green	N	N
29/05/2024	Blue Tit	*Cyanistes caeruleus*	BT	1	Singing male/breeding calls	Green	N	N
29/05/2024	House Sparrow	*Passer domesticus*	HS	1	Singing male/breeding calls	Amber	N	N
29/05/2024	Herring Gull	*Larus argentatus*	HG	1	Flying over	Amber	Y	N
18/04/2024	Goldfinch	*Carduelis carduelis*	GO	2	Pair in suitable nesting habitat	Green	N	N
18/04/2024	Blackbird	*Turdus merula*	B.	1	Singing male/breeding calls	Green	N	N
18/04/2024	Wren	*Troglodytes troglodytes*	WR	1	Singing male/breeding calls	Green	N	N
18/04/2024	Willow Warbler	*Phylloscopus trochilus*	WW	1	Singing male/breeding calls	Amber	N	N
18/04/2024	Wren	*Troglodytes troglodytes*	WR	1	Singing male/breeding calls	Green	N	N
18/04/2024	Wren	*Troglodytes troglodytes*	WR	1	Singing male/breeding calls	Green	N	N
18/04/2024	Willow warbler	*Phylloscopus trochilus*	WW	1	Singing male/breeding calls	Amber	N	N
18/04/2024	Goldfinch	*Carduelis carduelis*	GO	2	Singing male/breeding calls	Green	N	N
18/04/2024	Blue Tit	*Cyanistes caeruleus*	BT	1	Singing male/breeding calls	Green	N	N
18/04/2024	Wren	*Troglodytes troglodytes*	WR	1	Singing male/breeding calls	Green	N	N
18/04/2024	Wren	*Troglodytes troglodytes*	WR	1	Singing male/breeding calls	Green	N	N

18/04/2024	Willow Warbler	*Phylloscopus trochilus*	WW	1	Singing male/breeding calls	Amber	N	N
18/04/2024	House Sparrow	*Passer domesticus*	HS	2	Singing male/breeding calls	Amber	N	N
18/04/2024	Dunnock	*Prunella modularis*	D	1	Singing male/breeding calls	Green	N	N
18/04/2024	Dunnock	*Prunella modularis*	D.	1	Singing male/breeding calls	Green	N	N

Appendix IV: In Combination Assessment of Plans and Projects

Table 1: In Combination Assessment of Plans

Plan	In Combination Assessment
National Development Plan Ireland 2021-2030	As part of Project Ireland 2040 the National Development Plan sets out the Government's over-arching investment strategy and budget for the period 2021-2030. The plan that aims to balance demand for public investment across all sectors and regions of Ireland with a major focus on the delivery of infrastructure projects. The Plan was not subject to Appropriate Assessment. Given the nature of the capital investment the majority of the projects referenced and funded under the NDP have been or will be subject to EIA and AA. The NDP does not confer planning, it identifies strategic need. Any projects arising from, or supported by the National Development Plan must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the National Development Plan, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
National Energy & Climate Plan 2021-2030	This National Energy and Climate Plan builds on previous national strategies and sets out in detail objectives regarding the five energy dimensions together with planned policies and measures to ensure that these objectives are achieved. It aims as a fundamental national objective to pursue a trajectory of emissions reduction which is in line with reaching net zero in Ireland by 2050. In relation to transport the plan aims to: make growth less transport intensive through better planning, remote and home-working and modal shift to public transport; and increase the renewable biofuel content of motor fuels. The plan set targets for the conversion of public transport fleets to zero carbon alternatives. There are no specific spatial references in this policy document and therefore, no specific link (in terms of potential impact pathways) between it and European sites within the ZoI of the Proposed Development. The plan is key to considering the on-going evolution of national climate policy included are the obligations of the State under EU law (e.g. the EU Habitats Directive), and the promotion of sustainable development. Considering that, this policy position poses no identifiable risk of resulting in adverse effects on the integrity of any European sites. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the National Energy & Climate Plan, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Project Ireland 2040 – National Planning Framework	The National Planning Framework (NPF) is a high-level strategic plan to guide future growth and development in Ireland. The NPF makes reference to delivering projects in Galway region. The NPF references projects such as the enhanced regional

	accessibility through the Atlantic Economic corridor and from other urban cities, provision of citywide public transport including in areas to the east of the city - Parkmore, Ballybrit and Mervue. It also references the delivery of the Galway City Ring Road. An Appropriate Assessment was carried out in relation to the NPF. As a high-level strategic Plan, the Plan informed the preparation of subsidiary strategies, such as Regional Spatial and Economic Strategies and other statutory land-use plans such as city and county development plans and local area plans. It does not determine the precise location of any development project or designate or allocate specific land uses, nor does it preclude the consideration of alternatives. As a strategic National Plan, the actions of which can be implemented anywhere, the European sites covering the entirety of the Ireland including Northern Ireland are potentially impacted. The NPF NIS acknowledges that the prediction of effects on European sites was not practical given the nature of the strategic plan. However, at a high level, the potential impact sources to European sites were noted as: habitat loss or destruction; habitat fragmentation or degradation; disturbance to habitats/species; species mortality; alterations to water quality and/or water movement; alterations to air quality; and introduction or spread of invasive species. Section 8 of the NIS prescribed the mitigation strategy to prevent negative effects. The NIS concluded that" the *fact that proposals for land use designation and/or proposal for the location for individual projects will be formulated in more detail in the context of these lower tier plans ensures that a meaningful appropriate assessment can be carried out at that time. Having regard to the reasons outlined above, it can be concluded that the NPF would not adversely affect the integrity of a European site (whether individually or in combination with other plans or projects)."* Individual projects supported by the NPF must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the NFP, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Climate Action Plan 2024	The Plan, which was subject to AA, provides the Governments' third update to the Climate Action Plan 2019, outlines the actions required to 2035 and beyond, to guide the Governments' joint efforts over the coming years at reducing greenhouse gas emissions. The Plan implements the carbon budgets and sectoral emissions ceilings and sets a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050. It is proposed to be updated annually and will be improved and strengthened when required, allowing us to learn from our experiences in what is a very significant and complex undertaking. Although lacking full implementation detail, the bulk of the actions require the development of guidance, standards and plans, to positively reduce the greenhouse gas emissions. Any sectoral plans developed on foot of this will themselves be subject to AA and Strategic Environmental Assessment. Any projects arising out of the Plan or the Sectoral plans required to achieve the objectives of the Plan must comply with the requirements and obligations of EU and Irish planning and environmental law, including those of the relevant land use plans (Development Plans, Local Area Plans etc.).In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and

	policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Climate Action Plan, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
4th National Biodiversity Action Plan 2023-2030	The purpose of the 4th National Biodiversity Action Plan is to set out the approach to governance and conservation of biodiversity through a series of targeted actions within the Plan. This is underpinned by five strategic objectives aimed at ensuring that Irelands' biodiversity and ecosystems are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally. The strategic objectives lay out a clear framework for Ireland's national approach to biodiversity. As such this Plan will have a positive impact on biodiversity including European sites and their Qualifying Interests/Special Conservation Interests across Ireland. Any projects arising from, or supported by, the Plan must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As the National Biodiversity Action Plan aims to halt biodiversity loss, there is no risk of the Plan acting in combination with the Proposed Development to adversely affect the integrity of any European sites.
National Air Pollution Control Programme (NAPCP) Report 2021	The purpose of the National Air Pollution Control Programme is the main governance instrument by which Ireland as an EU Member State, must ensure that the emission reduction commitments for 2020-2029 and 2030 onwards are met. It is the Programmes intention to improve the quality of the national ecological environment, thus contributing towards maintaining or restoring the conservation condition of the European sites within its ZoI. There are no specific spatial references in this policy document and therefore, no specific link (in terms of potential impact pathways) between it and European sites within the ZoI of the Proposed Development. The Programme is key to considering the on-going evolution of national climate policy including the obligations of the State under EU law (e.g. the EU Habitats Directive), and the promotion of sustainable development. Considering that, this policy position poses no identifiable risk of resulting in adverse effects on the integrity of any European sites. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the National Air Pollution Control Programme, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
National Marine Planning Framework. Project Ireland 2040.	The purpose of this National Framework, as the first formal step towards the preparation of a marine spatial plan for all-Ireland, will contribute to the effective management of marine activities e.g. fishing, shipping, leisure, aquaculture and renewable energy, and a more sustainable use of our marine resources.

	The Framework was subject to Appropriate Assessment with the publication of a Post Consultation Natura Impact Statement. There are no specific spatial references in this policy document and therefore, no specific link (in terms of potential impact pathways) between it and European sites within the ZoI of the Proposed Development. The Framework is key to informing the preparation of subsequent strategies, such as the Offshore Renewable Energy Development Plan and Offshore Petroleum Plans, and other statutory and non-statutory plans such as city and county development plans and local area plans where they interface with the coastal zone and maritime area. Future developments, however arising out of the implementation of the Framework and subsequent strategies have the potential to lie either within those European sites or be situated in a location where they may be within the ZoI of those European sites within the ZoI of the Galway Racecourse Stables project. In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. Notwithstanding this, the Framework, through the incorporation of precautionary mitigation strategy (outlined in Chapter 8 of the Framework NIS), which is reliant on lower-level land use plans planning requirements, poses no identifiable risk that could result in adverse effects on the integrity of any European sites. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the National Marine Planning Framework, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Water Services Strategic Plan 2015	The Water Services Strategic Plan 2015 sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. Its six strategic objectives include: meeting customer expectations; ensuring a safe and reliable water supply; providing effective management of wastewater; protecting and enhancing the environment; supporting social and economic growth; and investing in our future. An Appropriate Assessment was carried out in relation to the Water Services Strategic Plan 2015-2031. As a National plan, all European sites in Ireland were identified as being within the potential ZoI of the Plan. The Plan does not refer to specific locations or individual projects, nor does it give or imply consent for any specific operations. However, it was recognised that a number of activities such as water supply and waste water treatment (including abstraction, treatment, storage, and discharge of treated waste water), distribution, maintenance, construction and management of this infrastructure had the potential to affect European sites. High level mitigation aimed at managing and avoiding effects were noted in Chapter 5.2 of the Plan NIS. Following on from this, and acknowledging that projects arising from, or supported by the Plan must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.), the conclusion of the Plan NIS noted, "*it is considered that the WSSP will have no adverse effects on any European sites, alone or 'in combination' with other plans and programmes*. In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Water Services Strategic Plan 2015, and the mitigation strategy proposed in the NIS for the Proposed

	Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
National Water Resources Plan – Framework Plan 2021	The purpose of this 25-year Plan is to identify deficiencies and need across the entire water supply area, and to develop plan level capital and operational solutions to detail how Uisce Éireann intend to balance the sustainable supply and demand for drinking water over the short, medium and long term, whilst safeguarding the environment. The Plan was subject to Appropriate Assessment and the preparation of an NIS. Although the Plan lacked project specificity, it identified high-level strategy which will be implemented through future plans and projects, and the potential for future proposals implemented through the Plan to have the potential to have an impact on European sites across the national territory. At a high level, the potential impact pathways arising from the Plan could include: physical loss of habitats/supporting habitat, mortality, habitat degradation – changes in water quality (pollution), habitat degradation – hydrological/ hydrogeological changes, water table/availability and disturbance (including biological disturbance). Projects prioritised by Uisce Éireann and Local Authorities will be required to comply with the statutory planning requirements, and those of the relevant land use plans. The Plan identified how Uisce Éireann intend to provide sustainable and reliable water supply and mitigation in Chapter 8 was prescribed to ensure the protection of European sites in the Plan development process. The NIS concluded nonetheless, that "*the draft Framework Plan will not result in adverse effects on the integrity of any European site either alone or in-combination with other plans or projects*." All projects arising from, or supported by the Plan, must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the National Water Resources Plan – Framework Plan 2021, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Regional Spatial & Economic Strategy- Northern and Western Region 2020-2032 (RSES)	The RSES is a Strategy that does not confer planning nor designate or allocate specific land uses, but supports the implementation of the National Planning Framework (NPF), and the economic policies and objectives of the Government by providing a long-term strategic planning and economic framework for the development of the three regions: Northern and Western; Southern; and Eastern and Midland. An Appropriate Assessment was carried out in relation to the Northern and Western Region Strategy. The strategy included all European sites within the NW region and transboundary impacts to European sites within 15km of the National border. While much of the Strategy is policy based, potential impacts in respect of habitat area reduction, disturbance of key species, habitat/species fragmentation, reduction in species density and changes in key indicators of conservation value in particular water quality and climate change. Potential direct and indirect impacts associated with the location and development of infrastructure (e.g. expansion and upgrade of Galway Harbour, the prioritisation of framework for projects in the Galway Metropolitan Area Strategic Plan including the Galway City Ring Road and other infrastructure such as transport and wastewater treatment and access associated with areas of scenic, historic and cultural beauty) where these areas overlap, adjoin, are proximal to or support connectivity with European sites. Section 9 of the NIR prescribed the mitigation strategy, which the high-level Strategy noted would be required to conform to the relevant regulatory provisions aimed at preventing pollution or other environmental effects likely to adversely affect the

	integrity of European Sites, where applicable and appropriate. The NIR concluded that the Strategy "*would not adversely affect the integrity of a European site (whether individually or in combination with other plans or projects subject to application of all the mitigation measures identified in this NIR*" [Section 9 of NIR]. All projects arising from, or supported by the Strategy, must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.,). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the mitigation measures included within the Strategy, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
West Catchment Flood Risk Assessment and Management (CFRAMS) Study	The purpose of this Study was to assess flood risk and identify viable structural and non-structural options for managing flood risks for localised high-risk areas and within the catchment as a whole. The Study was not subject to Appropriate Assessment. Projects rising out of it could contribute towards maintaining or restoring the conservation condition of the hydrological regime of the European sites within the ZoI but in achieving this there are potential impact pathways by which they could adversely affect the integrity of any European sites. Although the outcomes of the study and requirements arising from it will have a positive impact on water quality its catchments including the Corrib catchment in which the Proposed Development lies, future developments arising out of the implementation of the Study have the potential to lie either within European sites or be situated in a location where they may be within the ZoI of European sites within the ZoI of the Galway Racecourse Stables project. The Study set out the strategy, and guidelines required of the local Authorities to incorporate consideration of flood risk identification, assessment and management into the planning process. Implementation of the Guidelines will be achieved through actions at the national, regional, local authority and site-specific levels. All projects arising from, or supported by the Study must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the CFRAMS, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
River Basin Management Plan for Ireland 2018-2021	The purpose of the River Basin Management Plan is to reduce pollution levels, restore good water quality status and prevent deterioration in water quality in the river basin. Therefore, the Plan will contribute towards maintaining or restoring the conservation condition of the European sites within the ZoI of the Plan and there are no potential impact pathways by which they could adversely affect the integrity of any European sites.

	The Plan will have a positive impact on water quality across its catchments including the Corrib catchment in which the Proposed Development lies. Therefore, there is no risk of the Plan acting in combination with the Proposed Development to adversely affect the integrity of any European sites.
The River Basin Management Plan for Ireland (2022-2027) – draft for public consultation in review	The purpose of this draft plan is to update and strengthen the previous River Basin Management Plan for Ireland 2018-2021 (which is still in effect) and which sets out measures that are necessary to protect and restore water quality in Ireland. The draft Plan once adopted would be expected to have a positive impact on water quality across its catchments including the Corrib catchment in which the Proposed Development lies. Therefore, there is no risk of the draft Plan acting in combination with the Proposed Development to adversely affect the integrity of any European sites.
Galway County Development Plan 2022-2028	The Galway County Development Plan 2022-2028 is seeking to develop in a sustainable and environmentally sensitive manner across the county. It promotes the climate change agenda, and it sets out the housing and economic priorities for the relevant period up to 2028. The Plan notes both confirmed projects (including at times some project specificity) as well as identifying future developments arising from the Plan e.g., road development and other transport/mobility management infrastructure, and support for third party infrastructural development. The policies, objectives and proposed land use zonings could result in a number of potential impacts to the conservation objectives of European site(s) identified as being within the ZoI of the Plan including: habitat loss, fragmentation and degradation; disturbance to key species; and changes in key indicators of conservation value. A total of 126 European sites (within and extending outside the Galway County Administrative boundary and including the coastal zone) were considered for potential impacts arising from the Plan. It was concluded that owing to the "*Having incorporated mitigation measures, it is concluded that the Galway County Development Plan 2022-2028 is not foreseen to give rise to any adverse effects on the integrity of any European Site, alone or in combination with other plans or projects*". As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Galway County Development Plan 2022-2028, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Galway County Heritage and Biodiversity Plan 2017-2022	The aim of the plan is to place heritage and biodiversity at the heart of public life in the county, and the aims, vision and objectives of which will be delivered through a range of strategic actions. It is not known if the Plan was subject to An Appropriate Assessment Screening. There is no project specificity in terms of development contained within the plan and the actions focus on research, and developing links others to further knowledge and data-sharing, all of which are aimed at positive improvements to biodiversity across the County. Any projects arising from these actions, or supported by the Plan must comply with the relevant statutory planning requirements, and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Galway County Heritage and Biodiversity Plan, and the mitigation strategy proposed in the NIS for the

	Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Draft Galway County Council Climate Action Plan 2024-2029	The draft Galway County Council Climate Action Plan 2024-2029 is a high-level Plan to address climate change at the County Level and identify current and future climate change impacts and greenhouse gas emission levels in the County, through the development of adaptation and mitigation baselines. It also examines the future impacts that climate change may have on the region and then sets out a first iteration of actions that will be used to reduce the source and effects of these impacts. The plan was subject to Appropriate Assessment and included a range of mitigation measures in respect of actins arising from the Plan. Key to this was that any projects arising from the Plan must comply with the relevant statutory planning requirements and must be in accordance with the objectives and policies of the relevant land use plans (Development Plans, Local Area Plans etc.). In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Draft Galway County Council Climate Action Plan, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Galway City Council Development Plan 2023-2029	The Galway City Development Plan 2023-2029 is centred on a vision for Galway City to be a successful, sustainable, competitive city, taking account of the National Planning Framework (NPF), the Regional Spatial and Economic Strategy (RSES) and the Galway Metropolitan Area Strategic Plan (MASP). A central focus of the Plan is climate action, facilitating a just transition towards climate resilience and carbon neutrality. The high level Plan notes confirmed projects (including at times some project specificity such as environmental improvement scheme to Salthill). The policies, objectives and proposed land use zonings as well as projects stemming from the Plan could result in a number of potential impacts to the conservation objectives of European site(s) identified as being within the ZoI of the Plan including: Direct and indirect impacts to European sites and their QIs and SCIs, habitat degradation including hydrogeological impacts to ground water dependant habitat, Noise disturbance and potential fragmentation to habitats and their range. A number of European sites were considered for potential impacts arising from the adoption of the Plan. Four European sites (overlapping with the Stables Project) were noted as being within the plan boundary, as well as a furth 7 European sites up to 35km away owing to potential hydrological links to EU sites with Freshwater pearl mussel as QI species. The NIR was concluded that owing to the "*Having incorporated mitigation measures, it is concluded that the Plan 2023-2029 will not have a significant adverse impact on the integrity of European sites".* As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Galway City Development Plan 2023-2029, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.

Galway City Biodiversity Action Plan 2014-2024	The Galway City Biodiversity Action Plan (BAP) aims to raise awareness of, increase the knowledge and understanding of biodiversity, through promote the conservation of the natural heritage and biodiversity of the City, whilst maintaining/enhancing the biodiversity resource. The Plan provides a framework for the conservation of biodiversity at a local level and helps ensure that national & international targets for biodiversity conservation can be achieved. The Galway City BAP provides a framework for the conservation of biodiversity at a local level and helps ensure that national and international targets for biodiversity conservation can be achieved, while at same time addressing local priorities. Therefore, overall impacts will be positive. Due to the high-level nature of this Plan, it is not possible to determine with confidence the likely impacts or mitigation measures required yet in detail. Any projects that may arise as a result of this plan will have a project level AA which will assess these in detail and provide suitable mitigation measures where appropriate in accordance with the requirements of the higher level County Development Plan. In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Galway City Biodiversity Action Plan 2014-2024, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.
Galway City Climate Adaption Strategy 2019 - 2024	The Climate Adaption Strategy (2019 - 2024) for Galway City aims to make Galway City resilient to the effects of climate change. The Strategy sets out 31 objectives and 68 actions/sub-actions for the adaptation of Galway City Council to the projected impacts of climate change. However, while the overall impacts will be considered positive, due to the high-level nature of this Plan, it is not possible to determine with confidence the likely impacts or mitigation measures required yet in detail. Any projects that may arise as a result of this plan will have a project level AA which will assess these in detail and provide suitable mitigation measures where appropriate. In the context of European sites, these land use plans are the Galway County Development Plan 2022-2028; Galway City Council Development Plan 2023-2029 and the Clare County Development Plan 2023-2029. All of these plans contain objectives and policies to ensure protection of European sites from any projects proposed with the plan area. These protective objectives and policies pursuant to Galway City and County are presented in Appendix I of the NIS. As concluded in the NIS, and having regard to the mitigation measures detailed therein, the Proposed Development will not have any measurable effect on, and will not adversely affect the integrity of, any European sites. Considering the above in relation to the Galway City Climate Adaptation Strategy 2019-2024, and the mitigation strategy proposed in the NIS for the Proposed Development, there is no potential for any in combination effects to arise that would affect the receiving environment in Galway Bay or that would adversely affect the integrity of any European sites.

Table 2. In Combination Assessment of Projects

Application Reference	Applicant and Brief Description	Decision	Conclusion Regarding In Combination Effect
ABP Ref. ABP-302848-18, ABP302885-18	Galway County Council Galway City Ring Road (GCRR)	Live Case 30/01/2023 Board's Decision quashed by Order of the High Court (Perfected on the 9th February, 2023), New Case Number ABP-318220-23 06/12/2021 Approved with Conditions	No in combination effect. The project is live and a revised AA is likely to be furnished in the short to medium term. The following is based on information that is available in the public domain. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project is subject to planning consent. In granting permission for the project, it will be necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the project will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
ABP Ref. 320181	Galway City Council Development of water sports centre at Dyke Road, Galway	Lodged 11/07/2024 Decision: Further consideration needed	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project is subject to planning consent. In granting permission for the project, it will be necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development.. The Natura Impact Statement (NIS) submitted by the applicant for the project, identified that Lough Corrib SAC, Galway Bay Complex SAC and Inner Galway Bay SPA were within the potential zone of influence of water quality effects during construction and operation. Mitigation measures were proposed in the NIS submitted with the application to ensure all potential impacts were addressed. Therefore, with the application of those mitigation measures, the project will not give rise to any adverse effects on the integrity of any European sites. Due to the environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development and project NIS to avoid significant impacts,

Application Reference	Applicant and Brief Description	Decision	Conclusion Regarding In Combination Effect
			the project will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
GCC planning ref. 2460108	Summix BNM Developments Limited Corner of Lough Atalia Road and Bóthar na Long, Galway, H91 HY45 The development will include demolition of a vacant industrial structure (115 sq m), the external canopy structure (170 sq m) and the boundary walls along the southern, western and north-western boundaries of the site; and the construction of a 15 No. storey hotel (including part mezzanine at ground floor level) providing 189 No. bedrooms (7,514 sq m), incorporating food and beverage areas and provision of a single storey service building to the northwest of the site on a 0.2217 Ha site.	Refused 06/06/2024 Appealed 05/07/2024	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project is subject to planning consent. In granting permission for the project, it will be necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the project will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
ABP- 314597-22	Galway City Council University Road to Dublin Road, Galway City BusConnects Galway Cross-City Link Scheme	Granted 27/09/2024	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project is subject to planning consent. In granting permission for the project, it will be necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the project will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites.

Application Reference	Applicant and Brief Description	Decision	Conclusion Regarding In Combination Effect
			The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
GCC planning ref. 20184 (Amended by ref. 22259)	Cleverson Ltd Headford Road, Townparks, Galway Demolition of an ESB enclosure and construction of a seven/eight storey development comprising 4 retail units, a gymnasium and student accommodation 7 storeys in height (272 beds).	Grant permission 12/07/2021	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project was subject to planning consent. In granting permission for the project, it would have been necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the project will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
GCC planning ref. 1847 (amended by ref. 20235)	K. King Construction Claregalway Ltd. 33-35 Saint Brendan's Avenue, Woodquay, Galway Construction of 27 no. duplex / apartments including 3 to 6 storey apartment block and all associated site development works and services.	Grant permission 14/12/2020	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project was subject to planning consent. In granting permission for the project, it would have been necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the consented development will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites.

Application Reference	Applicant and Brief Description	Decision	Conclusion Regarding In Combination Effect
			The consented project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
GCC planning ref. 19107	Irish Water Dyke Road, Terryland, Galway Permission for development which comprises of a new raw water intake works located on the east bank of the River Corrib, 100m downstream of Quincentenary Bridge to supply the Terryland Water Treatment Plant.	Grant permission 24/02/2020	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans.). These land use plans contain objectives and policies to ensure the protection of European sites. The project was subject to planning consent. In granting permission for the project, it would have been necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the consented development will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The consented project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
GCC planning ref. 2047	Seagullpoint Limited Lands to the rear of Ceannt Train Station, Station Road, Galway City Large-scale, mixed-use development consisting of 376 no. apartments, retail units, café/restaurant/bar units, hotel, office use, childcare facility, car parking and other services and associated site works.	Grant permission 24/05/2021	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans). These land use plans contain objectives and policies to ensure the protection of European sites. The project was subject to planning consent. In granting permission for the project, it would have been necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water and groundwater networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the consented development will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites.

Application Reference	Applicant and Brief Description	Decision	Conclusion Regarding In Combination Effect
			The consented project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development and has included mitigation in that regard to prevent any such adverse effects.
N/A	Galway City Council with Failte Ireland Woodquay Park, Terryland, Galway Woodquay Park Landscape Upgrade: Included in the plans is the creation of accessible, public, green space, with biodiversity-friendly planting, age and mobility-friendly pathways, sheltered seating niches and spaces for play and for rest. The project will also involve traffic calming upgrades and improved pedestrian facilities to the surrounding streets.	Lodged 27/09/2024 Case is due to be decided by 25/03/2025	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans.). These land use plans contain objectives and policies to ensure the protection of European sites. The project is subject to planning consent. In granting permission for the project, it will be necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the consented development will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development.
N/A	Galway City Council Across the River Corrib, adjacent to Dyke Road Clifden Railway Bridge Pedestrian and Cycle Bridge: Construction of a pedestrian and cycle bridge which will span the River Corrib connecting the University of Galway (UG) campus to the City Centre via Riverside and Woodquay.	Intended lodgement date unknown	No in combination effect. The Proposed Development must comply with all applicable planning and environmental approval requirements and be in accordance with the objectives and policies of the relevant land use plans (Development Plans.). These land use plans contain objectives and policies to ensure the protection of European sites. The project is subject to planning consent. In granting permission for the project, it will be necessary to determine that the project will not result in adverse effects on the integrity of any European sites, including from the impact pathway of surface water networks, either alone or in combination with the Proposed Development. There is no physical overlap between the Proposed Development and the project. The environmental protection policies included within the relevant land use plans, the range of mitigation measures included in the Proposed Development to avoid significant impacts and that alone the Proposed Development will not adversely affect the integrity of any European sites, the consented development will not act in combination with the Proposed Development to have an adverse effect on the integrity of any European sites. The project will not adversely affect the integrity of any European sites, in its own right, nor in combination with other projects, including the Proposed Development.