Planning and Environmental Consultants

Appropriate Assessment Screening Report and Natura Impact Statement

Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway

DOCUMENT DETAILS

Client:	**Galway County Council**
Project Title:	**Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway**
Project Number:	**220727**
Document Title:	**Appropriate Assessment Screening Report and Natura Impact Statement**
Document File Name:	**NIS D1– 220727 – 2024.08.24**
Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Draft	27/08/2024	SC	PD/CM
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Contents

TABLE OF TABLES

TABLE OF PLATES

FIGURES

APPENDICES

1. INTRODUCTION

1.1 Background

MKO has been appointed to provide the information necessary to allow the competent authority, An Board Pleanála, to conduct an Article 6(3) Appropriate Assessment of a Proposed Development at Long Point Amenity Area, Lough Rea, Co. Galway.

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

This Natura Impact Statement (NIS) has been prepared in accordance with the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2021) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010) and the Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, Dublin 7, Ireland OPR (2021).

1.2 Statement of Authority

Baseline ecological surveys of the site of the Proposed Development were undertaken on the on the 05th of December 2022 and on the 7th of March 2023 by John Hynes (BSc., MSc., ACIEEM) and Cora Twomey (B.Sc) of MKO. Winter Bird Surveys were carried out on the 7th and 31st of March 2023 by Cora Twomey (B.Sc) and Brónagh Boylan (B.Sc). Further Winter Bird Surveys were carried out by Deepali Mooloo (B.Sc., M.Sc.) and Pádraig Desmond (B.Sc.) in October, November, and December 2023 and January, February, March 2024. Dedicated bat surveys were undertaken by MKO ecologist Aoife Joyce on the 25th of May 2023. All staff have relevant academic qualifications to complete the surveys and assessments they were required to do.

This report has been prepared by Stephanie Corkery (B.Sc., M.Sc.) and has been reviewed by Pádraig Desmond with input from Colin Murphy (BSc., MSc.). Pádraig has 4 years' professional experience in ecological consultancy. He has extensive experience undertaking ecological surveys in a range of habitats and has worked on Appropriate Assessment and Ecological Impact Assessment for a wide range of projects.

1.3 Structure and Format of this NIS

The points below provide the structure and format to this NIS:

- Section 2 provides a full description of all elements of the Proposed Development.
- In Section 3, the characteristics of the receiving environment are fully described.
- In Section 4, a Stage 1 Screening is undertaken to identify any European Sites upon which there is a potential for a likely significant effect to occur either individually or in combination with other plans and projects as a result of the Proposed Development
- Section 5 provides a detailed consideration of the Screened In European Sites and identifies the relevant qualifying features and how they may be affected in light of their conservation objectives.
- Section 6 provides an assessment of the potential for adverse effects on the identified European Sites as a result of the Proposed Development and in the absence of mitigation. This section also prescribes mitigation to robustly block any identified pathways for impact for effect.
- Section 7 provides an assessment of residual effects taking into consideration the proposed mitigation.
- In Section 8 the potential in combination effects of the Proposed Development on European Sites, when considered in combination with other plans and projects were assessed.
- A concluding statement is provided in Section 9.

2. DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 Site Location

The Proposed Development site is located in the townlands of Knockanima, County Galway. The study area is approximately 2.5km south of Loughrea town (Irish Grid Ref. M 62496 15135) and is located entirely within the existing amenity area at Long Point, Lough Rea. Access to the Proposed Development stie is off the Lake Road (R351). The land uses and types within the Proposed Development site are currently public amenity areas and sealed paths and carparks.

The site location is shown in the map included in Figure 2-1 below.

2.2 Characteristics of the Proposed Development

Pursuant to the requirements of Section 177AE(4)(a) of the Planning and Development Act 2000 (as amended), notice is hereby given that Galway County Council proposes to seek approval from An Bord Pleanála to carry out the following development at Long Point, Lake Road (R351) in the townland of Knockanima, Loughrea, Co. Galway.

The development will consist of the following:

1. Repair works comprising:
    a. Repair of the existing pier surfaces.
    b. Repair of the existing slipway to provide safe launching point for kayaks and stand-up paddle boards.
2. Demolition of an existing changing shelter to facilitate passive surveillance and views of Lough Rea.
3. Alteration to existing toilet and shower building to provide storage, plant, and a changing places toilet (accessible toilet, shower and changing facility) (93 sqm).
4. Provision of new changing, toilet and shower facilities in a single storey building (86 sqm) including sheltered outdoor shower changing area.
5. Provision of a lifeguard station building (16 sqm).
6. Provision of a circular viewing deck to the south of the existing pier.
7. Provision of a totem sign extending to c. 4 metres in height.
8. Alteration to existing beach area and provision of a deck, steps and ramp to water's edge and beach area for access for all to the water.
9. Provision of a shared active travel route along the sites eastern boundary adjacent to the Lake Road (R351) and the provision of designated bicycle parking spaces.
10. Removal of 2 no. existing vehicular access points and alterations and junction upgrade works to the existing central access point, and provision of internal pedestrian crossings.
11. Reconfiguration of and upgrades to the existing car parking areas to provide increased parking provision and to accommodate age friendly and set down spaces and trading bays, and the provision of 1 no. new car parking area which includes EV charging and accessible parking spaces.
12. Provision of hard and soft site landscaping works, SuDS measures, pumping and water stations all connections, public lighting, and site services.
13. All ancillary services and associated site development works.

The proposed site layout is shown in the map included in Figure 2-2.

2.2.1 Site drainage

2.2.1.1 Surface water

There is currently no surface water drainage system in place within the Proposed Development site, with all surface water currently being drained directly into Lough Rea with no treatment or settlement. As part of the Proposed Development, a Civils Report has been prepared by S. Hanniffy & Associates Consulting Engineers and is included in the planning application. This report provides for Sustainable Drainage Systems (SUDs) and includes the attenuation and treatment of surface water within the site prior to discharge.

Surface water from the proposed buildings, carparks and roads will be first conveyed to 1 of 3 petrol interceptors (kingspan klargester bypass interceptor) which include silt traps, and then to 1 of 3 no. attenuation, infiltration, and soakaway systems within the site, with a total capacity of 384.3m^3.

It also proposed to use permeable paving along the quaysides as an additional SUDs measure, allowing surface water to soak directly to ground. The is no requirement for bypass interceptors here as these are for pedestrian use only.

The proposed surface water drainage layout is presented in Figure 2-3.

2.2.1.2 Foul water

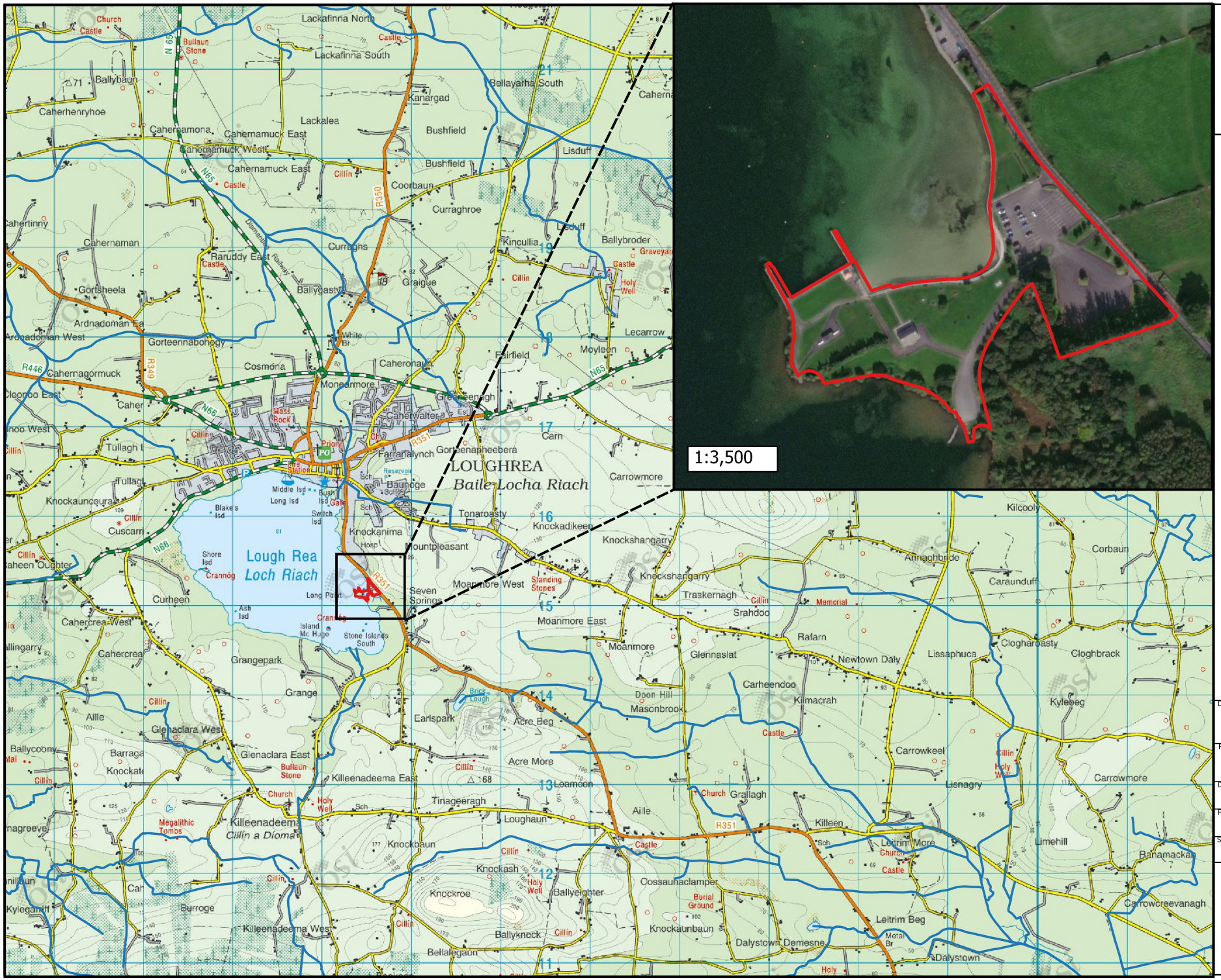
The existing foul water system for the current changing facilities is discharged to a foul sewer adjacent to the changing rooms and is pumped to an existing public sewer within the public road to the north of the site. It is proposed to install a new foul sewer system around the new storage/plant building and changing room/WC which will discharge to the existing pup station and then to the existing public sewer north of the site.

The proposed foul water drainage layout is presented in Figure 2-3.

2.2.2 Flood Risk Assessment

A Flood Risk Assessment (FRA) has been undertaken for the Proposed Development by Hydro Environmental Ltd and is included in the planning application.

The FRA indicates that areas of the Proposed Development are within a flood risk area for 100year and 1000year flood events. However, the majority of the of development within these risk zones are water compatible or less vulnerable developments and therefore, a flood risk justification test is not required for the Proposed Development.



Map Legend

Site Boundary

WFD Watercourses

Drawing Title

Site Location

Project Title: Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway	
Drawn By: SC	Checked By: PD
Project No.: 220727	Drawing No.: Figure 2-1
Scale: 1:55,000	Date: 10/09/2024

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KEY TO SURFACE FINISHES

- AMENITY GRASS, MAINTAINED GRASS / LAWN
- WILDFLOWER / BIO-DIVERSE PLANTING
- SWALE
- EXISTING WOODLAND
- PERMEABLE RESIN BOUND GRAVEL FOOTPATHS: 18 mm RESIN BOUND FINISH ON POROUS ASPHALT BINDER COURSE ON SUB-BASE
- SELECTED PERMEABLE PAVING, SUITABLE FOR VEHICLES TO FACILITATE EMERGENCY ACCESS
- NATURAL STONE PLANTING BEDS - POLLINATOR FRIENDLY PERENNIAL & GRASS PLANTING
- COMPOSITE / RECONSTITUTED DECKING
- SAND
- EXISTING NATURAL BEACH AREA
- PEDESTRIAN / CYCLE SHARED SURFACE
- COURTESY CROSSING SUITABLE FOR PERMANENT VEHICULAR TRAFFIC
- BLISTERED TACTILE PAVING - BUFF COLOURED
- BLISTERED TACTILE PAVING - RED COLOURED
- TARMACADAM ROAD FINISH
- PICNIC BENCH / TABLE - WITH AGE FRIENDLY SEATING
- PICNIC BENCH TABLE - WITH AGE FRIENDLY SEATING AND WHEELCHAIR ACCESSIBLE SPACE
- BENCH - WITH AGE FRIENDLY SEATING
- CUSTOM BENCH
- WASTE BIN
- METAL SPHERICAL BOLLARD
- CONTACTLESS WATER STATION
- EXISTING LEVELS
- PROPOSED LEVELS
- PARKING SPACE
- AGE FRIENDLY PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ELECTRIC VEHICLE CHARGING PARKING SPACE
- BICYCLE STANDS
- NATIVE TREE CLUSTERS
- AVENUE TREE PLANTING
- PROPOSED LIGHTING

01 SITE LAYOUT PLAN - PROPOSED
SCALE 1:500 @ A1

DRAWING NOTES

EXTENT OF SITE OUTLINED IN RED

SITE AREA: 2.26 HA

AREA OF EXISTING LIFEGUARD STATION TO BE DEMOLISHED: 9 SQ.M

AREA OF EXISTING CHANGING SHELTER TO BE DEMOLISHED 28 SQ.M

AREA OF EXISTING STORAGE/ PLAN TO BE ALTERED: 92.5 SQ.M

AREA OF PROPOSED CHANGING/WCs: 86 SQ.M

AREA OF PROPOSED LIFEGUARD STATION: 16.2 SQ.M

151 NO. PARKING SPACES:
STANDARD: 130 NO.
ACCESSIBLE: 8 NO.
AGE FRIENDLY: 7 NO.
EV: 6 NO.

REFER TO CIVIL ENGINEERS DRAWINGS AND SW REPORT FOR DETAILS OF PROPOSED DRAINAGE AND SEWAGE DETAILS.

REFER TO TRAFFIC AND TRANSPORT ASSESSMENT AND ROAD SAFETY AUDIT FOR DETAILS OF PROPOSED UPGRADES TO EXISTING VEHICULAR ACCESS AND PROPOSED NEW VEHICULAR, CYCLE AND PEDESTRIAN AMENITIES.

REFER TO SOFT LANDSCAPING DESIGN REPORT FOR DETAILS OF SOFT LANDSCAPING PROPOSALS.

REFER TO SITE LIGHTING LAYOUT AND SITE LIGHTING OVERVIEW FOR DETAILS OF PROPOSED EXTERNAL LIGHTING.

Rev	Date	Description	Drawn By	Checked By
0	2024.09.24	ISSUED FOR PLANNING		

PROJECT	LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT
CLIENT	GALWAY COUNTY COUNCIL
DRAWING TITLE	PROPOSED SITE LAYOUT PLAN
DWG. NO.	P(01)03
REV.	0

PROJECT NO.	DATE	SCALE	DRAWN BY	CHECKED BY	RELEASED
9901.4	JULY 2024	1:500 @ A1	BS		

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Project:
LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT

Drawing title:
LAYOUT PLAN SHOWING PROPOSED SERVICES.

Client:
GALWAY COUNTY COUNCIL

Date: AUGUST 2024	Drawn By: S.H.
Scale: 1/500 @ A1	Checked By:
Drawing No. 24143-01	Rev. -

3. CHARACTERISTICS OF THE RECEIVING ENVIRONMENT

3.1 Ecological Survey Methodologies

3.1.1 Desk Study

The desk study undertaken for this assessment included a thorough review of the available ecological data associated with the screened-in European Sites within the likely zone of influence of the Proposed Development. Sources of data included the following:

- Review of NPWS Conservation Objectives supporting documents, site synopsis, standard data forms and supporting documents for EU Designated Sites,
- Review of online web-mappers: National Parks and Wildlife Service (NPWS), Environmental Protection Agency (EPA), IFI fish maps
- Review of the publicly available National Biodiversity Data Centre (NBDC) web-mapper,
- Review of NPWS Article 17 metadata and GIS database.

3.1.2 Ecological Multidisciplinary Walkover Survey

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities (CIEEM, 2022).

Multidisciplinary ecological walkover surveys of the site were carried out on the dates indicated in Table 3-1 in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes) by John Hynes (BSc., MSc., ACIEEM) and Cora Twomey (B.Sc.) of MKO. These surveys provided baseline data on the ecology of the site and assessed whether further detailed habitat or species-specific ecological surveys were required. The multi-disciplinary ecological walkover surveys comprehensively covered the entire site.

Habitats within the Site were classified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011). Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2019).

The walkover surveys were designed to detect the presence, or suitable habitat for a range of protected faunal species that may occur in the Site and the vicinity of the Proposed Development. During the multidisciplinary survey, a search for Invasive Alien Species (IAS), with a focus on those listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011), was also conducted.

3.1.2.1 Otter

The Proposed Development site is located upstream of Galway Bay Complex SAC which is designated for otter. As part of the multidisciplinary survey, a search for indications of otter was carried out. This search was conducted in order to determine the presence or absence of otter within Proposed Development site. This involved a search for all potential indications of otter, as per NRA (2008) (spraint, tracks, couches, holts). Searches were carried along the shore of Lough Rea within and adjacent to the Proposed Development site. The otter survey was conducted as per TII (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes).

3.1.2.2 Winter Bird Surveys

The Proposed Development is located directly adjacent, and partially within, Lough Rea SPA. As Lough Rea provides suitable foraging habitat for the SCIs of the SPA, dedicated wintering bird surveys of the site were undertaken to assess the activity of the SCIs adjacent to the Proposed Development site and to inform the impact assessment of this report.

Prior to the commencement of surveys, an initial field visit was undertaken in December 2022 to assess the habitats on site and plan the surveys as well as to identify suitable vantage points. The survey area covered the Proposed Development site. The surveys were undertaken at the site over two dates: the 7th and 31st of March 2023 by Cora Twomey and Brónagh Boylan of MKO. Additional wintering bird surveys were undertaken monthly by Deepali Mooloo and Pádraig Desmond of MKO from October 2023 to March 2024, inclusive. As this survey site is a lake, no timing of surveys regards tidal conditions was necessary.

All observations were recorded, and detailed point data was gathered for each species observation, with all bird species denoted using standard British Trust for Ornithology (BTO) codes and with the number of each species recorded next to each registration. The survey focused on species listed as SCIs for Lough Rea SPA. However, in addition to this, all other birds including all common and widespread passerines, were also recorded from within the Proposed Development site.

The winter bird surveys of the Proposed Development site followed the Irish Wetland Bird Survey (I-WeBS) methodology; the simple 'look-see' method, whereby all birds present within a predefined area are counted (Gilbert et al., 1998). The surveys were carried out at suitable vantage points, located overlooking sections of the site. Vantage points were chosen to have as large as possible a view of the site and potential adjacent daytime foraging habitat in the vicinity of the Proposed Development. Vantage points focused on areas which were deemed to be of likely significance to wintering waterbirds of Lough Rea SPA.

Details of the surveys carried out including date, duration, and weather conditions are provided in Table 3-1 below.

Table 3-1 Survey efforts for wintering birds

Date	Survey duration	Weather conditions
07/03/2023	4 hours	Wind speed: Light breeze Cloud cover: approx. 33% Visibility: Good >5 km) Rain: None Frost: None Snow: None
31/03/2023	4 hours	Wind speed; Strong breeze Cloud cover: approx. 100% Visibility: Poor (<1km) Rain: Persistent Frost: None Snow: None
27/10/2023	4 hours	Wind speed: Light breeze Cloud cover: approx. 85% Visibility: Good >5 km) Rain: None Frost: None Snow: None
28/11/2023	6 hours	Wind speed: No wind Cloud cover: approx. 100% Visibility: Good >5 km) Rain: light showers Frost: None Snow: None

21/12/2023	6 hours	Wind speed; Strong breeze/gusty Cloud cover: approx. 100% Visibility: poor (<1km) Rain: Heavy showers Frost: None Snow: None
31/01/2024	6 hours	Wind speed; Strong breeze/gusty Cloud cover: approx. 100% Visibility: poor (<1km) Rain: Heavy showers Frost: None Snow: None
23/02/2024	6 hours	Wind speed; Calm Cloud cover: approx. 40% Visibility: Misty (<1km) Rain: None (other than light mist) Frost: None Snow: None
15/03/2024	6 hours	Wind speed; Moderate breeze Cloud cover: approx. Variable Visibility: Fair (>2km) Rain: Sunny with occasional showers Frost: None Snow: None

3.2 Results of Baseline Ecological Surveys

The Proposed Development site is located within an amenity area on the eastern shore of Lough Rea, which is currently comprised of carparks, walkways, amenity grasslands, and parkland.

The Proposed Development site comprised highly modified habitats and was dominated by ***Buildings and artificial surfaces (BL3)***, ***Amenity grassland (GA2)***, and ***Scattered trees and parkland (WD5)*** (Plate 3-1). The site was delineated to the northeast by ***Stone walls and other stonework (BL1)*** while ***Treelines (WL2)*** of Sitka spruce and ***Mixed broadleaved/conifer woodland (WD2)*** (Plate 3-2) formed the southern boundary of the Proposed Development site. This woodland was generally dry but areas close to the lake fringe were wet and best classified as ***Wet willow alder Ash Woodland (WN6)*** (Plate 3-3). Small sections of ***Scrub (WS1)*** were identified on the fringes of the woodland. The remainder of the Study Area was delineated by **Limestone/marl lakes (FL3)** (Plate 3-4). Within the site there is an existing toilet block and changing facility (Plate 3-5 and Plate 3-6), which are both proposed to be demolished, and were categorised as Buildings and artificial surfaces (BL3).

No watercourses were recorded within the Proposed Development site. However, Lough Rea is directly adjacent to the western boundary of the site, with some minor elements of the project located within the lake. This includes an upgraded kayak access slip (Plate 3-7) and a boardwalk which will be elevated above the lake itself, as indicated in Figure 2-2. Lough Rea includes both Lough Rea SAC and Lough Rea SPA. The Kilcogan stream drains Lough Rea to the north which drains into Galway Bay Complex SAC and Inner Galway Bay SPA downstream.

No habitats listed under Annex I or species listed under Annex II of the EU Habitats Directive were recorded within the Proposed Development site during the walkover survey. Wet willow alder ash woodland recorded to south of the site conforms to the Annex I listed habitat of the EU Habitats Directive: Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] whilst Lough Rea itself conforms to the Annex I listed habitat Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. [3140].

Coot were recorded during the winter bird surveys within Lough Rea, but no other SCIs of any SPA or potential supporting habitat for any SCIs was recorded within the Proposed Development site.

No evidence of any species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011) was recorded within or adjacent to the Proposed Development.

Plate 3-1 Buildings and artificial surfaces (BL3), Amenity grassland (GA2), and Scattered trees and parkland (WD5) within the Study Area.

Plate 3-2 Mixed broadleaved/conifer woodland (WD2) adjacent to the Study Area.

Plate 3-3 Wet willow alder ash woodland recorded to the south of the Proposed Development site.

Plate 3-4 Limestone/marl lakes (FL3) of Lough Rea adjacent to the Proposed Development *site.*

Plate 3-5 Existing toilet block to be demolished within the Proposed Development site

Plate 3-6 Existing changing shelter to be demolished within the Proposed Development site

Plate 3-7 Existing slip into Lough Rea which will be upgraded.

4. STAGE 1 IDENTIFICATION OF RELEVANT EUROPEAN SITES

4.1 Hydrological Desk Study

The online EPA Envision map viewer provides access to water quality information on waterbodies and watercourses for all the River Basin Districts in Ireland. The EPA Envision map viewer was consulted on 29/03/2023.

The Proposed Development site is located entirely within the Galway Bay South-East catchment and the Kilcogan_SC_010 sub-catchment.

The Proposed Development site is directly adjacent to Lough Rea. This Lough has a Water Framework Directive (WFD) status of 'Good' from the last the round of testing (2016-2021) with a risk status of 'Not at Risk'.

Lough Rea is drained to the north via the Kilcogan stream. The upper section of this watercourse has a Water Framework Directive (WFD) status of 'Good' from the last the round of testing (2016-2021), while the lower section has status' of 'Poor'. In the upper section has a risk status of 'Not at Risk', while the lower sections of risk status' of 'At Risk'.

The Proposed Development site is located within the GWDTE-Rahasane Turlough (SAC000322) ground water catchment. This Lough has a Water Framework Directive (WFD) status of 'Good' from the last the round of testing (2016-2021) with a risk status of 'At Risk'.

The Biotic Index of Water Quality (BIWQ) was developed in Ireland by the Environmental Protection Agency (EPA). Q-values are assigned using a combination of habitat characteristics and structure of the macro-invertebrate community within the waterbody. Individual macro-invertebrate families are classified according to their sensitivity to organic pollution and the Q-value is assessed based primarily on their relative abundance within a sample. The EPA sampling station result provides a baseline against which any water quality changes occurring in the future can be measured. Q values of downstream monitoring stations of the Study Area were available for the Kilcogan stream and are given in Table 4-1 below.

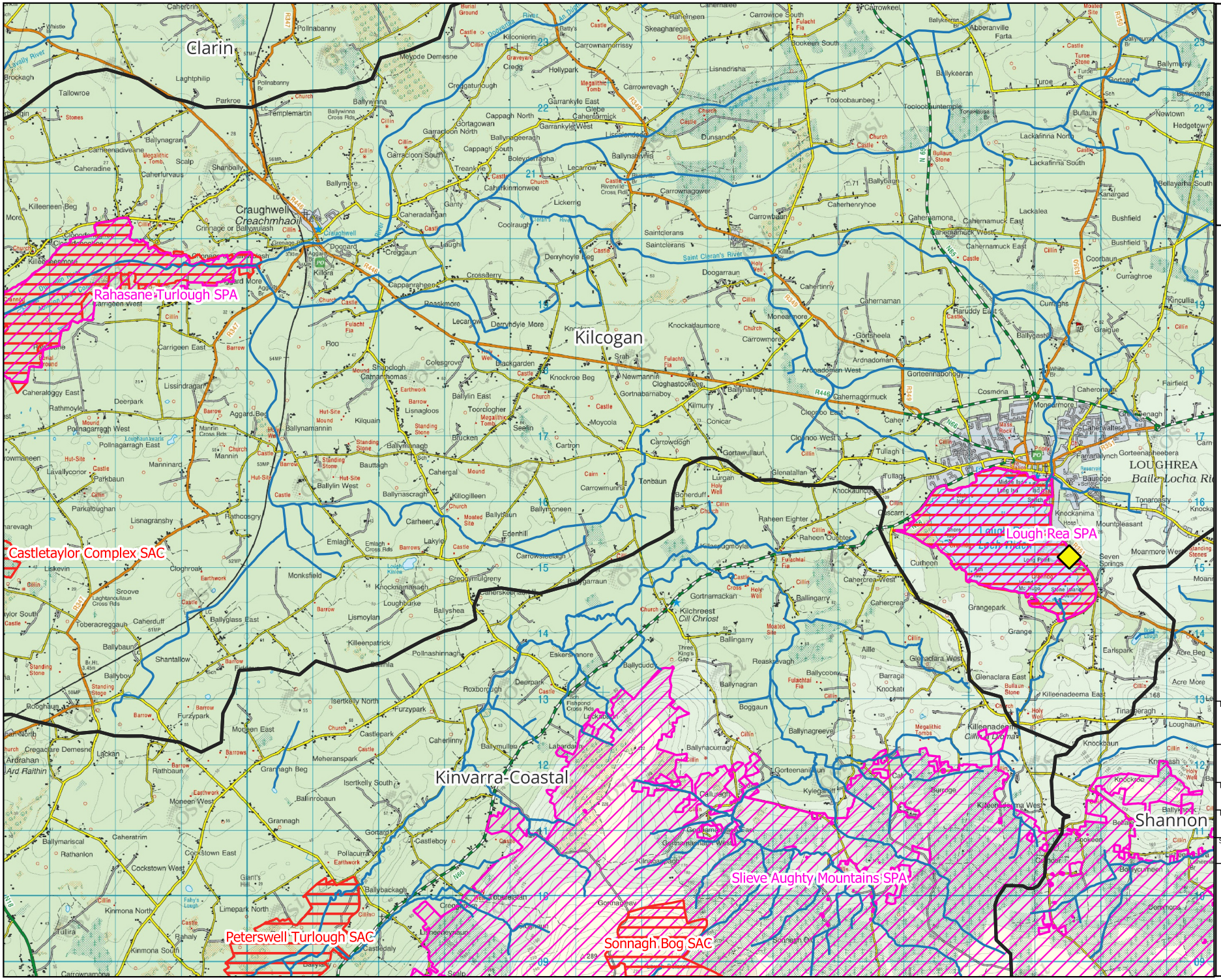
Table 4-1 Q values of downstream monitoring stations of the Study Area

River Waterbody	Monitoring Station	Year	Location from Proposed Site	Q Values with Status
Kilcogan Stream (EPA Code: 29K01)	White Mill N. of Loughrea (RS29K010100)	2000	Downstream	3, Poor
	Killilan Bridge (RS12S030200)	2021	Downstream	3, Poor
	Br just u/s Toberdoney at Caherkin (RS29K010280)	1994	Downstream	3-4, Moderate
	Bridge at Strongfort Lodge (RS29K010300)	2021	Downstream	4, Good
	Old Road Bridge Craughwell (RS29K010400)	2021	Downstream	3, Poor

4.2 Identification of the European Sites within the Likely Zone of Impact

The following methodology was used to establish which European Sites are within the Likely Zone of Influence of the Proposed Development:

- Initially the most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 16/08/2024. The datasets were utilized to identify European Sites which could feasibly be affected by the Proposed Development.
- All European Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, European Sites surrounding the development site are shown on Figure 3-1. Sites that were further away from the Proposed Development were also considered and potential for significant impacts on European sites further downstream from the Proposed Development site was identified. These sites are included in Table 4-1 below.
- The catchment mapping was used to establish or discount potential hydrological connectivity between the site of the Proposed Development and any European Sites. The hydrological catchments are also shown in Figure 3.1.
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, '*Assessing Connectivity with Special Protection Areas* (SPA)' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between Proposed Development and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- Table 3-1 provides details of all relevant European Sites as identified in the preceding steps and assesses which are within the likely Zone of Influence.
- The assessment considers any likely direct or indirect impacts of the Proposed Development, both alone and in combination with other plans and projects, on European Sites by virtue of the following criteria: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this assessment.
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report.
- Where potential pathways for Significant Effect are identified, the site is included within the Likely Zone of Influence and further assessment is required.



Map Legend

- Site Location
- WFD Catchments
- WFD Watercourses
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)

Drawing Title
European Sites surounding the Proposed Development

Project Title
Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway

Drawn By	Checked By
SC	PD
Project No.	Drawing No.
220727	Figure 4-1
Scale	Date
1:75,000	10/09/2024

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Table 4-2 European Sites within the Likely Zone of Influence

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
Special Areas of Conservation (SAC)			
Lough Rea SAC [000304] **Distances:** partial overlap **Hydrological Distance:** partial overlap	› [3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	Detailed conservation objectives for this site (Version 1, July 2019), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000304.pdf [1]	Whilst the majority of the Proposed Development is located within the footprint of the existing amenity area at Long Point, minor elements of the project overlap with Lough Rea, such as the upgraded access slip and the crannog viewing platform. As such, the Proposed Development site is partially located within this SAC due to these minor elements of the project. Therefore, in the absence of best practice and mitigation, a potential pathway for significant direct effects on the SAC was identified. There is potential for significant direct effect of the aquatic QI of the SAC resulting from water pollution and disturbance through the construction and operational phases of the Proposed Development. Furthermore, during the construction phase of the Proposed Development there is potential for the deterioration of water quality arising from the runoff of pollutants into this SAC and therefore, in the absence of best practice and mitigation, a potential pathway for significant indirect effects on the SAC was identified. Regards indirect effects during operation, the proposed site drainage as detailed in Section 2.2.1 details how surface and foul water will be managed. With these proposals, there is

[1] *NPWS (2019) Conservation Objectives: Lough Rea SAC 000304. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.*

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			no potential for likely significant effects on this SAC via the deterioration of water quality. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this assessment.**
Sonnagh Bog SAC [001913] **Distance:** 7.84 km **Hydrological Distance:** No hydrological connectivity	> [7130] Blanket bogs (* if active bog)	Detailed conservation objectives for this site (Version 1, March 2019), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001913.pdf [2]	The Proposed Development site is located entirely outside of this SAC and therefore, no potential for direct effect exists. No QI habitat for which this SAC has been designated was recorded within or adjacent to the Proposed Development site and therefore, there is no potential for direct *ex-situ* effects on this European Site. No pathway for significant effect on this SAC was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects. There is no hydrological connectivity between the Proposed Development and the SAC, which are located in separate hydrological catchments. Given the terrestrial nature of the QIs, the distance between the development and the SAC and the absence of connectivity, no potential for indirect effects on the SAC were identified.

[2] *NPWS (2019) Conservation Objectives: Sonnagh Bog SAC 001913. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht*

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			No complete source-pathway-receptor chain for significant effect exists and therefore, this SAC is not within the Likely Zone of Influence and no further assessment is required.
Rahasane Turlough SAC [000322] **Distance:** 13.01 km **Hydrological Distance:** 18.18 km downstream	> [3180] Turloughs	Detailed conservation objectives for this site (Version 1, December 2020), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000322.pdf [3]	The Proposed Development site is located entirely outside of this SAC and therefore, no potential for direct effect exists. No QI habitat for which this SAC has been designated was recorded within or adjacent to the Proposed Development site and therefore, there is no potential for direct *ex-situ* effects on this European Site. There is hydrological connectivity between the Proposed Development and this SAC via the Kilcogan stream which drains Lough Rea. Lough Rea is located partially within the Proposed Development site The Kilcogan discharges into the SAC approx. 18.18 km downstream of the Proposed Development site. Additionally, the Proposed Development site and this SAC are located within the same ground water catchments. Following the precautionary principle and in the absence of best practice and mitigation, there is potential for indirect effects on the SAC via deterioration of water quality arising from the run-off or percolation of pollutants to surface or ground waters, respectively, during the construction and operational phases of the Proposed Development.

[3] *NPWS (2020) Conservation Objectives: Rahasane Turlough SAC 000322. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.*

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this assessment.
Galway Bay Complex SAC [000268] **Distance:** 20.73 km **Hydrological Distance:** 27.44 km downstream	› [1140] Mudflats and sandflats not covered by seawater at low tide › [1150] Coastal lagoons › [1160] Large shallow inlets and bays › [1170] Reefs › [1220] Perennial vegetation of stony banks › [1310] Salicornia and other annuals colonising mud and sand › [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) › [1410] Mediterranean salt meadows (*Juncetalia maritimi*) › [3180] Turloughs › [5130] *Juniperus communis* formations on heaths or calcareous grasslands › [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) › [7210] Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*	Detailed conservation objectives for this site (Version 1, April 2013), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000268.pdf [4]	The Proposed Development site is located entirely outside of this SAC and therefore, no potential for direct effect exists. No QI habitat for which this SAC has been designated was recorded within or adjacent to the Proposed Development site and therefore, there is no potential for direct *ex-situ* effects on this European Site. There is hydrological connectivity between the Proposed Development and this SAC via the Kilcogan stream which drains Lough Rea. Lough Rea is located partially within the Proposed Development site The Kilcogan discharges into the SAC approx. 27.44 km downstream of the Proposed Development site. Following the precautionary principle, in the absence of best practice and mitigation, there is potential for indirect effects on the SAC via deterioration of water quality arising from run-off of pollutants to surface water or percolation of pollutants to groundwater during the construction and operational phases of the development.

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

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	> [7230] Alkaline fens > [1355] Otter (*Lutra lutra*) > [1365] Harbour Seal (*Phoca vitulina*)		**A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this assessment.**
Special Protection Area (SPA)			
Lough Rea SPA [004134] **Distances:** partial overlap **Hydrological Distance:** partial overlap	> [A125] Coot (*Fulica atra*) > [A056] Shoveler (*Anas clypeata*) > [A999] Wetlands	Generic conservation objectives for this site (Version 1, October 2022), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004134.pdf [5]	Whilst the majority of the Proposed Development is located within the footprint of the existing amenity area at Long Point, minor elements of the project overlap with Lough Rea, such as the upgraded access slip and the crannog viewing platform. As such, the Proposed Development site is partially located within this SPA due to these minor elements of the project. Therefore, in the absence of best practice and mitigation, a potential pathway for significant direct effects on the SPA was identified. There is potential for direct deterioration of supporting wetland habitat for the SCI bird species associated with the SPA via the run-off of pollutants to surface water during the construction phase. Additionally, there is potential for significant direct effects on the SCIs of the SPA via disturbance during the construction phase. Furthermore, during the construction phase of the Proposed Development there is potential for the deterioration of water

[5] *NPWS (2022) Conservation objectives for Lough Rea SPA [004134]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.*

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			quality arising from the runoff of pollutants into this SPA and therefore, in the absence of best practice and mitigation, a potential pathway for significant indirect effects on the SPA was identified. Regards indirect effects during operation, the proposed site drainage as detailed in Section 2.2.1 details how surface and foul water will be managed. With these proposals, there is no potential for likely significant effects on this SPA via the deterioration of water quality. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed development to result in likely significant effects on this European Site. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this assessment.**
Slieve Aughty Mountains SPA [004168] **Distance:** 2.41 km **Hydrological Distance:** No hydrological connectivity	[A082] Hen Harrier (*Circus cyaneus)* [A098] Merlin (*Falco columbarius*)	Detailed conservation objectives for this site (Version 1, December 2022), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004168.pdf [6]	The Proposed Development site is located entirely outside of this SPA and therefore, no potential for direct effect exists. No pathway for significant effect on this SPA was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects. The Proposed Development site does not provide potential foraging or breeding habitat for neither hen harrier nor merlin. Given the nature and scale of the Proposed Developments and the lack of supporting habitat for the

[6] *NPWS (2022) Conservation Objectives: Slieve Aughty Mountains SPA 004168. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.*

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			SCI species associated with the SPA, no potential for indirect effects on the SAC were identified. **No complete source-pathway-receptor chain for significant effect exists and therefore, this SAC is not within the Likely Zone of Influence and no further assessment is required.**
Rahasane Turlough SPA [004089] **Distance:** 12.79 km **Hydrological Distance:** 18.22 km downstream	› [A050] Wigeon (*Anas penelope*) › [A038] Whooper Swan (*Cygnus cygnus*) › [A140] Golden Plover (*Pluvialis apricaria*) › [A156] Black-tailed Godwit (*Limosa limosa*) › [A395] Greenland White-fronted Goose (*Anser albifrons flavirostris*) › [A999] Wetlands	Detailed conservation objectives for this site (Version 1, January 2023), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004089.pdf [7]	The Proposed Development site is located entirely outside of this SPA and therefore, no potential for direct effect exists. There is hydrological connectivity between the Proposed Development and this SAC via the Kilcogan stream which drains Lough Rea. Lough Rea is located partially within the Proposed Development site. The Kilcogan stream discharges into the SAC approx. 18.22 km downstream of the Proposed Development site. Additionally, the Proposed Development site and this SPA are located within the same ground water catchments. Following the precautionary principle and in the absence of best practice and mitigation, there is potential for indirect effects on supporting wetlands habitat [A999] for the SCI bird species associated with the SPA, via the deterioration of water quality arising from run-off or percolation of pollutants to surface or ground waters, respectively, during the construction and operational phases of the Proposed Development.

[7] *NPWS (2023) Conservation Objectives: Rahasane Turlough SPA 004089. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.*

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
			A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the Proposed Development to result in likely significant effects on this European Site. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this assessment.
Inner Galway Bay SPA [004031] **Distance:** 21.0 km **Hydrological Distance:** 27.44 km downstream	› [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) › [A149] Dunlin (*Calidris alpina*) › [A069] Red-breasted Merganser (*Mergus serrator*) › [A162] Redshank (*Tringa totanus*) › [A182] Common Gull (*Larus canus*) › [A003] Great Northern Diver (*Gavia immer*) › [A017] Cormorant (*Phalacrocorax carbo*) › [A169] Turnstone (*Arenaria interpres*) › [A142] Lapwing (*Vanellus vanellus*) › [A050] Wigeon (*Anas penelope*) › [A179] Black-headed Gull (*Chroicocephalus ridibundus*) › [A160] Curlew (*Numenius arquata*) › [A056] Shoveler (*Anas clypeata*) › [A140] Golden Plover (*Pluvialis apricaria*) › [A157] Bar-tailed Godwit (*Limosa lapponica*) › [A052] Teal (*Anas crecca*) › [A191] Sandwich Tern (*Sterna sandvicensis*)	Detailed conservation objectives for this site (Version 1, May 2013), were reviewed as part of the assessment and are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004031.pdf [8]	The Proposed Development site is located entirely outside of this SPA and therefore, no potential for direct effect exists. There is hydrological connectivity between the Proposed Development and this SPA via the Kilcogan stream which drains Lough Rea. Lough Rea is located partially within the Proposed Development site The Kilcogan stream discharges into the SPA approx. 27.44 km downstream of the Proposed Development site. Following the precautionary principle and in the absence of best practice and mitigation, there is potential for indirect effects on supporting wetlands habitat [A999] for the SCI bird species associated with the SPA, via the deterioration of water quality arising from run-off of pollutants to surface waters during the construction and operational phases of the Proposed Development. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the Proposed Development to result in likely significant effects**

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

European Sites and distance from Proposed Development	Qualify Interests (QI) / Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 16/08/2024 (*denotes priority habitat)	Conservation Objectives	Identification of Source-Pathway-Receptor chain
	[A137] Ringed Plover (*Charadrius hiaticula*) [A193] Common Tern (*Sterna hirundo*) [A028] Grey Heron (*Ardea cinerea*) [A999] Wetlands		**on this European Site. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this assessment.**

4.3 Stage 1 Appropriate Assessment Concluding Statement

It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European Sites, that the Proposed Development, individually or in combination with other plans and projects, would be likely to have a significant effect on Lough Rea SAC [000304], Rahasane Turlough SAC [000322], Galway Bay Complex SAC [000268], Lough Rea SPA [004134], Rahasane Turlough SPA [004089], and Inner Galway Bay SPA [004031].

As a result, an Appropriate Assessment is required, and a Stage 2 Natura Impact Statement has been prepared in Section 5 in respect of the Proposed Development.

5. STAGE 2 NATURA IMPACT STATEMENT (NIS)

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

- Lough Rea SAC [000304]
- Rahasane Turlough SAC [000322]
- Galway Bay Complex SAC [000268]
- Lough Rea SPA [004134]
- Rahasane Turlough SPA [004089]
- Inner Galway Bay SPA [004031]

The following sections consider each European Site individually to:

1. Determine which individual qualifying features have the potential to be adversely affected by the Proposed Development.
2. Provide information with regard to the Conservation Objectives and site-specific pressures and threats for those qualifying features that have the potential to be adversely affected.
3. Provide the results of any additional survey work that was necessary to inform an impact assessment.

5.1 Identification of relevant Qualifying Features and Desk Study

5.1.1 Lough Rea SAC [000304]

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

- There is potential for direct impacts to the single aquatic QI of this SAC via the deterioration of surface water due to a portion of the Proposed Development site being located within Lough Rea SAC.

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

5.1.1.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-1 Assessment of Qualifying features potentially affected in Lough Rea SAC.

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2019),	Rationale	Potential for Adverse Effects
[3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	To maintain the favourable conservation condition of Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. in Lough Rea SAC.	The Proposed Development site is located directly adjacent and partially within this SAC. Therefore, a direct surface water connection exists. As a result, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes

5.1.1.2 Site Specific Pressures and Threats

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

Table 5-2 Site-specific threats, pressures, and activities on Lough Rea SAC.

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
H	E01.01	Continuous urbanisation	i
H	E03.03	Disposal of inert materials	b
H	H01.08	Diffuse pollution to surface waters due to household sewage and waste waters	b
L	A10.01	Removal of hedges and copses or scrub	o
L	B01.01	Forest planting on open ground (native trees)	i
L	H01.02	Pollution to surface waters by storm overflows	b
L	I01	Invasive non-native species	i
L	M01.03	Flooding and rising precipitations	b
M	A02.01	Agricultural intensification	b
M	D01.01	Paths, tracks, cycling tracks	i
M	E05	Storage of materials	b

Rank: H = high, M = medium, L = low i = inside, o = outside, b = both

5.1.1.3 Habitat Specific Information

5.1.1.3.1 *[3140] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.*

As per the Site-Specific Conservation Objectives (SSCOs) for this SAC Lough Rea is a very important hard water lake (3140), with one of the deepest euphotic zones (10- 11m) known in Ireland. It was in Favourable/Good conservation condition in 2012 and again in 2018. This QI has been identified for the entirety of Lough Rea. As the Proposed Development site is directly adjacent to the Lake, and partially within the lake, there is potential for both direct and indirect significant impacts on this QI as a result of the deterioration of water quality.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-3.

Table 5-3 Targets and Attributes of [3140] of Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. in Lough Rea SAC.

Attribute	Target
Habitat area	Area stable or increasing, subject to natural processes

Habitat distribution	No decline, subject to natural processes
Typical species	Typical species present, in good condition, and demonstrating typical abundances and distribution
Vegetation composition: characteristic zonation	All characteristic zones should be present, correctly distributed and in good condition
Vegetation distribution: maximum depth	Maintain maximum depth of vegetation, subject to natural processes
Hydrological regime: water level fluctuations	Maintain appropriate hydrological regime necessary to support the habitat
Lake substratum quality	Maintain appropriate substratum type, extent and chemistry to support the vegetation
Water quality: transparency	Maintain appropriate Secchi transparency. There should be no decline in Secchi depth/transparency
Water quality: nutrients	Maintain/restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species
Water quality: phytoplankton biomass	Maintain appropriate water quality to support the habitat, including high chlorophyll a status
Water quality: phytoplankton composition	Maintain appropriate water quality to support the habitat, including high phytoplankton composition status
Water quality: attached algal biomass	Maintain trace/absent attached algal biomass
Water quality: macrophyte status	Maintain high macrophyte status
Acidification status	Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes
Water colour	Maintain appropriate water colour to support the habitat
Dissolved organic carbon (DOC)	Maintain appropriate organic carbon levels to support the habitat
Turbidity	Maintain appropriate turbidity to support the habitat
Fringing habitat: area and condition	Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of lake habitat 3140

5.1.2 Rahasane Turlough SAC [000322]

Taking the precautionary approach, the potential for impacts on this SAC were identified in Section 4.1 above. The identified pathways for effect include the following:

- There is potential for indirect impacts via deterioration of surface water as a result of the Proposed Development. Hydrological connectivity exists between the Proposed Development site and this SAC via the Kilcogan stream which drains Lough Rea.

Table 5-4 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

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

Table 5-4 Assessment of Qualifying features potentially affected in Rahasane Turlough SAC

Qualifying feature	Conservation Objective (NPWS, Version 1, December 2020),	Rationale	Potential for Adverse Effects
[3180] Turloughs	To maintain the favourable conservation condition of Turloughs in Rahasane Turlough SAC	The Proposed Development site is located approx. 18.18 km upstream of this SAC and is located within the same groundwater catchment. There is a direct surface water connection between the Proposed Development site and this QI habitat. A complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes

5.1.2.2 Site Specific Pressures and Threats

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

Table 5-5 Site-specific threats, pressures, and activities on *Rahasane Turlough SAC.*

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
H	A04.01.05	Intensive mixed animal grazing	i
H	A08	Fertilisation	b
H	J02.05	Modification of hydrographic functioning, general	b
L	E03.01	Disposal of household / recreational facility waste	i
L	E03.03	Disposal of inert materials	i
M	A02.01	Agricultural intensification	b
M	A10.01	Removal of hedges and copses or scrub	i
M	F03.01	Hunting	i
M	H01.08	Diffuse pollution to surface waters due to household sewage and waste waters	b
M	H02.06	Diffuse groundwater pollution due to agricultural and forestry activities	b
M	J02.01	Landfill, land reclamation and drying out, general	i
M	J02.10	Management of aquatic and bank vegetation for drainage purposes	b

Rank: H = high, M = medium, L = low i = inside, o = outside, b = both

5.1.2.3 Habitat Specific Information

5.1.2.3.1 *[3180] Turloughs*

As per the SSCOs for this SAC, the turlough area in the SAC has been calculated as 257.2 ha. The turlough consists of three main parts, a large northern basin, a smaller western basin, and an isolated southern turlough separated even at times of high water by a short channel. The main swallow holes within the turlough can be up to 5m wide and 2-3m deep. The attribute 'water quality' has a target to 'Maintain appropriate water quality to support the natural structure and functioning of the habitat'. As there is hydrological and ground water connectivity between the SAC and the Proposed Development site, there is potential for deterioration in water quality arising from the development.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-6.

Table 5-6 Targets and Attributes for [3180] Turloughs in Rahasane Turlough SAC.

Attribute	Target
Habitat area	Area stable or increasing, subject to natural processes
Habitat distribution	No decline, subject to natural processes
Hydrological regime	Maintain appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat
Soil type	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota
Soil nutrient status: nitrogen and phosphorus	Maintain nutrient status appropriate to soil types and vegetation communities See O Connor (2017) for information on this and all attributes and targets
Physical structure: bare ground	Maintain sufficient wet bare ground, as appropriate
Chemical processes: calcium carbonate deposition and concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil The areas with marl and shell deposits reported by Goodwillie (1992) will have a high calcium carbonate content
Active peat formation	Maintain active peat formation
Water quality	Maintain appropriate water quality to support the natural structure and functioning of the habitat
Vegetation composition: area of vegetation communities	Maintain area of sensitive and high conservation value vegetation communities/units
Vegetation composition: vegetation zonation	Maintain vegetation zonation/mosaic characteristic of the turlough
Vegetation structure: sward height	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough
Typical species	Maintain typical species within the turlough
Fringing habitats: area	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations
Vegetation structure: turlough woodland	Maintain appropriate turlough woodland diversity and structure

5.1.3 Galway Bay Complex SAC [000268]

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

- There is potential for indirect impacts via the deterioration of surface water quality for the aquatic QI habitats of this SAC as a result of the Proposed Development.

Table 5-7 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.3.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-7 Assessment of Qualifying features potentially affected in Galway Bay Complex SAC

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013),	Rationale	Potential for Adverse Effects
[1140] Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. As per the SSCOs for the SAC, the known extent of this QI habitat is approx. 28 km downstream. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes
[1150] Coastal lagoons	To restore the favourable conservation condition of Coastal lagoons in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. However, as per the SSCOs for the SAC, there is no direct surface water connection to the known extent of this QI habitat. No complete source- pathway-receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[1160] Large shallow inlets and bays	To maintain the favourable conservation condition of Large shallow inlets and bays in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. As per the SSCOs for the SAC, the known extent of this QI habitat is approx. 31 km downstream. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013),	Rationale	Potential for Adverse Effects
[1170] Reefs	To maintain the favourable conservation condition of Reefs in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. As per the SSCOs for the SAC, the known extent of this QI habitat is approx. 29 km downstream. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes
[1220] Perennial vegetation of stony banks	To maintain the favourable conservation condition of Perennial vegetation of stony banks in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. However, as per the SSCOs for the SAC, there is no direct surface water connection to the known extent of this QI habitat. No complete source- pathway-receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[1310] Salicornia and other annuals colonising mud and sand	To maintain the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Galway Bay Complex SAC.		No
[1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	To restore the favourable conservation condition of Atlantic salt meadows (*GlaucoPuccinellietalia maritimae*) in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. As per the SSCOs for the SAC, the known extent of this QI habitat is approx. 28 km downstream. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes
[1410] Mediterranean salt meadows (*Juncetalia maritimi*)	To restore the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. As per the SSCOs for the SAC, the known extent of this QI habitat is approx. 29 km downstream. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes
[3180] Turloughs	To maintain the favourable conservation condition of Turloughs in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. However, as per the SSCOs for the SAC, there is no direct surface water connection to the known extent of this QI habitat. The Proposed Development	No

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013),	Rationale	Potential for Adverse Effects
		site is located in separate hydrological and groundwater catchments to the known extent of this QI habitat. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	
[5130] *Juniperus communis* formations on heaths or calcareous grasslands	To restore the favourable conservation condition of *Juniperus communis* formations on heaths or calcareous grasslands in Galway Bay Complex SAC.	The site of the Proposed Development is located approximately 20.73 km from the SAC with no identifiable habitat, surface or ground water connection with this terrestrial QI habitat. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites)	To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*) in Galway Bay Complex.		No
[7210] Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*	To maintain the favourable conservation condition of Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* in Galway Bay Complex SAC.	The Proposed Development site is located approx. 27.44 km upstream of this SAC and there is a direct surface water connection. The full extent of this habitat is currently unknown within the SAC. However, the Proposed Development site is located in separate hydrological and groundwater catchments to the terrestrial areas of the SAC. No complete source- pathway-receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No
[7230] Alkaline fens	To maintain the favourable conservation condition of Alkaline fens in Galway Bay Complex SAC.		No
[1355] Otter (*Lutra lutra*)	To restore the favourable conservation condition of Otter in Galway Bay Complex SAC.	The site of the Proposed Development is located approx. 27.44 km upstream of the SAC and there is a direct surface water connection to suitable habitat for otter. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on this QI species was identified and it is assessed further in this NIS.	Yes

Qualifying feature	Conservation Objective (NPWS, Version 1, April 2013),	Rationale	Potential for Adverse Effects
[1365] Harbour Seal (*Phoca vitulina*)	To maintain the favourable conservation condition of Harbour Seal in Galway Bay Complex SAC.	The site of the Proposed Development is located approximately 20.73 km from the SAC with no identifiable habitat, surface or ground water connection to the terrestrial breeding, moulting or resting sites of this QI species. No complete source- pathway- receptor chain for any effect on this habitat as a result of the Proposed Development was identified. No further assessment is required.	No

5.1.3.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5-8.

Table 5-8 Site-specific threats, pressures, and activities of *Galway Bay Complex SAC.*

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
H	A04.01.05	intensive mixed animal grazing	i
H	A08	Fertilisation	b
H	J02.05	Modification of hydrographic functioning, general	b
L	E03.01	disposal of household / recreational facility waste	i
L	E03.03	disposal of inert materials	i
M	A02.01	agricultural intensification	b
M	A10.01	removal of hedges and copses or scrub	i
M	F03.01	Hunting	i
M	H01.08	diffuse pollution to surface waters due to household sewage and waste waters	b
M	H02.06	diffuse groundwater pollution due to agricultural and forestry activities	b
M	J02.01	Landfill, land reclamation and drying out, general	i
M	J02.10	management of aquatic and bank vegetation for drainage purposes	b

Rank: H = high, M = medium, L = low i = inside, o = outside, b = both

5.1.3.3 Habitat Specific Information

5.1.3.3.1 *[1140] Mudflats and sandflats not covered by seawater at low tide.*

As per the SSCOs for this SAC, the estimated area of this habitat within Galway Bay Complex SAC is 744 ha. A target for this QI habitat is to 'Conserve the following community types in a natural condition: Intertidal sandy mud community complex; and Intertidal sand community complex'. As there is direct hydrological connectivity between the Proposed Development site and the know location of this habitat, potential pathways for impact have been identified.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-9.

Table 5-9 Targets and Attributes for [1140] Mudflats and sandflats not covered by seawater at low tide.

Attribute	Target
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes
Community distribution	Conserve the following community types in a natural condition: Intertidal sandy mud community complex; and Intertidal sand community complex

5.1.3.3.2 *[1160] Large shallow inlets and bays*

As per the SSCOs for this SAC, the estimated area of this habitat within Galway Bay Complex SAC is 10,825 ha. Targets for this QI habitat is based around maintaining high quality communities of Zostera and maërl as well as intertidal based communities on its shores. As there is direct hydrological connectivity between the Proposed Development site and the know location of this habitat, potential pathways for impact have been identified.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-10.

Table 5-10 Targets and Attributes for [1160] Large shallow inlets and bays of Galway Bay Complex SAC.

Attribute	Target
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Maintain the extent of the Zostera-dominated community complex and the maërl-dominated community, subject to natural processes
Community structure: Zostera density	Conserve the high quality of Zostera-dominated communities, subject to natural processes
Community structure	Conserve the high quality of the maërl-dominated community, subject to natural processes
Community distribution	Conserve the following community types in a natural condition: Intertidal sandy mud community complex; Intertidal sand community complex; Fine to medium sand with bivalves community complex; Sandy mud to mixed sediment community complex; Mixed sediment dominated by Mytilidae community complex; Shingle; Fucoid-dominated community complex; Laminaria-dominated community complex; and Shallow sponge-dominated community complex

5.1.3.3.3 *[1170] Reefs*

As per the SSCOs for this SAC, the estimated area of this habitat within Galway Bay Complex SAC is 2773 ha. Targets for this QI habitat is based around maintaining the extent and high-quality communities of Mytlius as well as to 'Conserve the following community types in a natural condition: Fucoid dominated community complex; Laminaria dominated community complex; and Shallow sponge-dominated community complex'. As there is direct hydrological connectivity between the Proposed Development site and the know location of this habitat, potential pathways for impact have been identified.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-11.

Table 5-11 Targets and Attributes for [1170] Reefs of Galway Bay Complex SAC.

Attribute	Target
Distribution	The distribution of reefs is stable or increasing, subject to natural processes. processes. The distribution of reefs is stable or increasing, subject to natural processes.
Habitat area	The permanent habitat area is stable, subject to natural processes.
Community extent	Maintain the extent of the *Mytilus*-dominated reef community, subject to natural processes
Community structure: *Mytilus* density	Conserve the high quality of the Mytilus-dominated reef community, subject to natural processes
Community structure	Conserve the following community types in a natural condition: *Fucoiddominated* community complex; *Laminariadominated* community complex; and Shallow sponge-dominated community complex

5.1.3.3.4 *[1330] Atlantic salt meadows (Glauco-Puccinellietalia maritimae)*

As per the SSCOs for this SAC, there are ten sub-sites that supported Atlantic salt meadow amounting to 114.612 ha and additional areas of potential saltmarsh (149.18 ha) were identified by an examination of aerial photographs, giving a total estimated area of 263.80 ha. As there is direct hydrological connectivity between the Proposed Development site and the know location of this habitat, potential pathways for impact have been identified.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-12.

Table 5-12 Targets and Attributes for [1130] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) of Galway Bay Complex SAC.

Attribute	Target
Habitat area	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Barna House - 2.33ha, Seaweed Point - 1.41ha, Roscam West and South - 3.30ha, Oranmore North - 4.24ha, Kilcaimin - 6.82ha, Tawin Island - 53.85ha, Tyrone HouseDunbulcaun Bay - 9.83ha, Kileenaran - 15.37ha, Kinvara West - 13.33ha, Scanlan's Island - 4.13ha
Habitat distribution	No decline or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Maintain natural tidal regime
Vegetation structure: zonation	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession

Vegetation structure: vegetation height	Maintain structural variation within sward
Vegetation structure: vegetation cover	Maintain more than 90% area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species - *Spartina anglica*	There is currently no common cordgrass (*Spartina anglica*) in this SAC. Prevent establishment of cordgrass

5.1.3.3.5 *[1410] Mediterranean salt meadows (Juncetalia maritimi)*

As per the SSCOs for this SAC, there are six sub-sites that support Mediterranean salt meadow amounting to 11.472ha and additional areas of potential saltmarsh (8.415ha) were identified from an examination of aerial photographs, giving a total estimated area of 19.887ha. As there is direct hydrological connectivity between the Proposed Development site and the know location of this habitat, potential pathways for impact have been identified.

The targets and attributes for this QI, as per the SSCOs of the SAC, are provided in Table 5-13.

Table 5-13 Targets and Attributes for Mediterranean salt meadows (Juncetalia maritimi) of Galway Bay Complex SAC.

Attribute	Target
Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Barna House - 0.282ha, Seaweed Point - 0.931ha, Kilcaimin - 0.005ha, Tawin Island - 1.799ha. Tyrone House-Dunbulcan Bay - 8.184ha, Kileenaran - 0.271ha
Habitat distribution	No decline, subject to natural processes
Physical structure: sediment supply	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Maintain natural tidal regime
Vegetation structure: zonation	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Maintain structural variation in the sward
Vegetation structure: vegetation cover	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)

Vegetation structure: negative indicator species - *Spartina anglica*	There is currently no common cordgrass (*Spartina anglica*) in this SAC. Prevent establishment of cordgrass

5.1.3.4 Species Specific Information

5.1.3.4.1 *[1355] Otter (Lutra lutra)*

As per the SSCOs for this SAC, the extent of otter habitat has not been assessed via field studies, but it has been assessed using known foraging buffers from marine and freshwater habitats. An otter's diet is dominated by fish, in particular salmonids, eels and sticklebacks in freshwater and wrasse and rockling in coastal waters. As there is direct hydrological connectivity between the Proposed Development site and the foraging ranges for otter, potential pathways for impact have been identified.

The overall conservation objective for this QI is to **restore** the favourable conservation status of this species within the SAC. The residual impacts on the individual targets and attributes for this conservation objective are considered in Table 5-14 below.

Table 5-14 Targets and Attributes for [1355] Otter of Galway Bay Complex SAC.

Attribute	Target
Distribution	No significant decline
Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 262ha above high-water mark (HWM); 14ha along river banks/around ponds
Extent of marine habitat	No significant decline. Area mapped and calculated as 2040 ha
Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 4 km
Extent of freshwater (lake/lagoon) habitat	No significant decline. Area mapped and calculated as 21 ha
Couching sites and holts	No significant decline
Fish biomass available	No significant decline
Barriers to connectivity	No significant decline

5.1.4 Lough Rea SPA [004134]

The potential for impacts on this SPA were identified in Section 4.1 above. The identified pathways for effect include the following:

- There is potential for indirect impacts via the loss/degradation of supporting wetland habitat for SCI species of the SPA as a result of the Proposed Development.
- There is potential for disturbance of SCIs of the SPA as a result of the Proposed Development.

Table 5-15 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.4.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-15 Assessment of Qualifying features potentially affected in Lough Rea SPA.

Qualifying feature	Conservation Objective (NPWS, Version 1, October 2022)	Rationale	Potential for Adverse Effects
[A125] Coot (*Fulica atra*)	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The site of the Proposed Development is located directly adjacent and partially within this SPA. A complete source-pathway-receptor chain for adverse effects on this SCI species was identified and it is assessed further in this NIS.	Yes
[A056] Shoveler (*Anas clypeata*)	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		Yes
[A999] Wetlands	To maintain or restore the favourable conservation condition of the wetland habitat at Lough Rea SPA as a resource for the regularly occurring migratory waterbirds that utilise it.	The site of the Proposed Development is located directly adjacent and partially within this SPA. A complete source-pathway-receptor chain for adverse effects on this SCI species was identified and it is assessed further in this NIS.	Yes

5.1.4.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5-16.

Table 5-16 Site-specific threats, pressures, and activities of *Lough Rea SPA.*

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
M	F02.03	Leisure fishing	i
M	B	Sylviculture, forestry	o
M	A08	Fertilisation	o
H	E01	Urbanised areas, human habitation	o
L	F03.01	Hunting	i
L	G01.01	Nautical sports	i

Rank: H = high, M = medium, L = low i = inside, o = outside, b = both

5.1.4.3 Species Specific Information

5.1.4.3.1 *[A125] Coot (Fulica atra)*

As per the supporting documentation for this SPA (NPWS, 2022) nationally important numbers of Coot (1,172) occur within this designated site. As the Proposed Development is directly adjacent to the site SPA, potential pathways for significant impact have been identified.

The overall conservation objective for this SCI is to restore the favourable conservation status of this species within the SPA. The residual impacts on the individual targets and attributes for this conservation objective are considered in Table 5-17 below:

Table 5-17 Targets and attributes for [A125] Coot (Fulica atra) of Lough Rea SPA.

Attribute	Target
Winter population trend	Long term population trend stable or increasing
Winter spatial distribution	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target
Disturbance at wintering site	Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution
Barriers to connectivity and site use	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA
Forage spatial distribution, extent and abundance	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target
Roost spatial distribution and extent	Sufficient number of locations, area and availability of suitable roosting habitat to support the population target

5.1.4.3.2 *[A056] Shoveler (Anas clypeata)*

As per the supporting documentation for this SPA (NPWS, 2022) nationally important numbers of Shoveler overwinter at the site (264); numbers of this species at the site have exceeded the international threshold level on two occasions in the early 2000s (2002/03 and 2006/07). As the Proposed Development is directly adjacent to the site SPA, potential pathways for significant impact have been identified.

The overall conservation objective for this SCI is to restore the favourable conservation status of this species within the SPA. The residual impacts on the individual targets and attributes for this conservation objective are considered in Table 5-18 below:

Table 5-18 Targets and attributes for [A056] Shoveler (Anas clypeata) of Lough Rea SPA.

Attribute	Target
Winter population trend	Long term population trend stable or increasing
Winter spatial distribution	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target
Disturbance at wintering site	Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution
Barriers to connectivity and site use	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA
Forage spatial distribution, extent and abundance	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target
Roost spatial distribution and extent	Sufficient number of locations, area and availability of suitable roosting habitat to support the population target

5.1.4.3.3 *[A999] Wetlands*

As per the supporting documentation for this SPA (NPWS, 2022), the sheltered western and south-eastern shores of the lake some areas of reed swamp, wet grassland and wet woodland are included in the site. Lough Rea is an important ornithological site for the nationally important populations of Shoveler and Coot and the regionally/locally important populations of a further ten species that it holds. As the Proposed Development is directly adjacent to the site SPA, potential pathways for significant impact have been identified.

The overall conservation objective for this SCI is to maintain the favourable conservation status of this habitat within the SPA. The residual impacts on the individual targets and attributes for this conservation objective are considered in Table 5-19 below:

Table 5-19 Targets and Attributes for [A999] Wetlands of Lough Rea SPA.

Attribute	Target
Wetland habitat area	No significant loss to wetland habitat within the SPA, other than that occurring from natural patterns of variation

Wetland habitat quality and functioning	No significant impact on the quality or functioning of the wetland habitat within the SPA, other than that occurring from natural patterns of variation

5.1.5 Rahasane Turlough SPA [004089]

The potential for impacts on this SPA were identified in Section 4.1 above. The identified pathways for effect include the following:

- There is potential for indirect impacts via the loss/degradation of supporting wetland habitat for SCI species of the SPA as a result of the Proposed Development.

Table 5-20 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.5.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-20 Assessment of Qualifying features potentially affected in Rahasane Turlough SPA.

Qualifying feature	Conservation Objective (NPWS, Version 1, January 2023)	Rationale	Potential for Adverse Effects
[A050] Wigeon (*Anas penelope*)	To maintain the favourable conservation condition of wigeon in Rahasane Turlough SPA.	The site of the Proposed Development is located approximately 12.79 km from the SPA. As the Proposed Development site does not provide potential suitable habitat for this SCI and given the terrestrial distance between the development site and the SPA, no complete source-pathway- receptor chain for any effect on this SCI as a result of the Proposed Development was identified. No further assessment is required.	No
[A038] Whooper Swan (*Cygnus cygnus*)	To restore the favourable conservation condition of whooper swan in Rahasane Turlough SPA.		No
[A140] Golden Plover (*Pluvialis apricaria*)	To restore the favourable conservation condition of golden plover in Rahasane Turlough SPA.		No
[A156] Black-tailed Godwit (*Limosa limosa*)	To maintain the favourable conservation condition of black-tailed godwit in Rahasane Turlough SPA.		No

Qualifying feature	Conservation Objective (NPWS, Version 1, January 2023)	Rationale	Potential for Adverse Effects
[A395] Greenland White-fronted Goose (*Anser albifrons flavirostris*)	To restore the favourable conservation condition of Greenland White-fronted goose in Rahasane Turlough SPA.		No
[A999] Wetlands	To maintain the favourable conservation condition of wetlands in Rahasane Turlough SPA.	The Proposed Development site is located approx. 18.22 km upstream of this SPA and there is a direct surface water connection. A complete source-pathway-receptor chain for adverse effects on SCIs of this SPA via the deterioration of supporting wetland habitat was identified and it is assessed further in this NIS.	Yes

5.1.5.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5-21.

Table 5-21 Site-specific threats, pressures, and activities of Rahasane Turlough SPA.

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
H	A04	grazing	i
L	F03.01	Hunting	i
H	A04	grazing	o
L	A08	Fertilisation	o

Rank: H = high, M = medium, L = low i = inside, o = outside, b = both

5.1.5.3 Species Specific Information

5.1.5.3.1 *[A999] Wetlands*

As per the SSCOs for the SPA. any significant loss to the wetland habitat within the SPA would likely negatively impact the regularly occuring migratory waterbirds that utilise this wetland habitat. Such loss of wetland habitat would likely reduce the diversity and abundance of waterbird species that the wetland can support. This, in turn, could negatively impact the Conservation Objectives for waterbird species listed as Special Conservation Interests in the SPA or other regularly-occurring migratory waterbird species. As there is direct hydrological connectivity between the Proposed Development site and this SPA, potential pathways for impact have been identified.

The overall conservation objective for this SCI is to **maintain** the favourable conservation status of this habitat within the SPA. The residual impacts on the individual targets and attributes for this conservation objective are considered in Table 5-22 below:

Table 5-22 Targets and Attributes for [A999] Wetlands of Rahasane Turlough SPA.

Attribute	Target
Wetland habitat area	No significant loss to wetland habitat within the SPA, other than that occurring from natural patterns of variation
Wetland habitat quality and functioning	No significant impact on the quality or functioning of the wetland habitat within the SPA, other than that occurring from natural patterns of variation

5.1.6 Inner Galway Bay SPA [004031]

The potential for impacts on this SPA were identified in Section 4.1 above. The identified pathways for effect include the following:

- There is potential for indirect impacts via the loss/degradation of supporting wetland habitat for SCI bird species of the SPA as a result of the Proposed Development.

Table 5-23 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.6.1 Identification of Individual Qualifying Features with the Potential to be Affected.

Table 5-23 Assessment of Qualifying features potentially affected in Inner Galway Bay SPA

Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013)	Rationale	Potential for Adverse Effects
[A046] Light-bellied Brent Goose (*Branta bernicla hrota*)	To maintain the favourable conservation condition of Light-bellied Brent Goose in Inner Galway Bay SPA	The site of the Proposed Development is located approximately 21 km from the SPA. As the Proposed Development site does not provide potential suitable habitat for this SCI and given the terrestrial distance between the development site and the SPA, no complete source-pathway- receptor chain for any effect on this SCI as a result of the Proposed Development was identified. No further assessment is required.	No
[A149] Dunlin (*Calidris alpina*)	To maintain the favourable conservation condition of Dunlin in Inner Galway Bay SPA		No
[A069] Red-breasted Merganser (*Mergus serrator*)	To maintain the favourable conservation condition of Red-breasted Merganser in Inner Galway Bay SPA,		No

Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013)	Rationale	Potential for Adverse Effects
[A162] Redshank (*Tringa totanus*)	To maintain the favourable conservation condition of Redshank in Inner Galway Bay SPA		No
[A182] Common Gull (*Larus canus*)	To maintain the favourable conservation condition of Common Gull in Inner Galway Bay SPA		No
[A003] Great Northern Diver (*Gavia immer*)	To maintain the favourable conservation condition of Great Northern Diver in Inner Galway Bay SPA		No
[A017] Cormorant (*Phalacrocorax carbo*)	To maintain the favourable conservation condition of Cormorant in Inner Galway Bay SPA		No
[A169] Turnstone (*Arenaria interpres*)	To maintain the favourable conservation condition of Turnstone in Inner Galway Bay SPA		No
[A142] Lapwing (*Vanellus vanellus*)	To maintain the favourable conservation condition of Lapwing in Inner Galway Bay SPA		No
[A050] Wigeon (*Anas penelope*)	To maintain the favourable conservation condition of Wigeon in Inner Galway Bay SPA		No
[A179] Black-headed Gull (*Chroicocephalus ridibundus*)	To maintain the favourable conservation condition of Black-		No

Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013)	Rationale	Potential for Adverse Effects
	headed Gull in Inner Galway Bay SPA		
[A160] Curlew (*Numenius arquata*)	To maintain the favourable conservation condition of Curlew in Inner Galway Bay SPA		No
[A140] Golden Plover (*Pluvialis apricaria*)	To maintain the favourable conservation condition of Golden Plover in Inner Galway Bay SPA		No
[A157] Bar-tailed Godwit (*Limosa lapponica*)	To maintain the favourable conservation condition of Bar-tailed Godwit in Inner Galway Bay SPA		No
[A052] Teal (*Anas crecca*)	To maintain the favourable conservation condition of Teal in Inner Galway Bay SPA		No
[A191] Sandwich Tern (*Sterna sandvicensis*)	To maintain the favourable conservation condition of Sandwich Tern in Inner Galway Bay SPA		No
[A137] Ringed Plover (*Charadrius hiaticula*)	To maintain the favourable conservation condition of Ringed Plover in Inner Galway Bay SPA		No
[A193] Common Tern (*Sterna hirundo*)	To maintain the favourable conservation condition of Common Tern in Inner Galway Bay SPA		No

Qualifying feature	Conservation Objective (NPWS, Version 1, May 2013)	Rationale	Potential for Adverse Effects
[A028] Grey Heron (*Ardea cinerea*)	To maintain the favourable conservation condition of Grey Heron in Inner Galway Bay SPA		No
[A056] Shoveler (*Anas clypeata*)	To maintain the favourable conservation condition of Shoveler in Inner Galway Bay SPA		No
[A999] Wetlands	To maintain the favourable conservation condition of wetland habitat in Inner Galway Bay SPA	The Proposed Development site is located approx. 27.44 km upstream of this SPA and a direct surface water connection has been identified. Taking a precautionary approach, a complete source-pathway-receptor chain for adverse effects on SCIs of this SPA via the deterioration of supporting wetland habitat was identified and it is assessed further in this NIS.	Yes

5.1.6.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Development. These are provided in Table 5-24.

Table 5-24 Site-specific threats, pressures, and activities of Inner Galway Bay SPA.

Negative Impacts			
Rank	Threats and Pressures		Inside/Outside
M	G01.02	walking, horseriding and non-motorised vehicles	i
M	J02.12	Dykes, embankments, artificial beaches, general	i
M	E02	Industrial or commercial areas	o
L	F03.01	Hunting	i
M	F01	Marine and Freshwater Aquaculture	i
H	J02.01.02	Reclamation of land from sea, estuary or marsh	i
M	G01.01	nautical sports	i
L	A04	grazing	i
H	E01	Urbanised areas, human habitation	o
H	E03	Discharges	i
M	F02.03	Leisure fishing	i
M	D01.02	Roads, motorways	o
M	A08	Fertilisation	o

Rank: H = high, M = medium, L = low i = inside, o = outside, b = both

5.1.6.3 Habitat Specific Information

5.1.6.3.1 *[A999] Wetlands*

As per the SSCOs for the SPA, the extent of wetlands habitat within this SPA is estimated to be 13.27 ha. The single target for this SCI is 'The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 13,267ha, other than that occurring from natural patterns of variation'. As there is direct hydrological connectivity between the Proposed Development site and this SPA, potential pathways for impact have been identified.

The overall conservation objective for this SCI is to maintain the favourable conservation status of this habitat within the SPA. The residual impacts on the individual targets and attributes for this conservation objective are considered in Table 5-25 below.

Table 5-25 Targets and Attributes for [A999] Wetlands of Inner Galway Bay SPA.

Attribute	Target
Habitat area	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 13,267ha, other than that occurring from natural patterns of variation

5.2 Results of Consultation

The Development Applications Unit (DAU) of the Department of Culture, Heritage & The Gaeltacht was consulted on the 9th of February 2023. A response was received on the 15th of March 2023. The received scoping document is included as **Appendix I** of this NIS.

Inland fisheries Ireland (IFI) was consulted on the 9th of February 2023. No response has been received. Correspondence included in **Appendix 1**.

5.3 Specific Ecological Surveys

5.3.1 Winter Bird Surveys

Table 5-26 includes the results of the wintering bird surveys carried out in 2023 and 2024, which focused on SCI species of Lough Rea SPA, undertaken at the Proposed Development site.

Table 5-26 Targeted Lough Rea SPA bird survey results.

Species	Date	Number of Individuals	Notes	Distance from Proposed Development Site (meters)
Coot (*Fulica atra)*	07/03/2023	15	Flying, diving, swimming	200+
	31/03/2023	6	Rafting, feeding	400+
	27/10/2023	100+	Rafting, feeding	500+
	28/11/2023	500+	Rafting, feeding	400+
	21/12/2023	20	Flying over Lough Rea	10
	31/01/2024	100+	Rafting	400+
	23/02/2024	100+	Rafting, feeding	300+
	15/03/2024	20+	Rafting, feeding	400+
Shoveler (*Anas clypeata*)	07/03/2023	0	-	-
	31/03/2023	0	-	-
	27/10/2023	5	Rafting	150
	28/11/2023	7	Rafting, feeding	400+
	21/12/2023	0	-	-
	31/01/2024	0	-	-
	23/02/2024	0	-	-
	15/03/2024	2	Flying over Lough Rea	50

6. ASSESSMENT OF POTENTIAL EFFECTS & ASSOCIATED MITIGATION

This section of the NIS assesses the potential effects of the Proposed Development on the identified relevant Qualifying Interests. This assessment is undertaken in the absence of any mitigation and in respect of the conservation objectives of the European Site. The Conservation Objectives each of the European Site assessed were reviewed on the 2nd of November 2023. The Conservation Objectives for these sites are available at the following locations:

- Lough Rea SAC [000304]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000304.pdf
- Rahasane Turlough SAC [000322]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000322.pdf
- Galway Bay Complex SAC [000268]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000268.pdf
- Lough Rea SPA [004134]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004134.pdf
- Rahasane Turlough SPA [004089]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004089.pdf
- Inner Galway Bay SPA [004031]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004031.pdf

As no SSCOs are available for Lough Rea SPA, the SSCOs for Lough Corrib SPA [004042] were used in undertaking this assessment for shoveler, coot, and wetlands.

- Lough Corrib SPA [004042]
  https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004042.pdf

Following the initial impact assessment, mitigation is prescribed where necessary to avoid adverse effects on the Conservation Objectives of the relevant QIs/SCIs. This is presented in a schedule of mitigation that is also listed underneath the effect that it mitigates.

6.1 Potential for Direct Effects on the European Sites

Whilst the Proposed Development is partially located within Lough Rea SAC and Lough Rea SPA due to minor elements of the project design, there will be no direct loss of any habitat of these European Sites. The proposed upgraded access slip will be within the footprint of the existing slip and the proposed crannog viewing platform will be located above the lake itself, supporting by pylons. Therefore, the potential for direct impacts on habitats within these European Sites as a result of the Proposed Development is limited to deterioration of water quality only.

6.1.1 Deterioration in water quality

Taking a precautionary approach, a potential pathway for direct effects on the following European Sites and relevant aquatic Qualifying Interests was identified in the form of deterioration of water quality.

Lough Rea SAC [000304]

Relevant Qualifying Interests:

- [3140] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.

Lough Rea SPA [004134]

Relevant Qualifying Interests:

- [A999] Wetlands

6.1.1.1 Construction Phase

The Proposed Development site is located partially within two European Designated sites. The construction of the Proposed Development will involve excavations and earth moving which create the potential for pollution in various forms, i.e. the generation of suspended solids and the potential for spillage of fuels associated with the refuelling of excavation machinery. Furthermore, there is a requirement for in-lake works to construct the new access slip and the Crannog viewing platform. Therefore, potential for direct effects exists on the Qualifying Interests or Special Conservation Interests of Lough Rea SAC and Lough Rea SPA via deterioration of water quality as a result of the construction phase of the Proposed Development.

Mitigation

Standard best practice environmental control measures have been incorporated in the design of the development and are detailed in the construction and Environmental Management Plan (CEMP) which has been submitted as part of this planning application and is included in **Appendix 2**. These and additional measures have been outlined in the following subsections.

The pathways that would allow potentially adverse impacts to occur were considered in the design of the Proposed Development. The sections below set out the environmental management framework to be adhered to during the proposed works and incorporate the mitigating principles to ensure there is no adverse effect on the integrity of European Sites. These include comprehensive detail regarding site set up, pollution prevention including pollution, hydrocarbon management, disturbance limitation, construction monitoring and biosecurity.

The following best practice mitigation and environmental control measures have been incorporated into the Proposed Development:

Environmental Monitoring

- The appointed contactor will be fully briefed by an ecologist as to the sensitive nature of the site and the required mitigation measures.
- The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed in this document are adhered to. Any environmental incidents or non-compliance issues will immediately be reported to the project team.
- In addition, a suitably qualified ecologist will be appointed to supervise the works undertaken during constriction, particularly where works within the lake are required.

Site Set-up

- The working area will be fenced off prior to construction using heras panels and/or other hard barrier. All works will be undertaken within the confines of the fencing. Fencing will restrict access to adjacent habitats.
- A silt fence will be erected between the works area and Loughrea. This will protect the lake from runoff of pollutants during construction. The silt fence will comprise wooden posts with geotextile membrane buried approximately 250mm below ground level. This fence will be kept in good repair and will be routinely inspected.
- The silt fences will be left in place throughout construction until all exposed soil has revegetated.
- A site compound will be established within the site boundary. The exact location of the site compound will be established by the contractor and will be located a minimum of 50m from any watercourses or waterbodies. The compound will be used for storage of material, machinery, fuel, and workers facilities.
- All construction materials and substances will be stored in the site compound and the compound will be located a minimum of 50m from any watercourse.

Works within Lough Rea

- Timing of in-lake works should be carried out during the period of July 1st to September 30th to minimise potential adverse impacts to fisheries, in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- Works will be carried out in the dry to avoid siltation of the Lough Rea and downstream watercourses.
- The areas within Lough Rea where works are required will be temporarily dammed (coffer dam) with sandbags and will completely surround the work area.
- There will be no batching of wet-cement products will occur on site. Precast elements of the Proposed Development will be used to remove the necessity of batching.
- A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground.
- Prior to pumping, electrofishing should be carried out within the works area under licence from the NPWS by a qualified ecologist to remove any fisheries and move them into Lough Rea.
- Machinery will not enter the water.
- Once works within these areas are complete, the sandbags will be removed to allow water from the lake back into the area.
- All in-lake works will be carried out in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.

Biosecurity

- Prior to entering the works area, all machinery and personnel will be thoroughly disinfected to ensure that no inadvertent spread of invasive species into Lough Rea.
- All works within this area will be subject to strict biosecurity protocols to prevent the spread of the crayfish plague which is caused by the fungal-like organism, *Aphanomyces astaci.*
- Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g. Rhododendron, Japanese Knotweed, Giant Rhubarb etc.) by thoroughly washing vehicles prior to entering the site.
- Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.

Pollution Prevention

- Excavated spoil (if any) will be stockpiled and contained entirely within the confines of the site boundaries.
- During earthwork activities, the following mitigations will be adhered to:
    - Excavation depths will be limited to the necessity of the proposed works.
    - Material that is not re-used will be transported off site to a designated waste facility.
    - Suitable stone material will be imported to the site to be used as backfill.
    - Stockpiling of soil during construction, should it be required, will take place in designated areas within the site boundary away from any watercourses or waterbodies.
    - A silt fence will be erected around any stockpiling of material to prevent any sediment-laden run-off occurring.
- All diesel or petrol pumps required onsite will be operated within bunded units.
- Exposed surfaces will be re-vegetated as soon as possible following construction.
- The minimum number of soil/subsoils and bedrock material will be removed from site. Soil may be reused for landscaping elsewhere on the site.
- Earthworks will not be carried out during periods of heavy rainfall.
- As construction advances there may be a requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required will be tankered off site for appropriate treatment.
- If ground water is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached on to an area of overland vegetation within the site boundary.
- Discharge to ground will be via a silt bag which will filter any remaining sediment from the pumped water;
- Daily monitoring and inspections of site drainage during construction will be completed by the appointed environmental officer;
- Good construction practices such wheel washers and dust suppression on site roads, and regular plant maintenance will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provide guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRlA, 2001), which provides information on these issues. This will ensure that surface water arising during the course of construction activities will contain minimum sediment.

Refuelling, Fuel and Hazardous Materials Storage

- Storage/refuelling will be located in and carried out in a designated area of the proposed site, located a suitable distance from excavation works. Bunded tanks will be used, and these will

be inspected for leaks regularly. Spill kits will be available on site and staff will be trained in their use and in spill control. All spills shall be diverted for collection.

- Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- Storage bunds/trays, if required will be constructed of an impermeable membrane (HDPC Plastic) and will have the adequate capacity to contain the volume of the liquids contained therein, if a leak/spillage does occur from one of the storage vessels.
- The storage area will contain a small bund lined with an impermeable membrane in order to prevent any contamination of the surrounding soils and vegetation.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.
- Potential impacts caused by spillages etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.

Measures to avoid the release of cement-based material during construction

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

Spill Control Measures

In the event of minor spills and leaks from road vehicles and the onsite machinery, the following steps provide the procedure to be followed in the event of any significant spill or leak.

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains or watercourses.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.

- Notify the applicant immediately giving information on the location, type and extent of the spill so that they can take appropriate action and further investigate the incident to ensure it has been contained adequately.
- External consultants will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The applicant will notify the appropriate regulatory body if deemed necessary.

Waste Management

- All waste will be collected in skips and the site will be kept tidy and free of debris at all times.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or recycling.
- All construction waste materials will be stored within the confines of the site, prior to removal from the site to a permitted waste facility.

Wastewater Disposal

- A self-contained port-a-loo with an integrated waste holding tank will be used at the site compounds, maintained by the providing contractor, and removed from site on completion of the construction works; No foul water will be discharged on-site during the construction.

Applicable guidance to be followed

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA) in particular;
- C532 Control of water pollution from construction sites: guidance for consultants and contractors (Masters-Williams *et al*, 2001); and
- SP156 Control of water pollution from construction sites - guide to good practice (Murnane *et al*, 2002).

After implementation of best practice and preventive measures as described above, together with measures already incorporated in the project design, there is no potential for direct adverse effects on any European Site due to deterioration of water quality. The measures ensure that the proposed works do not prevent or obstruct any QI or SCI of the screened in European Sites from reaching favourable conservation status as per Article 1 of the EU Habitats Directive.

6.1.1.2 Operational Phase

The operational phase of the Proposed Development will result in the production of surface water runoff from additional hardstanding areas. However, surface water drainage systems have been incorporated into the design of the Proposed Development, which is fully detailed in Section 2.2.1 of this report. They include for the conveyance of surface water to attenuation/soakaway pits via petrol interceptors and silt traps. These measures meet the requirements of Sustainable Urban Drainage Systems (SUDS).

Regards foul water, the site is currently serviced by existing infrastructure on the Lake Road. As per Section 2.2.1 of this report, the Proposed Development will continue to be serviced by these means.

Given the project design regards surface water runoff, no potential for adverse impacts on any European Site due to deterioration of water quality during the operational phase of the development exists and the Proposed Development will improve the current drainage within the site and potentially improve water quality within Lough Rea.

6.1.1.3 Decommissioning

The Proposed Development is considered permanent. No decommissioning is anticipated and there is no potential for impact.

6.1.2 Habitat Loss & Disturbance/displacement of SCI Species

Lough Rea SPA is located directly adjacent to the Proposed Development and some elements of the project are within the lake itself. Lough Rea provides significant supporting habitat for the SCIs of Lough Rea SPA, coot and shoveler. Of these, coot were consistently recorded during winter bird surveys undertaken while shoveler were recorded twice. Recordings of these species were typically 300+ meters from the Proposed Development site, with coot recorded once foraging approximately 10m from the site.

6.1.2.1 Construction Phase

Habitat loss

Lough Rea is an important breeding and wintering site for the two SCI species of the SPA; coot and shoveler. During the winter bird surveys undertaken, neither of these species were recorded within the Proposed Development site, which does not provide significant supporting habitat for these species. Considering the nature and scale of the Proposed Development and the absence of significant supporting habitat within the site, no adverse impacts on Lough Rea SPA as a result of habitat loss from the Proposed Development are anticipated. No mitigation required.

Disturbance

Whilst both coot and shoveler were typically recorded within Lough Rea in excess of the 300m from the Proposed Development site, they were on one occasion each recorded within 50m. Therefore, taking a precautionary approach, a potential pathway for direct effects on the following European Sites and relevant Special Conservation Interests was identified in the form of disturbance.

Lough Rea SPA [004134]

Relevant Qualifying Interests:

- [A056] Shoveler (*Anas clypeata*)
- [A125] Coot (*Fulica atra*)

Mitigation

- All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 "European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996".
- Operating machinery will be restricted to the works area.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works.
- Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machines, which are used intermittently, will be shut down during those periods when they are not in use.

- Any lighting required for night-time works will be switched off when not needed.
- Lighting required for night-time works will be directed onto the works areas and will not be focussed onto the treeline on the eastern boundary.

After implementation of best practice and preventive measures as described above, together with measures already incorporated in the project design, there is no potential for direct adverse effects on any European Site due to disturbance. The measures ensure that the proposed works do not prevent or obstruct the SCIs of Lough Rea SPA from reaching favourable conservation status as per Article 1 of the EU Habitats Directive.

6.1.2.2 Operational Phase

There will be no additional loss of any habitat associated with the operational phase of the Proposed Development. Additionally, while the development intends on improving public amenities and may result in more human activity within the site, SCIs of Lough Rea SPA would already be habituated to activities within the site as it is already a popular attraction. No potential for direct adverse impacts on any European Site is anticipated during the operational phase of the Proposed Development, with regards to habitat loss or disturbance.

6.1.2.3 Decommissioning

The Proposed Development is considered permanent. No decommissioning is anticipated and there is no potential for impact.

6.2 Potential for Indirect Effects on the European Sites

6.2.1 Deterioration in water quality

Taking a precautionary approach, a potential pathway for indirect effects on the following European Sites and relevant aquatic Qualifying Interests was identified in the form of deterioration of water quality.

Lough Rea SAC [000304]

Relevant Qualifying Interests:

- [3140] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.

Rahasane Turlough SAC [000322]

Relevant Qualifying Interests

- [3180] Turloughs

Galway Bay Complex SAC [000268]

Relevant Qualifying Interests:

- [1140] Mudflats and sandflats not covered by seawater at low tide
- [1160] Large shallow inlets and bays
- [1170] Reefs
- [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

- [1410] Mediterranean salt meadows (*Juncetalia maritimi*)

Lough Rea SPA [004134]

Relevant Qualifying Interests:

- [A999] Wetlands

Rahasane Turlough SPA [004089]

Relevant Qualifying Interests:

- A999] Wetlands

Inner Galway Bay SPA [004031]

Relevant Qualifying Interests:

- [A999] Wetlands

Indirect effects as a result of the Proposed Development, and in the absence of mitigation, have the potential to cause deterioration of water quality, potentially resulting in significant effects on the QIs/SCIs of the above European Sites, via surface and groundwater pathways arising from the runoff and/or percolation of pollutants during the construction and operational phases of the Proposed Development

Specific measures will be implemented on site to avoid potential for surface water pollution. The implementation of these measures on site will avoid potential for significant impacts on European Sites and sensitive ecological receptors.

Best practice environmental control measures have been incorporated in the design of the development and are described in Section 6.1.1.1 above.

6.2.1.1 Construction Phase

The Proposed Development hydrological connected to the above listed European Sites. The construction of the Proposed Development will involve excavations and earth moving which create the potential for pollution in various forms, i.e. the generation of suspended solids and the potential for spillage of fuels associated with the refuelling of excavation machinery. Furthermore, there is a requirement for in-lake works to construct the new slip and the Crannog viewing platform. Therefore, potential for indirect effects exists on the Qualifying Interests or Special Conservation Interests of these European Sites via deterioration of water quality as a result of the construction phase of the Proposed Development.

Mitigation

Standard best practice environmental control measures have been incorporated in the design of the development and are detailed in the construction and Environmental Management Plan (CEMP) which has been submitted as part of this planning application and is included in **Appendix 2**. These and additional measures have been outlined in Section 6.1.1.1 above.

The pathways that would allow potentially adverse impacts to occur were considered in the design of the Proposed Development. Section 6.1.1.1 sets out the environmental management framework to be adhered to during the proposed works and incorporate the mitigating principles to ensure there is no adverse effect on the integrity of European Sites. These include comprehensive detail regarding site set

up, pollution prevention including pollution, hydrocarbon management, in-lake works, and construction monitoring.

6.2.1.2 Operational Phase

There is currently no surface water drainage system in place within the Proposed Development site, with all surface water currently being drained directly into Lough Rea with no treatment or settlement.

The operational phase of the Proposed Development will result in the production of surface water runoff from hardstanding areas such as buildings, car parks and roads. However, surface water drainage systems have been incorporated into the design of the Proposed Development, which is fully detailed in Section 2.2.1 of this report. They include for the conveyance of surface water to attenuation/soakaway pits via petrol interceptors and silt traps. These measures meet the requirements of Sustainable Urban Drainage Systems (SUDS).

Regards foul water, the site is currently serviced by existing infrastructure on the Lake Road. As per Section 2.2.1 of this report, the Proposed Development will continue to be serviced by these means.

Given the project design regards surface water runoff, no potential for adverse impacts on any European Site due to deterioration of water quality during the operational phase of the development exists and the Proposed Development will improve the current drainage within the site and potentially improve water quality within Lough Rea.

6.2.1.3 Decommissioning

The Proposed Development is considered permanent. No decommissioning is anticipated and there is no potential for impact.

7. ASSESSMENT OF RESIDUAL ADVERSE EFFECTS

The potential for residual adverse effects on each of the individual relevant Qualifying Features of the Screened In European Sites following the implementation of mitigation, is assessed in this section of the report.

Based on the above, in view of best scientific knowledge, on the basis of objective information, there is no potential for adverse effects on the identified QIs/SCIs and their associated targets and attributes, or on any European Site Potential pathways for effect have been robustly blocked through measures to avoid impacts and the incorporation of best practice/mitigation measures into the project design.

Taking cognisance of measures to avoid impacts and best practice/mitigation measures incorporated into the project design which are considered in the preceding section, the Proposed Development will not have an adverse effect on the integrity of any European Site.

The Proposed Development will not prevent the QIs/SCIs of European Sites from achieving/maintaining favourable conservation status in the future as defined in Article 1 of the EU Habitats Directive. A definition of Favourable Conservation Status is provided below:

> *'conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2; The conservation status will be taken as 'favourable' when:*
>
> - *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
> - *The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*
> - *There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'*

Based on the above, it can be concluded in view of best scientific knowledge, on the basis of objective information that the Proposed project will not adversely affect the Qualifying Interests/Special Conservation Interests associated with any European Site.

8. ASSESSMENT OF CUMULATIVE EFFECTS

A search and review in relation to plans and projects that may have the potential to result in cumulative and/or in-combination impacts on European Sites was conducted. This assessment focuses on the potential for cumulative in-combination effects on the European Sites where potential for adverse effects was identified in Section 4 of this report. This included a review of online Planning Registers, development plans and other available information and served to identify past and future plans and projects, their activities and their predicted environmental effects.

A list of the plans and projects considered is provided in **Appendix 3**.

Following the detailed assessment provided in the preceding sections, it is concluded that, the Proposed Development will not result in any residual adverse effects on any of the European Sites, their integrity or their conservation objectives when considered on its own. There is therefore no potential for the Proposed Development to contribute to any cumulative adverse effects on any European Site when considered in-combination with other plans and projects.

In the review of the projects that was undertaken, no connection, that could potentially result in additional or cumulative impacts was identified. Neither was any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the Proposed Development.

Taking into consideration the reported residual impacts from other plans and projects in the area and the predicted impacts with the current proposal, no residual cumulative impacts have been identified with regard to any European Site.

9. CONCLUDING STATEMENT

This NIS has provided an assessment of all potential direct or indirect adverse effects on European Sites.

Where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within this report and its appendices. The measures ensure that the construction and operation of the Proposed Development does not adversely affect the integrity of European sites.

Therefore, it can be objectively concluded that the Proposed Development, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site.

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APPENDIX 1

CONSULTATION CORRESPONDENCE

Padraig Desmond

From: Housing Manager DAU <Manager.DAU@npws.gov.ie>
Sent: 15 March 2023 12:11
To: Padraig Desmond
Subject: G Pre00033/2023 - 220727 Long Point, Loughrea, Co Galway
Attachments: G Pre00033-2023 MKO 220727 Long Point, Loughrea, Co Galway.pdf

Our Ref: G Pre00033/2023

A Chara,

Please find attached Heritage related recommendations for the above mentioned pre-planning application.

Regards
Diarmuid

Diarmuid Buttimer
Executive Officer

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage
Aonad na nIarratas ar Fhorbairt
Development Applications Unit
Oifigí an Rialtais
Government Offices
Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90

—

Diarmuid.Buttimer@npws.gov.ie
Manager.DAU@npws.gov.ie

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: 220727- Long point, Loughrea
Our Ref: G Pre00033/2023 (Please quote in all related correspondence)

15 March 2023

MKO
Tuam Road
Galway
H91 VW84

Via email: pdesmond@mkoireland.ie

Proposed Pre Planning Development: MKO for Galway County Council: Outdoor Amenity Enhancement Project: Long Point, Loughrea, Co Galway

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Nature Conservation

The Department welcomes the correspondence in relation to the proposed Long Point, Loughrea, Outdoor Amenity Enhancement Project in Co. Galway. These observations are intended to assist you in relation to identifying potential impacts on European sites, other nature conservation sites, and biodiversity and environmental protection in general, in the context of the current proposal. The observations here are not exhaustive, and are made without prejudice to any recommendation that may be made by this Department in the future. Data collected and surveys carried out in connection with this proposed development may raise other issues that have not been considered here.

The Department recommends that an Ecological Impact Assessment (EcIA), Appropriate Assessment (AA) and Construction Environment Management Plan (CEMP) be carried out for the entire proposal.

Ecological Impact Assessment (EcIA)

In order to assess impacts on biodiversity, fauna, flora and habitats, an EcIA is required. The ecological surveys should be carried out by suitably qualified persons at an appropriate time of the year depending on the species being surveyed for. The Ecological Impact Statement (EcIS) should detail the survey methodology and timing of such surveys followed by the results. Best practice survey methodologies and guidelines should be adhered to.

Impact assessment

The impact of the proposed development should be assessed, where applicable, with regard to:

- Natura 2000 sites, i.e. Special Areas of Conservation (SAC) designated under the EC Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas designated under the EC Birds Directive (Directive 2009/147 EC), most notably the Lough Rea SAC (site code 000304) and Lough Rea SPA (site code 004134; S.I. 72 of 2010),
- Other designated sites, or sites proposed for designation, such as Natural Heritage Areas and proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts 1976 to 2012,
- Species protected under the Wildlife Acts including protected flora,
- 'Protected species and natural habitats', as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur),
- Important bird areas such as those identified by Birdlife International,
- Features of the landscape which are of major importance for wild flora and fauna, such as those with a "stepping stone" and ecological corridors function, as referenced in Article 10 of the Habitats Directive,
- Other habitats of ecological value in a national to local context,
- Red data book species,
- and biodiversity in general.

Reference should be made to the National Biodiversity Plan and The Galway County Biodiversity Plan. Any losses of semi-natural habitat associated with this proposed development such as woodland, scrub, hedgerows and other habitats should in the first instance be avoided where possible, and mitigated for where not. The EcIS should assess cumulative impacts with other plans or projects if applicable. Where negative impacts are identified suitable mitigation measures should be detailed if appropriate.

Alien invasive species

The EcIS should also address the issue of invasive alien plant and animal species, such as Japanese Knotweed, and detail the methods required to ensure they are not accidentally introduced or spread during construction. Information on alien invasive species in Ireland can be found at http://invasives.biodiversityireland.ie/ and at http://invasivespeciesireland.com/.

Hedgerows and Treelines

Hedgerows form important wildlife corridors and provide areas for birds to nest in and should be maintained and enhanced where possible. If suitable mature trees are present, bats may roost there and they use hedgerows as flight routes. Annex IV of the EU Habitats Directive provides protection to a number of named species wherever they occur, including bats. Hedgerows also provide a habitat for woodland flora. Where trees or hedgerows have to be removed there should be suitable planting of native species in mitigation. Vegetation, hedgerows and trees should not be removed during the bird nesting season (i.e. March 1st to August 31st). Badger setts can occur within hedgerows and treelines. Badgers and their setts are protected under the provisions of the Wildlife Act, 1976, and the Wildlife Amendment Act, 2000. It is an offence to intentionally kill or injure a protected species or to wilfully interfere with or destroy the breeding site or resting place of a protected wild animal. A badger survey is recommended to address this if any removal is required.

The Department notes the presence of a strip of lakeside shrubbery/tree line (mainly willow) and recommends its retention if possible. It acts as buffer for wintering birds using the lower part of the lake from the amenity area and also acts as a foraging corridor for bats.

Bats

Bat roosts may be present in trees, buildings and bridges. Bat roosts can only be destroyed under licence under the Wildlife Acts and a derogation under the Birds and Natural Habitats Regulations and such a licence would only be given if suitable mitigation measures were implemented.

The Department notes the consideration of a public lighting strategy. Any proposed lighting should be bat friendly lighting and proven to be effective, following up-to-date guidance.

The pier structures located within the site are reinforced concrete and in poor condition. This means there are plentiful crevices and cracks that are possibly used as night roosts or summer roosts by bats, given that they are never submerged. Any proposed works involving the pier structures should be included in bat surveys by a suitably qualified ecologist.

Rivers and Wetlands

Wetlands are important areas for biodiversity. Any watercourse or wetland impacted on should be surveyed for the presence of protected species and species listed on Annexes II and IV of the Habitats Directive. These species include Otters (*Lutra lutra*), which are protected under the Wildlife Acts and listed on Annexes II and IV of the Habitats Directive, Salmon (*Salmo salar*) and Lamprey species listed on Annex II of the Habitats Directive, and White-clawed Crayfish (*Austropotamobius pallipes*) which are protected under the Wildlife Acts and listed on Annex II of the Habitats Directive, Frogs (*Rana temporaria*) and Newts (*Trituris vulgaris*) protected under the Wildlife Acts and Kingfishers (*Alcedo atthis*) protected under the Wildlife Acts and listed on Annex I of the Birds Directive (Council Directive 79/409 EEC).

Construction work should not be allowed impact on water quality and measures should be detailed in the EcIS to prevent sediment and/or fuel runoff from getting into watercourses which could adversely impact on aquatic species in SAC's and birds in the SPA's. Inland Fisheries Ireland should be consulted with regard to impacts on fish species.

Construction Environment Management Plan

Complete project details including construction management plans (CMPs) need to be provided in order to allow an adequate EcIS and Appropriate Assessment to be undertaken. Applicants need to be able to demonstrate that CMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. The positions, locations and sizes of infrastructure may significantly affect European and other designated sites, habitats, and species in their own right and could have an effect for example on drainage, water quality, habitat loss, and disturbance. If these are undetermined at time of the assessment, all potential effects of the development on the site are not being considered.

Appropriate Assessment

Guidance on AA is available in the Departmental guidance document on Appropriate Assessment, which is available on the NPWS web site and in the EU Commission guidance entitled "Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC". However CJEU and Irish case law has to some extent clarified certain issues and should be also be consulted.

In order to carry out the appropriate assessment screening, and/or prepare the Natura Impact Statement (NIS), information about the relevant Natura 2000 sites including their conservation objectives will need to be collected. Details of designated sites and species and conservation objectives including the Lough Rea SAC and SPA can be found on www.npws.ie. Site-specific, as opposed to generic, conservation objectives are now available for some sites. Each conservation objective for a qualifying interest is defined by a list of attributes and targets and is often supported by further documentation. Where these are not available for a site, an examination of the attributes that are used to define site-specific conservation objectives for the same QIs in other sites can be usefully used to ensure the full ecological implications of a proposal for a site's conservation objective and its integrity are analysed and assessed. It is advised, as per the notes and guidelines in the site-specific conservation objectives that any reports quoting conservation objectives should give the version number and date, so that it can be ensured and established that the most up-to-date versions are used in the preparation of Natura Impact Statements and in undertaking appropriate assessments. Where further detail is required on any information on the website www.npws.ie, a data request form should be submitted. This can be found at http://www.npws.ie/maps-and-data/request-data.

Habitat Management Plan

Such developments can be an opportunity for ecological enhancement. However, enhancement measures must have sufficient information to be implemented effectively. It is suggested that an Habitat Management Plan (HMP) is carried out, outlining specific enhancement measures to be undertaken, the timescale for implementation, objectives to be achieved and ecological monitoring requirements.

Licenses

Where there are impacts on protected species and their habitats, resting or breeding places, licenses may be required under the Wildlife Acts or derogations under the Habitats Regulations. In particular bats and otters are strictly protected under annex IV of the Habitats Directive and a copy of Circular Letter NPWS 2/07 entitled "Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/applications for derogation licences" can be found on the Departmental web site at http://www.npws.ie/sites/default/files/general/circular-npws-02-07.pdf. It should be noted however that this Regulation has been replaced by SI 477 of 2011 and that section 53 is the relevant section.

In addition, licenses will be required if there are any impacts on other protected species or their resting or breeding places, such as on protected plants, badger setts or birds nests. In order to apply for any such licenses or derogations as mentioned above the results of a survey should be submitted to the National Parks and Wildlife Service of this Department. Such surveys are to be carried out by appropriately qualified person/s at an appropriate time of the year. Details of survey methodology should also be provided. Such licences should be applied for in advance of planning to avoid delays and in case project modifications are necessary. Should this survey work take place well before construction commences, it is recommended that an ecological survey of the development site should take place immediately prior to construction to ensure no significant change in the baseline ecological survey has occurred. If there has been any significant change, mitigation may require amendment and where a licence has expired, there will be a need for new licence applications for protected species.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority/ies, in the role as statutory consultee under the Planning and Development Act, 2000, as amended.

You are requested to send further communications to the Development Applications Unit (DAU) at **manager.dau@npws.gov.ie**.

Is mise le meas**,**

Diarmuid Buttimer
Development Applications Unit
Administration

APPENDIX 2

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Planning and Environmental Consultants

Construction and Environmental Management Plan

Proposed Amenity Area Upgrade at Long Point, Loughrea, Co. Galway

DOCUMENT DETAILS

Client:	**Galway County Council**
Project Title:	**Proposed Amenity Area Upgrade at Long Point, Loughrea, Co. Galway**
Project Number:	**220727-a**
Document Title:	**Construction and Environmental Management Plan**
Document File Name:	**Long Point CEMP F - 2024.09.24 - 220727-a**
Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	D1	30/08/2024	EC	TM
02	D2	11/09/2024	EC	EOS
03	F	24/09/2024	EC	TM

Table of Contents

TABLE OF TABLES

TABLE OF PLATES

TABLE OF FIGURES

1. INTRODUCTION

This Construction & Environmental Management Plan (CEMP) has been prepared by MKO on behalf of Galway County Council (GCC) for the construction of an outdoor amenity area at Long Point, Loughrea, Co. Galway. The Proposed Development will include repair works, provision of new changing rooms, bathrooms and lifeguard station building and upgrades to the existing car park.

The CEMP provides the environmental management framework to be adhered to during the pre-commencement and construction phases of the proposed works and it incorporates the mitigating principles to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur. The CEMP has been informed by and takes account of the accompanying documents and drawings which have been prepared for the Proposed Development.

All measures identified in this CEMP, which will be finalised subsequent to any permission granted and updated prior to construction will include all mitigation measures identified to be adhered to during the pre-commencement and construction phases of the proposed works.

The CEMP to be prepared by the appointed contractor will be a single, amalgamated document that can be used during the construction phase of the project, as a single consolidated point of reference relating to all construction, environmental and drainage requirements for the developer, and contractors alike. The CEMP may evolve over further iterations as the construction works progress, but at all times must meet or exceed the standards and requirements set out in this document. It will be the contractor's current version of the CEMP, which at any point in time, will guide the construction activities on site and the implementation of which will be audited during construction.

1.1 Potential Amendment Scenarios

This CEMP may require further updating and final agreement with the various stakeholders should the Proposed Development receive planning permission, in alignment with all the conditions which apply and in order to identify, assess and satisfy the contract performance criteria. The final CEMP will also require updating by the selected contractor. Therefore, this is a working document and will be developed further prior to construction commencing.

Triggers for amendments to the CEMP will include:

- When there is a need to improve performance in an area of environmental impact;
- As a result of changes in environmental legislation applicable and relevant to the project;
- Where the outcomes from auditing establish a need for change;
- Where Work Method Statements identify changes to a construction methodology to address high environmental risk; and
- As a result of an incident or complaint occurring that necessitates an amendment.

1.2 Scope of the Construction and Environmental Management Plan

This report is presented as a guidance document for the management of construction activities and waste materials generated during the works and following completion. It outlines clearly the mitigation measures that are required to be adhered to in order to manage activities and waste materials in an appropriate manner.

The report is divided into seven sections, as outlined below.

- Section 1 provides a brief introduction as to the scope of the report detailing the targets and objectives of this plan.
- Section 2 outlines the site and project details and an overview of construction methodologies that will be adopted throughout the proposed project.
- Section 3 sets out details of the environmental controls on site which looks at noise and dust controls. Site drainage measures and a waste management plan are also included in this section.
- Section 4 sets out a fully detailed implementation plan for the environmental management of the proposed project outlining the roles and responsibilities of the project team. Also included in this section is the Emergency Response Procedure to be adopted in the event of an emergency in terms of site health and safety and environmental protection.
- Section 5 consists of a summary table of all mitigation proposals to be adhered to during the implementation of the project.
- Section 6 sets out a programme for the timing of the works.
- Section 7 outlines the proposals for reviewing compliance with the provisions of this report.

1.3 Targets and Objectives

The construction phase works are designed to approved standards, which include specified materials, standards, specifications, and codes of practice. The design of the project has considered environmental issues, and this is enhanced by the works proposals.

The key site targets are as follows;

- Adopt a sustainable approach to construction and, ensure sustainable sources for materials supply where possible.
- Correct fuel storage and refuelling procedures to be followed.
- Construction Methods and designs will be altered where it is found there is an adverse effect on the environment.
- Good waste management and housekeeping to be implemented.
- Using recycled materials, if possible, e.g., excavated stone, soil, and subsoil material.
- Avoidance of vandalism.
- Air and noise pollution prevention to be implemented.
- Monitoring of the works and any adverse effects that it may have on the environment and,
- Provide adequate environmental training and awareness for all project personnel.

The key site objectives are as follows.

- Keep impact of construction to a minimum on the local environment and wildlife.
- Ensure construction works and activities are completed in accordance with any planning conditions for the development.

- Ensure construction works and activities have minimal impact/disturbance to local landowners and the local community.
- Ensure construction works and activities have minimal impact on the Natural Environment.
- Keep impact of construction to a minimum on the local environment, watercourses, and wildlife.
- Correct fuel storage and refuelling procedures to be followed.
- Good waste management and housekeeping to be implemented.
- Air and noise pollution prevention to be implemented, and
- Monitoring of the works and any adverse effects that it may have on the environment.
- Construction Methods and designs will be altered where it is found there is an adverse effect on the environment.
- Comply with all relevant water quality legislation.

2. SITE AND PROJECT DETAILS

2.1 Site Location

The Proposed Development is located at Long Point, Loughrea, County Galway, Ireland (Irish Transverse Mercator (ITM) Grid Ref of approximate centre: X 562370 Y715177) on the shore of Lough Rea beside Lake Road (R351 Regional Road) approximately 1.4km south east of Loughrea Town Centre in the townland of Knockanima. The Proposed Development focuses on public realm upgrade works to Long Point to enhance the area and create an inclusive and accessible amenity space. A site location map is shown in Figure 2-1. A layout of the Proposed Development is shown in Figure 2-2 below.

2.2 Description of the Proposed Development Site

2.2.1 Land Use

The current subject site comprises an amenity area on the eastern shore of Lough Rea, which is currently made up of carparks, walkways, amenity grassland, and parkland. The Proposed Development is zoned as 'OS – Open Space/Recreation and Amenity' in the Loughrea Local Area Plan 2024-2023.

2.2.2 Cultural Heritage

There are no protected structures or recorded monuments located within the boundary of the Proposed Development. However, there is one structure, a crannog (GA105-226—), designated on the Sites and Monuments Record approximately 116m north of the Proposed Development site. There is another designated crannog (GA105-227—) 219m south of the Proposed Development site.

2.2.3 Hydrology

Lough Rea is located immediately adjacent to the proposed sites western boundary. The Proposed Development site boundary encompasses a small area of Lough Rea. It should be noted that the section Lough Rea that is encompassed within the Proposed Development site boundary is a designated European Site (SAC) [000304] and Lough Rea Special Protection Area (SPA) [004134] The Kilcogan stream drains Lough Rea to the north which drains into Galway Bay Complex SAC [000268] and Inner Galway Bay SPA.[004031]downstream.

The proximity of the Proposed Development to Lough Rea indicates the sensitive nature of the site which requires the implementation of mitigation measures, which are outlined below in Section 3.1 and the accompanying Natura Impact Statement (NIS).

2.2.4 Designated Areas

The following European Designated Sites are located in proximity to the subject site:

- Lough Rea Special Area of Conservation (SAC) [000304](partial overlap with the Proposed Development site boundary).
- Lough Rea (SPA) [0041134] (partial overlap within the Proposed Development site boundary).
- Slieve Aught Mountains SPA [004168] (2.41km southwest of Proposed Development site boundary).

- Sonnagh Bog SAC [001913] (7.6km southwest of Proposed Development site boundary).
- Rahasane Turlough SAC [000322] (12.79km northwest of Proposed Development site boundary).
- Galway Bay Complex SAC [000268] (20.73km southwest of Proposed Development site boundary).
- Inner Galway Bay SPA [004031] (21km southwest of Proposed Development site boundary).

2.3 Proposed Development Description

The Proposed Development will comprise of the following elements:

- Repair works comprising:
  - Repair of the existing pier surfaces.
  - Repair of the existing slipway to provide safe launching point for kayaks and stand-up paddle boards.
- Demolition of an existing changing shelter to facilitate passive surveillance and views of Lough Rea.
- Alteration to existing toilet and shower building to provide storage, plant, and a changing places toilet (accessible toilet, shower and changing facility) (93 m^2).
- Provision of new changing, toilet and shower facilities in a single storey building (86 m^2) including sheltered outdoor shower changing area.
- Provision of a lifeguard station building (16 m^2).
- Provision of a circular viewing deck to the south of the existing pier.
- Provision of a totem sign extending to c. 4 metres in height.
- Alteration to existing beach area and provision of a deck, steps and ramp to water's edge and beach area for access for all to the water.
- Provision of a shared active travel route along the sites eastern boundary adjacent to the Lake Road (R351) and the provision of designated bicycle parking spaces.
- Removal of 2 no. existing vehicular access points and alterations and junction upgrade works to the existing central access point, and provision of internal pedestrian crossings.
- Reconfiguration of and upgrades to the existing car parking areas to provide increased parking provision and to accommodate age friendly and set down spaces and trading bays, and the provision of 1 no. new car parking area which includes electric vehicle (EV) charging and accessible parking spaces.
- Provision of hard and soft site landscaping works, sustainable drainage systems (SuDS) measures, pumping and water stations, all connections, public lighting, PV panels at roof level and site services.
- All ancillary services and associated site development works.

NORTH

SITE OUTLINED IN RED

SITE AREA
3530 m² / 0.353 Ha / 0.872 Acres

01 SITE LOCATION MAP
SCALE 1:2500 @ A1

DRAWING NOTES

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Rev	Date	Description	Drawn By	Checked By
0	MAY 2024	ISSUED FOR PLANNING	BS	

PROJECT	LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT
CLIENT	GALWAY COUNTY COUNCIL
DRAWING TITLE	SITE LOCATION MAP
DWG. NO.	P(01)01
REV.	0

PROJECT NO.	DATE	SCALE	DRAWN BY	CHECKED BY	RELEASED
99014	JULY 2024	1:2500 @ A3	BS		

HELENA MCELMEEL
ARCHITECTS

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KEY TO SURFACE FINISHES

- AMENITY GRASS, MAINTAINED GRASS / LAWN
- WILDFLOWER / BIO-DIVERSE PLANTING
- SWALE
- EXISTING WOODLAND
- PERMEABLE RESIN BOUND GRAVEL FOOTPATHS: 18 mm RESIN BOUND FINISH ON POROUS ASPHALT BINDER COURSE ON SUB-BASE
- SELECTED PERMEABLE PAVING, SUITABLE FOR VEHICLES TO FACILITATE EMERGENCY ACCESS
- NATURAL STONE PLANTING BEDS - POLLINATOR FRIENDLY PERENNIAL & GRASS PLANTING
- COMPOSITE / RECONSTITUTED DECKING
- SAND
- EXISTING NATURAL BEACH AREA
- PEDESTRIAN / CYCLE SHARED SURFACE
- COURTESY CROSSING SUITABLE FOR PERMANENT VEHICULAR TRAFFIC
- BLISTERED TACTILE PAVING - BUFF COLOURED
- BLISTERED TACTILE PAVING - RED COLOURED
- TARMACADAM ROAD FINISH
- PICNIC BENCH / TABLE - WITH AGE FRIENDLY SEATING
- PICNIC BENCH TABLE - WITH AGE FRIENDLY SEATING AND WHEELCHAIR ACCESSIBLE SPACE
- BENCH - WITH AGE FRIENDLY SEATING
- CUSTOM BENCH
- WASTE BIN
- METAL SPHERICAL BOLLARD
- CONTACTLESS WATER STATION
- EXISTING LEVELS
- PROPOSED LEVELS
- PARKING SPACE
- AGE FRIENDLY PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ELECTRIC VEHICLE CHARGING PARKING SPACE
- BICYCLE STANDS
- NATIVE TREE CLUSTERS
- AVENUE TREE PLANTING
- PROPOSED LIGHTING

01 SITE LAYOUT PLAN - PROPOSED
SCALE 1:500 @ A1

DRAWING NOTES

EXTENT OF SITE OUTLINED IN RED

SITE AREA: 2.26 HA

AREA OF EXISTING LIFEGUARD STATION TO BE DEMOLISHED: 9 SQ.M

AREA OF EXISTING CHANGING SHELTER TO BE DEMOLISHED 28 SQ.M

AREA OF EXISTING STORAGE/ PLAN TO BE ALTERED: 92.5 SQ.M

AREA OF PROPOSED CHANGING/WCs : 86 SQ.M

AREA OF PROPOSED LIFEGUARD STATION: 16.2 SQ.M

151 NO. PARKING SPACES:
STANDARD: 130 NO.
ACCESSIBLE: 8 NO.
AGE FRIENDLY: 7 NO.
EV: 6 NO.

REFER TO CIVIL ENGINEERS DRAWINGS AND SW REPORT FOR DETAILS OF PROPOSED DRAINAGE AND SEWAGE DETAILS.

REFER TO TRAFFIC AND TRANSPORT ASSESSMENT AND ROAD SAFETY AUDIT FOR DETAILS OF PROPOSED UPGRADES TO EXISTING VEHICULAR ACCESS AND PROPOSED NEW VEHICULAR, CYCLE AND PEDESTRIAN AMENITIES.

REFER TO SOFT LANDSCAPING DESIGN REPORT FOR DETAILS OF SOFT LANDSCAPING PROPOSALS.

REFER TO SITE LIGHTING LAYOUT AND SITE LIGHTING OVERVIEW FOR DETAILS OF PROPOSED EXTERNAL LIGHTING.

Rev	Date	Description	Drawn By	Checked By
0	2024.09.24	ISSUED FOR PLANNING		

PROJECT	LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT				DWG. NO.
CLIENT	GALWAY COUNTY COUNCIL				P(01)03
DRAWING TITLE	PROPOSED SITE LAYOUT PLAN				REV. 0
99014	JULY 2024	1:500 @ A1	BS		
PROJECT NO.	DATE	SCALE	DRAWN BY	CHECKED BY	RELEASED

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2.4 Construction Management

2.4.1 Introduction

The appointed contractor for the construction of the Proposed Development will be required to comply with this CEMP and any revisions made to this document throughout the construction phase. An overview of the anticipated Construction Methodologies is provided below.

2.4.2 Overview of Proposed Construction Methodology

The proposed construction methodology is summarised under the following main headings:

- Site Establishment/Set-up;
- Construction Compound;
- Demolition Works;
- Site Excavation;
- Services and Utilities;
- Drainage Works;
- Changing Area, Bathrooms and Lifeguard Station Building;
- Circular Viewing Deck;
- Deck/Steps & Ramp;
- Site Entrance;
- Repair Works;
- Landscaping Works.

2.4.3 Site Establishment/Set-up

The subject site will be accessed from the existing site entrance via the R351 Lake Road. Prior to the commencement of any construction, the working area will be fenced off using heras panels or appropriate fencing. In addition, the junction at the site entrance will be upgraded. Methodology for the proposed junction upgrade works in section 2.4.12. below.

It should be noted that all works will be undertaken within the confines of the site. A controlled access point in the form of the site entrance will be kept locked outside of normal working hours. Due to the nature of the works, appropriate signage will be provided at the site to alert pedestrians to the construction activities and related traffic at the site. The contractor will be required to undertake the following.

- Operate a Site Induction Process for all site staff.
- Ensure all site staff shall have current 'Safe Pass' cards.
- Maintain Site Security staff at all times.
- Install access security in the form of gates for staff.

The existing car park areas will be utilised by construction workers within the site during the construction phase. There will be no parking permitted for any vehicles associated with the project on the public road during the construction phase of the development unless agreed with Galway County Council.

2.4.4 Construction Compound

A construction compound will be established within the site boundary. The exact location of the site compound will be established by the contractor and will be located a minimum of 50m from any watercourses or waterbodies. A layer of well graded granular material will be spread and lightly

compacted to provide a hardstanding area. Portable cabin structures will be used to provide temporary site offices. Power will be provided using a diesel or petrol driven generator. The construction compound will also be used as a storage and lay down area for the various construction materials as required.

The compound will typically be constructed as follows:

- The area to be used as the compound will be marked out at the corners using ranging rods or timber posts;
- A layer of well graded granular material will be spread and lightly compacted to provide a hard area for site offices and storage containers;
- Areas within the compound will be constructed as site track and used as vehicle hardstandings during deliveries and for parking;
- If necessary, the compound will be temporarily fenced and secured with locked gates, although fencing would only be utilised where significant risk of danger to third parties or vandalism is envisaged;
- During the construction phase, a self-contained port-a-loo with an integrated waste holding tank will be used on site for toilet facilities. This will be maintained by the providing contractor on a regular basis and will be removed from the site on completion of the construction phase;
- A dedicated waste storage area will be located within the temporary construction compound.

2.4.5 Demolition Works

The works entail the demolition of the existing changing area. The demolition/decommissioning works which will be carried out at the existing changing area will be carried out using the following methodology:

- Pre-check of the site for any hazards or existing services. These checks will be carried out by a competent person(s).
- An inventory of the waste types that will be generated by the demolition works will be carried out.
- Demolition will be completed by trained personnel using appropriate equipment and tools and a mechanical excavator if required.
- The majority of the waste generated during the demolition and decommissioning will be segregated and sent by an authorised waste collector to an authorised waste recovery facility.

2.4.6 Site Excavation

Excavations will be required around the site as the Proposed Development progresses, particularly where it is proposed to construct the lifeguard station building and changing rooms. In addition, minor excavations will also be required for the shared active travel route, junction upgrade works, car parking areas and site services. While these works occur, the following will apply:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies i.e., ESB, Gas Networks Ireland, Eir, Galway County Council etc. will be contacted and all drawings for all existing services sought.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator will be used for initial excavations, and a dumper will be used to move the excavated materials to the temporary stockpile location within the site.

- Excavated material will be removed from the site for appropriate reuse or disposal elsewhere. Some excavated material will be reused on the site for backfill of excavations.
- Stockpiling of soil during construction, should it be required, will take place in designated areas within the site boundary as far away from any watercourses or waterbodies as is practically possible.
- If ground water is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached on to an area of overland vegetation within the site boundary. Discharge to ground will be via a silt bag which will filter any remaining sediment from the pumped water.
- When practically possible, excavation depths and volumes will be kept to a minimum.

2.4.7 Services and Utilities

The proposed storm water drainage system has been designed to cater for all surface water runoff from all hard surfaces within the Proposed Development. As part of the Proposed Development, there will be an increase in impermeable surfaces (permeable paving), and therefore, increased surface water drainage. The proposed drainage system for runoff includes Stormbreaker Water Attenuation, Infiltration and soakaway systems which will collect the stormwater from the proposed buildings, carparks and roads.

Foul effluent for the Proposed Development is detailed below in section 2.4.8.3.

2.4.8 Drainage Works

2.4.8.1 Storm/Surface Water Drainage

A design of the Storm/surface Water Drainage network has been prepared for the Proposed Development by S. Hanniffy & Associates Consulting Engineers. The below information is based on their findings and is provided here for context.

Currently, a SuDS has been designed in order to deal with the storm/surface water from the existing/Proposed Development.

It is proposed to install 3 No. Stormbreaker Water Attenuation, Infiltration and Soakaway systems to deal with the stormwater from the proposed buildings, carparks and roads as shown on Drawing No. 24143-01 prepared by S.Hanniffy & Associates Consulting Engineers. The storm/surface water from the 2 No, proposed buildings, Carpark C and the road will discharge to soakaway No. 1 which has a capacity of149m^3. The stormwater from Carpark A will discharge to Soakaway No. 2 which has a capacity of 98.4m^3. The stormwater from Carpark B will discharge to Soakaway No. 3 which has a capacity of 136.90m^3.

The surface water sewers and the Stormbreaker Soakaways were designed to be as shallow as possible to negate the effect of flooding within the area. Due to these shallow depths, some of the storm water sewers will be surrounded with concrete, as shown on Drawing No. 24143-02 prepared by S.Hanniffy & Associates Consulting Engineers.

It is proposed to use permeable paving to deal with stormwater in the proposed quayside area, as shown on drawing No. 24143-01 prepared by S.Hanniffy & Associates Consulting Engineers. The use of Permeable Paving is a SuDs based permeable system which is designed to cater for the stormwater runoff from the quayside area and discharge it into the sub-base and ground below this area. There is no requirement for a bypass separator in this area, as it is primarily for pedestrian use. The paths within the development will be finished with permeable resin bound gravel, which is self-draining.

2.4.8.2 Bypass Interceptor & Silt Trap

The impervious areas of the proposed roofs, carpark and roadway will be discharged through 3 No. Kingspan Klargester Bypass Separators with silt traps prior to final discharge to the 3 No. Stormbreaker Soakaway systems. It is proposed to install a Kingspan Klargester Bypass interceptor model NSBP004 (or similar) on the storm water sewer prior to final discharge to the Stormbreaker Soakaway 2 as shown on drawing No. 24143-01 prepared by S.Hanniffy & Associates Consulting Engineers. The Kingspan Klargester Bypass Separators have been designed to cater for the stormwater discharge from the entire development.

2.4.8.3 Foul Water Treatment

The existing foul water system for the current changing facilities is discharged to a foul sewer adjacent to the changing rooms and is pumped to an existing public sewer within the public road to the north of the site. It is proposed to install a new foul sewer system around the new storage/plant building and changing room/WC which will discharge to the existing pump station and then to the existing public sewer to the north of the site.

2.4.9 Changing Area, Bathrooms and Lifeguard Station Building

The proposed changing area, bathrooms and lifeguard station building (16m^2)are anticipated to be constructed by the following methodology:

- The area where excavations and foundations are to be installed will be surveyed and all existing services will be identified.
- The area in which the changing area will be constructed will be marked out using ranging rods or wooden posts and the overburden stripped and removed to nearby storage area for later use in landscaping.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the area down to a competent stratum as approved by the Design Engineer.
- Foundations will be shuttered and cast with reinforced concrete as per the Design Engineer's specification.
- The precast elements, block-/brick-work walls will be built up from the foundation including a Damp Proof Course (DPC).
- The block-/brick-work will then be raised to wall plate level and internal partition walls formed. Scaffold will be erected around the outside of the buildings for these works.
- New windows and doors, electrics, plumbing (as applicable) and all other building components and services will be installed in as timely a manner as is possible.
- The buildings will be inspected and certified by the project design engineer at the appropriate stages of construction.
- It is also anticipated that solar PV panels will be installed on the roof of the changing area/bathrooms in the future.

2.4.10 Circular Viewing Deck

There is a requirement for in-lake works to construct the circular viewing deck which will be located above the lake itself, supported by pylons to the south of the existing pier. The circular viewing deck will be formed in composite decking on frame as per drawing no. P(01) 03 By Helena McElmeel Architects. The following methodology will be implemented to install the proposed viewing deck:

- Prior to installing the support pylons, the works area will be temporarily dammed (cofferdam) with sandbags and will completely surround the works area.
- A dry works area will be created within the cofferdams. This will be created by pumping water from within the works area.
- A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground.
- The pylons will then be installed as per the design by pile driving them to an appropriate depth.
- The frames for the composite decking will then be installed on the pylons. Composite decking will then be secured to the frame structure.
- All works will be checked by an appropriately qualified engineer prior to completion.
- A silt curtain will be installed outside the cofferdam works area to prevent any silt that may be disturbed as a result of the works from being dispersed to the lake.

2.4.11 Deck/Steps & Ramp

An accessible deck/steps will be installed to improve access to the water. The proposed accessible deck/steps and other in-lake works are anticipated to be constructed using the following methodology:

- Works will be carried out in the dry to avoid siltation of the Lough Rea and downstream watercourses.
- The areas within Lough Rea where works are required will be temporarily dammed (coffer dam) with sandbags and will completely surround the work area. A silt curtain will also be installed if deemed necessary.
- No batching of wet-cement products will occur on site. Pre-cast elements for culverts and concrete works will be used.
- Prior to the installation of the precast elements, minor excavation and grading works will be carried out to achieve the appropriate installation levels.
- A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground.
- Prior to pumping, electrofishing should be carried out within the works area under licence from the National Park & Wildlife Service (NPWS) by a qualified ecologist to remove any fish to Lough Rea.
- Machinery will not enter the water.
- Once works within these areas are complete, the sandbags will be removed to allow water from the lake back into the area.
- All in-lake works will be carried out in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- The deck/steps and ramp and other in-lake works should be carried out during the period of July 1st to September 30th to minimise potential adverse impacts to fish populations, in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.

2.4.12 Solar Photovoltaic Panels Installation

Photovoltaic (PV) panels will be installed on the roof of the proposed changing area/bathrooms. The preference for the mounting system will be via a non-penetrative means where possible. The panels will then be fixed at the same pitch as the existing roof.

2.4.13 Site Entrance

2.4.13.1 Upgrade to Existing Parking Areas, Pedestrian Crossing, Junction Upgrade Works & Totem sign

The existing car parking areas will be upgraded to accommodate age friendly and set down spaces alongside the provision of 1 no, new car parking areas inclusive of EV charging and accessible parking spaces and designated bicycle parking spaces. Junction upgrade works are also proposed for the site. At present the site is accessed by three access junctions. It is proposed to decommission two of these access junctions and propose one single access junction. Additionally, internal pedestrian crossings are also proposed for this development site alongside a totem sign (c. 4m in height).

The proposed car parking areas and other areas of tarmac hardstanding are anticipated to be constructed using the following methodology:

- The area where excavations and areas of hardstanding are to be installed will be surveyed.
- The area of the car parking and other hardstanding areas will be marked out and the soil and overburden stripped and removed to a nearby storage area for layer use in landscaping.
- A tracked 360-degree excavator or similar will be used to excavate the area down to a competent stratum as approved by the Design Engineer.
- A layer of permeable aggregate in the form of clause 804 gravel or crushed concrete will then be installed. This layer will be compacted and checked for correct levels.
- At this stage the tarmac will be applied. The tarmac will also be compacted.

2.4.13.2 Shared Active Travel Route

The shared active travel route is anticipated to be constructed as follows:

- All plant operators and general operatives will be inducted and informed as to the location of any services.
- The excavation will take place to locate any existing services by use of a small excavator.
- Following this, the resurfacing/removal of the excavated materials will be loaded and transported to an appropriately licensed waste facility.
- A tracked 360-degree excavator or similar will be used to excavate the area down to the appropriate depth.
- A wrapped geotextile will be laid down. This will help suppress weed growth, minimise sinking, strengthen the base and prevent the escape of fines.
- A layer of aggregate material and tarmac will be installed to provide a base for the shared active travel route.

2.4.14 Repair Works

The existing pier surfaces and slipway will be repaired according to the engineers specifications. The slipway is to be repaired to provide a safe launching point for kayaks and stand up paddle boards. The existing pier surfaces and slipway repair works will be installed in line with the proposed in-lake works as set out in section 2.4.11 above.

2.4.15 Landscaping Works

Prior to the completion of works on the site, landscaping works will be carried out. These works will involve the use of plant and machinery in order to carry out tasks such as earth moving. Material will only be imported where it is required.

A Landscape Soft Works Report has been prepared by Cooney McDowall Design Studio Ltd. The proposed landscape works will involve the following:

- Native Wildflower Zones/reduced Mowing Areas;
- Pollinator Friendly Perennial and Grass planting (Natural Stone Planting Beds);
- Woodland Tree Clusters;
- Avenue Tree planting;
- Swale Planting;
- Amenity Grass.

3. ENVIRONMENTAL MANAGEMENT

3.1 Protecting Water Quality

Lough Rea is located immediately adjacent to the proposed sites western boundary. The Proposed Development site boundary encompasses a small area of Lough Rea. It should be noted that the section of Lough Rea that is encompassed within the Proposed Development site boundary is a designated European Site, Lough Rea (SAC) [000304] and Lough Rea Special Protection Area (SPA) [004134] The Kilcogan stream drains Lough Rea to the north which drains into Galway Bay Complex SAC [000268] and Inner Galway Bay SPA.[004031]downstream.

3.1.1 Construction Phase

Prior to the commencement of any demolition or construction activities, the necessary mitigation measures will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby watercourses or drains thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of runoff from the site work areas. Stockpiling of soil during construction, should it be required, will take place in designated areas within the site boundary away from any watercourses or waterbodies.

The Proposed Development site encompasses a small area of Lough Rea, which is a designated European Site (see above in section 3.1). The construction of the Proposed Development will involve excavations and earth moving which has the potential to generate pollution in various forms, the generation of suspended solids and the potential for spillage of fuels associated with the refuelling of excavation machinery. Additionally, the Proposed Development will require some in-lake works. The proximity of the Proposed Development to Lough Rea indicates the sensitive nature of the site which requires the implementation of mitigation measures, which are outlined below and in the accompanying NIS.

Particular emphasis will also be placed on hazardous materials entering the surface water management system as well as spill or leaks of fuel oils. Section 4 provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects.

Excavation works have the potential to encounter groundwater. If groundwater is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached on to an area of overland vegetation within the site boundary. Discharge to ground will be via a silt bag which will filter any remaining sediment from the pumped water.

3.1.2 Prevention Pollution Control Measures

The Proposed Development site boundary encompasses a small area of Lough Rea. It should be noted that the section of Lough Rea that is encompassed within the Proposed Development site boundary is a designated European Site (SAC) [000304] and Lough Rea Special Protection Area (SPA). Some in-lake works are required as part of the Proposed Development. The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering the wider environments including nearby waterbodies:

- Prior to the commencement of earthworks, silt fencing will be erected around the boundary of the Proposed Development site, between the works area and along the shore of Lough Rea. This will be embedded into the ground adjacent to the perimeter boundary.

- The silt fence will comprise wooden posts with geotextile membrane buried approximately 250mm below ground level. This fence will be kept in good repair and will be routinely inspected
- The silt fences will be left in place throughout construction phase and until all exposed soil has revegetated.
- A site compound will be established within the site boundary. The exact location of the site compound will be established by the contractor and will be located a minimum of 50m from any watercourses or waterbodies. The compound will be used for storage of material, machinery, fuel, and workers facilities.
- A self-contained port-a-loo with an integrated waste holding tank will be used at the site compound, maintained by the providing contractor, and removed from site on completion of the construction works; No foul water will be discharged on-site during the construction.
- The appointed contactor will be fully briefed by an ecologist as to the sensitive nature of the site (i.e. proximity to Lough Rea) and the required mitigation measures.
- The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed in this document are adhered to. Any environmental incidents or non-compliance issues will immediately be reported to the project team.
- In addition, a suitably qualified ecologist will be appointed to supervise the works undertaken during constriction, particularly where works within the lake are required.
- Excavated spoil (if any) will be stockpiled and contained entirely within the confines of the site boundaries.
- During earthwork activities, the following mitigations will be adhered to:
    - Excavation depths will be kept to a minimum.
    - Material that is not re-used will be transported off site to an appropriately licensed waste recovery/disposal facility.
    - Suitable stone material will be imported to the site to be used as backfill.
    - Stockpiling of soil during construction, should it be required, will take place in designated areas within the site boundary away from any watercourses or waterbodies.
    - A silt fence will be erected around any stockpiling of material to prevent any sediment-laden run-off occurring.
- All diesel or petrol pumps required onsite will be operated within bunded units.
- Exposed surfaces will be re-vegetated as soon as possible following construction.
- The minimum number of soil/subsoils and bedrock material will be removed from site. Soil may be reused for landscaping elsewhere on the site.
- Earthworks will not be carried out during periods of heavy rainfall.
- As construction advances there may be a requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required will be tankered off site for appropriate treatment.
- If ground water is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached on to an area of overland vegetation within the site boundary.
- Discharge to ground will be via a silt bag which will filter any remaining sediment from the pumped water.
- Daily monitoring and inspections of site drainage during construction will be completed by the appointed environmental officer.
- Good construction practices such wheel washers and dust suppression on site roads, and regular plant maintenance will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provide guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRIA, 2010), which provides information on these potential issues. This will ensure that surface

water arising during the course of construction activities will contain minimum sediment.

Details of control measures which will be implemented at the site, if required, are included in the Plates below.

Plate 3-1 Silt Bag with water being pumped through.

Plate 3-2 Silt Bag under inspection

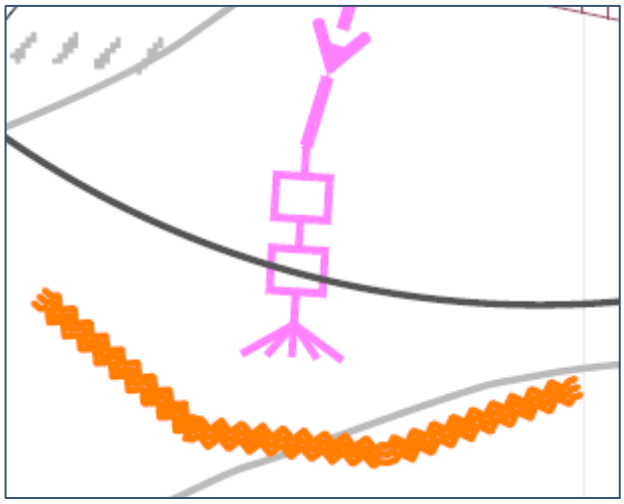

Plate 3-3 Indictive Silt Fence surrounding the discharge from a Silt Bag.

Plate 3-4 Embedded Silt Fence

3.1.3 Cement Based Products Control Measures

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

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

3.1.4 Refuelling, Fuel and Hazardous Materials Storage

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

- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- Storage/refuelling will be located in and carried out in a designated area of the proposed site, located a suitable distance from excavation works. Bunded tanks will be used, and these will be inspected for leaks regularly. Spill kits will be available on site and staff will be trained in their use and in spill control. All spills shall be diverted for collection.
- Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or recycling.
- Storage bunds/trays, if required will be constructed of an impermeable membrane (HDPE Plastic) and will have the adequate capacity to contain the volume of the liquids contained therein, if a leak/spillage does occur from one of the storage vessels.
- The storage area will contain a small bund lined with an impermeable membrane in order to prevent any contamination of the surrounding soils and vegetation.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.

3.2 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e., soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the public road. The measures below will also prevent construction debris arising on the public road network.

- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary.
- Material handling systems and material storage areas, if required will be designed and laid out to minimise exposure to wind.
- Water misting will be utilised on-site as required to mitigate dust in dry weather conditions, if required.
- The transport of soils, demolition material, aggregates or other material, which has the potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary.
- Daily inspection of construction sites to examine dust measures and their effectiveness.
- All construction related traffic will have speed restrictions on un-surfaced areas within the site to 60kph.

3.3 Noise and Vibration Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Noise levels shall be kept below those levels specified in the National Roads Authority – *"Guidelines for the Treatment of Noise and Vibration in National Roads Schemes"* or such further limits as imposed by Galway County Council. The Proposed Development shall comply with BS 5228 *"Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control."* During the works, any plant introduced to the site will not be excessively noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced.

Proposed measures to control noise include:

- Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.
- If utilised, diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts.
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations.
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers.
- All plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works.

- If compressors are required, they will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machines, which are used intermittently, will be shut down during those periods when they are not in use.
- Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.
- Where necessary, further measures for the reduction of construction noise and vibration levels will be defined by Galway County Council and adhered to by the Main Contractor.

It is recommended that drivers of heavy goods vehicles (HGVs) associated with the development extend due care and courtesy to other road users. Excessive engine revving will be avoided at all times. The proposed construction working hours will be 08:00-18:00 Monday to Saturday. Construction will not take place at the site on Sundays or Public Holidays.

Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority and when other relevant third parties i.e., nearby homeowners and property owners have been notified and have agreed to works taking place during such time periods.

3.4 Traffic Management Proposals

The proposed traffic management measures to be adopted during the construction works are summarised below. Please note that this is not an exhaustive list, and it will be updated accordingly by the appointed contractor in consultation with the local authority.

- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction site access locations.
- A site specific Construction Traffic and Transport Statement will be agreed upon with the Galway County Council prior to works starting.
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes.
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on HGVs carrying dust producing material.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds.
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with Galway County Council.
- Deliveries of construction materials will be planned to ensure that the materials are delivered only as they are required and will avoid peak hours when possible.
- Works that require the use of multiple vehicles, such as concrete pours, will be planned to ensure there will be no queuing on the public roadways surrounding the site.
- A road sweeper will be employed, if necessary, to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works.
- On site wheel washing will be undertaken for construction vehicles to remove any debris prior to leaving the site.

- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel. All scheduled maintenance will not be carried out on the public highway.
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

The site is accessed via the R351 south of Loughrea town. The site will not be open to members of the public. When vehicles are entering the site, or leaving the site, these movements will be supervised by designated members of staff who will act as road marshals. The construction site gates will be kept closed when not in use and monitored by security. Traffic cones and set-back signage will be put in place to warn and safely direct cyclists around obstructions, if required.

3.5 Invasive Species Management

During the multidisciplinary survey a search for Invasive Alien Species (IAS), with a focus on those listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) was conducted by a suitably qualified ecologist. No third schedule invasive species were found on site as part of site investigations and walkovers. Should invasive species be encountered on site during the construction phase, an invasive species management plan will be prepared. The treatment and control of invasive alien species will follow guidelines issued by the National Roads Authority – The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads (NRA 2010) and the Environment Agency– The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites (Version 3, amended in 2013). To prevent the introduction of any invasive species to the site best practice control methods are summarised in the following sections.

3.5.1 Site Management

There were no invasive species recorded onsite however, in the event that an invasive species are encountered, an invasive species management plan will be prepared, and the following measures will be adopted. Careful preparation of the site and planning of the works is crucial to successful prevention of introduction of invasive species. The following list of guidelines, which is not exhaustive, shall be followed by all on-site personnel. Only those who have been inducted into biosecurity measures on-site may enter the contaminated zones within the works areas.

3.5.2 Establishing Good Site Hygiene

- Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g. Rhododendron, Japanese Knotweed, Giant Rhubarb etc.) by thoroughly washing vehicles prior to entering the site.
- A risk assessment and method statement must be provided by the Contractor prior to commencing works.
- Fences will be erected around areas of infestation, as confirmed by test pits, and warning signs shall be erected.
- A designated wash-down area will be created, where power-washed material from machinery can be contained, collected, and disposed of with other contaminated material. This area will contain a washable membrane or hard surface.
- Stockpile areas will be chosen to minimise movement of contaminated soil.
- Stockpiles will be marked and isolated.

- Contaminated areas which will not be excavated will be protected by a root barrier membrane if they are likely to be disturbed by machinery. Root barrier membranes will be protected by a layer of sand above and below and topped with a layer of hardcore.
- The use of vehicles with caterpillar tracks within contaminated areas will be avoided to minimise the risk of spreading contaminated material.
- Any material that is imported onto any site will be verified by a suitably qualified ecologist to be free from any invasive species listed on the 'Third Schedule' of Regulations 49 & 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I 477 of 2011). This will be carried out by searching for rhizomes and plant material.
- Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.
- Any soils or subsoils contaminated with invasive species will be sent for disposal to an authorized waste facility.
- A suitably qualified ecologist will be on site to monitor and oversee the implementation of invasive species remedial works.

Plant and equipment which is operated within an area for the management of materials in contaminated areas will be decontaminated prior to relocating to a different works area. The decontamination procedures will take account of the following:

- Personnel may only clean down if they are familiar with the plant and rhizome material and can readily identify it.
- Decontamination will only occur within designated wash-down areas.
- Vehicles will be cleaned using stiff-haired brush and pressure washers, paying special attention to any areas that might retain rhizomes e.g., wheel treads and arches.
- All run-off will be isolated and treated as contaminated material. This will be disposed of in already contaminated areas.

3.6 Resource Waste Management Plan

The generation of waste as a result of construction related activity will provide the majority of on-site wastes which will need to be managed under guidelines set out in this document. This section of the CEMP provides a Waste Management Plan (WMP) which outlines the best practice procedures during the construction phases of the project. This plan has been compiled based on The Department of the Environment document entitled, *'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects' (2021).*

The plan is based on the European waste hierarchy which sets out the most to least preferred options for waste management. Waste prevention and re-use are viewed as the most desirable options for managing wastes with the least desirable option considered being disposal to a licensed landfill.

This plan has a number of key objectives as outlined below:

- To set out management prescriptions that adhere to the waste management hierarchy.
- To outline the roles and responsibilities of the appointed Waste Manager

3.6.1 Legislation

The Waste Management Act 1996 (Act) and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling, and recovery. The Act also provides

a regulatory framework for meeting higher environmental standards as set out by other national and EU legislation.

The Act requires that any waste-related activity has to have all necessary licences and authorisations. It will be the duty of the Waste Manager on the site of the Proposed Development to ensure that all contractors hired to remove waste from the site have valid Waste Collection permits. It will then be necessary to ensure that the waste is delivered to an appropriately licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations.

3.6.2 Waste Management Hierarchy

The waste management hierarchy sets out the most efficient way of managing waste in the following order:

Prevention and Minimisation

The primary aim of the WMP will be to prevent and thereby reduce the amount of waste generated at each stage of the project. The prevention and minimisation of waste of this development will be developed by implementing effective on-site materials management in terms of both material acquisition and storage on site.

Reuse of Waste

Reusing as much material generated on-site as possible will reduce the quantities of waste that will have to be disposed of off-site to recovery or waste facilities. Site management will be required to encourage the appropriate reuse of materials where possible as well as identify re-use opportunities to achieve ultimate goal of waste reduction. Construction waste will arise on the project mainly from excavation and unavoidable construction waste including excess materials and packaging waste.

Appropriate measures should be implemented to ensure that minimal waste is generated during construction. These are as follows:

- All waste will be collected in skips and the site will be kept tidy and free of debris at all times.
- All construction waste materials will be stored within the confines of the site, prior to removal from the site to a permitted waste facility.
- Ordering of materials should be on an ‘as needed’ basis to prevent over supply to site. Co-ordination is required with suppliers enabling them to take/buy back surplus stock.
- Request that suppliers use least amount of packaging possible on materials delivered to the site.
- Ensuring correct storage and handling of goods to avoid unnecessary damage that would result in their disposal.
- Ensuring correct sequencing of operations.
- Use reclaimed materials in the construction works.
- Hazardous waste will be kept separate from all other construction waste to prevent contamination and removed appropriately.
- Concrete can be reused as aggregate for roads cable trench backfilling materials
- Plastic packaging etc. can be used to cover materials on site or reused for the delivery of other materials.

At all times during the implementation of the WMP, disposal of waste to landfill will be considered only as a last resort.

Recycling of Waste

There are a number of established markets available for the beneficial use of construction waste such as using waste concrete as fill for new roads. If some of the construction materials cannot be reused on site, then recycling is the favoured option.

All waste that is produced during the construction phase including dry recyclables will be sent directly for subsequent segregation at an appropriately licenced facility. The low volume of such material that is anticipated to be generated at the Proposed Development is the justification for adopting this method of waste management.

3.6.3 Resource Waste Management Plan (RWMP)

3.6.3.1 Design Approach

The client and the design team have integrated the 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' guidelines into the design workshops, to help review processes, identify and evaluate resource reduction measures and investigate the impact on cost, time, quality, buildability, second life and management post construction. The design team have undertaken the design process in line with the international best practice principles to firstly prevent wastes, reuse where possible and thereafter sustainably reduce and recover materials. The below sections have been the focal point of the design process and material selections and will continue to be analysed and investigated throughout the design process and when selecting material. The approaches presented are based on international principles of optimising resources and reducing waste on construction projects through:

- Prevention;
- Reuse;
- Recycling;
- Green Procurement Principles;
- Off-Site Construction;
- Materials Optimisation; and
- Flexibility and Deconstruction.

The RWMP will be updated prior to construction and regularly revisited throughout the project's lifecycle so that opportunities to maximise waste reduction/efficiencies are exploited throughout, and that data is collected on an ongoing basis so that it is as accurate as possible.

3.6.4 Construction Waste Management

The first significant quantity of waste to be generated during the construction phase of the project will be as a result of demolition and site clearance works.

The majority of the waste generated by the demolition works will consist of concrete rubble, metal cladding, the existing wall structures (internal and external), and other associated support components (steel beams/bracing). Additionally, excavation works will generate soil and subsoil materials. Although a quantity of this material will be used for landscaping, backfilling and general restoration of excavated areas, it is anticipated that a small quantity of this material will be disposed of off-site by a licenced haulier to an authorised waste recovery facility. The demolition works materials will be segregated from all other waste components and sent by an authorised waste collector to an authorised waste recovery facility. The remaining volume of waste material will not be large enough to warrant any further segregation, therefore, this waste generated during the demolition of the building will be deposited into a single skip. This waste material will be transferred to a Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal.

Waste generated post excavation on site will be managed in the waste storage area where the various waste components will be segregated into a number of waste categories in accordance with a general waste segregation policy and placed into individual skips. The categories for segregation will include timber, metal, cardboard and plastics. This material will be removed by authorised waste collection contractors for recycling and recovery at various licensed facilities. The remaining volume of waste material which cannot be allocated to any of these four waste streams will be disposed of in a general waste skip. This general waste will be subject to constant monitoring by site management to ensure that potential reusable and recyclable material is not being disposed of therein. Other waste mitigation measures which will be implemented at the site are as follows;

- All waste will be collected in skips and the site will be kept tidy and free of debris at all times.
- Waste oils and hydraulic fluids will be collected in leak proof containers and removed from the site for disposal or recycling. It is also essential that all empty oil containers and other hazardous wastes should be disposed of in accordance with the requirements of the Waste Management Act, 1996.
- All construction waste materials will be stored within the confines of the site, prior to removal from the site to a licensed waste facility.
- A self contained port-a-loo with an integrated waste holding tank will be used within the confines of the site. This unit will be maintained by the providing contractor and removed from site upon completion of the construction works.
- No wastewater will be discharged on-site during the construction phase.

The expected wastes arising from the works including the individual List of Waste (LoW) codes are outlined in Table 3-1.

Table 3-1 Expected waste types arising from the Construction Phase

Materials type	Example	LoW Code
Cables	Electrical wiring	17 04 11
Concrete	Surfacing, flooring material	17 01 01
Metals	Steel supports and cladding, roof and wall coverings, utility piping,	17 04 07
Mixture of inert material	Sand, stones, plaster, brick, rock	17 01 07
Plastic	PVC frames, electrical fittings	17 02 03
Soil & Stones	Overburden, soil, subsoil	17 05 04
Wood	Rafters, frames, doors	17 02 01
Gypsum Materials	Roof tiles/slate	17 08 02
Glass	Windows	20 01 02

3.6.4.1 Waste Arisings and Proposals for Minimisation, Reuse and Recycling of Construction Waste

Construction waste will arise on the project mainly from excavation and unavoidable construction waste including material surpluses and damaged materials and packaging waste.

Appropriate measures should be taken to ensure excess waste is not generated during construction, including;

- Ordering of materials will be on an 'as needed' basis to prevent over supply to site. Co-ordination is required with suppliers enabling them to take/buy back surplus stock.
- Purchase of materials pre-cut to length to avoid excess scrap waste generated on site.
- Request that suppliers use least amount of packaging possible on materials delivered to the site.
- Ensuring correct storage and handling of goods to avoid unnecessary damage that would result in their disposal
- Ensuring correct sequencing of operations.
- Use reclaimed materials in the construction works.
- Hazardous waste will be kept separate from all other construction waste to prevent contamination and removed appropriately.

3.6.4.2 Wastes Arising from Construction Activities

All waste generated on site will be contained in waste skips at a waste storage area on site. This waste storage area will be kept tidy with skips clearly labelled to indicate the allowable material to be disposed of therein.

The waste generated from the development will be limited to the associated protective covers which are generally reusable or recyclable. Any other packaging waste generated from the delivery of materials will be deposited into the on-site skips and subsequently transferred to the MRF.

Site personnel will be instructed at induction that under no circumstances can waste be brought to site for disposal in the on-site waste skip. It will also be made clear that the burning of waste material on site is forbidden.

Implementation

3.6.4.3 Roles and Responsibilities for Waste Management

Prior to the commencement of the Proposed Development, a Waste Manager will be appointed by the project team. The role of Waste Manager is likely to be fulfilled by the Site Manager given the scale of the development and will be responsible for the implementation of the objectives of this plan, ensuring that all hired waste contractors have the necessary authorisations and that the waste management hierarchy is adhered to. The person nominated must have sufficient authority so that they can ensure everyone working on the Permitted Development adheres to the management plan. The waste manager will also be required to conducted regular waste audits in the Waste Stockpile Area (WSA) and throughout the site to ensure that the waste management plan is operating effectively.

3.6.4.4 Training

It is important for the Waste Manager to communicate effectively with colleagues in relation to the aims and objectives of the waste management plan. All employees working on site during the construction phase of the project will be trained in materials management and thereby, should be able to:

- Distinguish reusable materials from those suitable for recycling.
- Ensure maximum segregation at source.
- Co-operate with site manager on the best locations for stockpiling reusable materials.
- Separate materials for recovery.
- Identify and liaise with waste contractors and waste facility operators.

3.6.4.5 Record Keeping

The WMP will provide systems that will enable all arisings, movements, and treatments of waste to be recorded. This system will enable the contractor to measure and record the quantity of waste being generated. It will highlight the areas from which most waste occurs and allows the measurement of arisings against performance targets. The WMP can then be adapted with changes that are seen through record keeping.

The fully licensed waste contractor employed to remove waste from the site will be required to provide documented records for all waste dispatches leaving the site. Each record will contain the following:

- Consignment Reference Number
- Material Type(s) and LoW Code(s)
- Company Name and Address of Site of Origin
- Trade Name and Collection Permit Ref. of Waste Carrier
- Trade Name and Licence Ref. of Destination Facility
- Date and Time of Waste Dispatch
- Registration no. of waste transport vehicle
- Weight of Material
- Signature of Confirmation of Dispatch detail
- Date and Time of Waste Arrival at Destination
- Site Address of Destination Facility

3.6.5 Waste Management Plan Conclusion

The WMP will be correctly implemented and adhered to by all staff involved in the project which will be outlined within the induction process for all site personnel. The waste hierarchy will always be employed to ensure that the least possible amount of waste is produced during the construction phase. Reuse of certain types of construction wastes will cut down on the cost and requirement of raw materials therefore further minimising waste levels.

4. ENVIRONMENTAL MANAGEMENT IMPLEMENTATION AND EMERGENCY RESPONSE

4.1 Environmental Manager

Due to the scale of the activity at the site the Construction Manager will also act as the Environmental Manager (EM) and will be required to monitor all site works and to ensure that prescribed methodologies and environmental measures are followed throughout construction to avoid negatively impacting on the receiving environment.

The responsibilities and duties of the EM will include the following:

- Maintain and update as required the CEMP and supporting environmental documentation and review/approval of contractor method statements;
- Undertake inspections and reviews to ensure the works are carried out in compliance with the CEMP;
- The appointed contactor will be fully briefed by an ecologist as to the sensitive nature of the site and the required mitigation measures;
- The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed in this document are adhered to. Any environmental incidents or non-compliance issues will immediately be reported to the project team;
- In addition, a suitably qualified ecologist will be appointed to supervise the works undertaken during constriction, particularly where works within the lake are required;
- Generate environmental reports as required to show environmental data trends and incidents and ensure environmental records are maintained throughout the construction period;
- Advise site management/contractor/sub-contractors on:
    - Prevention of environmental pollution and improvement to existing working methods.
    - Changes in legislation and legal requirements affecting the environment.
    - Suitability and use of plant, equipment and materials to prevent pollution
    - Environmentally sound methods of working and systems to identify environmental hazards.
- Ensure proper mitigation measures are initiated and adhered to during the construction phase;
- Liaise with Project Team and present the findings of site audits/inspections that are completed;
- Ensure adequate arrangements are in place for site personnel to identify potential environmental incidents;
- Ensure that details of environmental incidents are communicated in a timely manner to the relevant regulatory authorities, initially by phone and followed up as soon as is practicable by email;
- Support the investigation of incidents of significant, potential, or actual environmental damage, and ensure corrective actions are carried out, recommend means to prevent recurrence and communicate incident findings to relevant parties;
- Identify environmental training requirements and arrange relevant training for all levels of site-based staff/workers; and
- The level, detail and frequency of reporting expected from the EM for the developer's project manager, and local authorities or other agencies, will be agreed

by all parties prior to commencement of construction, and may be further adjusted as required during the course of the project.

4.2 Project Ecologist

The ecologist shall monitor all site investigation and construction works for the Proposed Development and shall ensure that all works are carried out in accordance with mitigation measures outlined in the CEMP and NIS. On completion of the development, a final report setting out all the ecological monitoring, findings and measures carried out shall be submitted to the Planning Authority.

4.3 Emergency Response Plan

4.3.1 Emergency Response

The Emergency Response Plan (ERP) is presented in this section of the CEMP. It provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection. The site ERP includes details on the response required and the responsibilities of all personnel in the event of an emergency. The ERP will require updating and submissions from the contractor/ project supervisor construction stage (PSCS) and suppliers as the proposed project progresses. Where sub-contractors that are contracted on site are governed by their own emergency response procedure a bridging arrangement will be adopted to allow for inclusion of the sub-contractor's ERP within this document.

This is a working document that requires updating throughout the various stages of the project.

4.3.2 Roles and Responsibilities

The chain of command during an emergency response sets out who is responsible for coordinating the response. The Site Manager will lead the emergency response which makes him responsible for activating and coordinating the emergency response procedure. The other site personnel who can be identified at this time who will be delegated responsibilities during the emergency response are presented in Figure 4-1. In a situation where the Site Manager is unavailable or incapable of coordinating the emergency response, the responsibility will be transferred to the next person in the chain of command outlined in Figure 4-1. This will be updated throughout the various stages of the project.

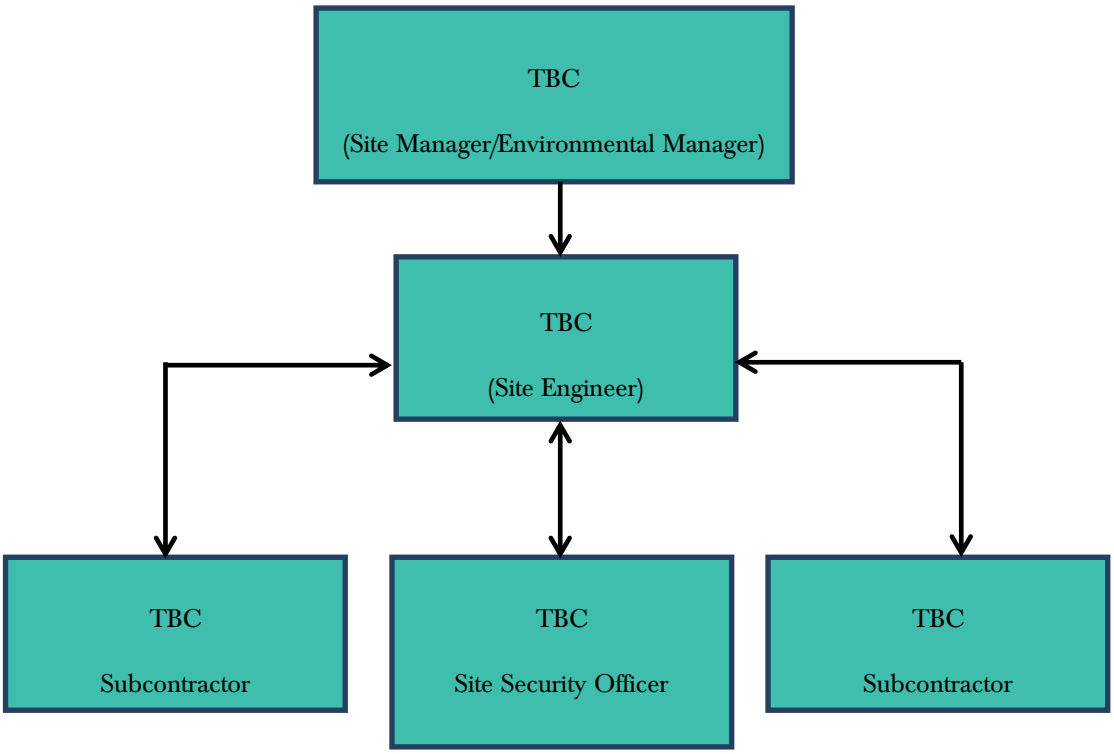

Figure 4-1 Emergency Response Procedure Chain of Command

4.3.3 Initial Steps

In order to establish the type and scale of potential emergencies that may occur, the following hazards have been identified as being potential situations that may require an emergency response in the event of an occurrence.

Table 4-1 Hazards Associated with Potential Emergency Situations

Hazard	Emergency Situation
Construction Vehicles: Dump trucks, tractors, excavators, cranes etc.	Collision or overturn which has resulted in operator or third-party injury.
Abrasive wheels/Portable Tools.	Entanglement, amputation or electrical shock associated with portable tools.
Contact with services.	Electrical shock or gas leak associated with an accidental breach of underground services.
Fire	Injury to operative through exposure to fire.
Falls from heights including falls from scaffold towers, scissor lifts, ladders and roofs.	Injury to operative after a fall from a height.
Sickness	Illness unrelated to site activities of an operative e.g., heart attack, loss of consciousness, seizure.

In the event of an emergency situation associated with, but not restricted to, the hazards outlined in Table 4-1 the Site Manager will carry out the following:

- Establish the scale of the emergency situation and identify the number of personnel, if any, have been injured or are at risk of injury.
- Where necessary, sound the emergency siren/foghorn that activates an emergency evacuation on the site.
- Make safe the area if possible and ensure that there no identifiable risk exists with regard to dealing with the situation e.g., if a machine has turned over, ensure that it is in a safe position so as not to endanger others before assisting the injured.
- Contact the required emergency services or delegate the task to someone if he is unable to do so. If delegating the task, ensure that they follow the procedures for contacting the emergency services as set out in Section 4.4.7
- Take any further steps that are deemed necessary to make safe or contain the emergency incident e.g., cordon off an area where an incident associated with electrical issues has occurred.
- Contact any regulatory body or service provider as required e.g., ESB Networks the numbers for which as provided in Section 4.4.7
- Contact the next of kin of any injured personnel where appropriate. The procedure for this is outlined in Section 4.4.7.

4.3.4 Site Evacuation/Fire Drill

A site evacuation/fire drill procedure will provide basis for carrying out the immediate evacuation of all site personnel in the event of an emergency. The following steps will be taken:

- Notification of the emergency situation. Provision of a siren or foghorn to notify all personnel of an emergency situation.
- An assembly point will be designated in the construction compound area and will be marked with a sign. All site personnel will assemble at this point.
- A roll call will be carried out by the Site Security Officer to account for all personnel on site.
- The Site Security Officer will inform the Site Manager when all personnel have been accounted for. At this time the Site Manager will decide the next course of action which will be determined by the situation that exists at that time. The Site Manager will advise all personnel accordingly.

All personnel will be made aware of the evacuation procedure during site induction. The Fire Services Acts of 1981 and 2003 require the holding of fire safety evacuation drills at specified intervals and the keeping of records of such drills.

4.3.5 Environmental Emergency Response Procedure

4.3.5.1 Spill Control Measures

Every effort will be made to prevent an environmental incident during the construction phase of the proposed project. Oil/Fuel spillages are one of the main environmental risks that will exist on the proposed site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident.

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.

- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident.
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- Notify the applicant immediately giving information on the location, type and extent of the spill so that they can take appropriate action.
- External consultants will inspect the site and will assist by providing any advice possible to ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The applicant will notify the appropriate regulatory body if deemed necessary.

Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The Environmental Manager must be immediately notified.
- If necessary, the Environmental Manager will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.
- The details of the incident will be recorded on an Environmental Incident Form which will provide information such as the cause, extent, actions and remedial measures that were used following the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.
- If the incident has impacted on an ecologically sensitive receptor, such as a sensitive habitat, protected species or designated conservation site, (pSPA or cSAC), the Environmental Manager will liaise with the Project Ecologist.
- If the incident has impacted on a sensitive receptor such as an archaeological feature the Environmental Manager will liaise with an suitably qualified Archaeologist.
- A record of all environmental incidents will be kept on file by the Environmental Manager and the Main Contractor. These records will be made available to the relevant authorities such as Galway County Council and the EPA if required.

The Environmental Manager will be responsible for any corrective actions required as a result of the incident e.g., an investigative report, formulation of alternative construction methods or environmental sampling, and will advise the Main Contractor as appropriate.

4.3.6 Contacting the Emergency Services

4.3.6.1 Emergency Communication Procedure

In the event of requiring the assistance of the emergency services the following steps should be taken:

- Stay calm. It is important to take a deep breath and not get excited. Any situation that requires 999/112 is, by definition, an emergency. The dispatcher or call-taker knows that and will try to move things along quickly, but under control.
- Know the location of the emergency and the number you are calling from. This may be asked and answered a couple of times but do not get frustrated. Even though many emergencies call centres have enhanced capabilities meaning they are able to see your location on the computer screen they are still required to confirm the

information. If for some reason you are disconnected, at least emergency crews will know where to go and how to call you back.
- Wait for the call-taker to ask questions, then answer clearly and calmly. If you are in danger of assault, the dispatcher or call-taker will still need you to answer quietly, mostly "yes" and "no" questions.
- If you reach a recording, listen to what it says. If the recording says your call cannot be completed, hang up and try again. If the recording says all call takers are busy, WAIT. When the next call-taker or dispatcher is available to take the call, it will transfer you.
- Let the call-taker guide the conversation. He or she is typing the information into a computer and may seem to be taking forever. There is a good chance, however, that emergency services are already being sent while you are still on the line.
- Follow all directions. In some cases, the call-taker will give you directions. Listen carefully, follow each step exactly, and ask for clarification if you do not understand.
- Keep your eyes open. You may be asked to describe victims, suspects, vehicles, or other parts of the scene.
- Do not hang up the call until directed to do so by the call taker.

All staff members will know the address and location of the site as it may be necessary to liaise with the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services.

4.3.6.2 Contact Details

A list of emergency contacts is presented in Table 4-2.

Table 4-2 Emergency Contacts Emergency Contacts

Hazard	Emergency Situation
Emergency Services – Ambulance, Fire, Gardaí	999/112
Doctor – Main Street Clinic Loughrea	091-842 144
Hospital –Bon Secours Hospital	091-381 900
ESB Emergency Services	1850 372 999
Bórd Gais Emergency	1850 20 50 50
Gardaí – Loughrea Garda Station	091-842-870
Health and Safety Coordinator - Health & Safety Services	TBC
Health and Safety Authority	1890 289 389
Project Supervisor Construction Stage (PSCS): TBC	TBC
Project Supervisor Design Stage (PSDS): TBC	TBC
Client – Galway County Council	1-617-361-6700 ext. 101

4.3.6.3 Procedure for Personnel Tracking

All operatives on site without any exception will have to undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.

In the event of a site operative becoming involved in an emergency situation where serious injury has occurred, and hospitalisation has taken place, it will be the responsibility of the Site Manager or next in command if unavailable to contact the next of kin to inform them of the situation that exists.

4.3.6.4 Induction Checklist

Table 4-3 provides a list of items highlighted in this ERP which must be included or obtained during the mandatory site induction of all personnel that will work on the site. This will be updated throughout the various stages of the project.

Table 4-3 Emergency Response Plan Items Applicable to the Site Induction Process

ERP Items to be included in Site Induction	Status
All personnel will be made aware of the evacuation procedure during site induction.	
Due to the location of the site, it may be necessary to liaise with and assist the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This should form part of the site induction to make new personnel and sub-contractors aware of any such arrangement or requirement if applicable.	
All operatives on site without any exception will undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.	

5. MITIGATION PROPOSALS

The Mitigation Measures which will be implemented are presented in this section of the CEMP. The CEMP will be finalised subsequent to any permission granted by Galway County Council and will be updated prior to construction to include, inter alia, any additional requirements pursuant to relevant planning conditions imposed.

By presenting the mitigation proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the future phases of the project.

Table 5-1 Mitigation measures for the Pre-commencement and Construction Phases

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
Pre-Commencement Phase				
1	CEMP Section 1	All measures identified in this CEMP, which will be finalised subsequent to any permission granted and updated prior to construction will include all mitigation measures identified to be adhered to during the pre-commencement and construction phases of the proposed works.		
2	CEMP Section 3.1.2 & NIS Section 6	› Prior to the commencement of earthworks, silt fencing will be erected around the boundary of the Proposed Development site, between the works area and along the shore of Lough Rea. This will be embedded into the ground adjacent to the perimeter boundary. › The silt fence will comprise wooden posts with geotextile membrane buried approximately 250mm below ground level. This fence will be kept in good repair and will be routinely inspected › The silt fences will be left in place throughout construction phase and until all exposed soil has revegetated. › A site compound will be established within the site boundary. The exact location of the site compound will be established by the contractor and will be located a minimum of 50m from any watercourses or waterbodies. The compound will be used for storage of material, machinery, fuel, and workers facilities. › A self-contained port-a-loo with an integrated waste holding tank will be used at the site compound, maintained by the providing contractor, and removed from site on completion of the construction works; No foul water will be discharged on-site during the construction. › The appointed contactor will be fully briefed by an ecologist as to the sensitive nature of the site (i.e. proximity to Lough Rea) and the required mitigation measures.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed in this document are adhered to. Any environmental incidents or non-compliance issues will immediately be reported to the project team. › In addition, a suitably qualified ecologist will be appointed to supervise the works undertaken during constriction, particularly where works within the lake are required. › Excavated spoil (if any) will be stockpiled and contained entirely within the confines of the site boundaries. › During earthwork activities, the following mitigations will be adhered to: ○ Excavation depths will be kept to a minimum. ○ Material that is not re-used will be transported off site to an appropriately licensed waste recovery/disposal facility. ○ Suitable stone material will be imported to the site to be used as backfill. ○ Stockpiling of soil during construction, should it be required, will take place in designated areas within the site boundary away from any watercourses or waterbodies. ○ A silt fence will be erected around any stockpiling of material to prevent any sediment-laden run-off occurring. › All diesel or petrol pumps required onsite will be operated within bunded units. › Exposed surfaces will be re-vegetated as soon as possible following construction.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› The minimum number of soil/subsoils and bedrock material will be removed from site. Soil may be reused for landscaping elsewhere on the site. › Earthworks will not be carried out during periods of heavy rainfall. › As construction advances there may be a requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required will be tankered off site for appropriate treatment. › If ground water is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached on to an area of overland vegetation within the site boundary. › Discharge to ground will be via a silt bag which will filter any remaining sediment from the pumped water. › Daily monitoring and inspections of site drainage during construction will be completed by the appointed environmental officer. › Good construction practices such wheel washers and dust suppression on site roads, and regular plant maintenance will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provide guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRIA, 2010), which provides information on these potential issues. This will ensure that surface water arising during the course of construction activities will contain minimum sediment.		
Construction Phase				
Surface Water Mitigation				
3	CEMP Section 2.4.4 & NIS Section 6	A construction compound will be established within the site boundary. The exact location of the site compound will be established by the contractor and will be located a minimum of 50m from any watercourses or waterbodies.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
4	CEMP Section 3.4.10 & NIS Section 6	There is a requirement for in-lake works to construct the circular viewing deck which will be located above the lake itself, supported by pylons. The circular viewing deck will be formed in composite decking on frame as per drawing no. P(01) 03 By Helena McElmeel Architects. The following methodology will be implemented to install the proposed viewing deck.: › Prior to installing the support pylons, the works area will be temporarily dammed (cofferdam) with sandbags and will completely surround the works area. › A dry works area will be created within the cofferdams. This will be created by pumping water from within the works area. › A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground. › The pylons will then be installed as per the design by pile driving them to an appropriate depth. › The frames for the composite decking will then be installed on the pylons. Composite decking will then be secured to the frame structure. › All works will be checked by an appropriately qualified engineer prior to completion. › A silt curtain will be installed outside the cofferdam works area to prevent any silt that may be disturbed as a result of the works from being dispersed to the lake.		
5	CEMP Section 2.4.11 & NIS Section 6	An accessible deck/steps will be installed to improve access to the water. The proposed accessible deck/steps and other in-lake works are anticipated to be constructed using the following methodology:		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Works will be carried out in the dry to avoid siltation of the Lough Rea and downstream watercourses. › The areas within Lough Rea where works are required will be temporarily dammed (coffer dam) with sandbags and will completely surround the work area. A silt curtain will also be installed if deemed necessary. › No batching of wet-cement products will occur on site. Pre-cast elements for culverts and concrete works will be used. › Prior to the installation of the precast elements, minor excavation and grading works will be carried out to achieve the appropriate installation levels. › A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground. › Prior to pumping, electrofishing should be carried out within the works area under licence from the NPWS by a qualified ecologist to remove any fisheries and move them into Lough Rea. › Machinery will not enter the water. › Once works within these areas are complete, the sandbags will be removed to allow water from the lake back into the area. › All in-lake works will be carried out in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters. › The deck/steps and ramp and other in-lake works should be carried out during the period of July 1st to September 30th to minimise potential adverse impacts to fisheries, in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
6	CEMP Section 2.4.10 & NIS Section 6	There is a requirement for in-lake works to construct the circular viewing deck which will be located above the lake itself, supported by pylons to the south of the existing pirt. The circular viewing deck will be formed in composite decking on frame as per drawing no. P(01) 03 By Helena McElmeel Architects. The following methodology will be implemented to install the proposed viewing deck.: › Prior to installing the support pylons, the works area will be temporarily dammed (cofferdam) with sandbags and will completely surround the works area. › A dry works area will be created within the cofferdams. This will be created by pumping water from within the works area. › A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground. › The pylons will then be installed as per the design by pile driving them to an appropriate depth. › The frames for the composite decking will then be installed on the pylons. Composite decking will then be secured to the frame structure. › All works will be checked by an appropriately qualified engineer prior to completion. › A silt curtain will be installed outside the cofferdam works area to prevent any silt that may be disturbed as a result of the works from being dispersed to the lake.		
Construction Management				

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
7	CEMP Section 3.1.3 & NIS Section 6	› No batching of wet-cement products will occur on site. › Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible, pre-cast elements for concrete works will be used. › Where possible, pre-cast elements for concrete works will be used. › No washing out of any plant used in concrete transport or concreting operations will be allowed on-site. › Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible. › No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed. › Use weather forecasting to plan dry days for pouring concrete. › Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.		
		Fuel and Oil Control		
8	CEMP Section 3.1.4 & NIS Section 6	› Storage/refuelling will be located in and carried out in a designated area of the proposed site, located a suitable distance from excavation works. Bunded tanks will be used, and these will be inspected for leaks regularly. Spill kits will be available on site and staff will be trained in their use and in spill control. All spills shall be diverted for collection. › Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment. › Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or recycling.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Storage bunds/trays, if required will be constructed of an impermeable membrane (HDPE Plastic) and will have the adequate capacity to contain the volume of the liquids contained therein, if a leak/spillage does occur from one of the storage vessels. › The storage area will contain a small bund lined with an impermeable membrane in order to prevent any contamination of the surrounding soils and vegetation. › All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.		
9	CEMP Section 4.3.6.1 & NIS Section 6	Every effort will be made to prevent an environmental incident during the construction and operational phase of the proposed project. Oil/Fuel spillages are one of the main environmental risks that will exist on the proposed site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident. › Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers. › If applicable, eliminate any sources of ignition in the immediate vicinity of the incident. › Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill. › If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats. › If possible, clean up as much as possible using the spill control materials.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited. › Notify the applicant immediately giving information on the location, type and extent of the spill so that they can take appropriate action. › External consultants will inspect the site and will assist by providing any advice possible to ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring. › The applicant will notify the appropriate regulatory body if deemed necessary.		
Air Quality and Dust Control				
9	CEMP Section 4.2	Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e., soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the public road. The measures below will also prevent construction debris arising on the public road network. › The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary. › Material handling systems and material storage areas, if required will be designed and laid out to minimise exposure to wind. › Water misting will be utilised on-site as required to mitigate dust in dry weather conditions, if required.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› The transport of soils, demolition material, aggregates or other material, which has the potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary. › Daily inspection of construction sites to examine dust measures and their effectiveness. › All construction related traffic will have speed restrictions on un-surfaced areas within the site to 60kph.		
		Noise		
10	CEMP Section 3.3 & NIS Section 6	The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Noise levels shall be kept below those levels specified in the National Roads Authority – *"Guidelines for the Treatment of Noise and Vibration in National Roads Schemes"* or such further limits as imposed by Galway County Council. The Proposed Development shall comply with BS 5228 *"Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control."* During the works, any plant introduced to the site will not be excessively noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced. Proposed measures to control noise include: › Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006. › If utilised, diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts. › Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations. › Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints. › Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers. › All plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works. › If compressors are required, they will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. › Machines, which are used intermittently, will be shut down during those periods when they are not in use. › Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation. › Where necessary, further measures for the reduction of construction noise and vibration levels will be defined by Galway County Council and adhered to by the Main Contractor. It is recommended that drivers of heavy goods vehicles (HGVs) associated with the development extend due care and courtesy to other road users. Excessive engine revving will be avoided at all times. The proposed construction working hours will be 08:00-18:00 Monday to Saturday. Construction will not take place at the site on Sundays or Public Holidays. Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority and when other		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		relevant third parties i.e., nearby homeowners and property owners have been notified and have agreed to works taking place during such time periods.		
		Traffic Management		
11	CEMP Section 3.4	The proposed traffic management measures to be adopted during the construction works are summarised below. Please note that this is not an exhaustive list, and it will be updated accordingly by the appointed contractor in consultation with the local authority. › Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction site access locations. › A site specific Construction Traffic and Transport Statement will be agreed upon with the Galway County Council prior to works starting. › Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes. › Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on HGVs carrying dust producing material. › Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds. › Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with Galway County Council. › Deliveries of construction materials will be planned to ensure that the materials are delivered only as they are required and will avoid peak hours when possible.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Works that require the use of multiple vehicles, such as concrete pours, will be planned to ensure there will be no queuing on the public roadways surrounding the site. › A road sweeper will be employed, if necessary, to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works. › On site wheel washing will be undertaken for construction vehicles to remove any debris prior to leaving the site. › All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel. All scheduled maintenance will not be carried out on the public highway. › Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons. The site is accessed via the R351 south of Loughrea town. The site will not be open to members of the public. When vehicles are entering the site, or leaving the site, these movements will be supervised by designated members of staff who will act as road marshals. The construction site gates will be kept closed when not in use and monitored by security. Traffic cones and set-back signage will be put in place to warn and safely direct cyclists around obstructions, if required.		
Invasive Species Management				
12	CEMP Section 3.5.2 & NIS Section 6	› Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g. Rhododendron,		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		Japanese Knotweed, Giant Rhubarb etc.) by thoroughly washing vehicles prior to entering the site. › A risk assessment and method statement must be provided by the Contractor prior to commencing works. › Fences will be erected around areas of infestation, as confirmed by test pits, and warning signs shall be erected. › A designated wash-down area will be created, where power-washed material from machinery can be contained, collected, and disposed of with other contaminated material. This area will contain a washable membrane or hard surface. › Stockpile areas will be chosen to minimise movement of contaminated soil. › Stockpiles will be marked and isolated. › Contaminated areas which will not be excavated will be protected by a root barrier membrane if they are likely to be disturbed by machinery. Root barrier membranes will be protected by a layer of sand above and below and topped with a layer of hardcore. › The use of vehicles with caterpillar tracks within contaminated areas will be avoided to minimise the risk of spreading contaminated material. › Any material that is imported onto any site will be verified by a suitably qualified ecologist to be free from any invasive species listed on the 'Third Schedule' of Regulations 49 & 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I 477 of 2011). This will be carried out by searching for rhizomes and plant material. › Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present. › Any soils or subsoils contaminated with invasive species will be sent for disposal to an authorized waste facility. › A suitably qualified ecologist will be on site to monitor and oversee the implementation of invasive species remedial works.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		Plant and equipment which is operated within an area for the management of materials in contaminated areas will be decontaminated prior to relocating to a different works area. The decontamination procedures will take account of the following: › Personnel may only clean down if they are familiar with the plant and rhizome material and can readily identify it. › Decontamination will only occur within designated wash-down areas. › Vehicles will be cleaned using stiff-haired brush and pressure washers, paying special attention to any areas that might retain rhizomes e.g., wheel treads and arches. › All run-off will be isolated and treated as contaminated material. This will be disposed of in already contaminated areas.		
Waste Management				
13	CEMP Section 3.6.2 & NIS Section 6	› All waste will be collected in skips and the site will be kept tidy and free of debris at all times. › All construction waste materials will be stored within the confines of the site, prior to removal from the site to a permitted waste facility. › Ordering of materials should be on an 'as needed' basis to prevent over supply to site. Co-ordination is required with suppliers enabling them to take/buy back surplus stock. › Request that suppliers use least amount of packaging possible on materials delivered to the site. › Ensuring correct storage and handling of goods to avoid unnecessary damage that would result in their disposal. › Ensuring correct sequencing of operations. › Use reclaimed materials in the construction works.		

Mitigation Measure	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Hazardous waste will be kept separate from all other construction waste to prevent contamination and removed appropriately. › Concrete can be reused as aggregate for roads cable trench backfilling materials › Plastic packaging etc. can be used to cover materials on site or reused for the delivery of other materials.		
14	CEMP Section 3.6.4 & NIS Section 6	› All waste will be collected in skips and the site will be kept tidy and free of debris at all times. › Waste oils and hydraulic fluids will be collected in leak proof containers and removed from the site for disposal or recycling. It is also essential that all empty oil containers and other hazardous wastes should be disposed of in accordance with the requirements of the Waste Management Act, 1996. › All construction waste materials will be stored within the confines of the site, prior to removal from the site to a licensed waste facility. › A self contained port-a-loo with an integrated waste holding tank will be used within the confines of the site. This unit will be maintained by the providing contractor and removed from site upon completion of the construction works. › No wastewater will be discharged on-site during the construction phase.		

6. PROGRAMME OF WORKS

6.1 Construction Programme

The demolition and construction phase will take approximately 12-18 months to complete. This is typically broken down into several phases. An example of the programme of works is outlined in Table 6-1 below. The construction programme will be finalised on appointment of a contractor before commencement of the development.

Table 6-1 Phasing Scope of Works

Phase No.	Description	Scope of works
Phase 1	Site Setup	This occurs from months 1-2 and includes laying the matting or gravel for the site setup and machinery mobilisation.
Phase 2	Demolition	This occurs from months 2-3 It includes demolition of the existing structures and removal of material.
Phase 3	Foundations	This occurs from months 3-5. It includes digging laying foundations and other preparatory works.
Phase 4	Building Structures	This occurs from months 5-7. It includes building the main structures within the site.
Phase 5	Internal Fit Out	This occurs from months 7-12. It includes the fitting out of the buildings and civils connections.
Phase 6	Circular Viewing Deck & Steps/Ramp	This occurs from months 12-14. This includes in-lake works.
Phase 7	Close Out	This occurs in the last months of construction (months 14-18) any landscaping works if required followed by machinery demobilisation and site disassembly.

7. COMPLIANCE AND REVIEW

7.1 Site Inspections and Environmental Audits

Routine inspections of activities will be carried out on a daily and weekly basis by the Site Environmental Manager/Construction Manager as appointed by the applicant to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place.

Environmental inspections will ensure that the works are undertaken in compliance with this CEMP. Environmental site inspections will be carried out by suitably trained staff.

7.2 Environmental Compliance

The following definitions shall apply in relation to the classification of Environmental Occurrences during the infilling works:

Environmental Near Miss

An occurrence which if not controlled or due to its nature could lead to an Environmental Incident.

Environmental Incident

Any occurrence which has potential, due to its scale and nature, to migrate from source and have an environmental impact beyond the site boundary.

Environmental Non-Compliance

Non-fulfilment of a requirement and includes any deviations from established procedures, programs and other arrangements related to the CEMP.

7.3 Corrective Action Procedure

A corrective action is implemented to rectify an environmental issue on-site. Corrective actions will be implemented by the Construction Manager, as advised by the Site Environmental manager. Corrective actions may be required as a result of the following.

- Environmental Audits.
- Environmental Inspections and Reviews.
- Environmental Incidents; and,
- Environmental Complaints.

A Corrective Action Notice will be used to communicate the details of the action required to the main contractor. A Corrective Action Notice is a form that describes the cause and effect of an environmental problem on site and the recommended corrective action that is required. The Corrective Action Notice, when completed, will include details of close out and follow up actions.

If an environmental problem occurs on site that requires immediate attention direct communications between the Construction Manager and the Site Environmental manager will be conducted. This in turn will be passed down to the site staff involved. A Corrective Action Notice will be completed at a later date.

APPENDIX 3

REVIEW OF PLANS AND PROJECTS

Assessment of Plans

The following development plans been reviewed and taken into consideration as part of this assessment:

- Galway County Development Plan 2022-2028
- Northern and Western Regional Assembly – Regional Spatial and Economic Strategy 2020 – 2032
- Ireland's 4th National Biodiversity Action Plan 2023-2030

The review focused on policies and objectives that relate to European sites. None of the objectives reviewed had the potential to result in cumulative adverse effects on any European Site.

Review of Relevant Plans

Review of plans

Plans	Key Policies/Issues/Objectives Directly Related To European Sites, Biodiversity and Sustainable Development In The Zone of Influence	Assessment of development compliance with policy
Galway County Development Plan 2022-2028	**Policy Objective NHB 1 – Natural Heritage and Biodiversity of Designated Sites, Habitats and Species** › Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan. › Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI 94 of 1999). Support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas, Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries (and other designated sites including any future designations) and the promotion of the development of a green/ ecological network.	The Development Plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the biodiversity and other natural heritage interests. The Proposed Development has been designed in order to avoid likely significant effect on areas of ecological importance. Where the potential for adverse effect on areas of ecological importance has been identified mitigation will be implemented. No potential for cumulative impacts when considered in conjunction with the current proposal were identified.
Northern and Western Regional Assembly – Regional Spatial and Economic Strategy 2020 – 2032	**Growth Ambition 2: Environment – Natural Region** **RPO 5.4** - Encourage the prioritisation of Site-Specific Conservation Objectives (SSCO) for all sites of Conservation Value, designated in EU Directive (i.e., SACs, SPAs) to integrate with the development objectives of this Strategy.	The Plans were comprehensively reviewed with particular reference to Policies and Objectives that relate to the Natura 2000 Network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified.

	RPO 5.5 - Ensure efficient and sustainable use of all our natural resources, including inland waterways, peatlands, and forests in a manner which ensures a healthy society a clean environment and there is no net contribution to biodiversity loss arising from development supported in this strategy. Conserve and protect designated areas and natural heritage areas. Conserve and protect European sites and their integrity. **RPO 5.6** - Develop awareness and create a greater appreciation of the benefits of our natural heritage, including on the health, wealth and well-being of the region's ecosystem services. **RPO 5.7** - Ensure that all plans, projects and activities requiring consent arising from the RSES are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate.	
Ireland's 4th National Biodiversity Action Plan 2023-2030	› **Objective 1: Adopt a Whole-of Government, Whole of-Society Approach to Biodiversity.** Proposed actions include capacity and resource reviews across Government; determining responsibilities for the expanding biodiversity agenda providing support for communities, citizen scientists and business; and mechanisms for the governance and review of this National Biodiversity Action Plan. › **Objective 2: Meet Urgent Conservation and Restoration Needs.** Supporting actions will build on existing conservation measures. Efforts to tackle Invasive Alien Species will be elevated. The protected area network will be expanded to include the Marine Protected Areas. The ambition of the EU Biodiversity Strategy will be considered as part of an evolving work programme across Government. › **Objective 3: Secure Nature's Contribution to People.** Actions highlight the relationship between nature and people in Ireland. These include recognising the tangible and intangible values of biodiversity, promoting nature's importance to our culture and heritage and recognising how biodiversity supports our society and our economy. › **Objective 4: Enhance the Evidence Base for Action on Biodiversity.** This objective focuses on biodiversity research needs, as well as the development and strengthening of long-term monitoring programmes that will underpin and strengthen future decision-making. Action will also focus on collaboration to advance ecosystem accounting that will contribute towards natural capital accounts. › **Objective 5: Strengthen Ireland's Contribution to International Biodiversity Initiatives**. Collaboration with other countries and across the island of Ireland will play a key role in the realisation of this Objective. Ireland will strengthen its contribution to international	There will be no adverse effects on designated sites or biodiversity as a result of the proposed development. The proposed development will not impact on connectivity within the wider area.

	biodiversity initiatives and international governance processes, such as the United Nations Convention on Biological Diversity.	

Other Projects

The proposed development was considered in-combination with other plans and projects in the area that could result in cumulative impacts on designated Sites. The online planning system for Kilkenny County Council as well as the An Bord Pleanála Website (planning searches), was consulted on the 3rd of November 2023 for the relevant area surrounding the site. Projects identified in the 1km radius of the proposed development from the last 5 years were:

- Permission to carry out alterations and extension to an existing dwelling house and all associated site works and services. Gross floor space of proposed works house 180.9 sqm and garage 63.1 sqm. (Planning Ref: 211369).
- Retention of change of use of car port to sunroom with minor changes to elevations of dwelling house (previously approved under planning reg. ref. no. 3580) & (2) to retain home office & garden shed. (Planning Ref: 2360710).
- Permission for the blocking up of an existing agricultural entrance and the construction of a replacement agricultural entrance, internal roadway and concrete bund for the temporary storage and disposal of animal waste. (Planning Ref: 1966).
- Extension of duration for the construction of a serviced dwellinghouse and wastewater treatment system (gross floor space 186.30sqm). (Planning Ref: 21908).
- Permission to carry out alterations and extension to an existing dwelling house and all associated site works and services. Gross floor space of proposed works house 180.9 sqm and garage 63.1 sqm. (Planning Ref: 211369).
- Permission for the demolition of existing sub-standard dwelling house and the construction of a new dwelling house, domestic garage, treatment unit, percolation area, site access, landscaping and all associated site services. A Natura Impact Statement has been prepared as part of this planning application. Gross floor space of proposed works: Dwelling House - 685.9 sqm, Garage - 135.8 sqm. (Planning Ref: 191465).