N6 Galway City Ring Road

Updated Natura Impact Statement (NIS)

March 2025

Volume 1

Executive Summary

An Roinn Iompair
Department of Transport

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Comhairle Cathrach na Gaillimhe
Galway City Council

Comhairle Chontae na Gaillimhe
Galway County Council

ARUP

List of Volumes

Volume 1 - Executive Summary
Volume 2 – Natura Impact Statement
Volume 3 – Figures
Volume 4 – Appendices

Contents

1. Introduction

Galway County Council on behalf of itself and on behalf of Galway City Council pursuant to a Section 85 Agreement[1] submitted an application for approval under Section 51 of the Roads Act 1993 (as amended) (the "Section 51 Application") for the proposed N6 Galway City Ring Road around Galway City, hereafter referred to as the proposed N6 GCRR to An Bord Pleanála (ABP) on 23 October 2018. The Section 51 Application included an Environmental Impact Assessment Report (2018 EIAR), an AA Screening Report and a Natura Impact Statement (2018 NIS) among other documentation submitted to An Bord Pleanála at that time. Galway County Council also at that time made the N6 Galway City Ring Road Protected Road Scheme 2018 and the N6 Galway City Ring Road Motorway Scheme 2018 which were also submitted to ABP for approval under Section 49 of the Roads Act 1993, (as amended).

On 4 April 2019, ABP requested further information in relation to the proposed N6 GCRR pertaining to the application for approval. A detailed Response to this request for further information was submitted to ABP in August 2019[2].

An oral hearing commenced in February 2020 and was suspended in March 2020 due to Covid-19. It was reconvened again in October 2020 and concluded in November 2020. In response to queries raised during the oral hearing by the inspectors appointed by ABP, statutory consultees and members of the public in attendance at the oral hearing, various supplemental reports were prepared and information provided, all of which were submitted to An Bord Pleanála[3].

ABP granted approval under Section 51 of the Roads Act 1993 (as amended) for the proposed N6 GCRR and approval under Section 49 of the Roads Act 1993 (as amended) for the N6 Galway City Ring Road Protected Road Scheme and N6 Galway City Ring Road Motorway Scheme on 6 December 2021 (with conditions and modifications)[4].

Those approvals were challenged in the High Court by way of Judicial Review and ABP conceded to an order quashing the approvals on limited grounds and the applications for approval of the proposed N6 GCRR was remitted back to ABP by the High Court on 30 January 2023. In this regard the orders of the High Court stated that the applications for approval be remitted to the point of the conclusion of ABP's Inspector's Report.

On 7 December 2023, ABP requested further information (RFI) (Ref: ABP-318220-23[5]) from Galway County Council in relation to the application for approval of the proposed N6 GCRR as follows:

- *Having regard to the passage of time since the applications were lodged and the decisions made by the Board you are invited to update the motorway scheme application and the proposed road development application*
- *Make submissions in relation to the most recent Climate Action Plan and the implications of the new Galway City Development Plan*
- *Update the Environmental Impact Assessment Report*
- *Update the appropriate assessment screening document and the Natura Impact Statement including updated site conversation objectives*

The full complement of material submitted to ABP in response to the above request is entitled the **2025 RFI Response**. This is split into seven parts as follows:

- Part I – RFI Response Report
- Part II – Updated N6 Galway City Ring Road Motorway Scheme 2018
- Part III – Updated N6 Galway City Ring Road Protected Road Scheme 2018
- Part IV – Obligations under Section 15 of the Climate Action and Low Carbon Development Act 2015 (as amended) and submissions in relation to the Climate Action Plan 2024
- Part V – Implications of new Galway City Development Plan

[1]A Section 85 Agreement has been entered into under the provisions of Section 85 of the Local Government Act 2001 between Galway County Council and Galway City Council and approved by Transport Infrastructure Ireland pursuant to Section 14 of the Roads Act 1993, as amended
[2]http://n6galwaycityringroad.ie/Response/
[3]http://n6galwaycityringroad.ie/
[4]https://www.pleanala.ie/en-ie/case/302848 and https://www.pleanala.ie/en-ie/case/302885
[5]It is noted that the reference numbers for the application in 2018, ABP-302848 and ABP-302885 has since been updated by ABP to HA07.318220 and MA07.318217 respectively

- Part VI – Updated Environmental Impact Assessment Report (EIAR)
- Part VII – Updated Provision of Information for Appropriate Assessment Screening Report and Natura Impact Statement (NIS)

Part VII provides updated Provision of Information for Appropriate Assessment Screening Report (hereafter referred to as the AA Screening Report) and an updated NIS which is presented in four volumes as follows:

Volume 1 NIS Executive Summary – this document
Volume 2 NIS Main Report
Volume 3 NIS Figures
Volume 4 NIS Appendices

Where changes have been made since the 2018 NIS, these have been set out in Volume 2 of this updated NIS. These changes take account of any potential changes in the ecological baseline of the study area, information presented in the 2019 RFI Response and at the oral hearing in 2020 and findings from the assessment undertaken by the Inspector appointed by An Bord Pleanála (ABP) presented in ABP's Inspector's Report dated 22 June 2021.

The Inspector appointed by ABP, and the ecologist appointed by ABP, Dr Arnold, agreed with the conclusion of the 2018 NIS, that the proposed N6 GCRR does not pose a risk of adversely affecting (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion. Dr Arnold did however include additional potential impact pathways, screened in additional European sites for appropriate assessment and included additional mitigation measures [appended (as Appendix 6) to the ABP's Inspector's Report dated 22 June 2021].

The additional mitigation measures are addressed in Volume 2 Section 10.1.1 of this updated NIS. All of Dr Arnold's additional impact pathways and European sites have been taken into account, on a precautionary basis, in the preparation of this updated NIS and are summarised below:

- **Construction-related Traffic** – screened in the following sites due to their proximity to the wider road network, having the potential to be affected by construction-related traffic associated with the Project: Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SAC and Cregganna Marsh SPA
- **Recreational Pressure** – screened in the following sites due to the potential increase in recreational pressure associated with the operation of the proposed N6 GCRR: Maumturk Mountains SAC, The Twelve Bens/Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA and Ross Lake and Woods SAC
- **Potential deterioration or decline in European site QIs/SCIs** – screened in the following sites due to the potential loss of supporting habitats/ populations of typical species and positive indicator species: Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, Ardrahan Grassland SAC, Castletaylor Complex SAC, East Burren Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SAC, Moneen Mountain SAC, Black Head-Poulsallagh Complex SAC, Gortnandarragh Limestone Pavement SAC

In addition to the sites screened in by Dr Arnold and considering methodology for evaluating the potential impacts due to recreational pressure from the operation of the proposed N6 GCRR, Ardrahan Grassland SAC and Castletaylor Complex SAC are also additionally screened in for appropriate assessment in this updated NIS on a precautionary basis for the recreational pressure.

In addition to previous surveys, extensive ecological surveys were undertaken between 2022 and 2024 to verify the results of previous surveys and ensure any changes to the biodiversity baseline were captured to inform this updated NIS. In general, the distribution and extent of habitats, and the distribution and abundance of flora and fauna species, is broadly consistent with that recorded previously to inform the 2018 NIS and although there were certain changes to the baseline, which are detailed in Section 5 and Section 9 of Volume 2 of this updated NIS, the changes do not alter the conclusion reached in the 2018 NIS, i.e. that there would be no adverse effect on the integrity of any European site.

The assessment presented in the updated AA Screening Report and this updated NIS is based on the most recent European site boundaries[6], the most recent published Site Specific Conservation Objective (SSCOs), Qualifying Interests (QIs)/Special Conservation Interests (SCIs) for

each European site, and this updated baseline habitat and species information of relevance to the Appropriate Assessment, based on the extensive ecological surveys summarised in Section 5 and in Section 7 to Section 14 of this executive summary with some of the more critical changes centred around the precautionary change of the classification of the aquatic vegetation in the River Corrib to the Annex I Vegetation of flowing waters [3260].

The impact assessment has also been updated to include the two nearby European sites, for which Harbour porpoise has been added as a QI in March 2024, due to the potential for the Project to affect water quality in Galway Bay: Inishmore Island SAC and Kilkieran Bay and Islands SAC.

All reference material, guideline documents, scientific literature have also been reviewed and updated as necessary to reflect recent source material and information where this is available. None of these updates have resulted in any changes in the findings of this updated NIS and support the initial findings of the 2018 NIS.

This updated NIS has been prepared in accordance with the current legislative provisions and having regard to best practice guidance in preparing an NIS. This updated NIS considers the impacts of the Project, on its own and in combination with other plans or projects, on European sites in view of the conservation objectives of those sites and then assesses whether the integrity of those European sites would be adversely affected.

This executive summary gives an overview of the assessment and findings presented in this updated NIS with Sections 1 through to Section 4 below introducing the Project, giving a description of the Project, consultations undertaken and the methodology followed for the assessment. Section 5 presents the ecological, hydrogeological and hydrological baseline (as it relates to the local European sites), and Section 6 identifies the European sites within the identified ZoI and Sections 7 to 14 present the detailed assessment of European sites and whether the Project will impact on the conservation objectives and integrity of these European sites in turn, including the mitigation and success of mitigation by way of residual impact assessment and statements. A summary of the in combination assessment of the Project with other plans and projects is presented in Section 15 and the overall conclusion in Section 16.

In this updated NIS:

- The term **"Project"** refers to combination of the proposed N6 GCRR and the proposed development at Galway Racecourse
- The **"Assessment Boundary"** refers to lands required for the construction and / or operation of the proposed N6 GCRR plus the extents of the lands included within the planning boundary for the proposed development at Galway Racecourse
- The **"footprint of the proposed N6 GCRR"** refers to the physical development footprint of the road infrastructure
- The **"proposed development at Galway Racecourse"** refers to the physical development of the temporary and permanent stables and their associated works, which are the subject of a separate application for planning permission which was approved by Galway City Council, but are considered to form part of the Project for EIA and AA purposes
- The **"Scheme Study Area"** refers to the wider study area at which ecological constraints were initially identified during the route selection studies for the Project. Information in the ecological baseline description may be supported by data obtained from the Scheme Study Area

Ecological baseline **"Survey Areas"** vary depending on the species assessed and may be within or outside the Assessment Boundary. These areas are defined under each specific ecological baseline methodology as relevant. The **"Zone of Influence"** (ZoI) is the area within which the Project could affect the receiving environment such that it could potentially have significant effects on the Qualifying Interest (QI) habitats or species or Species of Conservation Interest (SCIs) of a European site (as defined in CIEEM, 2018) and detailed in Section 7 of Volume 2 of this updated NIS.

[6]The most recent Special Area of Conservation (SAC) boundary dataset is SAC_ITM_2024_05 (released on 15 May 2024) and the most recent Special Protection Area (SPA) boundary dataset is SPA_ITM_2024_01 (released on 11 January 2024)

2. Overview of the Project

2.1 Overview of Proposed N6 GCRR and Definition of the Project for EIA and AA Purposes

2.1.1 The proposed N6 GCRR

The proposed N6 GCRR, the subject of the Section 51 Application, comprises the construction of approximately 5.6km of a single carriageway from the western side of Bearna as far as the Ballymoneen Road and approximately 11.9km of dual carriageway from Ballymoneen Road to the eastern tie in with the existing N6 at Coolagh, Briarhill, and associated link roads, side roads, junctions, structures and localised works to the existing electricity transmission and distribution networks (specifically comprising of the diversion of the 110kV and 38kV services). The section of the proposed N6 GCRR from the tie-in with the R336 Coast Road to the N59 Letteragh Junction is a protected road[7] and the section from this junction to the tie-in with the existing N6 at Coolagh, Briarhill is a motorway.

The total area within the Assessment Boundary is 334ha. The total area within the footprint of the proposed development boundary was 280ha in the 2018 EIAR. This increase of 54ha is due to the additional lands included at Galway Racecourse for the purposes of the application for the Galway Race Committee Trust Planning Permission relating to the proposed development at Galway Racecourse for which planning permission has been granted in December 2024 by Galway City Council. Of this total area, an area of 180ha is required for the footprint of the proposed N6 GCRR. A full description of the Project is presented in Section 2 of Volume 2 of this updated NIS and the extent of the Project is indicated on Plate 1 below and Figures 1.1 to 1.15.

Plate 1: Project Overview

[7] A protected road means a public road or proposed public road specified to be a protected road in a protected road scheme approved by the An Bord Pleanála. A protected road scheme approved by An Bord Pleanála may provide for the prohibition, closure, stopping up, removal, alteration, diversion or restriction of any specified or all means of direct access to the protected road from specified land or from specified land used for a specified purpose or to such land from the protected road.

There are four significant structures included in the design of the proposed N6 GCRR namely the River Corrib Bridge which traverses University of Galway (UoG) Sporting Campus and the river itself, Menlough Viaduct over an area of priority Annex I habitat outside any European sites, Lackagh Tunnel beneath the Lough Corrib Special Area of Conservation (SAC) at Coolough and Menlough, and Galway Racecourse Tunnel to the north of the racetrack. Additional lands to the north of Menlo Castle are included as part of the proposed N6 GCRR to provide lands for the enhancement of the core foraging habitat for the Lesser horseshoe bat known to roost at Menlo Castle, not linked to the QI population of surrounding SACs, and to mitigate against potential impacts to this species. These lands will be planted with additional hedgerows and maintained as agricultural lands by the local authority and will remain in their ownership. There will be a tunnel maintenance building located adjacent to Lackagh Tunnel and another one adjacent to the Galway Racecourse Tunnel. The Project will also include extensive landscape planting and the creation of Annex I habitat areas[8] (e.g. Calcareous grassland habitat within Lough Corrib SAC on the east bank of the River Corrib). Noise barriers will also be installed at locations along the proposed N6 GCRR.

West of the N59 Moycullen Road, the drainage system for the proposed N6 GCRR will discharge to watercourses crossed by, or adjacent to, the proposed N6 GCRR that eventually outfall to Galway Bay which is within the Galway Bay Complex cSAC and Inner Galway Bay Special Protection Area (SPA), or the River Corrib, either directly or to a tributary, which is within the Lough Corrib SAC. East of the N59 Moycullen Road, a fully sealed drainage system will generally discharge to ground via infiltration, with the exception of five drainage networks which either directly or indirectly outfall to the River Corrib. A separate isolated sealed drainage system will be utilised for the Lackagh Tunnel and the Galway Racecourse Tunnel structures which will be pumped to the Mutton Island Waste Water Treatment Plant for treatment, via the existing fowl sewer network. Attenuation will be provided at outfalls and discharge points to maintain existing flow rates in receiving watercourses. Infiltration basins have been sized to allow sufficient time for infiltration to discharge to the ground. Pollution control measures (e.g. petrol and oil interceptors, spill containment areas and wetlands) will be provided on all mainline road drainage networks prior to outfalling/discharging to ensure water quality is maintained in receiving watercourses. Refer to Section 2.4 of the Volume 2 of this updated NIS for further details.

[8] The Annex I habitat creation relates to addressing residual impacts to Annex I habitats outside of any European sites in the updated EIAR. It is not in response to any impacts on Annex I habitats that relate in any way to effects on QIs or the conservation objectives of any European sites and that habitat creation does not constitute "compensatory measures" in the meaning of that term in Article 6(4) of the Habitats Directive.

2.1.2 Proposed Development at Galway Racecourse and Definition of the Project

To ensure the functionality of Galway Racecourse during the construction and operation of the proposed N6 GCRR, the construction of both temporary and permanent stables (and associated development) is essential at the racecourse. In this regard, Galway Race Committee Trust applied for planning permission for these temporary and permanent stables and associated development, which was granted permission by Galway City Council in December 2024.

The demolition of the existing stables will occur as part of the construction of the proposed N6 GCRR. As set out in the application for planning permission by Galway Race Committee Trust to Galway City Council (Reference 24/60279) and as set out in the grant of permission, it will only be implemented if the proposed N6 GCRR is granted approval by ABP and is proceeding. Equally, the permanent stables cannot be constructed until post completion of construction and handover of the operational N6 GCRR. This has resulted in the need to provide temporary stables during the demolition of the existing stables and the commissioning of the new permanent replacement stables. The temporary stables will need to be fully operational before the demolition of the existing stables commences. Therefore, whilst the proposed N6 GCRR, the subject of the Section 51 Application is separate to that of the proposed development at Galway Racecourse, it is also interconnected and interlocked with it.

Therefore, it is necessary for Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) purposes to assess the combination of both the proposed N6 GCRR and the proposed development at Galway Racecourse, which, for EIA and AA purposes, is referred to as the "Project" and has been considered and assessed in the updated EIAR and in the updated AA Screening Report and this updated NIS. Therefore, the term Project, when used throughout this updated NIS, refers to combination of the proposed N6 GCRR and the proposed development at Galway Racecourse. A full description of the Project is provided in Section 2 in Volume 2 of this updated NIS and shown on Figures 1.1 to 1.15 in Volume 3 of this updated NIS.

Similar to the carriageway drainage for the proposed N6 GCRR, a surface water collection system will be provided for the temporary stables. The temporary stables discharges to a natural 'swallow hole' feature in the infield area of racecourse and caters for storm events up to the 1 in 100 year return period storm event, with a limited discharge of 5l/s The proposed system incorporates critical elements of a sustainable drainage (SuDS) treatment train comprising source control (green roof system), water quality improvements (green roof system), runoff volume reduction (green roof system), runoff rate control (hydrobrake flow control) and attenuation storage (attenuation pond). The drainage networks for the permanent stables are designed to include an increase of 20% in rainfall depth to cater for the impact of climate change.

The construction activities associated with the Project include enabling works, site preparation and clearance works, fencing, main construction (e.g. roadworks, drainage, structures, tunnels, blasting and accommodation works), material sources and transportation, service and utility diversions, commissioning and decommissioning of Project. Refer to Section 2.4 of Volume 2 of this updated NIS for further details.

The design progressed in tandem with environmental studies which were undertaken to both inform the baseline environmental data and inform the design to minimise impacts to the receiving environment. As such, key design measures to avoid or reduce impacts on European sites are included within the design of the Project, refer to Section 2.5 of Volume 2 of this updated NIS for further details. The Project, including the drainage, will be maintained on a regular basis to ensure all elements function as per their design and achieve the required standards.

2.2 Project Phases

The Project comprises five phases, which are as follows:

- Phase 1: These works do not form part of the development for which approval is sought as part of the Section 51 Application for the proposed N6 GCRR, however Phase 1 does form part of the Project and has been considered and assessed for EIA and AA purposes. Works undertaken as part of Phase 1 will include the construction of the temporary stableyard, machinery shed, maintenance shed, water supply wells, ESB substation and new pre-parade ring and pavilion on Galway Racecourse lands.
- Phase 2: Works undertaken as part of Phase 2 will include the following:
  - ◊ The provision of the proposed N6 GCRR in two stages which will take place concurrently:
    - » Stage A - N6 Coolagh Junction to N59 Letteragh Junction
    - » Stage B - N59 Letteragh Junction to R336 west of Bearna
  - ◊ Existing stableyard at the racecourse to be demolished, including existing well, existing water tank, machinery shed and adjacent car park.
  - ◊ Existing commercial building on the lands the subject matter of the N6 Galway City Ring Road Motorway Scheme 2018 to the north of the Galway Racecourse to be demolished and the site cleared.
  - ◊ Existing horse box parking off Racecourse Avenue to be demolished, including removal of existing access arrangement to the Ballybrit graveyard, to accommodate the Galway Racecourse Tunnel as part of the proposed N6 GCRR.
- Phase 3: Again, these works do not form part of the development for which approval is sought as part of the Section 51 Application for the proposed N6 GCRR, however Phase 3 does form part of the Project and has been considered and assessed for EIA and AA purposes. Works undertaken as part of Phase 3 will include construction of the new permanent stableyard upon completion and handover of the proposed N6 GCRR.
- Phase 4: These works do not form part of the development for which approval is sought as part of the Section 51 Application for the proposed N6 GCRR, however Phase 4 does form part of the Project and has been considered and assessed for EIA and AA purposes. Works undertaken as part of Phase 4 will include demolition of the temporary stableyard constructed in Phase 1 and reinstate the site as a car park. Retain ESB sub-station, pavilion, machinery shed, maintenance shed and pre-parade ring.
- Phase 5: Relates to the operation of the Project.

Refer to Section 2 of Volume 2 of this updated NIS for further details.

Phases 1, 3 and 4 of the Project will be maintained by the Galway Race Committee Trust (GRCT). Phase 2 of the Project will form part of the TII maintenance contracts and all elements including the drainage will be maintained on a regular basis to ensure all elements function as per their design and achieve the required standards.

The changes that have been made since the 2018 NIS are set out in Section 2.2.1 of Volume 2 of this updated NIS.

2.3 Overlap of Project with European Sites

There are many European sites present in the local and surrounding areas. Lough Corrib SAC is the only European site traversed by the Project. Galway Bay Complex SAC and Inner Galway Bay SPA are downstream of the Project. While Lough Corrib SPA is generally upstream of the Project; a single outfall (the proposed drainage outfall for the N59 Link Road North) eventually discharges to a part of the River Corrib which falls within the SPA designation. All other European sites are at a greater distance from the Project.

The Project and its Assessment Boundary overlaps with, i.e. traverses through or adjacent to, the Lough Corrib SAC at four locations: at the termination of the proposed drainage outfall from the N59 Link Road North at Kentfield (Point 1 on Plate 2); at the site of the proposed River Corrib Bridge between Dangan and Menlough (Point 2 on Plate 2); to the west of the Coolagh Lakes (Ch. 9+850 to Ch. 10+100 of the proposed N6 GCRR) (Point 3 on Plate 2); and, to the west and north of Lackagh Quarry where the Project will consist of a tunnel (Lackagh Tunnel) and approach road infrastructure (Ch. 10+620 to Ch. 11+800 of the proposed N6 GCRR) (Point 4 on Plate 2).

Of the total Assessment Boundary (334ha), c. 3.8ha overlaps with Lough Corrib SAC (c. 0.6ha above Lackagh Tunnel and c 0.5ha beneath River Corrib Bridge). Refer to Plate 2 below and Section 2.2.2 of Volume 2 of this NIS for plates of these locations. The Project also traverses groundwater bodies that support groundwater dependant wetland habitats within European sites, detailed in Section 5 of Volume 2 of this updated NIS and traverses a number of watercourses that lie within or drain to a European site.

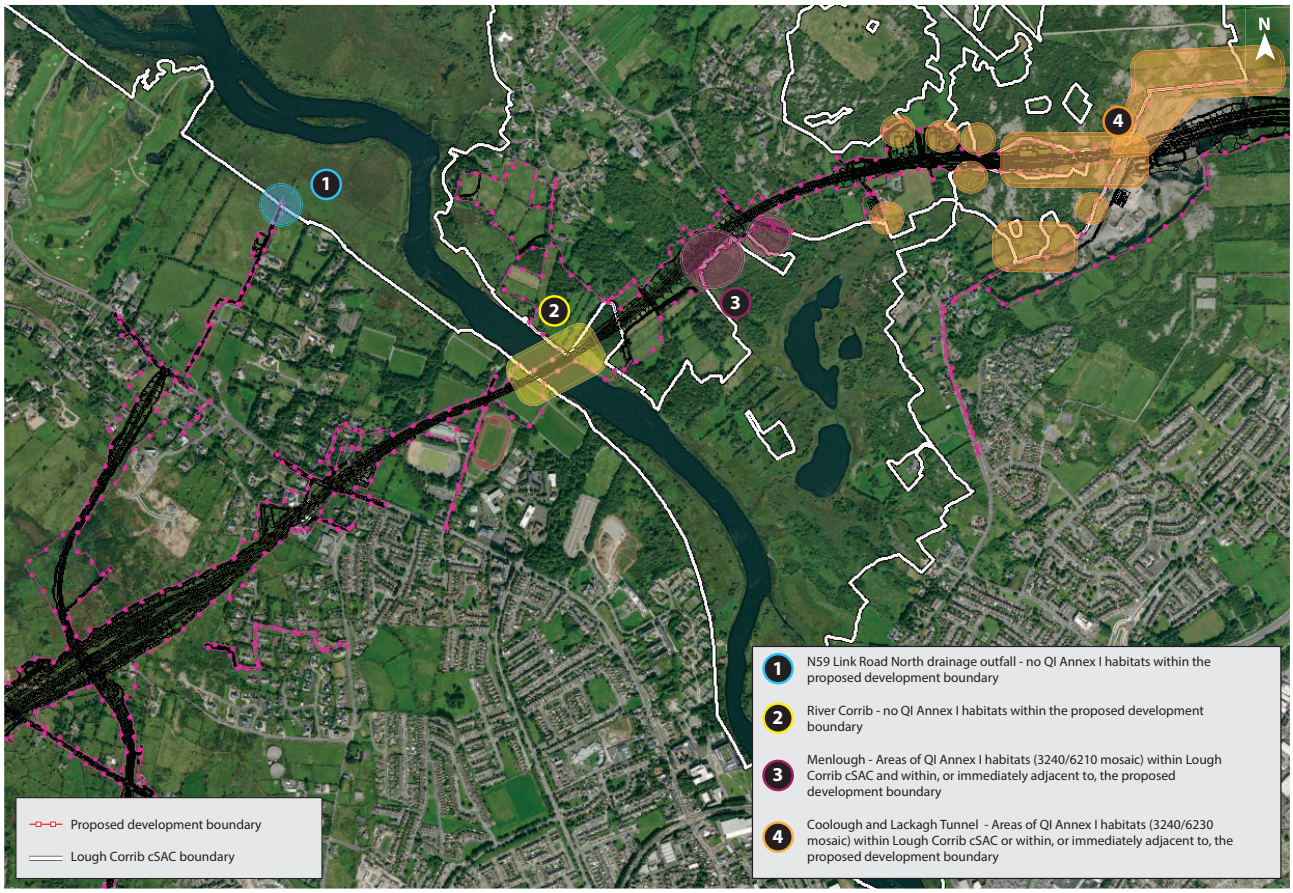

Plate 2: Project overlap with European sites

3. Consultations

3.1 National Parks & Wildlife Service (NPWS)

Written consultations and meetings have taken place with the National Parks and Wildlife Service (NPWS) section of the Department of Housing, Local Government and Heritage (formerly Department of Culture, Heritage and the Gaeltacht; and previous to that Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs). Meetings took place in 2023 and 2024 in relation to the 2018 bat survey baseline and proposed scope of surveys for the 2023 survey season and any requirements for the Bat Derogation Licence Application. The NPWS noted the substantial bat surveys undertaken previously by the project team which provided excellent baseline data for the Project, and the purpose of the meeting was to determine how to bring this data up to date, including the scope of potential additional bat surveys. The 2023 survey evidence supports the conclusion that the local Lesser horseshoe bat population does not form part of, or support, the QI population of Lough Corrib SAC or Ross Lake and Woods SAC. The local bat populations are therefore not linked to the QIs of the European sites and do not form part of this updated NIS. The bat derogation licence was granted by the NPWS on 10 April 2024 (see Appendix A.8.25 Part 1 of the updated EIAR), however this licence expired on 31 December 2024 and a new bat derogation licence application was submitted to the NPWS on 1 April 2025 (included in Appendix A.8.25 Part 2 of the updated EIAR). Derogation licences granted by the NPWS are published, along with the application and any supporting documentation, on their website at https://www.npws.ie/licensesandconsents/disturbance/application-for-derogation/bat-derogations-issued. **Please note, ABP will be able to see when the Bat Derogation Licence is granted, and obtain a copy of the final granted licence, by clicking on this link.**

There was consultation during 2019 and 2020 in relation to the 2018 NIS, 2019 RFI Request and during the oral hearing in 2020.

Six consultation meetings were held by the project team with the NPWS between 2014 and 2017 to inform the 2018 NIS.

Comments and observation made by the NPWS representatives have been incorporated in this updated NIS.

Full details regarding consultation with NPWS is described in Section 3.1 of Volume 2 of this updated NIS.

3.2 Inland Fisheries Ireland (IFI)

Following the detailed consultations with IFI to discuss value of watercourse to inform the 2018 EIAR and 2018 NIS, as detailed below, no further consultation for this updated NIS was necessary with IFI as the proposed River Corrib bridge design and associated surrounding works had not changed since 2018 to an extent that would alter the potential impacts to the River Corrib. The specialist aquatic ecologists did contact the IFI to inform the department of their intentions to electro-fish sites on watercourses in the vicinity of the Project in August and September 2023 following notification to Inland Fisheries Ireland, under the conditions of a Department of the Environment, Climate and Communications (DECC) licence. The survey was undertaken in accordance with best practice (CEN, 2003; CFB, 2008) and Section 14 licencing requirements.

As per the 2018 NIS, two meetings were held with IFI to discuss the value of watercourses crossed by the Project for fish species: the first on 14 August 2014 as part of the route selection studies for the proposed N6 GCRR, and the second on 15 September 2016 to discuss the design of the proposed N6 GCRR.

3.3 Other Stakeholders

Following the submission of the Section 51 application to ABP, observations were made and queries raised by various stakeholders, including ABP, Prescribed Bodies (An Taisce, Department of Communications, Climate Action & Environment, Irish Water, National Transport Authority, Transport Infrastructure Ireland, Udaras na Gaeltachta) and general observers. The queries and comments raised throughout the post-application public consultation process, including those made by An Bord Pleanála, were considered and responded to at that time, and all relevant content from those responses has been incorporated into this updated NIS.

4. Methodology

Full details of the methodology are outlined in Section 4 of Volume 2 of this updated NIS with a brief summary of the desk study and survey elements provided herein.

A desk study was undertaken in the preparation of this updated NIS to inform the assessment along with the results of the field surveys undertaken.

A comprehensive range of baseline ecological surveys were carried out between 2013 and 2024. Preparation for this updated NIS involved inclusion of additional surveys which were undertaken in 2022 and 2023 to validate the results of the previous surveys and where changes were identified these were incorporated into the baseline findings. In some circumstances (Varnished hook-moss and Freshwater pearl mussel) no follow-up or new surveys were undertaken as the area provided no suitable habitat for these species (for details refer to Section 4.4.1 of Volume 2 of this updated NIS).

The following ecological surveys informed the assessment:

- A variety of habitat surveys were undertaken in 2023 and during 2013-2019 at appropriate seasons, including assessment of terrestrial and aquatic habitats, SAC habitats and Annex I habitats.
- Terrestrial and aquatic habitat surveys were also targeted identifying QI or protected flora species.
- QI surveys included Otter *Lutra lutra* surveys during 2023 and from 2014 to 2017.
- Bat surveys specifically focussed on tracking populations and identifying potential QI populations were conducted over 2023-2024 and 2014-2015. The surveys support the conclusion that the local Lesser horseshoe bat *Rhinolophus hipposideros* population was not linked to, nor supported, the QI population of nearby European sites and do not form part of the QI population in the Assessment Boundary.
- Breeding bird surveys were undertaken over 2023, 2016 and 2015, and wintering bird surveys over the 2023/2024, 2022/2023 and 2014/2015 winter seasons.
- Fish surveys were completed in 2023 and 2015.
- White-clawed crayfish *Austropotamobius pallipes* were completed over 2023 and 2014.

Hydrological surveys including water quantity and quality monitoring were undertaken in 2024 to verify and validate the results from the previous surveys undertaken between 2014 and 2018 to inform this updated NIS, as the Project crosses catchments/ sub-catchments that drain to European sites.

Hydrogeological surveys including groundwater quantity and quality monitoring were undertaken in 2023 and 2024 to verify and validate the results from the previous surveys undertaken between 2014 and 2018 to inform this updated NIS. A hydrogeological site walkover also took place in 2024 to validate findings around the existing geological environment and ground conditions at Lackagh Quarry and how these interact with the Annex I habitats associated with the Coolagh Lakes. In addition, the hydrogeological study undertaken to inform the 2018 NIS and the information presented during the oral hearing in 2020 with respect to hydrogeology was reviewed and used to inform this updated NIS.

5. Existing Baseline

A summary of the existing ecological, hydrogeological and hydrological environment is included below in order to allow the potential impacts associated with the Project to be fully understood, and to understand how these impacts might affect the conservation objectives of European sites.

5.1 Ecological Baseline

5.1.1 Changes to the baseline since 2018 NIS

In general, the distribution and extent of habitats, and the distribution and abundance of flora and fauna species, is broadly consistent with that recorded previously to inform the appropriate assessment presented in the 2018 NIS.

Since October 2018, the NPWS has updated the spatial data for designated areas, particularly affecting Lough Corrib SAC, the only European site intersected by the Project. The site's boundary has been slightly revised, reducing the overlap with the Project from approximately 4 hectares in 2018 to about 3.8 hectares in 2024.

In 2019, the Special Conservation Interests (SCIs) for Inner Galway Bay SPA were modified to include Black-throated diver and exclude Shoveler. In March 2024, bottlenose dolphin and harbour porpoise were added as QIs at 16 marine and coastal SACs, with the closest to the Project being Inishmore Island SAC and Kilkieran Bay and Islands SAC. Fauna baseline updates show minor changes, but the distribution and abundance of qualifying species remain consistent with 2018 data.

Overall, the hydrological and hydrogeological conditions supporting the conservation of habitats and species have remained unchanged.

There have been minor changes to the habitat baseline within and around Lough Corrib SAC but no changes to the location or extent of QI habitats within, or in the vicinity of, the Project.

5.1.2 Habitats

The local ecological baseline, and in particular the habitats present, is greatly influenced by the underlying geology and the distribution and extent of habitats is broadly consistent with that recorded to inform the 2018 NIS, with the only material change being the reclassification of Depositing/lowland rivers (FW2) to Annex I habitat [3260] Vegetation of flowing waters. Within the western part of the study area, which is underlain by granite, peatland habitats are most frequent. The most notable of these were the Annex I habitats Dry heath [4030], Wet heath [4010], *Molinia* meadow [6410], Species-rich Nardus upland grassland [*6230], Transition mires [7140] and Blanket bog [*7230/7230]. [9]

The eastern part of the study area is underlain by limestone and habitats present are primarily calcareous grasslands, woodland and exposed limestone rock. Wetlands are also associated with the River Corrib and Ballindooley Lough. The most notable terrestrial habitats present here were the Annex I habitats Calcareous grassland [*6210/6210], Limestone pavement [*8240], Lowland hay meadows [6510] and Petrifying springs [*7220]. These form a mosaic with the expanse of semi- natural hazel and ash woodland in the Menlough/ Coolagh area that extends from the River Corrib to the north of Lackagh Quarry. The Coolagh Lakes and Ballindooley Lough both correspond with the Annex I habitat Hard water lakes [3140]. Along with the River Corrib, these areas supported diverse wetland complexes including the Annex I habitats *Cladium* fen [*7210], Alkaline fen [7230], Hydrophilous tall-herb [6430] and residual alluvial forests [*91E0]. Turloughs [*3180] were also recorded across this area.

Habitat maps included in Volume 3 of this updated NIS show the habitat areas per the Fossitt habitat classification system (Figures 16.1 to 16.5) and habitat changes as recorded in the 2023 surveys (Figures 15.1 to 15.5) and, where applicable, the priority Annex I or Annex I habitat types (Figures 18.1 to 18.5) and habitat changes (Figures 17.1 to 17.5).

[9] Where used in conjunction with Annex I habitat codes, an asterisk indicates a priority Annex I habitat type

5.1.3 Flora and Fauna Species

The local area supports a diverse range of flora and fauna species and in general, the distribution and abundance of flora and fauna species recorded during 2022 to 2024 is broadly consistent with that recorded to inform the 2018 NIS. The distribution of Otter holts and activity is consistent with that presented in the 2018 NIS and shows no deviation for this QI species. An additional six wintering bird species of highest conservation concern were recorded within the wintering bird survey area between 2022 and 2024, including SCIs (Gadwall *Anas strepera* and Ringed plover *Charadrius hiaticula*). An additional four breeding bird species of conservation concern were recorded within the survey area in 2023, including the SCI, Common gull *Larus canus*. Fish baseline status was also consistent with studies conducted to inform the 2018 NIS, with the exception of records of the presence of the invasive Zebra mussel *Dreissena polymorpha* in the River Corrib and at Coolagh Lakes, the Roach *Rutilus rutilus* in the Coolagh Lakes and the detection through eDNA sampling of European eel in Ballindooley Lough in 2023.

5.1.4 Non-native Invasive Species

As indicated above, the presence of the invasive Zebra mussel is confirmed in 2023 surveys in the River Corrib and at the Coolagh Lakes, with the Roach also confirmed in the Coolagh Lakes. There are three non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations present within, or in close proximity to, the Project: Japanese knotweed *Reynoutria japonica*, Rhododendron *Rhododendron ponticum* and Himalayan knotweed *Persicaria wallichii*. The Japanese knotweed infestation at the UoG Sporting Campus is the nearest to the Lough Corrib SAC. Three additional non-native invasive flora species were recorded in 2023, within the survey area but outside of the Assessment Boundary, the first two of which are listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011: three cornered garlic *Allium triquetrum*, Giant rhubarb *Gunnera tinctoria* and old man's beard *Clematis vitalba*. Butterfly bush *Buddleia* sp. was frequently recorded throughout the study area and is considered a common invasive species in the area. Refer to Section 5.6 of Volume 2 of this updated NIS and Figures 15.1 to 15.5 and Figures 16.1 to 16.5 in Volume 3 for further details.

5.1.5 European sites

Lough Corrib SAC is the only European site traversed by the Project. Lough Corrib SPA is c.190m from the Project at Kentfield, c.70m at Menlough, and connected through the existing surface water drainage network in Kentfield. Galway Bay Complex SAC lies c.145m to the south of the Project at Bearna. Inner Galway Bay SPA also lies to the south of the Project at Bearna (c.1.1km). Both of these European sites are connected to the Project by the network of watercourses that drain to Galway Bay. These four sites formed the original core sites assessed in the 2018 NIS.

There are 23 European sites (18 SACs and five SPAs) located within or in the vicinity of the ZoI for the Project. This has increased from the 19 sites presented in the 2018 NIS to include:

- Kilkieran Bay and Island SAC and Inishmore Island SAC -two nearby marine/coastal SACs due to the recent evaluation and inclusion of cetacean QIs for various coastal and marine SACs in March 2024
- Maumturk Mountains SAC and The Twelve Bens / Garraun Complex SAC - the inclusion of two additional European sites on a precautionary basis based on the Appropriate Assessment undertaken by Dr. Arnold, the ecologist appointed by the ABP and appended (as Appendix 6) to ABP's Inspector's Report date 22 June 2021

The list of European sites in the vicinity of the identified ZoI include the following: Lough Corrib SAC, Lough Corrib SPA, Inner Galway Bay SPA, Galway Bay Complex SAC, Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SAC, Cregganna Marsh SPA, Maumturk Mountains SAC, The Twelve Bens/Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, East Burren Complex SAC, Moneen Mountain SAC, Black Head-Poulsallagh Complex SAC, Gortnandarragh Limestone Pavement SAC, Inishmore Island SAC, Kilkieran Bay and Island SAC, and Ballyvaughan Turlough SAC.

5.2 Hydrogeology Baseline

No material changes are effected to the groundwater baseline as relevant to and reported in the 2018 NIS, but this updated NIS has been revised to include the information provided during the oral hearing in 2020 to clarify groundwater body (GWB) boundaries and flows, particularly with regard to the groundwater dependent terrestrial ecosystems (GWDTEs), and the interaction between Lackagh Quarry and the Coolagh Lakes.

The Project traverses the following GWBs (Plate 3) (GWB is the boundary that marks the catchment within which all recharge and groundwater flow is contained):

- Spiddal GWB is traversed by the Project
- Maam – Clonbur GWB is traversed by the Project
- Ross Lake GWB is traversed by the Project
- Lough Corrib Fen 1 GWB is traversed by the Project and incorporates the following two GWBs:
    - ◊ Lough Corrib Fen 1 (Menlough) GWB north of Coolagh Lakes, and feeding the upper Coolagh Lake (which flows to the River Corrib) via a spring
    - ◊ Lough Corrib Fen 1 (Lackagh) GWB, a small compartmentalised GWB (<0.04km2) east of Coolagh Lakes between Lough Corrib and Lackagh Quarry
- Lough Corrib Fen 2 GWB is within 500m of the Project
- Clare-Corrib GWB is within 500m of the Project and includes:
    - ◊ Clare-Corrib (Ballindooley West) GWB
    - ◊ Clare-Corrib (Ballindooley East) GWB
    - ◊ Clare-Corrib (Terryland) GWB.
- Clarinbridge GWB is traversed by the Project

Unchanged since the 2018 NIS, the western part of the study area, from the R336 Coast Road west of Bearna Village to the N59 Moycullen Road, is underlain by the Galway Granite Batholith. The Spiddal GWB and the Maam – Clonbur GWB lie within this, with Spiddal GWB contributing groundwater to Galway Bay Complex SAC and Inner Galway Bay SPA and Maam – Clonbur GWB contributing to the Lough Corrib SAC and Lough Corrib SPA (and Galway Bay Complex SAC and Inner Galway Bay SPA, via the River Corrib). However, both are considered poor aquifers and most rainfall would run off to streams and rivers, with a small component of groundwater discharging to Galway Bay.

Unchanged since the 2018 NIS, the eastern part of the study area, from the N59 Moycullen Road to the N6 Junction at Coolough, is underlain by limestone. This area lies within the Visean Undifferentiated Limestone aquifer that has karst conduit groundwater flow. This aquifer is subdivided into the Ross Lake GWB, the Lough Corrib Fen 1 GWB, the Lough Corrib Fen 2 GWB, the Clare-Corrib GWB and the Clarinbridge GWB (Plate 3). In terms of their connectivity to European sites:

- Ross Lake GWB, the Lough Corrib Fen 1 (Menlough) GWB, the Lough Corrib Fen 2 GWB and the Clare-Corrib GWB are connected to Lough Corrib SAC.
- Ross Lake GWB, the Lough Corrib Fen 2 GWB, the Clare-Corrib GWB are connected to the Lough Corrib SPA.
- All GWBs, by way of the River Corrib, are connected to the Galway Bay Complex SAC and Inner Galway Bay SPA.
- The Ross Lake GWB contributes groundwater to the River Corrib (Plate 3), which in this area lies within Lough Corrib SAC and Lough Corrib SPA.

5.3 Hydrology Baseline

The findings of the hydrological surveys undertaken in 2024 have not resulted in any material changes to the underlying hydrological baseline environment supporting the conservation condition of the QI/SCI habitats and species of the European sites within, and in the vicinity of, the Project to an extent that affects the findings presented in the 2018 NIS and this updated NIS.

Unchanged since the 2018 NIS, the Project crosses the catchments/sub-catchments of eight watercourses/ waterbodies. The watercourses crossed by, or within the ZoI of the Project, are (from west to east) Sruthán na Líbeirtí, the Trusky Stream, the Bearna Stream, the Tonabrocky Stream, the Knocknacarra Stream and the River Corrib. The Project passes close to two lake systems: Coolagh Lakes and Ballindooley Lough (a section of the road drainage network discharges to Ballindooley Lough).

The River Corrib and the Coolagh Lakes lie within Lough Corrib SAC and drain to Galway Bay. Part of the River Corrib receiving discharge from the drainage system for the proposed N6 GCRR also lies within Lough Corrib SPA. All other watercourses flow into Galway Bay; some directly into that part of Galway Bay designated as Galway Bay Complex SAC and Inner Galway Bay SPA with the remainder entering the bay to the west of the European sites' boundary. The drainage catchments crossed by the Project are shown on Figures 13.1.1 and 13.1.2 within Volume 3 of this updated NIS.

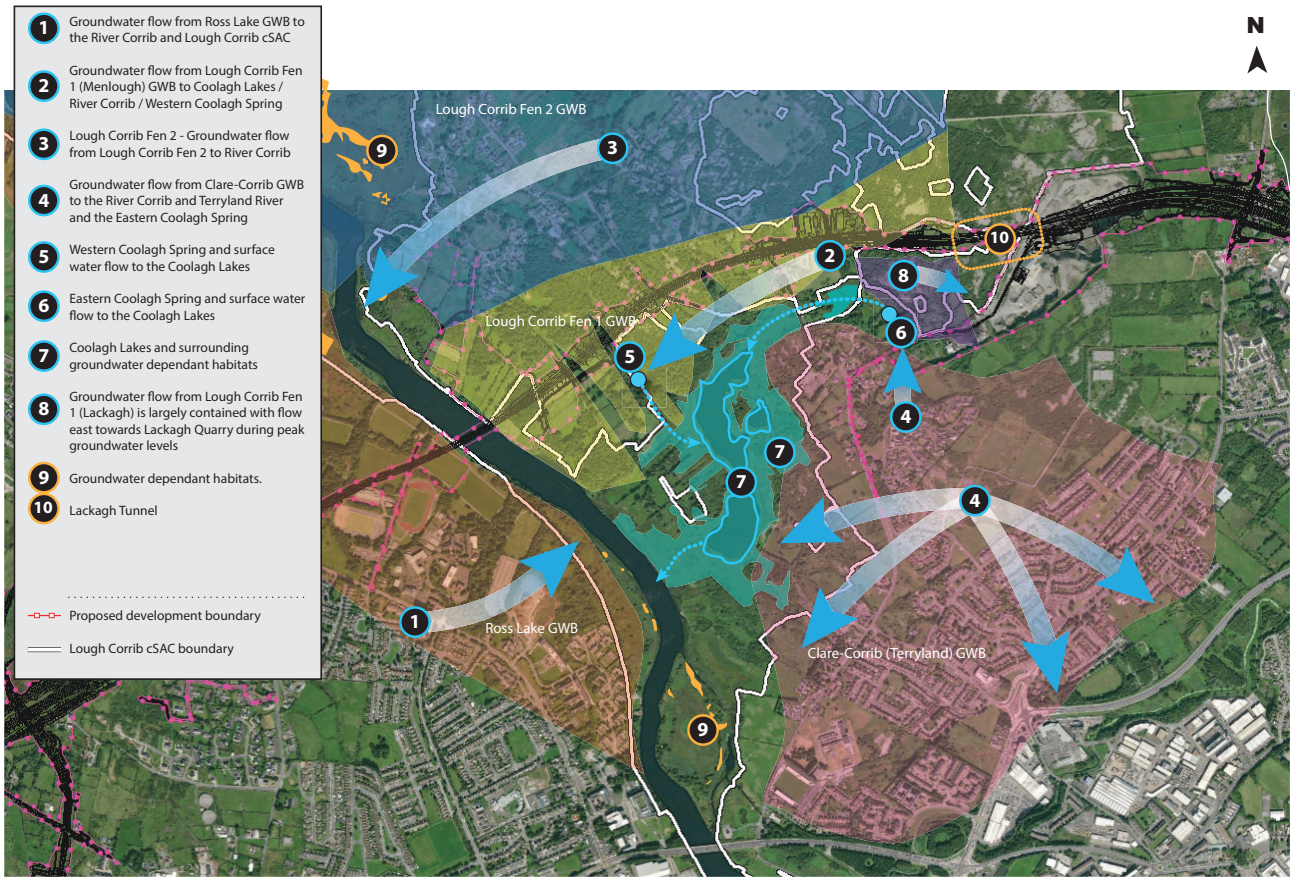

Plate 3: Generalised Hydrogeology interactions

6. European Sites within the Zone of Influence of the Project

The Project (including the design, construction methodologies and operational effects) was analysed and assessed to identify the potential impacts that could affect any European sites.

The impact assessment has been updated to incorporate the modifications made to the proposed N6 GCRR since 2018 and all relevant clarifications and amendments presented in the 2019 RFI Response and at the oral hearing in 2020 in response to queries raised by ABP, statutory consultees, members of the public and other participating third parties, and the assessment undertaken by the Inspector appointed by ABP and presented in ABP's Inspector's Report dated 22 June 2021.

In terms of the assessment undertaken by the ecologist appointed by ABP, it concurred with the impact pathways included in the 2018 NIS but also included additional potential impact pathways and European sites included by Dr. Arnold in his Appropriate Assessment appended (as Appendix 6) to ABP's Inspector's Report dated 22 June 2021 and, on a precautionary basis, these are included over and above those considered and assessed in the 2018 NIS. These additional impact pathways, and European sites are:

- Their proximity to the wider road network, having the potential to be affected by an increase in construction-related traffic: Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SAC and Cregganna Marsh SPA
- Potential increase in recreational pressure associated with the operation of the Project: Maumturk Mountains SAC, The Twelve Bens / Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA and Ross Lake and Woods SAC
- Potential deterioration or decline in European site QIs/SCIs due to loss of supporting habitats/ populations of typical species and positive indicator species: Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, Ardrahan Grassland SAC, Castletaylor Complex SAC, East Burren Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SAC, Moneen Mountain SAC, Black Head-Poulsallagh Complex SAC, Gortnandarragh Limestone Pavement SAC

Considering the ZoI (i.e. the area within which the Project could affect the ecological environment) of the Project and taking into consideration all of the potential impact sources and pathways connecting the Project to European site(s), in view of the site(s) conservation objectives, the European sites potentially at risk of impacts and considered on the precautionary basis of the outcomes from the AA undertaken and appended (as Appendix 6) in ABP's Inspector's Report dated 22 June 2021 include:

- Lough Corrib SAC
- Lough Corrib SPA
- Galway Bay Complex SAC

- Inner Galway Bay SPA
- Kilkieran Bay and Island SAC
- Inishmore Island SAC
- Ardrahan Grassland SAC
- Castletaylor Complex SAC
- Kiltiernan Turlough SAC
- Lough Fingall Complex SAC
- Rahasane Turlough SAC
- Rahasane Turlough SPA
- Cregganna Marsh SPA
- Connemara Bog Complex SAC
- Connemara Bog Complex SPA
- East Burren Complex SAC
- Moneen Mountain SAC
- Black Head – Poulsallagh Complex SAC
- Gortnandarragh Limestone Pavement SAC
- Ross Lake and Woods SAC
- Maumturk Mountains SAC
- The Twelve Bens/ Garraun Complex SAC

All other European sites are located beyond the ZoI and therefore cannot be affected by the Project.

Ballyvaughan Turlough SAC is located c. 15km to the south of the Project. There are no hydrological or hydrogeological linkages between the Project location and this European site and the unmitigated ZoI for hydrogeology does not extend to include any groundwater pathways to this European site. Therefore, it can be concluded that there are no impact pathways, either direct or indirect, by which this Project could affect this European site.

Sections 7 to 14 below consider how, via the identified impact pathways and their defined ZoI, the Project could affect the conservation objectives of the 22 European sites listed above, which constitutes an adverse effect on the integrity of that European site. Where a potential impact on a European site(s) conservation objective is identified, mitigation measures are proposed to ensure no such effects could arise. The residual impacts once these mitigation measures have been implemented are then identified in order to reach a conclusion as to whether or not the Project, on its own, will adversely affect the integrity of a European site(s).

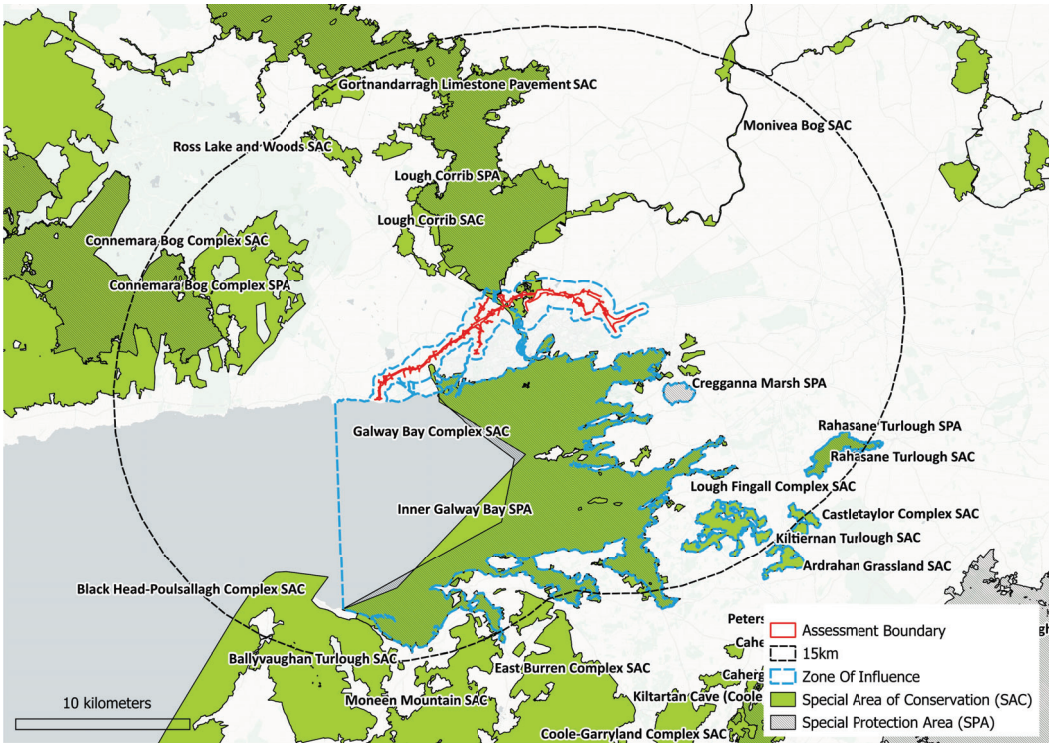

Plate 4: Combined ZoI of the Project and European sites

7. Examination and Analysis of Potential Impacts on Lough Corrib SAC

7.1 Baseline

Lough Corrib SAC is a large lake site of over 20,500ha, with Lough Corrib itself covering an area of c.18,240ha. The site is selected for a range of lake, wetland and terrestrial Annex I habitat types and a range of Annex II plant and animal species that these habitats support.

The QIs of Lough Corrib SAC within the ZoI of the Project are listed below:

[3140]	Hard water lakes
[3260]	Vegetation of flowing waters
[6210*]	Calcareous grassland
[6410]	Molinia meadows
[7210]	Cladium fen
[7230]	Alkaline fens
[8240*]	Limestone pavement
[1029]	Freshwater Pearl Mussel
[1095]	Sea Lamprey
[1096]	Brook Lamprey
[1106]	Atlantic Salmon (only in fresh water)
[1355]	Otter

The Project passes through the southernmost part of Lough Corrib SAC, between the wetland complexes at Coolanillaun and Tonacurragh and Galway City. There is a high diversity of habitats present throughout this area, including the following QI Annex I habitats (and priority Annex I habitats) of Lough Corrib SAC: [3140] Hard water lakes, [3260] Vegetation of flowing waters), [*6210/6210] Calcareous grasslands, [6410] *Molinia* meadows, [7210] *Cladium* fens, [*7230] Alkaline fens and [*8240] Limestone pavement – see **Plate 5** below.

The River Corrib supports Annex I habitat Vegetation of flowing waters along its shallower margins and the River Corrib corridor in the vicinity of the Project provides important habitat for QI species such as Atlantic salmon, Brook lamprey and Sea lamprey, particularly in the context of its function as a migration corridor from the sea to the spawning areas for Atlantic salmon and Sea lamprey. Otter (QI species) also use the River Corrib corridor in this area (although no holt or couch sites were present within the Assessment Boundary.

The Coolagh Lakes correspond with the QI Annex I habitat Hard water lakes. The surrounding wetland complex is an integral component of the conservation objectives of this habitat type within Lough Corrib SAC. These habitats include wet grassland, reed swamp, fen and wet heath; some of which correspond with the Annex I habitats Residual alluvial forests, *Cladium* fen, Alkaline fen, Hydrophilous tall herb, *Molinia* meadow, Wet heath and Transition mires. Water levels, and water quality, in the Coolagh Lakes are supported by groundwater inputs (via the western and eastern Coolagh Springs) and by influx from the main channel of the River Corrib.

As noted in Section 2, the Project overlaps with Lough Corrib SAC at four locations. Approximately 3.8ha of the Assessment Boundary lies within this European site (c.0.6ha above Lackagh Tunnel and c.0.5ha beneath River Corrib Bridge).

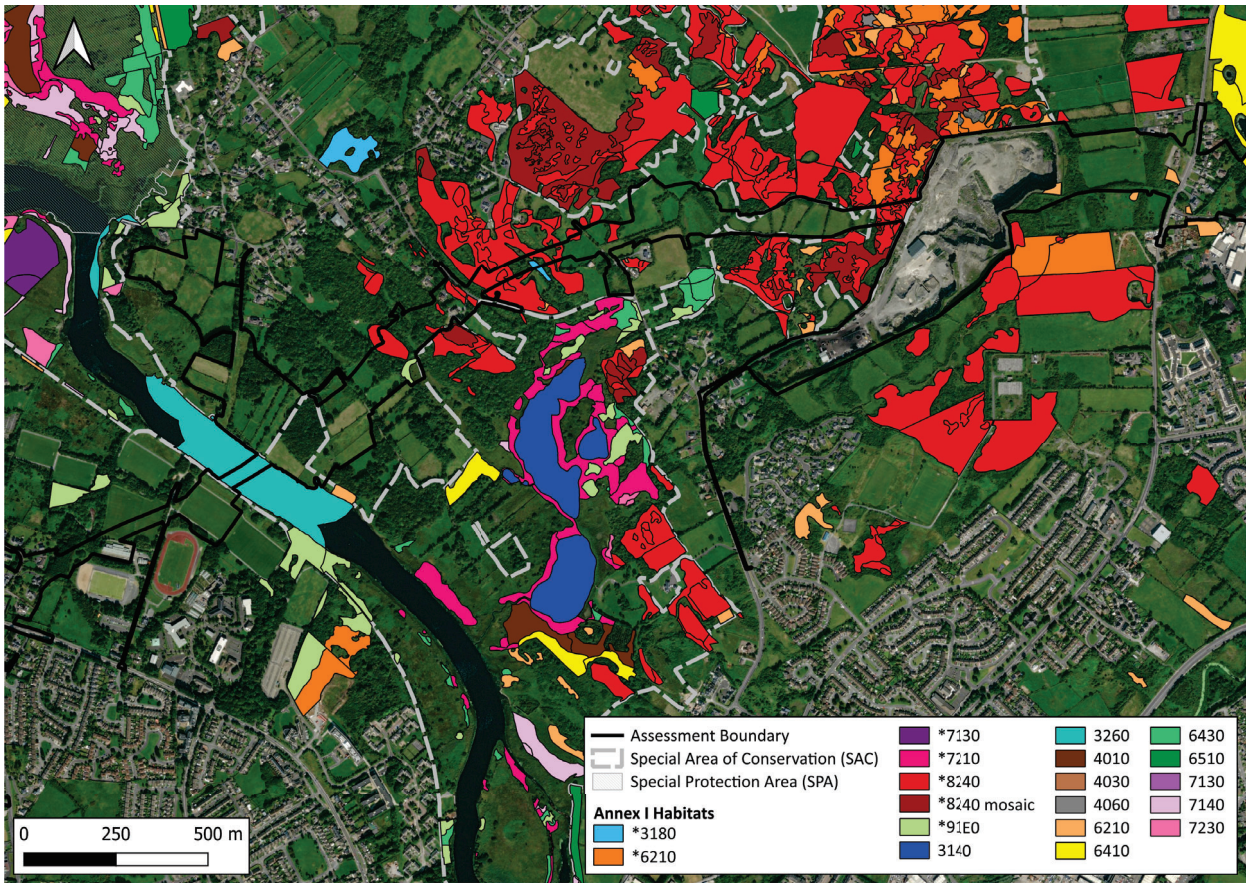

Plate 5: The Project and an overview of Annex I habitats in the vicinity of Lough Corrib SAC (refer also to Figures 14.1 – 14.5)

7.2 Potential Impacts

The potential impacts from the Project (in the absence of mitigation measures) that were considered as potentially affecting QI habitats and species within Lough Corrib SAC, included:

- Direct loss of Limestone pavement and Calcareous grassland habitat west of Coolagh Lakes.
- Loss of/damage to Limestone pavement and Calcareous grassland habitat above, or in the vicinity of, the Lackagh Tunnel and approaches during construction (through affecting the structural integrity of the supporting rock mass).
- Affect groundwater flow or groundwater quality during construction or operation which could impact upon groundwater dependent habitats. Most importantly, affecting groundwater in the Lough Corrib Fen 1 (Menlough) GWB, Lough Corrib Fen 1 (Lackagh) GWB and the Clare-Corrib GWB has the potential to affect the groundwater regime that contribute to the Coolagh Lakes (e.g. during the construction of the Lackagh Tunnel and during the installation of the supporting piers of the proposed Menlough Viaduct).
- Affect water quality in receiving watercourses during construction.
- Affect habitats as a result of dust generated during construction works and emission (particularly nitrogen compounds) during operation.
- Shading effects from elevated structures or high embankment.
- Introduce/spread non-native invasive plant species
- Pose a mortality risk to aquatic species during construction of the River Corrib Bridge
- Pose a mortality risk to Otter through the potential for collisions with road traffic

The potential pathways related to the construction-related traffic, recreational pressure and possible deterioration of European sites is summarised in Section 12, Section 13 and Section 14 of this executive summary respectively.

The potential impacts that could affect the QIs and conservation objectives of Lough Corrib SAC are as outlined in the following table.

Species/Habitat Type	Potential Impact to conservation objectives
Hard water lakes	Affecting water quality in the Coolagh Lakes and/or affecting the functioning of the existing hydrogeological regime could affect the quality of the habitat, and the extent of the supporting fringing habitat, potentially to the degree that the Annex I status of the habitat would be compromised.
Vegetation of flowing waters	Affecting surface water or groundwater quality in the River Corrib catchment during construction (even though the risk of any perceptible effect is low) could affect the aquatic environment supporting the Vegetation of flowing waters and could have a long-term effect on the European sites' conservation objectives regarding the QI Annex I habitat.
Molinia meadows, Cladium fen and Alkaline fen	Affecting water quality in the River Corrib and Coolagh Lakes, and/or affecting the existing hydrogeological regime, could affect the extent and quality of these habitats in Lough Corrib SAC. Introducing or spreading non-native invasive plant species could affect the extent and quality of these habitats within Lough Corrib SAC.
Limestone pavement and Calcareous grassland	Loss and/or/ degradation of Limestone pavement and Calcareous grassland habitat within Lough Corrib SAC either directly, or as a consequence of construction works associated with the Lackagh Tunnel (and approaches) impacting on the structural integrity of the supporting rock mass. Introducing or spreading non-native invasive plant species, and/or dust deposition during construction, could affect the extent and quality of Limestone pavement and/or Calcareous grassland habitat in Lough Corrib SAC.
Otter	Affecting water quality in the River Corrib catchment during construction could impact on the quality of Otter habitat and affect fish numbers (prey abundance). The mortality risk to Otter posed by construction of the River Corrib Bridge, and road traffic during operation, could affect population numbers.
Sea lamprey, Brook lamprey, Atlantic salmon	Affecting water quality in the River Corrib catchment during construction could impact on the quality, extent or availability of suitable aquatic habitat in Lough Corrib SAC. The mortality risk posed by construction of the River Corrib Bridge could affect population numbers.
Freshwater pearl mussel	Affecting water quality in the River Corrib catchment and/or the mortality risk associated with bridge construction works over the River Corrib, could affect salmonid fish numbers. This could have knock-on effects on the QI population in the Owenriff River as salmonid fish species play an important part in the Freshwater pearl mussel's lifecycle.

7.3 Mitigation measures

The following mitigation measures will be implemented, under supervision of both the Project Ecologist (employed by the Employer) and the Ecological Clerk of Works (employed by the Contractor), to ensure that the Project will not affect the conservation objectives of Lough Corrib SAC:

- Limestone pavement and Calcareous grassland habitat which is within both the Assessment Boundary and Lough Corrib SAC will be protected during construction and retained. No permanent fencing will be erected within Annex I habitat areas within Lough Corrib SAC to protect habitats from permanent damage and ensure grazing is not restricted.
- The area near the River Corrib that is fenced off from construction will include the River Corrib with its fringing vegetation, which is now classified as [3260] Annex I habitat, with the fringing vegetation maintained.
- The Project will, as far as possible, reduce lighting on the western approach to the Lackagh tunnel to the absolute legal minimum to maintain existing light levels within the Lough Corrib SAC to reduce impact to habitats.
- A detailed construction methodology, and monitoring strategy, has been developed for the proposed Lackagh Tunnel works to ensure that construction works do not affect the structural integrity of the limestone bedrock supporting Limestone pavement and Calcareous grassland habitats in Lough Corrib SAC.
- Mitigation measures, including standard practices detailed in the Construction Environmental Management Plan (CEMP) (Appendix C of this updated NIS), the Lackagh Tunnel mitigation measures, the Karst-specific mitigation measures and the Karst Protocol, have been developed and will be implemented to ensure that existing groundwater conditions are not affected, during construction or operation, in groundwater bodies traversed by the Project which have been identified as contributing to groundwater dependent habitats within the Lough Corrib SAC.
- Mitigation measures have been developed and will be implemented to ensure that water quality in receiving watercourses is protected during construction of the Project, including standard practices and good house-keeping detailed in the CEMP and drainage and treatment facilities to standards specified in the TII guidelines for road run-off during the operation with regular maintenance of silt traps, including dredging and removal of trapped silt for disposal in sealed landfill.
- Mitigation measures have been developed and will be implemented to ensure that dust generated during construction and from blasting activities will be controlled and contained to avoid any effects on the QI habitats or species of Lough Corrib SAC. Specifically regarding the Lough Corrib SAC, a 2m high dust screen will surround construction works at all locations within or adjacent to Lough Corrib SAC to contain dust emissions generated during construction.
- The non-native invasive species management plan (NISMP) in the CEMP for the Project will ensure that non-native invasive plant species will be controlled and will not be introduced to Lough Corrib SAC as a result of the construction and operation activities associated with the Project.
- Mitigation measures have been developed and will be implemented to ensure that construction materials are not accidentally introduced into the River Corrib during construction.
- To prevent Otter mortality due to road traffic collisions, mammal fencing will be installed at high-risk locations to ensure Otter cannot access the road carriageway and safe passage is secured for otters along all watercourses bisected by the proposed N6 GCRR through mammal ledges within culverts.

7.4 Residual Impacts

The mitigation measures to protect QI habitats, to protect the rock mass above and adjacent to the Lackagh Tunnel works, to protect the receiving hydrological and hydrogeological environment, to control dust during construction, to control and prevent the spread of non-native invasive plant species, and to prevent the Project creating a mortality risk to aquatic species in the River Corrib, will ensure that the Project will not affect the conservation objectives of Lough Corrib SAC.

Following an examination, analysis and evaluation in light of best scientific knowledge of all relevant information in respect of the QI habitats and species of Lough Corrib SAC within the ZoI of the Project, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition for the QIs concerned, it has been concluded that the Project does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Lough Corrib SAC and there is no reasonable scientific doubt with the conclusion.

8. Examination and Analysis of Potential Impacts on Galway Bay Complex SAC

8.1 Baseline

Galway Bay Complex SAC is a large marine-dominated site of over 14,400ha, covering the inner part of Galway Bay from Rusheen Bay near Bearna (including Bearna Woods) to Ballyvaughan Bay in County Clare. The site is selected for a range of terrestrial, coastal and marine Annex I habitat types and species. It overlaps with most of Inner Galway Bay SPA.

The QIs of Galway Bay Complex SAC that are present within the ZoI of the Project, are listed below:

[1140]	Tidal mudflats
[1150*]	Lagoons
[1160]	Large shallow inlets and bays
[1170]	Reefs
[1220]	Perennial vegetation of stony banks
[1310]	Salicornia muds
[1330]	Atlantic salt meadows
[1410]	Mediterranean salt meadows
[3180*]	Turloughs
[6210*]	Calcareous grassland
[7210*]	Cladium fen
[7230]	Alkaline fen
[8240]	Limestone Pavement
[1355]	Otter
[1365]	Harbour seal

The Project does not traverse Galway Bay Complex SAC. All GWBs traversed by the Project by way of the River Corrib, are connected to the Galway Bay Complex SAC. All watercourses crossed by the Project, and all the surface water catchments to which the Project's drainage network discharges, drain to Galway Bay. Therefore, potentially any of the marine/coastal QIs, or terrestrial habitats connected with the watercourses within the ZoI of the Project, are at risk from impacts.

8.2 Potential Impacts

The potential impacts from the Project (in the absence of mitigation measures) that were considered as potentially affecting QI habitats and species within Galway Bay Complex SAC, included:

- Affect water quality in receiving watercourses and Galway Bay during construction
- Affect groundwater quality in receiving groundwater body which could affect groundwater dependent habitats in Galway Bay Complex SAC
- Introduce/spread non-native invasive plant species
- New culvert structures could present a barrier to Otter movement within the Bearna Stream catchment
- Pose a mortality risk to Otter through the potential for collisions with road traffic

The potential pathways related to the construction-related traffic, recreational pressure and possible deterioration of European sites is summarised in Section 12, Section 13 and Section 14 of this executive summary respectively.

The potential impacts that could affect the QIs conservation objectives of Galway Bay Complex SAC are as outlined in the following table.

Species/Habitat Type	Potential Impact to conservation objectives
Tidal mudflats, Large shallow inlets and bays, Reefs, Perennial vegetation of stony banks, Salicornia mud, Atlantic salt meadows, Mediterranean salt meadows	Affecting water quality in Galway Bay catchment during construction could impact upon the extent, distribution or condition of these habitat types in Galway Bay Complex SAC, and the species communities they support.
Lagoons	Affecting surface water and groundwater quality in Galway Bay catchment during construction could impact upon the extent, distribution or condition of these habitat types in Galway Bay Complex SAC, and the species communities they support.
Turloughs, Cladium fen, Alkaline fen	Affecting the existing hydrogeological regime, including a pollution of a sufficient magnitude event to the hydrogeological regime, could impact upon the extent, distribution or condition of these habitat types in Galway Bay Complex SAC, and the species communities they support
Calcareous grassland, Limestone pavements	Introducing or spreading non-native invasive plant species to Rusheen Bay, via the Bearna Stream or the R336 haul route, could potentially affect the areas and quality of Calcareous grassland habitat and / or Limestone pavement habitat known to occur within Galway Bay Complex SAC.
Otter	Affecting water quality in the Bearna Stream and Galway Bay during construction could impact on the quality of Otter habitat and affect fish numbers (prey abundance). Operation of the Project may present barrier to Otter movement that could affect the Otter population of Galway Bay Complex SAC The mortality risk to Otter posed by construction of the River Corrib Bridge, and road traffic during operation, could affect population numbers.
Harbour seal	Affecting water quality in Galway Bay during construction could affect Harbour seal breeding and haul out sites.

8.3 Mitigation measures

The following mitigation measures will be implemented, under supervision of both the Project Ecologist (employed by the Employer) and the Ecological Clerk of Works (employed by the Contractor), to ensure that, as a result of the potential impacts, the Project will not affect the conservation objectives of Galway Bay Complex SAC:

- Mitigation measures have been developed and will be implemented to ensure that existing groundwater conditions are not affected, during construction or operation, in groundwater bodies traversed by the Project.
- Mitigation measures have been developed and will be implemented to ensure that water quality in receiving watercourses is protected during construction of the Project
- The NISMP in the CEMP for the Project will ensure that non-native invasive plant species will be controlled and will not be introduced to Galway Bay Complex SAC as a result of the construction and operation activities associated with the Project.
- Otter ledges or underpasses, in conjunction with mammal fencing, will be installed at the Bearna Stream (C04/01) and at the Tonabrocky Stream (C04/02), to ensure that the culverts do not present a barrier to Otter movement and to prevent Otter mortality by ensuring they cannot access the road carriageway.

8.4 Residual Impacts and Conclusion

The mitigation measures to protect the receiving hydrological and hydrogeological environment, to control and prevent the spread of non-native invasive plant species, and to prevent the Project presenting a barrier to Otter movement or a mortality risk to the Otter population of Galway Bay, will ensure that the Project will not affect the conservation objectives of Galway Bay Complex SAC.

Following an examination, analysis and evaluation, in light of best scientific knowledge of all relevant information in respect of the QI habitats and species of Galway Bay Complex SAC within the ZoI of the Project, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition for the QIs concerned, it has been concluded that the Project does not pose any risk (either directly or indirectly) of adversely affecting the integrity of Galway Bay Complex SAC and there is no reasonable scientific doubt with this conclusion.

9. Examination and Analysis of Potential Impacts on Lough Corrib SPA

9.1 Baseline

Lough Corrib SPA is a vast site of over 18,600ha, comprising Lough Corrib, most of its islands, and much of the wetland habitat that surrounds the lake margin. Lough Corrib SPA is an internationally important site for wintering birds and is also a nationally important site for some breeding bird populations and this is the basis for its SPA designation.

The SCIs of Lough Corrib SPA within the ZoI of the Project are listed below:

[A051]	Gadwall – Wintering
[A179]	Black-headed gull – Breeding/ Wintering
[A182]	Common gull – Breeding/Wintering
[A193]	Common tern – Breeding
[A125]	Coot - Wintering
[A140]	Golden plover – Wintering
[A082]	Hen harrier – Wintering
[A056]	Shoveler – Wintering
[A061]	Tufted duck - Wintering
[A999]	Wetlands and Waterbirds - wetland habitats at Coolanillaun

The Project does not traverse Lough Corrib SPA. However, areas of wetland habitat within Lough Corrib SPA at Tonacurragh and Coolanillaun lie only c.60m to the north of the Project at Menlough Village - a wetland mosaic of bog, heath, reed swamp, marsh and wet grassland habitats. In addition, many bird species listed as SCIs of Lough Corrib SPA were recorded during the breeding and wintering bird surveys at locations across the local area, remote from the SPA, some of which are impacted by the Project. The habitat types associated with these sites ranged from natural/semi-natural lakes and wetland complexes (Ballindooley Lough, Coolagh Lakes and Lough Inch), the River Corrib, and upland mosaics of bog, heath, wet and acid grasslands, to improved and intensively managed habitats such as agricultural fields and recreational areas. Ballindooley Lough is an important local wetland site for wintering birds and regularly supported species listed as SCIs for Lough Corrib SPA.

9.2 Potential Impacts

As the Project does not traverse Lough Corrib SPA, none of the SCI species, or their supporting habitats within the SPA, are directly impacted by the Project.

However, potential impacts from the Project (in the absence of mitigation measures) that were considered as potentially affecting SCI bird species or their supporting wetland habitats, either within Lough Corrib SPA or in the surrounding local area, include:

- Affect groundwater quality at wetland sites used by wintering SCI bird species outside of Lough Corrib SPA during construction/operation
- Affect the quality of surface water in the receiving freshwater environment during construction
- Long-term blasting between Lackagh Quarry and the N83 Tuam Road during construction could displace SCI listed bird species from Ballindooley Lough for one or more winter seasons
- The Project passes through potential supporting "ex-situ" sites associated with Lough Corrib SPA, which could result in the loss of these potential supporting "ex-situ" sites utilised by SCI bird species associated with this SPA.

The potential pathways related to the construction-related traffic, recreational pressure and possible deterioration of European sites is summarised in Section 12, Section 13 and Section 14 of this executive summary respectively.

The potential impacts that could affect the SCIs and conservation objectives of Lough Corrib SPA are as outlined in the following table.

Species/Habitat Type	Potential Impact to conservation objectives
Gadwall	Displacement of SCI wintering birds from wetland habitat at Ballindooley Lough could impact upon bird survival and population numbers by reducing the number and range of areas available to the wintering SPA populations.
Shoveler, Tufted duck	Affecting surface water quality in wetland sites used by SCI species could affect the type, quality and extent of wetland habitat available to support the SPA populations. Displacement of SCI wintering birds from wetland habitat at Ballindooley Lough could impact upon bird survival and population numbers by reducing the number and range of areas available to the wintering SPA populations.
Coot, Black- headed gull	Affecting surface water or groundwater quality in wetland sites (including ex-situ sites) used by SCI species could affect the type, quality and extent of wetland habitat available to support the SPA populations. Displacement of SCI wintering birds from wetland habitat at Ballindooley Lough could impact upon bird survival and population numbers by reducing the number and range of areas available to the wintering SPA populations.
Golden plover, Common gull, Common tern	Affecting surface water quality in wetland sites used by SCI species could affect the type, quality and extent of wetland habitat available to support the SPA populations.
Wetlands	Affecting surface water or groundwater quality in wetland sites used by SCI species could affect the type, quality and extent of wetland habitat available to support the SPA populations.

9.3 Mitigation measures

The following mitigation measures will be implemented, under supervision of both the Project Ecologist (employed by the Employer) and the Ecological Clerk of Works (employed by the Contractor), to ensure that, as a result of the potential impacts, the Project will not affect the conservation objectives of Lough Corrib SPA:

- Mitigation measures have been developed and will be implemented to ensure that existing groundwater conditions are not affected, during construction or operation, in groundwater bodies traversed by the Project.
- Mitigation measures have been developed and will be implemented to ensure that water quality in receiving watercourses is protected during construction of the Project.
- Seasonal restrictions on blasting in the vicinity of Ballindooley Lough, will be implemented to minimise disturbance/displacement effects on wintering birds during construction.

9.4 Residual Impacts and Conclusion

The mitigation measures to protect the receiving hydrological and hydrogeological environment, and to avoid/reduce the disturbance/displacement effects of blasting on wintering birds using Ballindooley Lough, will ensure that the Project not affect the conservation objectives of Lough Corrib SPA.

Following an examination, analysis and evaluation in light of the best scientific knowledge, of all relevant information in respect of all of the SCI bird species, and the supporting habitats, of Lough Corrib SPA within the ZoI of the Project, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition for the SCIs concerned, it has been concluded that the Project poses no risk (either directly or indirectly) of adversely affecting the integrity of Lough Corrib SPA and there is no reasonable scientific doubt about this conclusion.

10. Examination and Analysis of Potential Impacts on Inner Galway Bay SPA

10.1 Baseline

Inner Galway Bay SPA is a large marine-dominated site of over 13,260ha, covering the inner part of Galway Bay from Rusheen Bay near Bearna to Aughinish Bay in County Clare. Inner Galway Bay SPA is an internationally important site for wintering birds and is a nationally important site for some breeding bird populations; this is the basis for its SPA designation.

All of the SCIs of Inner Galway Bay SPA are within the ZoI of the Project and are listed below:

[A002]	Black-throated diver – Wintering
[A157]	Bar-tailed godwit – Wintering
[A179]	Black-headed gull – Wintering
[A182]	Common gull – Wintering
[A193]	Common tern – Breeding
[A017]	Cormorant – Breeding/Wintering
[A160]	Curlew – Wintering
[A149]	Dunlin – Wintering
[A140]	Golden plover – Wintering
[A003]	Great northern diver – Wintering
[A028]	Grey heron – Wintering
[A142]	Lapwing – Wintering
[A046]	Light-bellied brent goose – Wintering
[A069]	Red-breasted merganser – Wintering
[A162]	Redshank – Wintering
[A137]	Ringed plover – Wintering
[A191]	Sandwich tern – Breeding
[A052]	Teal – Wintering
[A169]	Turnstone – Wintering
[A050]	Wigeon – Wintering
[A999]	Wetlands and Waterbirds

The Project does not traverse Inner Galway Bay SPA. However, Galway Bay lies downstream of all the watercourses crossed by the Project, which will also receive the drainage discharge from the Project. Therefore, all of the SCI bird species of Inner Galway Bay SPA, and the wetland and marine habitat that support them, are within the ZoI of the Project and are therefore at risk of impacts.

In addition, many bird species listed as SCIs of Inner Galway Bay SPA were recorded during the breeding and wintering bird surveys at locations across the local area, outside of the SPA, some of which are impacted by the Project. The habitat types associated with these sites ranged from natural/semi-natural lakes and wetland complexes (Ballindooley Lough, Coolagh Lakes and Lough Inch), the River Corrib, and upland mosaics of bog, heath, wet and acid grasslands, to improved and intensively managed habitats such as agricultural fields and recreational areas. Ballindooley Lough is an important local wetland site for wintering birds and regularly supported species listed as SCIs for Inner Galway Bay SPA.

10.2 Potential Impacts

As the Project does not traverse Inner Galway Bay SPA, none of the SCI species, or their supporting habitats within the SPA, are directly impacted by the Project.

However, potential impacts from the Project (in the absence of mitigation measures) that were considered as potentially affecting SCI bird species or their supporting wetland habitats within Inner Galway Bay SPA or in the surrounding local area, include:

- Affect groundwater quality at wetland sites used by wintering SCI bird species outside of Inner Galway Bay SPA during construction/operation
- Affect the quality of surface water in the receiving marine and freshwater environment during construction
- Long-term blasting between Lackagh Quarry and the N83 Tuam Road during construction could displace SCI listed bird species from Ballindooley Lough for one or more winter seasons
- The Project passes through potential supporting "*ex-situ*" sites associated with Inner Galway Bay SPA, which could result in the loss of these potential supporting "*ex-situ*" sites utilised by SCI bird species associated with this SPA.

The potential pathways related to the construction-related traffic, recreational pressure and possible deterioration of European sites is summarised in Section 12, Section 13 and Section 14 of this executive summary respectively.

The potential impacts that could affect the SCIs and conservation objectives of Inner Galway Bay SPA are as outlined in the following table.

Species/Habitat Type	Potential Impact to conservation objectives
Black-throated Diver, Great northern diver, Light-bellied brent goose, Turnstone, Common gull, Sandwich tern and Common tern	Affecting surface water quality in the marine and wetland sites used by SCI species could affect the type, quality and extent of wetland habitat available to support the SPA populations.
Red-breasted merganser, Ringed plover, Golden plover, Dunlin and Redshank	Affecting surface water quality within the catchment of the Project could affect the type, quality and extent of ex-situ habitat available to support the SPA populations.
Wigeon, Lapwing, Bar-tailed godwit and Curlew	Affecting surface water quality within the catchment of the Project could affect the type, quality and extent of ex-situ habitat available to support the SPA populations. Displacement of SCI wintering birds from ex-situ habitat at Ballindooley Lough could impact upon bird survival and population numbers by reducing the number and range of areas available to the wintering SPA populations.
Cormorant, Grey heron, Teal and Black-headed gull	Affecting hydrogeological regime at potential ex-situ sites (Coolagh Lakes) could affect the type, quality and extent of ex-situ habitat available to support the SPA populations. Affecting surface water quality within the catchment of the Project could affect the type, quality and extent of ex-situ habitat available to support the SPA populations. Displacement of SCI wintering birds from ex-situ habitat at Ballindooley Lough could impact upon bird survival and population numbers by reduce the number and range of areas available to the wintering SPA populations.
Wetlands	Affecting surface water or groundwater quality in wetland sites used by SCI species could affect the type, quality and extent of wetland habitat available to support the SPA populations.

10.3 Mitigation Measures

The following mitigation measures will be implemented, under supervision of both the Project Ecologist (employed by the Employer) and the Ecological Clerk of Works (employed by the Contractor), to ensure that, as a result of the potential impacts, the Project will not affect the conservation objectives of Inner Galway Bay SPA:

- Mitigation measures have been developed and will be implemented to ensure that existing groundwater conditions are not affected, during construction or operation, in groundwater bodies traversed by the Project.
- Mitigation measures have been developed and will be implemented to ensure that water quality in receiving watercourses is protected during construction of the Project.
- Seasonal restrictions on blasting in the vicinity of Ballindooley Lough, will be implemented to minimise disturbance/displacement effects on wintering birds during construction.

10.4 Residual Impacts and Conclusion

The mitigation measures to protect the receiving hydrological and hydrogeological environment, and to avoid/reduce the disturbance/displacement effects of blasting on wintering birds using Ballindooley Lough, will ensure that the Project will not affect the conservation objectives of Inner Galway Bay SPA.

Following an examination, analysis and evaluation in light of best scientific knowledge of all relevant information in respect of all of the SCI bird species and supporting habitats of Inner Galway Bay SPA within the ZoI of the Project, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition for the SCIs concerned, it has been concluded that the Project poses no risk (either directly or indirectly) of adversely affecting the integrity of Inner Galway Bay SPA and there is no reasonable scientific doubt about this conclusion.

11. Examination and Analysis of Potential Impacts on Inishmore Island SAC and Kilkieran Bay Island SAC

11.1 Baseline

Inishmore Island SAC and Kilkieran Bay Island SAC are two European sites which are located in proximity to Galway Bay, a coastal waterbody within the ZoI of the Project.

In March 2024, two cetacean species, Bottlenose dolphin *Tursiops truncates* and Harbour porpoise *Phocoena phocoena* were added as QIs at 16 existing marine and coastal SAC sites. Due to foraging ranges, cetacean species from Inishmore Island SAC and Kilkieran Bay Island SAC could use habitat and forage within Galway Bay and possibly be affected by impacts to water quality within the receiving environment.

The QIs at potential risk that are known to be occasionally present within the ZoI of the Project, are listed below:

[1351]	Harbour porpoise
[1349]	Bottlenose dolphin

11.2 Potential Impacts

As the Project does not traverse Inishmore Island SAC and Kilkiernan Bay Island SAC, none of the QI species, or their supporting habitats within these SACs, are directly impacted by the Project. However, a potential impact from the Project (in the absence of mitigation measures) that was considered as potentially affecting habitats used by QI species within Galway Bay, include:

- Affecting the quality of surface water in the receiving watercourses and Galway Bay during construction

The potential impact could affect the QIs conservation objectives of Inishmore Island SAC and Kilkiernan Bay Island SAC as outlined in the following table.

Species/ Habitat Type	Potential Impact to conservation objectives
Harbour porpoise and Bottlenose dolphin	Affecting the quality of surface water discharging to the marine environment could affect the associated aquatic/ coastal/marine habitats and species during construction

11.3 Mitigation Measures

The following mitigation measures will be implemented, under supervision of both the Project Ecologist (employed by the Employer) and the Ecological Clerk of Works (employed by the Contractor), to ensure that, as a result of the potential impacts, the Project will not affect the conservation objectives of Inishmore Island SAC and Kilkiernan Bay Island SAC:

- Mitigation measures have been developed and will be implemented to ensure that water quality in receiving watercourses is protected during construction of the Project which will protect the marine environment of Galway Bay.

11.4 Residual Impacts and Conclusion

The mitigation measures to protect the receiving hydrological environment will ensure that the Project will not affect the conservation objectives of Inishmore Island SAC and Kilkieran Bay Island SAC.

Following an examination, analysis and evaluation in light of best scientific knowledge of all relevant information in respect of all of the QI cetacean species that may use the marine environments of Galway Bay within the ZoI of the Project, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition for the QIs concerned, it has been concluded that the Project poses no risk (either directly or indirectly) of adversely affecting the integrity of Inishmore Island SAC and Kilkieran Bay and Island SAC or any other European site with QI cetacean species and there is no reasonable scientific doubt about this conclusion.

12. Examination and Analysis of Potential Impacts on European Sites as a result of Construction-related Traffic

12.1 Baseline

Upon review of the appropriate assessment undertaken by Dr. Arnold appended (as Appendix 6) in ABP's Inspector's Report dated 22 June 2021, additional sites were scoped in due to their proximity to the wider road network, having the potential to be affected by an increase in construction-related traffic. These European sites are Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SPA and Cregganna Marsh SPA, Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA.

The European sites associated with Lough Corrib and Galway Bay (i.e. Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA) have been assessed in previous sections in terms of the potentially significant risks associated with construction-related traffic as follows:

- Increased spills and leaks which could contaminate groundwater and surface water:

  Hydrogeology: The ZoI includes habitat areas within Lough Corrib SAC, the Clarinbridge GWB shared with Galway Bay Complex SAC and wetland sites supporting SCIs of Lough Corrib SPA and Inner Galway Bay SPA

  Hydrology: The ZoI is any wetland, coastal or marine habitat downstream of any watercourse crossings or drainage outfalls, and any aquatic/marine species therein and includes Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex SAC and Inner Galway Bay SPA

- Increased generation and deposition of dust and emissions:

  Air quality: The ZoI is the immediate vicinity of the construction works for dust deposition and within 200m of the construction works and proposed haul roads during construction, and the footprint of the proposed N6 GCRR during operation, and only includes Lough Corrib SAC

- The introduction and spread of invasive species:

  The ZoI of this impact is potentially any habitats crossed by, immediately adjacent to, or downstream of the Project or along any of the proposed haul routes that are at risk from contaminated soil/material and includes Lough Corrib SAC and Galway Bay Complex SAC. Lough Corrib SPA is excluded from the ZoI being upstream of the Project and Inner Galway Bay SPA will not support terrestrial non-native species in its marine / coastal habitat

The QIs and SCIs of Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Cregganna Marsh SPA, Rahasane Turlough SAC, Rahasane Turlough SPA within the ZoI of the Project and are listed below:

Ardrahan Grassland SAC	
[4060]	Alpine and Boreal heaths
[5130]	*Juniperus communis formations on heaths or calcareous grasslands*
[6210*]	Calcareous grassland
[8240*]	Limestone Pavement

Castletaylor Complex SAC	
[3180]	Turloughs
[4060]	Alpine and Boreal heaths
[5130]	*Juniperus communis* formations on heaths or calcareous grasslands
[6210*]	Calcareous grassland
[8240*]	Limestone Pavement

Cregganna Marsh SPA [004142]	
[A395]	Greenland White-fronted Goose

Kiltiernan Turlough SAC	
[3180*]	Turloughs

Lough Fingall Complex SAC	
[3180]	Turloughs
[4060]	Alpine and Boreal heaths
[5130]	*Juniperus communis* formations on heaths or calcareous grasslands
[6210*]	Calcareous grassland
[7210]	*Cladium* fen
[8240*]	Limestone Pavement
[1303]	Lesser Horseshoe Bat

Rahasane Turlough SPA	
[A038]	Whooper Swan
[A050]	Wigeon
[A140]	Golden Plover
[A156]	Black-tailed Godwit
[A395]	Greenland White-fronted Goose
[A999]	Wetlands and Waterbirds

Rahasane Turlough SAC	
[3180*]	Turloughs

12.2 Potential Impacts

Based on the proximity to the road network, these European sites have an associated risk on QIs/SCIs due to a potential increase in construction-related traffic. The potential impacts from the Project (in the absence of mitigation measures) that were considered as potentially affecting QIs or SCI bird species or their habitats in the surrounding local area, include:

- Affecting the functioning and quality of the existing hydrogeological regime.
- Affecting water quality in receiving watercourses during construction works.
- Affecting habitats as a result of air quality impacts
- Introducing/spreading non-native invasive plant species.

How these potential impacts could affect the QIs/SCIs and conservation objectives of Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SPA and Cregganna Marsh SPA, are outlined in the following table.

European Site	Potential Impact to conservation objectives
Ardrahan Grassland SAC, Castletaylor Complex SAC, Cregganna Marsh SPA, Kiltiernan Turlough SAC, Lough Fingall Complex SAC.	Affect functioning and quality of the existing hydrogeological regime.
Ardrahan Grassland SAC, Lough Fingall Complex SAC, Cregganna Marsh SPA, Kiltiernan Turlough SAC, Rahasane Turlough SAC, Rahasane Turlough SPA.	Affect water quality in receiving watercourses during construction works.
Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SAC, Rahasane Turlough SPA., Cregganna Marsh SPA.	Affect habitats as a result of dust generated during construction works.
Ardrahan Grassland SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC.	Introduce/spread non-native invasive plant species.

12.3 Mitigation Measures

The following mitigation measures will be implemented, under supervision of both the Project Ecologist (employed by the Employer) and the Ecological Clerk of Works (employed by the Contractor), to ensure that, as a result of the potential impacts, the Project will not affect the conservation objectives of Ardrahan Grassland SAC, Kiltiernan Turlough SAC, Castletaylor Complex SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SPA and Cregganna Marsh SPA:

- Mitigation measures have been developed and will be implemented to ensure that existing groundwater conditions of groundwater bodies traversed by the Project are not affected during construction as a result of construction-related traffic.
- Mitigation measures have been developed and will be implemented to ensure that water quality in receiving watercourses is protected during construction of the Project, including standard practices and fleet management detailed in the CEMP.
- Mitigation measures have been developed and will be implemented to ensure the air quality is not affected by construction-related traffic to an extent that will affect the conservation objectives of European sites.
- The NISMP developed in the CEMP for the Project will ensure that non-native invasive plant species will be controlled during the construction activities associated with the Project and will not be spread by construction-related traffic to European sites.

12.4 Residual Impacts and Conclusion

The mitigation measures to protect QI habitats and species and SCI bird species, to protect the receiving hydrological and hydrogeological environment, to control dust during construction and to control and prevent the spread of non-native invasive plant species, will ensure that the Project will not affect the conservation objectives of these European sites.

Following an examination, analysis and evaluation in light of best scientific knowledge of all relevant information in respect of the QI/SCI species/ habitats of Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Cregganna Marsh SPA, Rahasane Turlough SPA and Rahasane Turlough SAC adjacent and near to the major roads and within the extended, existing road network of the potential construction-related traffic of the Project, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition for the QIs/SCIs concerned, it has been concluded that the Project does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Cregganna Marsh SPA, Rahasane Turlough SPA and Rahasane Turlough SAC and there is no reasonable scientific doubt with the conclusion.

13. Examination and Analysis of Potential Impacts on European Sites as a result of Recreational Pressure

13.1 Baseline

Upon review of the appropriate assessment undertaken by Dr. Arnold appended (as Appendix 6) in ABP's Inspector's Report dated 22 June 2021, the potential impact pathway related to increased recreational traffic and the additional European sites in its ZoI, has been included in the assessment for this updated NIS. The following European sites are assessed on a precautionary basis for recreational pressure: Ardrahan Grassland SAC, Castletaylor Complex SAC, Maumturk Mountains SAC, The Twelve Bens/ Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA.

The QIs and SCIs of Ardrahan Grassland SAC, Castletaylor Complex SAC, Maumturk Mountains SAC, The Twelve Bens/ Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA within the potential ZoI of the Project and are listed below:

Lough Corrib SAC	– Section 7.1
Galway Bay Complex SAC	– Section 8.1
Lough Corrib SPA	– Section 9.1
Inner Galway Bay SPA	– Section 10.1
Ardrahan Grassland SAC	– Section 12.1
Castletaylor Complex SAC	– Section 12.1

Maumturk Mountains SAC	
[3110]	Oligotrophic waters
[4010]	Wet heaths
[4060]	Alpine and Boreal heaths
[7130*]	Blanket bogs
[7150]	Depressions on peat substrates of the Rhynchosporion
[8220]	Siliceous rocky slopes
[1106]	Salmon
[1833]	Slender Naiad

The Twelve Bens/Garraun Complex SAC	
[3110]	Oligotrophic waters
[3130]	Oligotrophic to mesotrophic standing waters
[4060]	Alpine and Boreal heaths
[7130*]	Blanket bogs
[7150]	Depressions on peat substrates of the Rhynchosporion
[8110]	Siliceous scree of the montane to snow levels
[8220]	Calcareous rocky slopes
[8220]	Siliceous rocky slopes
[91A0]	Old sessile oak woods
[1029]	Freshwater Pearl Mussel
[1106]	Salmon
[1355]	Otter
[1833]	Slender Naiad

Connemara Bog Complex SAC	
[1150]	Lagoons
[1170]	Reefs
[3110]	Oligotrophic waters
[3130]	Oligotrophic to mesotrophic standing waters
[3160]	Natural dystrophic lakes and ponds
[3260]	Vegetation of flowing waters
[4010]	Wet heaths
[4030]	Dry heaths
[6410]	Molinia meadows
[7130*]	Blanket bogs
[7140]	Transition mires
[7150]	Depressions on peat substrates of the Rhynchosporion
[7230]	Alkaline fens
[91A0]	Old sessile oak woods
[1065]	Marsh Fritillary
[1106]	Salmon
[1355]	Otter
[1833]	Slender Naiad

Connemara Bog Complex SPA	
[A017]	Cormorant
[A098]	Merlin
[A140]	Golden Plover
[A182]	Common Gull

Connemara Bog Complex SPA	
[3140]	Hard oligo-mesotrophic waters
[1303]	Lesser Horseshoe Bat

13.2 Potential Impacts

Although the Project will contribute to an increase in all recreational traffic in the surrounding supporting road network, the increase will not be significant enough (predicted to be less than10% increase), or where it is predicted to be greater than 10% increase the roads do not provide or facilitate direct access to European sites. It is also noted that not all recreational traffic is destined for a European site. The resultant potential for increase in recreational pressure will not pose any risk to the conservation objectives and will not, therefore, result in any likely significant effects on any European sites in the wider vicinity of Galway. In those circumstances no mitigation measures are required in respect of potential impacts from increased recreational pressure.

14. Examination and Analysis of Potential Impacts as a result of Potential Deterioration due to Loss of Supporting Habitats/ Populations

14.1 Baseline

Upon review of the appropriate assessment undertaken by Dr. Arnold appended (as Appendix 6) in ABP's Inspector's Report dated 22 June 2021, additional sites were scoped in due to the additional potential impact pathway related to possible deterioration or decline in European site QIs/ SCIs due to loss of supporting habitats/populations. The European sites which are considered in the ZoI as identified in the Appropriate Assessment appended (as Appendix 6) to ABP's Inspector's Report date 22 June 2021 include: Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SAC, East Burren Complex SAC, Complex SAC, Moneen Moutain SAC, Black Head- Poulsallasgh Complex SAC, Gortnadarragh Limestone Pavement SAC, , Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA.

The QIs and SCIs of Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SAC, East Burren Complex SAC, Complex SAC, Moneen Moutain SAC, Black Head- Poulsallasgh Complex SAC, Gortnadarragh Limestone Pavement SAC, , Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA and Inner Galway Bay SPA within the potential ZoI of the Project and are listed below:

Lough Corrib SAC	– Section 7.1
Galway Bay Complex SAC	– Section 8.1
Lough Corrib SPA	– Section 9.1
Inner Galway Bay SPA	– Section 10.1
Ardrahan Grassland SAC	– Section 12.1
Castletaylor Complex SAC	– Section 12.1
Kiltiernan Turlough SAC	– Section 12.1
Lough Fingall Complex SAC	– Section 12.1
Rahasane Turlough SAC	– Section 12.1
Connemara Bog Complex SAC	– Section 13.1
Connemara Bog Complex SPA	– Section 13.1
Ross Lake and Woods SAC	– Section 13.1

Lough Fingall Complex SAC	
[3140]	Hard water lakes
[3180]	Turloughs
[3260]	Vegetation of flowing waters
[4060]	Alpine and subalpine heath
[5130]	Juniperus scrub
[6210*]	Calaminarian grasslands
[6510]	Hay meadows
[7210]	*Cladium* fen
[7220]	Petrifying springs
[7230]	Alkaline fens
[8240]	Limestone Pavement
[8240]	Caves
[8240]	Alluvial woodland
[8240]	Marsh fritillary
[1303]	Lesser Horseshoe Bat
[1355]	Otter

Moneen Mountain SAC	
[3180]	Turloughs
[4060]	Alpine and subalpine heath
[5130]	Juniperus scrub
[6210*]	Calaminarian grasslands
[7220]	Petrifying springs
[8240]	Limestone Pavement
[8240]	Marsh fritillary
[1303]	Lesser Horseshoe Bat

Black Head – Poulsallagh Complex SAC	
[1220]	Perennial vegetation of stony banks
[2130]	Fixed dunes (grey dunes)
[3260]	Vegetation of flowing waters
[4060]	Alpine and subalpine heath
[5130]	Juniperus scrub
[6210*]	Calaminarian grasslands
[6510]	Hay meadows
[7220]	Petrifying springs
[8240]	Limestone Pavement
[8300]	Sea caves
[1395]	Petalwort

Gortnandarragh Limestone Pavement SAC	
[8240]	Limestone Pavement

14.2 Potential Impacts

In terms of European sites, the Project only overlaps with Lough Corrib SAC, at four locations. There will be no fragmentation of the Lough Corrib due to the Project that will lead to compromising the conservation objectives of Lough Corrib SAC. There will be no loss of habitat that will affect SCI bird species and therefore no effects on the conservation objectives of the Lough Corrib SPA and the Inner Galway Bay SPA.

The only potential impact identified is the potential impact related to the loss of habitat within the Lough Corrib SAC. It is however a very discrete area and a limited area within the SAC which will be potentially affected, and none of this limited area is composed of QI Annex I habitat. Design measures, such as the Lackagh Tunnel and the River Corrib Bridge, ensure QI Annex I habitats are retained within the SAC. Therefore as much as there may be some loss of individual plants of typical and positive indicator species, these are outside the SAC and none are critically rare to result in significant effects on the QI habitats and population within the immediate Lough Corrib SAC or similar habitats/populations in the region.

Therefore, there will be no deterioration as a result of loss in supporting habitats / populations that will affect the conservation objectives of European sites within the vicinity of Galway and as such no mitigation measures are required in respect of potential impacts from loss of supporting habitats or species.

15. Potential for In Combination Effects

The in combination assessment identified those plans and projects with the potential to act in combination with the Project to affect the conservation objectives of Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex SAC, Inner Galway Bay SPA, Inishmore Island SAC, Kilkieran Bay and Islands SAC, Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SPA, Rahasane Turlough SAC or Cregganna Marsh SPA, Maumturk Mountains SAC, The Twelve Bens/ Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, East Burren Complex SAC, Moneen Mountain SAC, Black Head-Poulsallagh Complex SAC and Gortnandarragh Limestone Pavement SAC.

All other European sites fall beyond the ZoI of the Project or impacts are fully mitigated. Therefore, there is no potential for any other plans or projects to act in combination with the Project to adversely affect the integrity of any other European sites.

The full in combination assessment is contained in Section 12 of this updated NIS. The projects assessed in this updated NIS are relatively small-scale projects, including renovations or extensions to existing residential properties which did not constitute a potential risk to the environment. However, a number relate to relatively large-scale developments, including small, medium and large-scale residential developments, commercial and industrial developments and public scheme works.

All of these developments have been subject to the environmental requirements of the Galway City and County Development Plans, as well as the environmental requirements of the Planning and Development Act.

All of these plans and projects, assessed as part of the in combination assessment, have been assessed for the likely significant direct, indirect and cumulative impacts at an individual level with the Project (pairwise), as well as an overall cumulative assessment of all plans and projects combined together with the Project, for the potential to act cumulatively to impact on the conservation objectives of the European sites in question.

None of the plans assessed will give rise to any in combination effects at either an individual level or cumulatively. For those developments which had the potential to affect the receiving environment, mitigation measures have been developed and included within the consented planning conditions to avoid or mitigate any potential effects on European sites. Equally, the Project poses no risk to the receiving environment in any European sites. Having considered and assessed the Project in combination with all plans and projects considered, there is no potential for the Project in combination with other plans and projects to undermine the conservation objectives, or adversely affect the integrity, of any European sites, particularly in light of the mitigation measures included as part of the Project.

The Project level mitigation in tandem with the environmental protective policies set out in the overarching land use plans, ensures there is no potential for projects individually (pairwise) or cumulatively with all the other projects or plans as well as with the Project, to act in combination to impact on the conservation objectives of any European sites.

16. NIS Conclusion

This updated NIS has examined and analysed, in light of the best scientific knowledge, with respect to those European sites within the ZoI of the Project, the potential impact sources and pathways, the manner in which these could impact on the European sites' qualifying interest habitats and species, and SCI species and habitats, and whether the predicted impacts would adversely affect the integrity of any European sites.

Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the Qualifying Interests and Special Conservation Interests of the assessed European sites (Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex SAC, Inner Galway Bay SPA, Inishmore Island SAC, Kilkieran Bay and Islands SAC, Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Rahasane Turlough SAC, Rahasane Turlough SPA, Cregganna Marsh SPA, Maumturk Mountains SAC, The Twelve Bens/Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC, East Burren Complex SAC, Moneen Mountain SAC, Black Head-Poulsallagh Complex SAC or Gortnandarragh Limestone Pavement SAC), the potential impacts, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the Qualifying Interests/Special Conservation Interests, it has been concluded that the Project does not pose a risk of adversely affecting (either directly or indirectly) the integrity of any European sites.

Mitigation measures are set out within Volume 2 of this updated NIS and summarised in this executive summary 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 operation of the Project such that there will be no adverse effects on any European sites.

It has also 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 Project and the effective implementation of the mitigation measures proposed, that the Project will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

NIS Flowchart for the N6 GCRR

Section	Description
1	Introduction
2	Description of the Project
3	Consultations Summary of the consultations undertaken with the NPWS and Inland Fisheries Ireland.
4	Methodology Guidance documents, desktop data sources, assessment methodology, ecology survey methodologies, hydrological and hydrogeological survey and monitoring methodologies, and geotechnical investigations.
5	Existing Ecological Baseline Description of the local ecological baseline, including European sites, and an overview of the local hydrological and hydrogeological baseline data.
6	Potential Impacts of the Project
7	Zone of Influence of the Project Defining the area within which the project 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.
8	European sites within the Zone of Influence of the Project
9	Examination and Analysis of Potential Direct and Indirect Impacts on European Sites Examination and analysis of potential impacts on the SCIs and their conservation objectives.
10	Design Requirements and Mitigation Measures Design measures included, and the mitigation measures to protect the qualifying interests and the conservation objectives of the European sites within the ZoI of the project.
11	Residual Impacts The effects of the project on European sites in consideration of the mitigation measures.
12	Potential for In-combination Effects The assessment carried out to examine whether any other plans or projects have the potential to act in combination with the project to affect the conservation objectives of any European sites.
13	NIS Conclusion

9.1	Lough Corrib SAC
9.2	Galway Bay Complex SAC
9.3	Lough Corrib SPA
9.4	Inner Galway Bay SPA
9.5	Inishmore Island SAC / Kilkiernan Bay and Island SAC
9.6	Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA, Inner Galway Bay SPA, Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Cregganna Marsh SPA, Rahasane Turlough SPA, Rahasane Turlough SAC
9.7	Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA, Inner Galway Bay SPA, Ardrahan Grassland SAC, Castletaylor Complex SAC, Maumturk Mountains SAC, The Twelve Bens/Garraun Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Ross Lake and Woods SAC
9.8	Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA, Inner Galway Bay SPA, Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Connemara Bog Complex SAC, Connemara Bog Complex SPA, Rahasane Turlough SAC, East Burren Complex SAC, Moneen Mountain SAC, Black Head-Poulsallagh Complex SAC, Gortnandarragh Limestone Pavement SAC, Ross Lake and Woods SAC

11.1	Lough Corrib SAC
11.2	Galway Bay Complex SAC
11.3	Lough Corrib SPA
11.4	Inner Galway Bay SPA
11.5	Inishmore Island SAC / Kilkiernan Bay and Island SAC
11.6	Lough Corrib SAC, Galway Bay Complex SAC, Lough Corrib SPA, Inner Galway Bay SPA, Ardrahan Grassland SAC, Castletaylor Complex SAC, Kiltiernan Turlough SAC, Lough Fingall Complex SAC, Cregganna Marsh SPA, Rahasane Turlough SPA, Rahasane Turlough SAC