Planning and Environmental Consultants

Ecological Impact Assessment

Woodquay Park Enhancement

DOCUMENT DETAILS

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1. INTRODUCTION

1.1 Background

MKO has been commissioned to conduct an Ecological Impact Assessment (EcIA) of the Woodquay Park Enhancement Project, located in Woodquay, County Galway (ITM Co-Ordinates: 529722, 725686).

The EcIA includes an accurate description of all aspects of the Proposed Works during construction, operation and decommissioning (where relevant). It then provides a comprehensive description of the baseline ecological environment, which is based on an appropriate level of survey work that was carried out in accordance with the most appropriate guidelines and methodologies. The EcIA then completes a thorough assessment of the impacts of the Proposed Works on biodiversity. Where likely ecologically significant effects are identified, measures are prescribed to avoid or minimise or compensate for such effects.

1.2 Statement of Authority

A Multidisciplinary Ecological Walkover Survey was conducted by Rachel Minogue (BSc., Environmental Science) on the 25/06/2023 and 19/06/2024 A dedicated Dusk Emergence Bat Survey was conducted on the 19/06/2024 by Rachel Minogue (BSc., Environmental Science), Matthew Kieran (BSc., Environmental Science & Ecology), and Mairead Kavanagh (BSc., Botany). Rachel has also prepared this report. Rachel is an ecologist with MKO, with the relevant qualifications in Environmental Science. This report has been reviewed by Colin Murphy (B.Sc., MSc). Colin is an experienced project ecologist and has over 4 years' professional consultancy experience.

1.3 Relevant Guidance

In addition, the guidelines listed below were consulted in the preparation of this document to provide the scope, structure and content of the assessment:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018) (amended 2019).
- EPA guidelines on the information to be contained in Environmental Impact Statements (EPA, 2022).
- Environmental Impact Assessment of National Road Schemes –A Practical Guide (NRA, 2009).
- Guidelines for assessment of Ecological Impacts of National Road Schemes, (NRA, 2009).
- Environmental Assessment and Construction Guidelines (NRA, 2006)

2. DESCRIPTION OF PROPOSED WORKS

2.1 Site Location

The Proposed Works are located within Woodquay Park, Co. Galway (ITM Co Ordinates: 529722, 725686). The site is approximately 0.15 hectares in size, and is surrounded to the south, east, and west by residential dwellings, public roads, carparks and pathways. To the northwest of the site is the Galway Rowing Club. The River Corrib, which is designated as part of the Lough Corrib SAC, is located adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The site is accessed via the R866.

The site location is shown on **Figure 2.1.**

2.2 Characteristics of Proposed Works

2.2.1 Development Description

The Proposed Woodquay Park Enhancement consists of the following works:

I. Upgrades and expansion of the Woodquay park including the provision of:

   a) Hard and soft landscaping including rain gardens, seating areas, natural play landform, and planting of Molina meadow, spring bulbs, hedge row, and ground cover;
   b) Removal of 1 no. 'Class C', and 1 no. 'Class B' trees. Planting of 4 no. new 'Golden Alder' trees;
   c) Relocation and reduction in size of existing bike share station;
   d) Galway Orb Sculpture and Light Feature;
   e) Litter Bins;
   f) Bollards;
   g) Flexible Events and Open Space Area;
   h) Enhanced Public Lighting;
   i) Enhanced SuDS based surface water management,
   j) Relocation of existing ICA memorial; and
   k) All other associated and ancillary works;

II. Provision of 4 no. pedestrian crossings including 2 no. across Riverside, 1 no. across Waterside, and 1 no. across Corrib Terrace;
III. Hard and soft landscaping adjacent to the park (across Riverside) to provide enhanced public realm including: public lighting, drainage rain garden, seating areas, and all other associated and ancillary works;
IV. Vehicular parking consisting of relocation of 2 no. EV parking spaces, relocation of 2 no. accessible parking spaces, retention of approx. 10 no. on street parking spaces on Corrib Terrace with modifications for new pedestrian crossings, and relocation of 4 no. motorcycle spaces. This is a net removal of 11 no. existing car spaces.
V. Hard and soft landscaping adjacent to the park (across Waterside) to enable a continuation of paving type, wider footpaths, enhanced lighting, and consistent public realm design;
VI. All other associated and ancillary development and site works.

A **Natura Impact Statement (NIS)** has been prepared in respect of the Proposed Works.

2.2.2 Site Drainage

2.2.2.1 Ground Infiltration Test

A Ground Infiltration Test was conducted was conducted in-situ in May 2024 in line with the Building Research Establishment (BRE 365) guidelines. It was determined that the existing soil had good soakage, and that infiltration to ground as a means of stormwater disposal would be possible.

For full details on the Proposed Drainage refer to the **Engineering Planning Report- 231101-PUNCH-XX-XX-RP-C-0005** submitted as part of this application.

2.2.2.2 Proposed Storm Water Drainage

The aim of the proposed surface water drainage system is to utilize the current infrastructure, and disposal means and enhance it by incorporating Sustainable Urban Drainage (SuDS) features. The SuDS features will add amenity and biodiversity as well as improve stormwater quality and reduce stormwater volumes entering the public network.

For full details on the Proposed Drainage refer to the **Engineering Planning Report- 231101-PUNCH-XX-XX-RP-C-0005** submitted as part of this application.

Further, the Proposed Drainage Layout is detailed on **Drawing 231101-PUNCH-01-XX-DR-C-0101** titled '**Proposed Drainage Layout'** submitted as part of this application.

2.2.2.2.1 *Storm Water Drainage Network*

All surface water run-off from the surrounding road is currently drained with road gullies, and these will be retained and continue to discharge stormwater into the combined sewer. The stormwater in the park itself will continue to infiltrate to ground as the main means of disposal. The use of permeable materials for the hardstand and paths will provide interception reduction in stormwater volumes and the use of biofiltration and bioretention, by means of planted raingardens, will improve stormwater quality prior to discharge via infiltration to ground.

Additional road gullies are included in the design to reduce the risk of surface ponding at crossing locations. The proposed new gullies with discharge directly into the biofiltration areas for treatment prior to discharging to ground.

There will be no direct discharge of storm water to the River Corrib (Designated as part of Lough Corrib SAC) as a result of the proposed works.

2.2.2.3 SUDs Proposals

The proposed development has been assessed in relation to Sustainable Urban Drainage Systems (SuDS). A variety of SuDS measures may be adopted to comply with Council recommendations. All SuDS measures are to be implemented with reference to the UK Suds Manual and Galway City Council drainage requirements.

The SuDS processes decrease the impact of the development on the receiving environment by providing amenity and biodiversity in many cases. Regular maintenance of the SuDS proposals is required to ensure they are operating to their optimal level throughout their design life.

The proposed SuDS measures will provide interception for rainfall events up to 5 mm, reducing the total volume of stormwater generated by the development.

The specific measures adopted for the proposed development have been agreed in principle with Galway City Council and comprise the following:

For full details on the Proposed Drainage refer to the **Engineering Planning Report- 231101-PUNCH-XX-XX-RP-C-0005** submitted as part of this application.

2.2.2.3.1 *Permeable Pavements*

The hard landscaping and paths within the park are proposed as permeable pavements. The treatment processes that occur within permeable pavements include:

- Filtration of silt and the attached pollutants–the majority of silt is trapped within the top 30mm of the jointing material between the blocks
- Biodegradation of organic pollutants, such as petrol and diesel within the pavement construction Adsorption of pollutants (pollutants attach or bind to surfaces within the construction) which depends on factors such as texture, aggregate structure and moisture content
- Settlement and retention of solids.

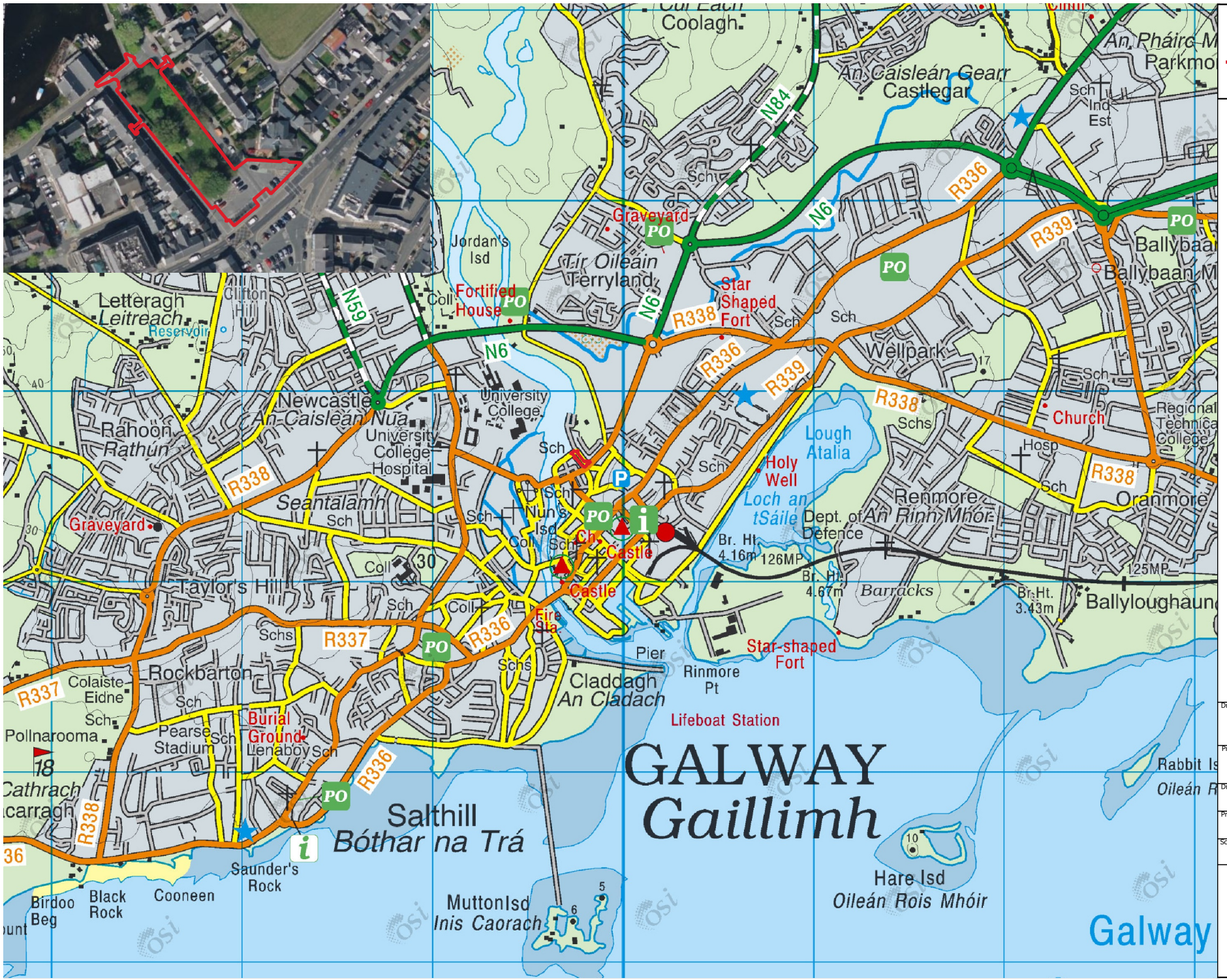
2.2.2.3.2 *Bio Retention Areas/ Modified Planters*

The bio-retention areas/modified planters will incorporate drainage stone/subsoil and will provide a level of additional attenuation within the bio-retention areas/modified planters. Bioretention systems allow the stormwater to filter downwards through a filter medium removing finer contaminants along the way. Depending on the particle size of the filter media different qualities can be achieved from the bioretention system. The infiltration rates recorded on site will allow for disposal of stormwater to ground after it has been treated via filtration.

2.2.3 Flood Risk Assessment

Punch Consulting Engineers were commissioned by Galway City Council to carry out a Site-Specific Flood Risk Assessment for Woodquay Park Enhancement. A review of the Geological Survey of Ireland (GSI) database for groundwater flooding indicates that there is no groundwater flooding in the area of the Proposed Works. It was determined that the Proposed Works site is partially located in Flood Zone B for Fluvial Flooding, and Flood Zone C for Coastal Flooding. Overall, the Proposed Works Site is water compatible in nature and is at a low risk of flooding and will not impact the flood risk to the adjacent area.

For full details refer to the **Site- Specific Flood Risk Assessment- 31101-PUNCH-XX-XX-RP-C-004SSFRA** submitted as part of this application.


Map Legend
Site Location
Coolagh
An Caisleán Gearr
Castlegar
N84
R336
N6
R339
Graveyard
Jordan's Isd
Tír Oileáin
Terryland
Fortified House
Star Shaped Fort
R338
Ballybaan
Wellpark
Letteragh
Leitreach
Reservoir
N59
Clifton Hill
Newcastle
An Caisleán Nua
University College
Rahoon
Rathún
University College Hospital
Seantalamh
Taylor's Hill
Graveyard
Nun's Isd
Castle
Holy Well
Loch an tSáile
Lough Atalia
Dept. of Defence
An Rinn Mhór
Renmore
Oranmore
Church
Regional Technical College
Hosp
Schs
Br. Ht 4.16m
126MP
Br. Ht 4.67m
Barracks
125MP
Br. Ht. 3.43m
Ballyloughaun
Fire Sta
Pier
Rinmore Pt
Star-shaped Fort
Claddagh
An Cladach
Lifeboat Station
Rockbarton
Colaiste Eidne
Pollnarooma
Pearse Stadium
Burial Ground
Lenaboy
R337
Salthill
Bóthar na Trá
Saunder's Rock
Birdoo Beg
Black Rock
Cooneen
Muttonlsd
Inis Caorach
Hare Isd
Oileán Rois Mhóir
GALWAY
Gaillimh
Galway
Rabbit Is
Oileán R
Microsoft product screen shots reprinted with permission from Microsoft Corporation
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Drawing Title
Site Location
Project Title
Woodquay Park Enhancement
Drawn By
RM
Checked By
CM
Project No.
230108
Drawing No.
Figure 2.1
Scale
1:25,904
Date
23/09/2024
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2.3 Landscape Plan

There are approx 18 trees within Woodquay Park. It is proposed to remove approx 2x trees from Woodquay Park to facilitate the proposed works, including one grade B Grey Alder (*Alnus incana*) to the eastern parcel of site, and one grade C Swedish Whitebeam (*Sorbus intermedia*) to the southwest margin of the site.

To mitigate the above loss of approx 2x trees, it is proposed to plant an additional 4x Golden Alder (*Alnus incana 'Aurea'*) tree to the northeast and southeast of Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application.

The remaining 16x trees within the Treeline (WL2) habitat to the eastern and western margins of Woodquay Park will be protected via protective fencing. The protective fencing will be in accordance with the British Standard BS5837: Trees in relation to design, demolition, and construction (2012) guidelines. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0108** titled **'Tree Removal and Tree Works Plan'** submitted as part of this application. For full details on the trees within Woodquay Park, refer to the **Tree Schedule and Condition Survey Report** submitted as part of this application.

Further, to facilitate the Proposed Works, it is proposed to remove approx 155m of **Hedgerow (WL1)** to the northern, eastern, and western margins of Woodquay Park. Species to be removed include Spindle (*Euonymus europaeus*), Ivy (*Hedera Hibernica*), Bramble (*Rubus fructicosus*), Hawthorn (*Crataegus monogyna*), Montbretia (*Crocosmia x crocosmiiflora),* Nettle (*Urtica dioica*), Wild Teasel (*Dipsacus fullonum*), Bindweed (*Calystegia sepium*), Sycamore (*Acer pseudoplatanus*), Creeping Buttercup (*Ranunculus repens*), Narrow leaved Hawkweed (*Hieracium umbellatum*), Silverweed (*Potentilla anserina),* and Bittersweet *(Solanum dulcamara).*

To mitigate the loss of approx 155m of **Hedgerow (WL1)** to the northern, eastern, and western margins of Woodquay Park, it is proposed to plant approx 148m of mixed native Hedgerow to the eastern and western margins of Woodquay Park, as a double staggered row, supported by a timber post and wire fence until established. The hedge will be maintained to a maximum of 1m high. Native species to be planted within the proposed hedgerow include Common dogwood (*Cornus sanguinea*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Crab apple (*Malus sylvestris*), Blackthorn (*Prunus spinosa*), and Guelder Rose (*Viburnum opulus*).

Further, additional soft landscaping in the form of bulb planting, rain garden planting, Molinia meadow planting, ground cover planting, and amenity grass planting is proposed throughout Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application.

3. METHODOLOGY

The following sections describe the methodologies followed to establish the baseline ecological condition of the Proposed Works site and surrounding area. 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 2019).

3.1 Desk Study

A comprehensive desk study was undertaken to inform this ecological impact assessment. This study includes a thorough review of available information that is relevant to the ecology of the site of the Proposed Works. This information provides valuable existing data and also helps in the assessing the requirement for additional ecological surveys.

The following list describes the sources of data consulted:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), Environmental Protection Agency (EPA)
- NPWS records (data request)
- Review of the Bat Conservation Ireland (BCI) Private Database
- Review of the publicly available National Biodiversity Data Centre web-mapper
- Records from the NPWS web-mapper and review of specially requested records from the NPWS Rare and Protected Species Database for the hectads which overlap with the study area
- Review of Inland Fisheries Ireland GIS web mapper

3.2 Field Surveys

3.2.1 Multi-disciplinary Ecological Walkover Surveys

Multi-disciplinary ecological walkover surveys were undertaken in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009), on the 25/06/2023 and 19/06/2024. These surveys provided baseline data on the ecology of the study area and assessed whether furthermore detailed habitat or species-specific ecological surveys were required. The multi-disciplinary ecological walkover surveys comprehensively covered the entire study area.

Habitats 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, 2010), while mosses and liverworts nomenclature follows 'Mosses and Liverworts of Britain and Ireland - a field guide' (British Bryological Society, 2010).

The walkover surveys were designed to detect the presence, or suitable habitat for a range of protected faunal species that may occur in the vicinity of the Proposed Works.

During the multidisciplinary surveys, 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.

The walkover surveys were undertaken on the 25/06/2023 and 19/06/2024, The survey timing falls within the recognised optimum period for vegetation surveys/habitat mapping, i.e. April to September (Smith et al., 2011).

3.2.2 Faunal Surveys

3.2.2.1 Badger and Non- Volant Mammal Surveys

During the multidisciplinary walkover surveys carried out on the 25/06/2023 and 19/06/2024, a search for signs of Badger (*Meles meles*) was undertaken. The badger survey involved a search for all potential badger signs as per NRA (2009) standard best-practice guidance (latrines, badger paths and setts) and followed CIEEM best-practice competencies for species surveys (CIEEM, 2013). Badger surveys can be undertaken at any time of year and are most effective between November and April when vegetation cover is reduced (NRA, 2008). No limitations were identified, and a full and comprehensive survey was achieved.

During the survey, a search for signs of other protected mammal species including Red Squirrel (*Sciurus vulgaris*), Otter (*Lutra lutra*), Pine Marten (*Martes martes*), Irish hare (*Lepus timidus hibernicus*), Pygmy Shrew (*Sorex minutus*), Irish Stoat (*Mustela erminea Hibernica*), and Fox (*Vulpes vulpes)* was also undertaken,

3.2.2.2 Bat Surveys

3.2.2.2.1 *Bat Habitat Appraisal*

An initial walkover survey was carried out on the 25/06/2023, during which potential features of interest were first identified, as part of the ecological assessment, a dedicated daytime bat inspection survey was undertaken during daylight hours on the19/06/2024. The landscape features on the site were visually assessed for potential use as bat roosting habitats and commuting/foraging habitats using a protocol set out in BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn.) (Collins, 2023). The aim of the survey was to determine the presence of roosting bats within the proposed site.

Table 4.1 of the 2023 BCT Guidelines identifies a grading protocol for assessing structures, as well as commuting/foraging habitat for bats, which is summarised in **Table 3-1**. The protocol is divided into five Suitability Categories: *High, Moderate, Low*, *Negligible and None*. Table 4.2 of the 2023 BCT Guidelines identifies a grading protocol to assess trees, which is divided into three Suitability Categories: NONE (No suitability), FAR (Further Assessment Required), and PRF (Potential Roosting Feature present). This initial tree grading protocol can inform a preliminary roost assessment (PRA) to determine the available tree-roosting resource within the proposed development site, depending on whether a PRF could accommodate a small number of bats (PRF-I) or a larger roost, including maternity roosts (PRF-M). More information on PRAs is provided below.

Table 3-1 BCT protocol for bat habitat appraisals (Collins, 2023)

Assessment	Rationale
High	Structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. Continuous, high-quality, well-connected habitats, connected to known roosts.
Moderate	A structure used by bats due to their size, shelter, protection, conditions and surrounding habitat, but are unlikely to support a roost of high conservation status, and suitable, connected habitats.
Low	Structures with one or more potential roost sites that could be used by an individual bat opportunistically, and suitable but isolated habitats that could be used by a small number of bats.
Negligible	No obvious features present, but a level of uncertainty remains.

None	No habitat features likely to be used by roosting, foraging or commuting bats.

3.2.2.2.2 Roost assessment.

A search for roosts was undertaken within the boundary of the Proposed Works site by three licenced ecologists on the 19/06/2024 to identify any potential roost features (PRFs). The licence, issued by NPWS, is intended for professionals carrying out surveys with the potential to disturb roosting bats. The aim of the survey was to determine the presence of roosting bats, potential access points, roosting locations and the need for further survey work or mitigation. No structures were identified within the site.

Trees present within the site were examined from ground level for the presence of rot holes, hazard beams, cracks and splits, partially detached bark, knot holes, gaps between overlapping branches and any other PRFs identified by Andrews (2018).

3.2.2.2.3 Manual Activity Surveys

A Manual activity survey was undertaken on the 19/06/2024. Surveyors were equipped with active full spectrum bat detectors, the Batlogger M bat detector (Elekon AG, Lucerne, Switzerland) and all bat activity was recorded for subsequent analysis to confirm species identifications. Individual bats of the same species cannot be identified using this method: the number of bat passes recorded is used as a measure of activity within the area, although it might not reflect the number of individual bats present, as the same bat can be recorded multiple times.

All surveys were carried out during weather conditions suitable for bat surveying (Collins, 2016). Details of the surveys are presented in **Table 3-1** and described below.

For the survey, surveyors were equipped with active full spectrum bat detectors, Batlogger M (Elekon AG, Lucerne, Switzerland). Surveys commenced at least 15 minutes before sunset and continued until two hours after sunset. Where possible, species identification was made in the field and any other relevant information was also noted, e.g., numbers, behaviour, features used, etc. All bat echolocation was recorded for subsequent analysis to confirm species identifications. The survey effort is summarised in **Table 3-2** below.

Two Surveyors were positioned to the eastern treeline and one to the western treeline of Woodquay Park, to observe commuting and foraging bats and to identify any potentially important tree features used by local bat populations.

Table 3-2 Bat Activity survey effort

Date	Surveyors	Survey Type	Sunset/ Sunrise	Start-End	Weather
19/06/2024	Rachel Minogue, Matthew Kieran & Mairead Kavanagh	Walked Manual Transect	21:34	21:19 – 23:50	12 - 16˚C; dry; calm

3.2.2.2.4 Analysis of Detector Results

All recordings were later analysed using bat call analysis software Kaleidoscope Pro v.5.6.8 (Wildlife Acoustics, MA, USA). The aim of this was to identify, to a species or genus level, what bats were present at the proposed development site. Bat species were identified using established call parameters, to create site-specific custom classifiers. All identified calls were also manually verified.

Echolocation signal characteristics (including signal shape, peak frequency of maximum energy, signal slope, pulse duration, start frequency, end frequency, pulse bandwidth, inter-pulse interval and power spectra) were compared to published signal characteristics for local bat species (Russ, 1999). *Myotis* species (potentially Daubenton's bat *(M. daubentonii),* Whiskered bat *(M. mystacinus),* Natterer's bat

(M. nattereri)) were considered as a single group, due to the difficulty in distinguishing them based on echolocation parameters alone (Russ, 1999). The echolocation of Soprano pipistrelle *(P. pygmaeus)* and Common pipistrelle *(P. pipistrellus)* are distinguished by having distinct (peak frequency of maximum energy in search flight) peak frequencies of ~55 kHz and ~46 kHz respectively (Jones & van Parijs, 1993). Some overlapping is possible between these species: where no certainty could be achieved, calls were identified to genus level.

Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, 'bat passes' was used as a measure of activity (Collins, 2023). A bat pass was defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15s duration. All bat passes recorded in the course of this study follow these criteria, allowing comparison. Due to the volume of bat activity data recorded, where multiple bat passes were recorded within the same registration, rarer or harder to record species were identified. Underreporting of common species is possible using this method and is accounted for within the assessment.

Echolocation calls by Brown long-eared bats (*Plecotus auritus*) are intrinsically quiet and hard to record by static equipment. All data collected, including Noise files and Auto ID files are checked to ensure all calls for this species have been captured. However, a level of underrepresentation is expected for this species and is accounted for in the assessment of activity levels.

3.3 Methodology for Assessment of Impacts and Effects

3.3.1 Determining Importance of Ecological Receptors

The importance of the ecological features identified within the study area was determined with reference to a defined geographical context. This was undertaken following a methodology that is set out in Chapter 3 of the 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes' (NRA, 2009). These guidelines set out the context for the determination of value on a geographic basis with a hierarchy assigned in relation to the importance of any particular receptor. The guidelines provide a basis for determination of whether any particular receptor is of importance on the following scales:

- International
- National
- County
- Local Importance (Higher Value)
- Local Importance (Lower Value)

The Guidelines clearly set out the criteria by which each geographic level of importance can be assigned. Locally Important (lower value) receptors contain habitats and species that are widespread and of low ecological significance and of any importance only in the local area. Internationally Important sites are either designated for conservation as part of the Natura 2000 Network (SAC or SPA) or provide the best examples of habitats or internationally important populations of protected flora and fauna. Specific criteria for assigning each of the other levels of importance are set out in the guidelines and have been followed in this assessment. Where appropriate, the geographic frame of reference set out above was adapted to suit local circumstances. In addition, and where appropriate, the conservation status of habitats and species is considered when determining the significance of ecological receptors. Any ecological receptors that are determined to be of Local Importance (Higher Value), County, National or International importance following the criteria set out in NRA (2009) are considered to be Key Ecological Receptors (KERs) for the purposes of ecological impact assessment if there is a pathway for effects thereon. Any receptors that are determined to be of Local Importance (Lower Value) are not considered to be Key Ecological Receptors.

3.3.2 Characterisation of Impacts and Effects

The Proposed Works will result in a number of impacts. The ecological effects of these impacts are characterised as per the CIEEM 'Guidelines for Ecological Impact Assessment in the UK and Ireland (2018). The headings under which the impacts are characterised follow those listed in the guidance document and are applied where relevant. A summary of the impact characteristics considered in the assessment is provided below:

- **Positive or Negative.** Assessment of whether the Proposed Works result in a positive or negative effect on the ecological receptor.
- **Extent.** Description of the spatial area over which the effect has the potential to occur.
- **Magnitude** to size, amount, intensity and volume. It should be quantified if possible and expressed in absolute or relative terms e.g. the amount of habitat lost, percentage change to habitat area, percentage decline in a species population.
- **Duration** is defined in relation to ecological characteristics (such as the lifecycle of a species) as well as human timeframes. For example, five years, which might seem short-term in the human context or that of other long-lived species, would span at least five generations of some invertebrate species.
- **Frequency and Timing.** This relates to the number of times that an impact occurs and its frequency. A small-scale impact can have a significant effect if it is repeated on numerous occasions over a long period.

- **Reversibility.** This is a consideration of whether an effect is reversible within a 'reasonable' timescale. What is considered to be a reasonable timescale can vary between receptors and is justified where appropriate in the impact assessment section of this report

3.3.3 Determining the Significance of Effects

The ecological significance of the effects of the Proposed Works are determined following the precautionary principle and in accordance with the methodology set out in Section 5 of CIEEM (2018).

For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local (CIEEM, 2018).

When determining significance, consideration is given to whether:

- Any processes or key characteristics of key ecological receptors will be removed or changed
- There will be an effect on the nature, extent, structure and function of important ecological features
- There is an effect on the average population size and viability of ecologically important species.
- There is an effect on the conservation status of important ecological habitats and species.

3.4 Limitations

The information provided in this document accurately and comprehensively describes the baseline ecological environment; provides an accurate prediction of the likely ecological effects of the Proposed Works; prescribes mitigation as necessary; and describes the residual ecological impacts. The specialist studies, analysis and reporting have been undertaken in accordance with the appropriate guidelines. No significant limitations in the scope, scale or context of the assessment have been identified.

4. DESK STUDY

4.1 Designated Sites

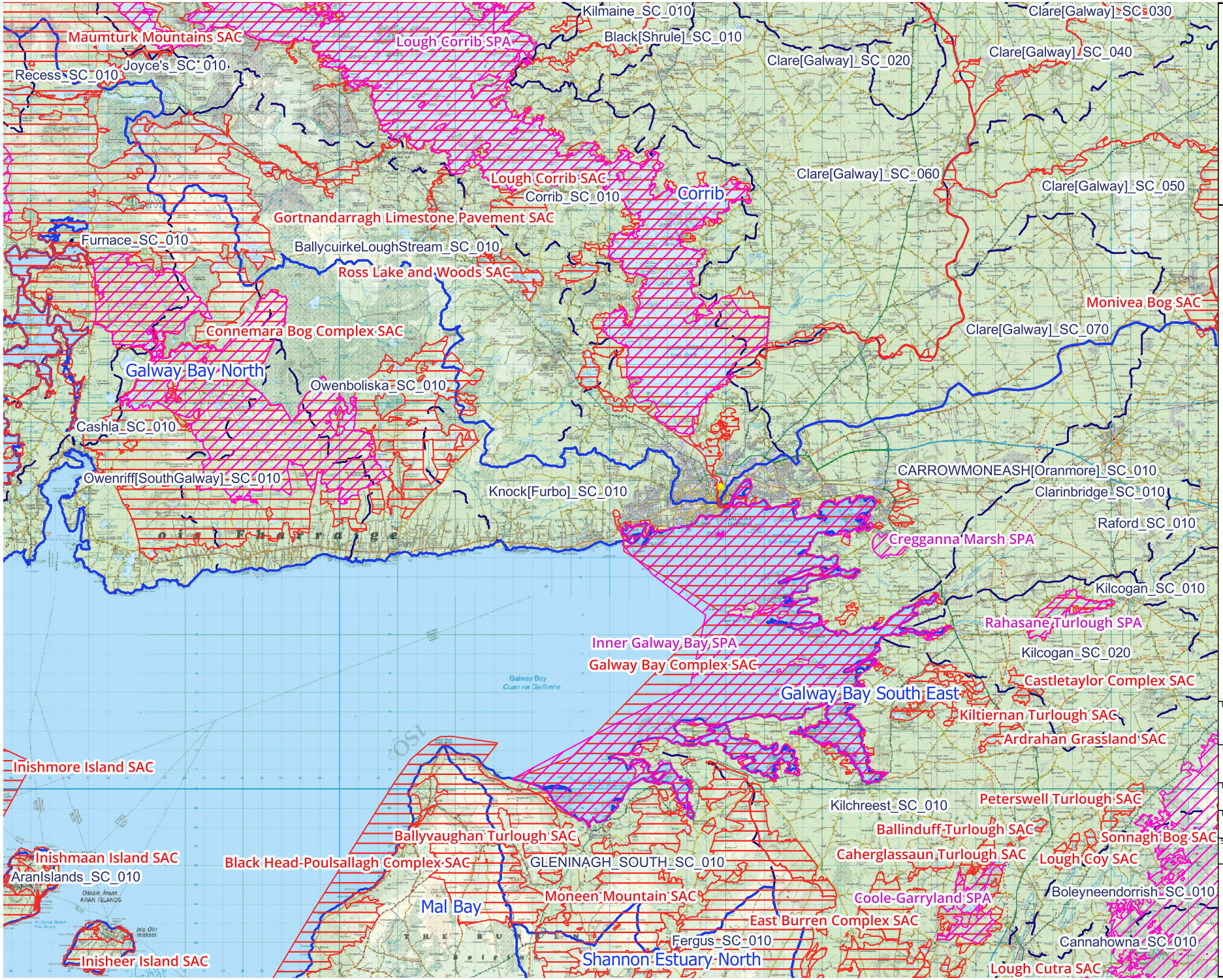
The potential for the Proposed Works to impact on sites that are designated for nature conservation was considered in this Ecological Impact Assessment.

Special Areas of Conservation (SACs) and Special Protection Areas for Birds (SPAs) are designated under EU Habitats Directive and are collectively known as 'European Sites'. The potential for effects on European Sites is fully considered in the **Natura Impact Statement (NIS)** that accompanies this application and discussed also in this EcIA. Natural Heritage Areas (NHAs) are designated under the Wildlife (Amendment) Act 2000 and their management and protection is provided for by this legislation and planning policy. The potential for effects on these designated sites is fully considered in this EcIA. Proposed Natural Heritage Areas (pNHAs) were designated on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. However, the potential for effects on these designated sites is fully considered in this EcIA.

The following methodology was used to establish which sites that are designated for nature conservation have the potential to be impacted by the Proposed Works.

- Initially the most up to date GIS spatial datasets for European and Nationally designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 23/09/2024. The datasets were utilized to identify Designated Sites which could feasibly be affected by the Proposed Works
- All Designated Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, European Designated Sites surrounding the development site are shown on **Figure 4.1** and Nationally. Designated Sites surrounding the development site are shown on **Figure 4.2.** Information on these Designated sites according to the site-specific conservation objectives is provided in **Table 4.1 below**. Sites that were further away from the Proposed Works were also considered and in this case connectivity with sites that were further downstream in the catchment was identified. These included Black Head- Poulsallagh Complex SAC [000020] (17.6km). and Black Head- Poulsallagh Complex pNHA [000020] (17.6km). However, given the nature, scale and location of the proposed works and the attenuating properties of the of the intervening waterbodies, no potential pathway for significant effects was identified
- Catchment mapping was used to establish or discount potential hydrological connectivity between the site of the Proposed Works and any Designated Sites. The hydrological catchments are also shown in **Figures 4.1** and **Figure 4.2.**
- 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 Works and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- **Table 4.1** provides details of all relevant Nationally Designated Sites as identified in the preceding steps and assesses which are within the likely Zone of Impact.
- The NIS accompanying this report provides details of all relevant European Designated Sites as identified in the preceding steps and assesses which are within the likely Zone of Impact.

- The assessment considers any likely direct or indirect impacts of the Proposed Works, both alone and in combination with other plans and projects, on Designated Sites by virtue of criteria including the following: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this assessment.
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report 23/09/2024.
- Where potential pathways for Likely Significant Effect are identified, the site is included within the Likely Zone of Impact and further assessment is required within the NIS.
- The potential for the Proposed Works to result in cumulative impacts on any Designated Sites in combination with other plans and projects was considered in the assessment that is presented in **Table 4.1.**



Map Legend

- Site Location
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- EPA Hydrological Catchments
- EPA Hydrological Subcatchments

Drawing Title
European Designated Sites Within the Likely Zone of Influence

Project Title
Woodquay Park Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
230108	Figure 4.1
Scale	Date
1:255,810	23/09/2024

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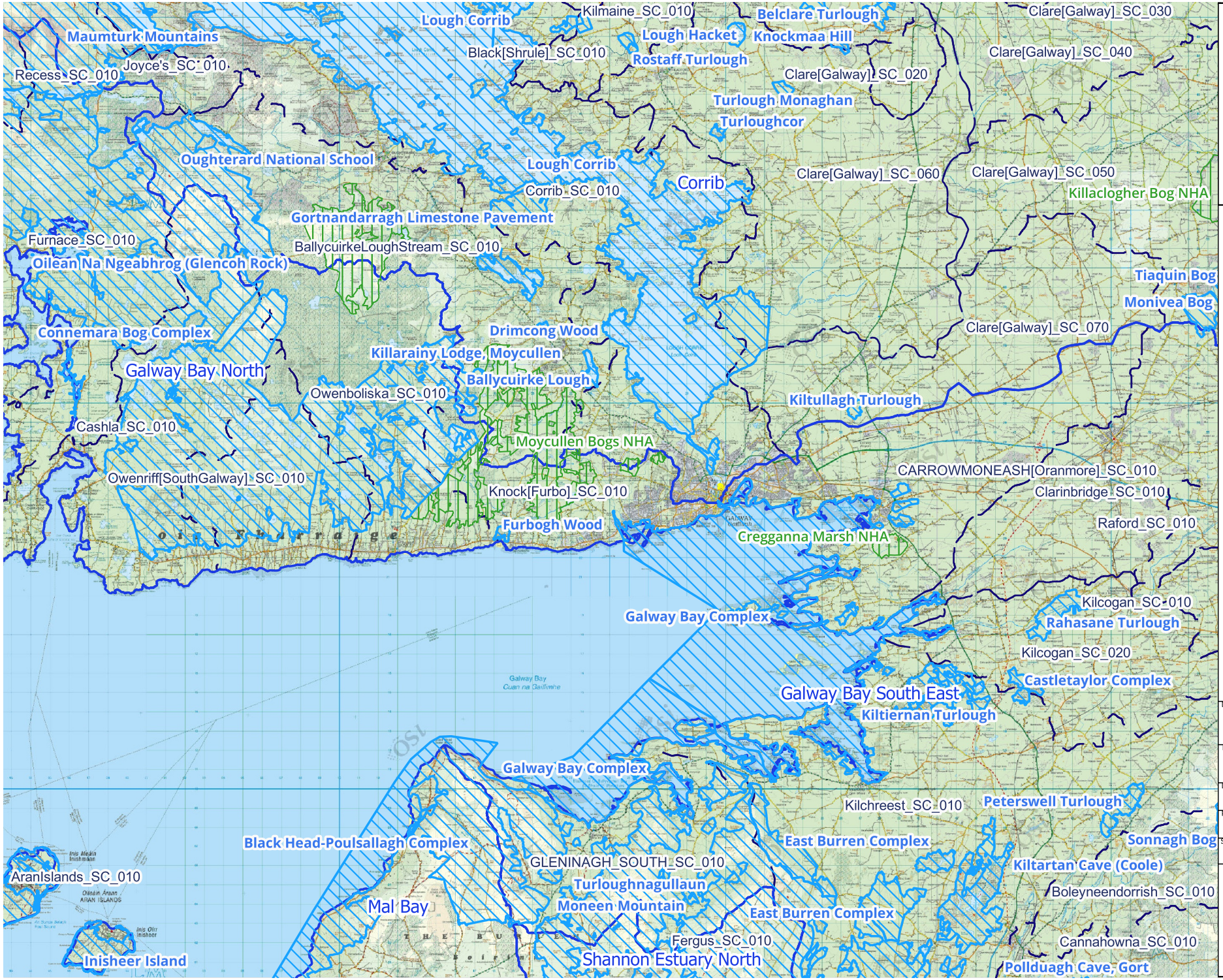

Map Legend

- Site Location
- Natural Heritage Area (NHA)
- Proposed Natural Heritage Area (pNHA)
- EPA Hydrological Catchments
- EPA Hydrological Subcatchments

Drawing Title
Nationally Designated Sites Within the Likely Zone of Influence

Project Title
Woodquay Park Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
230108	Figure 4.2
Scale	Date
1:255,810	23/09/2024

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Table 4.4-1 Identification of Designated sites within the Likely Zone of Impact

Designated Sites and distance from Proposed Works Boundary	Qualifying Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 23/09/2024	Conservation Objectives	Likely Zone of Impact Determination
Natural Heritage Area (NHA)			
Moycullen Bogs NHA [002364] **Distance: 3.1km**	**N/A**	**N/A**	The proposed works site is outside the boundary of this NHA, and as such there is no potential for direct effects. The proposed works site is located approx. 3.1 southeast from this designated site. No source-pathway-receptor chain for impact was identified between the site of the Proposed Works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Cregganna Marsh NHA [000253] **Distance: 8.2km**			The proposed works site is outside the boundary of this NHA, and as such there is no potential for direct effects. The proposed works site is located approx. 8.2km southeast from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Proposed Natural Heritage Area (pNHA)			
Galway Bay Complex pNHA [000268] **Distance:680m**	**N/A**	N/A	The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located directly adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to the west of Woodquay Park, flowing in a southerly

Designated Sites and distance from Proposed Works Boundary	Qualifying Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 23/09/2024	Conservation Objectives	Likely Zone of Impact Determination
Surface Water Distance: 837m			direction into Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex pNHA. The Corrib Estuary flows in a southerly direction into Inner Galway Bay after approx 837m. Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering this pNHA, via the hydrological pathway as described above, adversely impacting this pNHA via the deterioration of water and habitat quality, in the absence of mitigation. Further, due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution. **On a precautionary basis, this nationally designated site is therefore considered to be within the likely zone of impact of the proposed works.**
Lough Corrib pNHA [000297] **Distance: 761m**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx 761m south of this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Kiltullagh Turlough pNHA [000287] **Distance: 7.7km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx. 7.7km northeast from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed

Designated Sites and distance from Proposed Works Boundary	Qualifying Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 23/09/2024	Conservation Objectives	Likely Zone of Impact Determination
			works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Ballycuirke Lough pNHA [000297] **Distance: 8.1km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx. 8.1km northwest from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Killarainy Lodge, Moycullen pNHA [002083] **Distance: 10.8km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx. 10.8km northwest from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Furbogh Wood pNHA [12667] **Distance: 11.1km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects.

Designated Sites and distance from Proposed Works Boundary	Qualifying Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 23/09/2024	Conservation Objectives	Likely Zone of Impact Determination
			The proposed works site is located approx. 11.1km west from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Drimcong Wood pNHA [001260] **Distance: 11.8km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx. 11.8km northwest from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Connemara Bog Complex pNHA [002034] **Distance:12.7km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx. 12.7km west from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Ross Lake Woods pNHA [001313]			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects.

Designated Sites and distance from Proposed Works Boundary	Qualifying Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 23/09/2024	Conservation Objectives	Likely Zone of Impact Determination
Distance: 13.7km			The proposed works site is located approx. 13.7km west from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Lough Fingall Complex pNHA [000606] **Distance: 13.9km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The proposed works site is located approx. 13.9km southeast from this designated site. No source-pathway-receptor chain for impact was identified between the site of the proposed works and this designated site. As such, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**
Black Head- Poulsallagh Complex pNHA [000020] **Distance: 17.6km** **Surface Water Distance: 20km**			The proposed works site is outside the boundary of this pNHA, and as such there is no potential for direct effects. The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located directly adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to south/ west of Woodquay Park, flowing in a southerly direction into Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex pNHA. Corrib Estuary flows in a southerly direction into Inner Galway Bay, discharging into the Black Head Poulsallagh Complex PNHA after approx 20km.

Designated Sites and distance from Proposed Works Boundary	Qualifying Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 23/09/2024	Conservation Objectives	Likely Zone of Impact Determination
			However, due to the extensive buffering distance of approx. 20km from the proposed works boundary to this pNHA, and the assimilative capacity of the intervening watercourses, there is no potential for significant indirect effects in the form of water and/ or habitat deterioration during the construction phase of the proposed works on this nationally designated site. Therefore, potential for direct or indirect impact on this Nationally Designated Site can be excluded. **Therefore, this Nationally Designated Site is not within the likely zone of impact, and no further assessment is required.**

4.2 New Flora Atlas

A search was made on the NPWS Flora (Protection) Order 2022 Map Viewer for Vascular Plants, Charophytes, and Lichens on the 08/08/2024 to investigate whether any sensitive or rare species protected under the Flora (Protection) Order, 1999 (as amended 2015 & 2022) had been recorded in the relevant 10km square in which the study site is situated (M22), during the 1987-1999 atlas survey. Species of conservation concern are given in **Table 4-2.**

Table 4-2 Records of species listed under the Flora Protection Order 2015 or the Irish Red Data Book for Vascular Plants [

Common Name	Scientific Name	Status
Slender Cottongrass	*Eriophorum gracile*	FPO, Near Threatened (NT)
Small-white Orchid	*Pseudorchis albida*	FPO, Vulnerable (VU)

Red List of Irish Flowering Plants (Wyse Jackson et al., 2016): NT – Near Threatened, VU- Vulnerable, FPO- Flora Protection Order

4.3 NPWS Article 17 Reporting

A review of the Irish Reports for Article 17 of the Habitats Directive (92/42/EEC), including the Heath, Bogs and Mires, Irish Semi-Natural Grassland Survey datasets, National Survey of Native Woodlands and Ancient and Long-Established Woodland datasets was conducted as part of the desk study for the proposed works.

A search of the NPWS Article 17 datasets, was undertaken on the 23/09/2024 as part of the desk study for the proposed works.

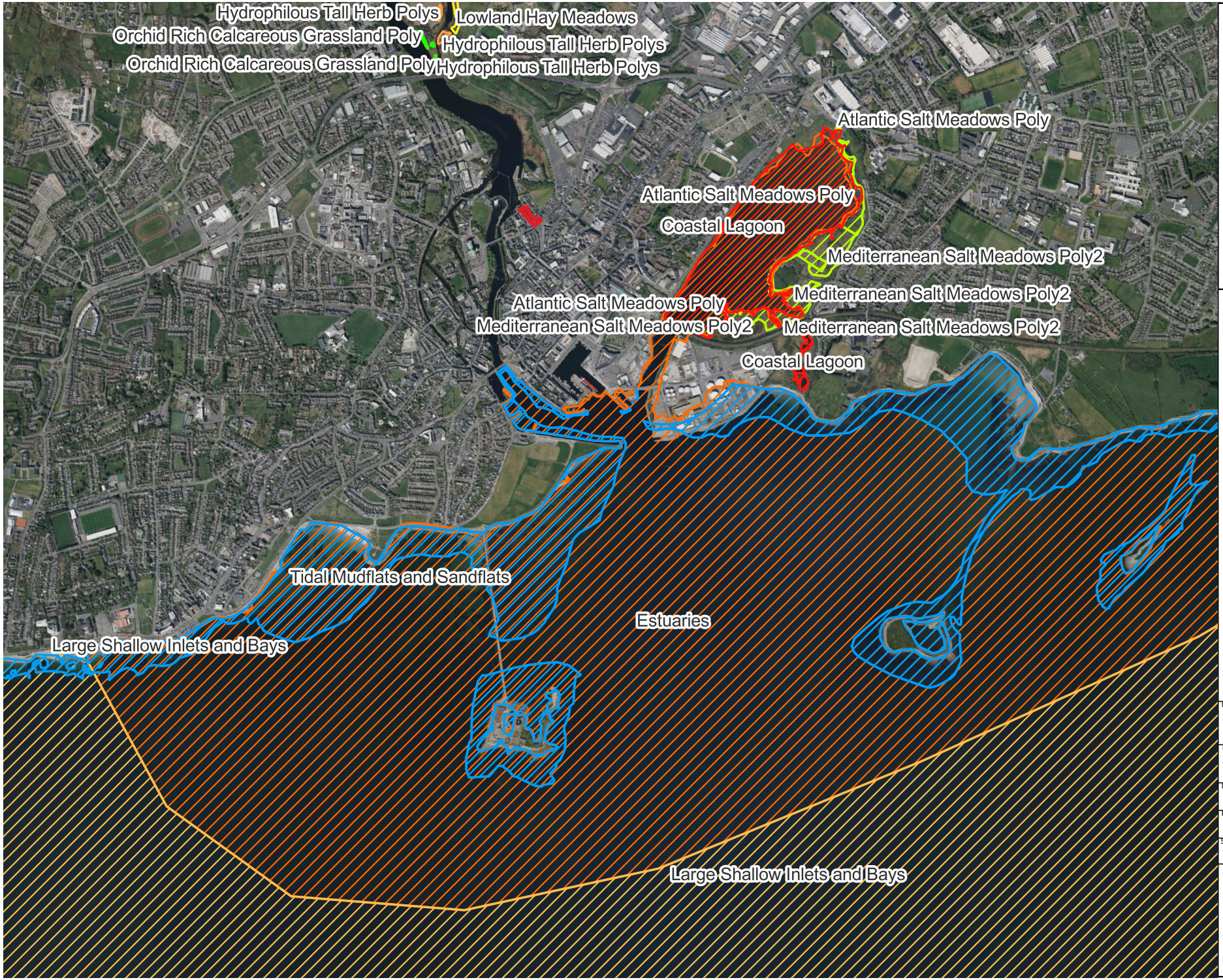
The nearest Annex I habitats mapped under Article 17 includes Estuaries [1130], mapped approx 690m to the south, and approx 780m to the east of the Proposed Works Site. Tidal Mudflats and Sandflats [1140] are mapped approx 690m to the south of the Proposed Works Site. Coastal Lagoons [1150] are mapped approx 780m to the east of the Proposed Works Boundary. Atlantic Salt Meadows [1330] are mapped approx 975m east of the Proposed Works Boundary, and Mediterranean Salt Meadows [1410] are mapped approx 980m to the east of the Proposed Works Boundary. Large Shallow Inlets and Bays [1160] are mapped approx 3km south of the Proposed Works Boundary.

Hydrophilous Tall Herb Swamp [6430] are mapped approx 815m north of the Proposed Works Site, and Orchid Rich Calcareous Grasslands [6210] are located approx 830m north of the Proposed Works Site. Further, Lowland Hay Meadows [6510] are mapped approx 895m north of the Proposed Works.

Following a review of the Irish Semi-Natural Grassland Survey database, the nearest mapped grasslands to the proposed works site includes Improved Agricultural Grassland (GA1) located approx 160m to the northeast of the Proposed Works Site, and Wet Grassland (GS4) located approx 288m to the northeast of the Proposed Works Site.

There are no Native Woodlands and Ancient and Long-Established Woodlands within or adjacent to the proposed works site according to both datasets.

Distribution of relevant Article 17 habitat records is detailed below in **Figure 4.3**.



Map Legend

- Site Location
- Atlantic Salt Meadows
- Coastal Lagoon
- Estuaries
- Large Shallow Inlets and Bays
- Mediterranean Salt Meadows
- Tidal Mudflats and Sandflats
- Hydrophilous Tall Herb
- Lowland Hay Meadows
- Orchid Rich Calcareous Grassland

N

Drawing Title
Distribution of Article 17
Mapped Annex I Habitats

Project Title
Woodquay Park Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
230108	Figure 4.3
Scale	Date
1:23,758	23/09/2024

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4.4 NPWS Records

NPWS online records were searched on the 08/08/2024 for records of any rare or protected species of flora or fauna within in the 10-kilometre grid square, M22, in which the study area lies. A data request was also sent to the NPWS on the and data received in relation to the grid square on the 17/01/2024. **Table 4.3** lists the rare and protected species records obtained from the NPWS during this study.

Table 4-3 Records for rare and protected species, NPWS.

Cmmon Name	Scientific Name	Status
Common lizard	*Zootoca vivipara/Lacerta vivipara*	WA
Common Newt	*Lissotriton vulgaris*	WA
Common Frog	*Rana temporaria*	WA, Annex V
Sea Lamprey	*Petromyzon marinus*	Annex II
Hedgehog	*Erinaceus europaeus*	WA
Otter	*Lutra lutra*	WA, Annex II, Annex IV
Badger	*Meles meles*	WA
Harbour seal	*Phoca vitulina*	WA, Annex II, Annex V
Harbour Porpoise	*Phocoena phocoena*	WA, Annex II, Annex IV
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	WA, Annex II, Annex IV
Small-white Orchid	*Pseudorchis albida*	FPO, VU
Irish Hare	*Lepus timidus subsp. hibernicus*	Annex V, WA
Lapwing	*Vanellus vanellus*	BOCCI Red
Curlew	*Numenius arquata*	BOCCI Red
Henbane	*Hyoscyamus niger*	NT
Yellow Bird's-nest	*Monotropa hypopitys*	NT
Yellow Horned poppy	*Glaucium flavum*	NT
Field Gentian	*Gentianella campestris*	NT
Irish Whitebeam	*Sorbus hibernica*	VU
Good-King-Henry	*Chenopodium bonus-henricus*	VU
Slender Cottongrass	*Eriophorum gracile*	FPO, NT
Barn Owl	*Tyto alba*	BOCCI Red
Snipe	*Gallinago gallinago*	BOCCI Red
Greater Knapweed	*Centaurea scabiosa*	NT
Sea-kale	*Crambe maritima*	NT
Dwarf Spurge	*Euphorbia exigua*	NT
Dwarf Mallow	*Malva neglecta*	NT
West European Hedgehog	*Erinaceus europaeus*	WA
Irish Stoat	*Mustela erminea subsp. hibernica*	WA
Knotted Hedge-parsley	*Torilis nodosa*	NT
Awlwort	*Subularia aquatica*	VU

Spiked Sedge	*Carex spicata*	NT
Dense-flowered Orchid	*Neotinea maculata*	NT

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2017), Red Data List (Curtis and McGough 1988), BoCCI Red List – Birds of Conservation Concern in Ireland (Population for which the species is red listed in brackets), FPO- (Flora Protection Order), NT-(Near Threatened), VU-(Vulnerable), WA-(Wildlife Act).

4.5 Biodiversity Ireland Database

The National Biodiversity Data centre database was accessed on 08/08/2024 and the following information was obtained. **Table 4-4** lists the protected faunal species (excluding birds) recorded within the hectad which pertains to the current study area. The database was also searched for records of Third Schedule non-native invasive species within the hectad. **Table 4-5** lists the non-native invasive species recorded within the hectad. **Table 4-6** lists all the protected bird species recorded within the hectad which pertains to the current study area. **Table 4.7** lists all the protected bat species recorded within the hectad which pertains to the current study area.

Table 4-4 NBDC records for protected fauna records (excl. birds).

Common Name	Scientific Name	Status	Hectad
West European Hedgehog	*Erinaceus europaeus*	Protected Species: Wildlife Acts	M22
Pine Marten	*Martes martes*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts	M22
European Otter	*Lutra lutra*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Eurasian Red Squirrel	*Sciurus vulgaris*	Protected Species: Wildlife Acts	M22
Eurasian Pygmy Shrew	*Sorex minutus*	Protected Species: Wildlife Acts	M22
Eurasian Badger	*Meles Meles*	Protected Species: Wildlife Acts	M22
Common Lizard	*Zootoca vivipara*	Protected Species: Wildlife Acts	M22
Marsh Fritillary	*Euphydryas aurinia*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Threatened Species: Vulnerable	M22

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2017).

Table 4-5 NBDC records for Invasive species.

Common Name	Scientific Name	Hectad
Wireweed	*Sargassum muticum*	M22
Water Fern	*Azolla filiculoides*	M22
Japanese Knotweed	*Fallopia japonica x sachalinensis*	M22
Giant Knotweed	*Fallopia sachalinensis*	M22
Giant Rhubarb	*Gunnera tinctoria*	M22
Rhododendron	*Rhododendron ponticum*	M22
Three-cornered Leek	*Allium triquetrum*	M22

Brown rat	*Rattus norvegicus*	M22
Zebra mussel	*Dreissena polymorpha*	M22

Table 4-6 NBDC Records for Birds

Common Name	Scientific Name	Status	Hectad
Barn Owl	*Tyto alba*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Common Redshank	*Tringa totanus*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Bar-tailed Godwit	*Limosa lapponica*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Common Snipe	*Gallinago gallinago*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Corncrake	*Crex crex*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Dunlin	*Calidris alpina*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Curlew	*Numenius arquata*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds	M22

Common Name	Scientific Name	Status	Hectad
		Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	
Woodcock	*Scolopax rusticola*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Lapwing	*Vanellus vanellus*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22
Red Grouse	*Lagopus lagopus*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	M22

Annex I – Of EU Birds Directive, Red List – Birds of Conservation Concern in Ireland (Population for which the species is red listed in brackets).

Table 4-7 NBDC Records for Bats

Common Name	Scientific Name	Status	Hectad
Brown Long-eared Bat	*Plecotus auritus*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Daubenton's Bat	*Myotis daubentonii*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Lesser Horeshoe Bat	*Rhinolophus hipposideros*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22

Lesser Noctule	*Nyctalus leisleri*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Nathusius's Pipistrelle	*Pipistrellus nathusii*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Natterer's Bat	*Myotis nattereri*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Pipistrelle	*Pipistrellus pipistrellus sensu lato*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts	M22

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2017).

4.6 Water Quality

4.6.1 EPA Water Quality Data

Woodquay Park is located in the Corrib Catchment (Catchment_ID_30) and Corrib Sub Catchment (Sub catchment Id: 30_18). The site is located within the Maam- Clonbur Groundwater Body, in an area of High Groundwater Vulnerability, as per EPA Maps. There are no mapped watercourses within the proposed works boundary.

The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to south/ west of Woodquay Park, flowing in a southerly direction in Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA.

As per the River Waterbody Water Framework Directive (WFD) Status 2016-2021 and 2013-2018, the River Corrib was assigned 'Good' status. According to the Transitional Waterbody Water Framework Directive (WFD) Status 2016-2021, Corrib Estuary was assigned 'Moderate' status. The Ground Waterbody Framework Directive (WFD) Status 2016-2021 was assigned a 'Good' overall status. Further, the River Waterbodies Risk Cycle 2 assigned the River Corrib 'Not at Risk'. The Transitional Waterbodies Risk Cycle 2 assigned the Corrib Estuary 'Not at Risk'. Finally, the Gound Waterbodies Risk Cycle 2 assigned the Maam- Clonbur GWB 'Not at Risk'.

The nearest downstream National Water Monitoring Station is the Salmon Weir Bridge- Galway River Station, located approx. 207southwest of Woodquay Park. The latest Q Value Score was '4- Good' for this point. The nearest upstream National Water Monitoring Station is the Corrib- Waterside- Galway River Station, located approx. 218m to the north of Woodquay Park.

5. FIELD STUDY

5.1.1 Habitats Present on the Site and Surrounding Area

A Multidisciplinary Ecological Walkover Survey was conducted by Rachel Minogue (B.Sc., Env) on the 25/06/2023 and 19/06/2024, in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes). All habitats and floral species were readily identifiable during the survey and are described below in **Table 5.1 below.**

Table 5-1 Habitats recorded within, and directly adjacent to the Proposed Works Boundary

Habitat	Code
Buildings and Artificial Surfaces	**BL3**
Amenity Grassland (Improved)	**GA2**
Tree line	**WL2**
Hedgerow	**WL1**
Depositing/ Lowland Rivers	**FW2**

Amenity Grassland (Improved) (GA2) is the most dominant habitat recorded on the site. This area is intensively managed via mowing, producing a short, uniform sward, with a low biodiversity value **(Plate 5.1).** Species recorded in this area include Creeping Buttercup (*Ranunculus repens*), Daisy (*Bellis perennis*), Dandelion (*Taraxacum vulgaria),* White Clover (*Trifolium repens*), Broadleaved Willowherb (*Epilobium montanum*), Silverweed (*Potentilla anserina*), Nettle (Urtica dioica), Broadleaved dock (*Rumex obtusifolius*), Greater Plantain (*Plantago major*), Creeping Cinquefoil (*Potentilla reptans*), Common Chickweed (*Stellaria media),* Redshank (*Persicaria maculosa*), and Perennial Rye Grass (*Lolium perenne*).

Buildings and Artificial Surfaces (BL3) are present on the site in the form of pathways through the centre of the site **(Plate 5.2),** public roads, pathways and residential dwellings to the north, south, east, and west of the site **(Plates 5.3),** the existing carpark to the south of the site **(Plate 5.4),** the boundary metal fencing bordering Woodquay park to the north, south, east, and west of the site, and the wooden public seating within Woodquay Park **(Plate 5.5).**

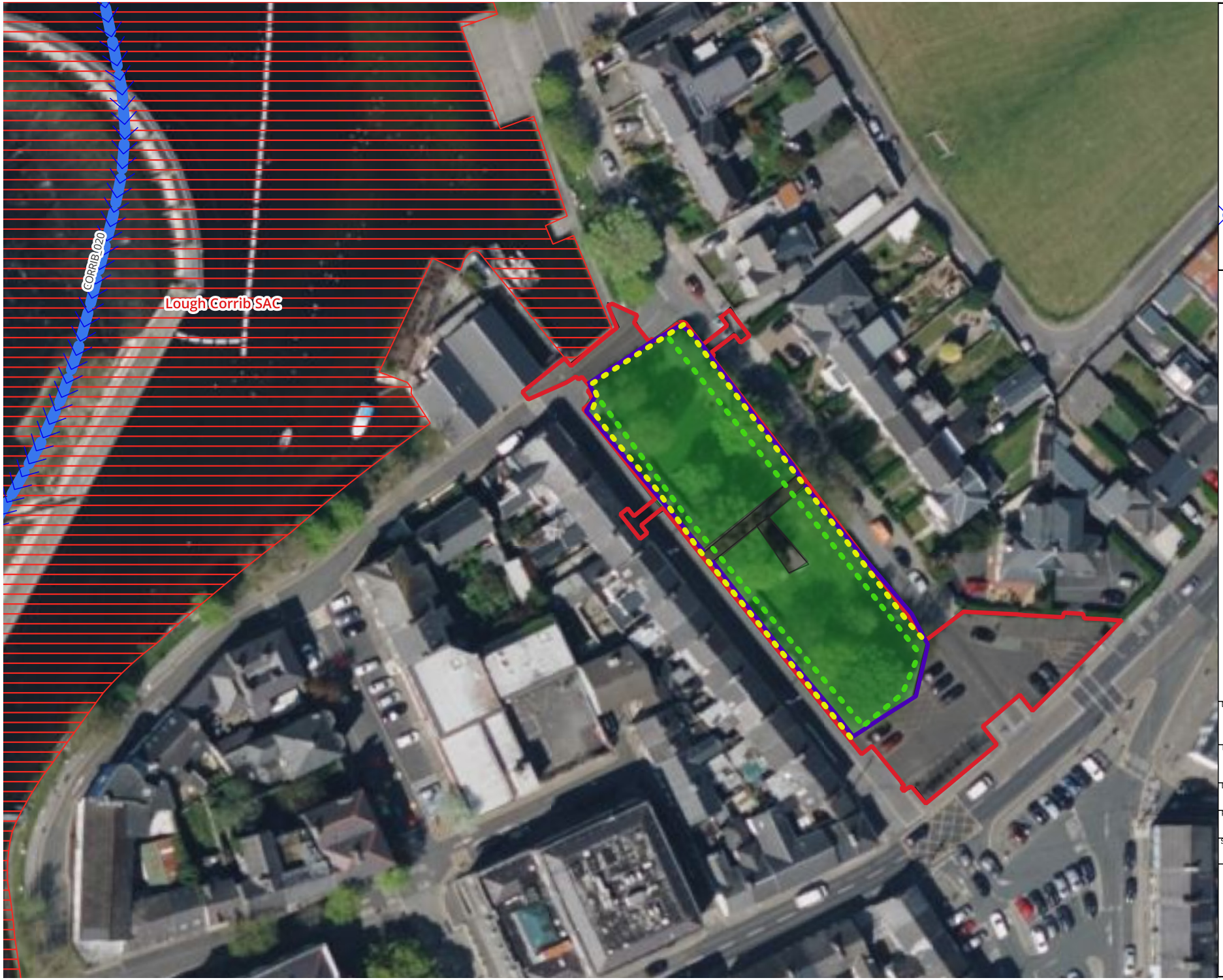
Hedgerow (WL1), which is sparse and gappy in places, is present to the north, east, and west margins of the site **(Plates 5.6 & 5.7),** along the boundary metal fencing. Species recorded within these hedgerow habitats include Spindle (*Euonymus europaeus*), Ivy (*Hedera Hibernica*), Bramble (*Rubus fructicosus*), Hawthorn (*Crataegus monogyna*), Montbretia (*Crocosmia x crocosmiiflora),* Nettle (*Urtica dioica*), Wild Teasel (*Dipsacus fullonum*), Bindweed (*Calystegia sepium*), Sycamore (*Acer pseudoplatanus*), Creeping Buttercup (*Ranunculus repens*), Narrow leaved Hawkweed (*Hieracium umbellatum*), Silverweed (*Potentilla anserina),* and Bittersweet *(Solanum dulcamara).*

Treelines (WL2) are present to the south, east and west margins of the site **(Plates 5.8),** adjacent to the hedgerows and metal boundary fencing. Species recorded within the treelines include Ash (*Fraxinus excelsior*), Whitebeam (S*orbus hibernica*), Lime (*Tilia x europaea*), Alder (*Alnus glutinosa*), Beech (*Fagus Sylvatica*), Sweetgum (*Liquidambar styraciflua),* and American Basswood (*Tilia americana*).

The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709) and is classified as a **Depositing/ Lowland River (FW2). (Plate 5.9)**. The River Corrib flows to south/ west of Woodquay Park, flowing in a southerly direction in Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA.

No drainage features were identified within the Proposed Works boundary. No habitats listed under Annex I of the EU Habitats Directive were identified within the Proposed Works boundary. Further, no

QI/ SCI Species associated with nearby European Designated Sites were recorded within the proposed works site.



Map Legend

- Site Location
- Buildings and Artifical Surfaces (BL3)
- Amentiy Grassland Improved (GA2)
- Buildings and Artificial Surfaces (BL3)
- Hedgerow (WL1)
- Treeline (WL2)
- Depositing/ Lowland River (FW2)- River Corrib
- Lough Corrib (SAC)

N

Drawing Title
Habitats Recorded Within and Adjacent to Woodquay Park

Project Title
Woodquay Park Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
230108	Figure 5.1
Scale	Date
1:882.019	23/09/2024

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*Plate 5-1**Amenity Grassland (Improved) (GA2)** with a short uniform sward, facing to the south of Woodquay Park.*

*Plate 5-2 Pathway through the centre of Woodquay Park, classified as **Buildings and Artificial Surfaces (BL3).***

Plate 5-3 Public Road and pathway to the north of the site by Lough Corrib SAC and the Galway Rowing Club, classified as ***Buildings and Artificial Surfaces (BL3****).*

Plate 5-4 Existing carpark to the south of the site, classified as ***Buildings and Artificial Surfaces (BL3).***

*Plate 5-5 Public wooden seating in Woodquay Park, classified as **Buildings and Artificial Surfaces (BL3)***

*Plate 5-6 **Hedgerow (WL1)** recorded to the western margin of Woodquay Park.*

*Plate 5-7 Gappy **Hedgerow (WL1)** recorded to the northeast of Woodquay Park.*

*Plate 5-8 **Treeline (WL2)** present to the south, east, and west of Woodquay Park*

Plate 5-9 The River Corrib (IE_WE_30C020600), which is designated as part of Lough Corrib SAC located directly adjacent to the northern margin of Woodquay Park classified as a ***Depositing/ Lowland River (FW2).***

5.2 Invasive Species

No invasive species listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) were recorded within the proposed works boundary.

However, Montbretia (*Crocosmia X crocosmiflora*) a low-risk invasive species, not species listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) was recorded within the **Hedgerow (WL1)** habitat to the north, east and west of Woodquay Park **(Plate 5.10).**

Plate 5-10 Montbretia (Crocosmia X crocosmiflora) a low-risk invasive species, not species listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) recorded within the Hedgerow (WL1) habitat to the west of Woodquay Park

5.3 Fauna

5.3.1 Birds

The following bird species were recorded during the multidisciplinary walkover surveys carried out within Woodquay Park, and in the lands adjacent; Blackbird (*Turdus merula*), Magpie (*Pica pica),* Herring Gull (*Larus argentatus*), Starling (*Sturnus vulgaris*), Jackdaw (*Coloeus monedula*) and Mallard (*Anas platyrhynchos*).

Woodquay Park is an urban amenity public park, with existing high levels of anthropogenic activity in the form of human activity, noise, and lighting. The main habitats recorded within Woodquay Park include Buildings and Artificial Surfaces (BL3), Amenity Grassland (Improved) (GA2), Treeline (WL2), and Hedgerow (WL1). As such, the proposed work site does not provide any significant supporting habitat and has no potential for disturbance to the SCI Species associated with Inner Galway Bay SPA.

5.3.2 Bats

5.3.2.1 Bat Habitat Appraisal

With regard to foraging and commuting bats, prior to the manual activity survey, the proposed works site was considered to be of '*Moderate to High'* suitability due to the presence of Treeline (WL2) and Hedgerows (WL1) to the eastern and western margins of Woodquay Park. Built and open areas, such as car parks, pathways and open grassland are considered of *Low* suitability; however, they are surrounded by linear habitats of treeline, and hedgerow and do not limit connectivity within the site.

With regard to roosting bats, the Treeline (WL2) includes mature deciduous trees, none of which present roosting potential for any bat species.

5.3.2.2 Roost Assessment

No trees within the site had potential to support roosting bats.

5.3.2.3 Manual Activity Survey Results

In total, 1326 bat passes were recorded. Activity was dominated by Soprano pipistrelle (*Pipistrellus pygmaeus*) n=1028, followed by Common pipistrelle (*Pipistrellus pipistrellus*) n=110 and then Leisler's bat (*Nyctalus leisleri*) n=27. These species are common and widespread across Ireland. No bats were observed emerging or re-entering any trees during the survey. Activity levels were concentrated to the Treeline (WL2) habitats to the east and west of the site. Bat activity is quantified as bat passes, which do not distinguish between individual bats. The results of the manual activity survey are detailed in **Table 5.2** below. Bat Species composition is detailed on **Plate 5.11** below.

Table 5-2 Manual Activity Survey Results

Date	Leiser's bat	Common pipistrelle	Soprano pipistrelle
19/06/2024	267	110	1028

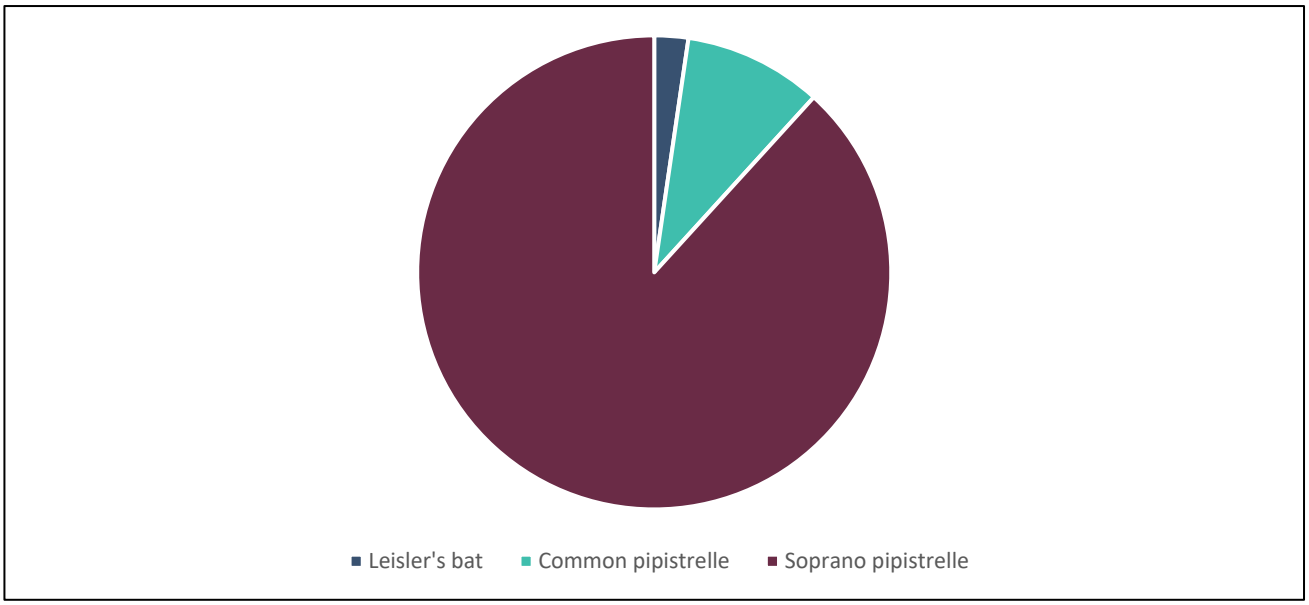

Plate 5-11 Bat Species Composition

5.3.3 Non volant Mammals

A comprehensive search for all mammals was undertaken during the ecological walkover surveys carried out. No species listed under the Annexes of the European Habitats Directive were recorded during the site visit and no evidence of other species such as Badger (*Meles meles*), Irish hare (*Lepus timidus hibernicus*), Pygmy Shrew (*Sorex minutus*), and Irish Stoat (*Mustela erminea Hibernica*) that are protected under the Irish Wildlife Act 1976- 2022, were recorded during the site visit.

No evidence of Badgers (*Meles meles*) or signs of badgers, or any other protected mammal species was recorded within the development site.

5.4 Importance of Ecological Receptors

Table 5.3. lists all identified receptors and assigns them an ecological importance in accordance with the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009). This table also provides the rationale for this determination and identifies the habitats that are Key Ecological Receptors.

Table 5-3 Importance of Ecological Receptors

Habitat and Geographic Importance	KER Y/N	Rationale
Habitats of *Local Importance (Lower value)* recorded within the Proposed Works Site › Buildings and Artificial Surfaces (BL3) › Amenity Grassland (Improved) (GA2)	**N**	These habitats are classified as *Local Importance (Lower value)* as they are highly modified and/or are common and widespread in a local, national, and international context, and have low biodiversity value. **These habitats are therefore, not included as KERs.**
Habitats of *Local Importance (Higher value)* recorded within the proposed works site: › Treeline (WL2) › Hedgerow (WL1)	**Y**	These habitats are classified as *Local Importance (Higher Value*) as they contain native species, help maintain links and ecological corridors between features of higher ecological value, and provide potential commuting, nesting, and foraging habitat for local wildlife. **These habitats are therefore included as KERs**
Habitats of *Local Importance (Higher value)* recorded directly adjacent to the proposed works site: › Depositing Lowland River (FW2)- The River Corrib	**Y**	The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to south/ west of Woodquay Park, flowing in a southerly direction in Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA. As such, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering the River Corrib, adversely impacting the aquatic influenced QI habitats and species within the SAC, in the absence of mitigation. Due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution. Further, this watercourse is classified as *Local Importance (Higher Value)* as it provides supporting habitat and commuting corridors for a variety of aquatic species. This aquatic feature also provides connectivity to Corrib Estuary, and Inner Galway Bay, which is likely to support a host of marine/ aquatic species. They are also connecting to sites which are of national and international importance. **Therefore, this habitat is included as a KER.**
Fauna		
› **Bats – *Local Importance (Higher value)***	**Y**	Based on the information identified within the desk study **(Section 4.5)** and the results of the Dusk Emergence Bat Survey carried out within Woodquay Park on the 19/06/2024 by MKO, as detailed in **Section 5.3.2**, Bats have been identified as of *Local Importance (Higher Value).*

		The Treelines (WL2) and Hedgerow (WL1) present within Woodquay Park were utilized by high levels of commuting and foraging bats during the manual activity survey conducted on the 19/09/2026. As such, the loss of small areas of these habitats may result in habitat loss and disturbance to the local bat populations. Further, additional lighting proposed during the operational phase of the project may impact local bat species. **As such, Bat Species are included as a KER.**
›	**Birds – *Local Importance (Higher value)***	**Y**	Woodquay Park is an urban amenity public park, with existing high levels of anthropogenic activity in the form of human activity, noise, and lighting. The main habitats recorded within Woodquay Park include Buildings and Artificial Surfaces (BL3), Amenity Grassland (Improved) (GA2), Treeline (WL2), and Hedgerow (WL1). As such, the proposed work site does not provide any significant supporting habitat and has no potential for disturbance to the SCI Species associated with Inner Galway Bay SPA However, taking a precautionary approach, the Treeline (WL2) and Hedgerow (WL1) habitats recorded within Woodquay Park may be used by local bird populations as supporting foraging and nesting habitat. As such, the loss of approx 2x trees and approx 155m of hedgerow may result in ex-situ habitat loss, and disturbance/ displacement related impacts to local bird species. **As such, Bird Species are included as a KER.**
›	**Other Fauna- Local Importance *(Lower Value)***	**N**	None of the habitats within the Proposed Works area provide significant habitat for any other protected faunal species and other fauna was classified as *Local Importance (Lower Value*). It is likely that species such as Fox and Rat will occur within the project boundary, however, these are common and typical of urban settings. **Therefore, non-volant mammals are not included as KERs.**
Invasive Species			
›	Montbretia (*Crocosmia X crocosmiflora*)	**N**	Montbretia (*Crocosmia X crocosmiflora*) a low-risk invasive species, not species listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) was recorded within the **Hedgerow (WL1)** habitat to the north, east and west of Woodquay Park. As such, this non third schedule invasive species has not been subject to management and control in a specified Invasive Species Management Plan (ISMP) **and is therefore not included as a KER.**
European Designated Sites			
›	Lough Corrib SAC [000297]	**Y**	The River Corrib (IE_WE_30C020600), which is designated as part of Lough Corrib SAC is located directly adjacent to the northern margin of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows in a southerly direction to the west of site, before intersecting with the Corrib Estuary (IE_WE_170_0700). Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering the River Corrib, which is designated as part of Lough

		Corrib SAC, adversely impacting the aquatic influenced QI habitats and species, via the deterioration of water and habitat quality, in the absence of mitigation. Further, due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution. Taking an extremely precautionary approach, the River Corrib may provide ex-situ supporting foraging, commuting and breeding habitat for the aquatic QI Species: Otters (*Lutra lutra*). As such, a potential pathway for effect to this aquatic QI Species was identified in the form of ex-situ disturbance and displacement during the construction phase of the proposed works, in the absence of mitigation. **As such, Lough Corrib SAC is included as a KER of International Importance.**
› Galway Bay Complex SAC [000268]	**Y**	The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located directly adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to the west of Woodquay Park, flowing in a southerly direction into Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex SAC. The Corrib Estuary flows in a southerly direction into Inner Galway Bay after approx 837m. Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering this SAC, via the hydrological pathway as described above, adversely impacting the aquatic influenced QI habitats and species, via the deterioration of water and habitat quality, in the absence of mitigation. Further, due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution. Taking a precautionary approach, the Corrib Estuary, and Inner Galway Bay, both designated as part of Galway Bay Complex SAC, may provide ex-situ supporting foraging, commuting and breeding habitat for the aquatic QI Species: Otters (*Lutra lutra).* As such, a potential pathway for effect to this aquatic QI Species was identified in the form of ex-situ disturbance and displacement during the construction phase of the proposed works, in the absence of mitigation. **As such, Galway Bay Complex SAC is included as a KER of International Importance.**
› Inner Galway Bay SPA [004031]	**Y**	The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located directly adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to south/ west of Woodquay Park, flowing in a southerly direction into Corrib Estuary (IE_WE_170_0700), which is designated as part of Inner Galway Bay SPA. Corrib Estuary flows in a southerly direction into Inner Galway Bay after approx 1.5km. Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering this SPA, via the hydrological pathway as described above, adversely impacting the supporting aquatic and Wetland habitats for SCI Species within the SPA, via the

		deterioration of water and habitat quality, in the absence of mitigation. Further, due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution There is no potential for the Proposed Works to result in significant ex-situ disturbance or displacement related impacts to the SCI Species associated with this SPA. **As such, Inner Galway Bay SPA is included as a KER of International Importance.**
Nationally Designated Sites		
› Galway Bay Complex pNHA [000268]	**Y**	The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located directly adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to the west of Woodquay Park, flowing in a southerly direction into Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex pNHA. The Corrib Estuary flows in a southerly direction into Inner Galway Bay after approx 837m. Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering this pNHA, via the hydrological pathway as described above, adversely impacting this pNHA via the deterioration of water and habitat quality, in the absence of mitigation. Further, due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution. **As such, Galway Bay Complex pNHA is included as a KER of International Importance.**

6. ECOLOGICAL IMPACT ASSESSMENT

6.1 Do Nothing Impact

The main habitats recorded within the boundary of the proposed works site are classified as **Buildings and Artificial Surfaces (BL3), Amenity Grassland (Improved) (GA2), Treelines (WL2)** and **Hedgerows (WL1).** If the proposed project were not to go ahead, there would be no change to Woodquay Park, and it would continue to be used as an amenity public park or would be subject to alternative development proposals.

6.2 Impacts during Construction

6.2.1 Impacts on Habitats

6.2.1.1 Habitats of *Local Importance (Higher Value)*

The loss, degradation or fragmentation of habitats that have been identified as Key Ecological Receptors to facilitate construction are described in the following sections.

6.2.1.1.1 *Tree Line (WL2) and Hedgerow (WL1)*

Table 6-1 Loss of Tree Line (WL2) and Hedgerow (WL1) Habitat During the Construction Phase

Description of Effect	There are approx 18 trees within Woodquay Park. It is proposed to remove approx 2x trees from Woodquay Park to facilitate the proposed works, including one grade B Grey Alder (*Alnus incana*) to the eastern parcel of site, and one grade C Swedish Whitebeam (*Sorbus intermedia*) to the southwest margin of the site. The remaining 16x trees within the Treeline (WL2) habitat to the eastern and western margins of Woodquay Park will be protected via protective fencing. The protective fencing will be in accordance with the British Standard BS5837: Trees in relation to design, demolition, and construction (2012) guidelines. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0108** titled '**Tree Removal and Tree Works Plan'** submitted as part of this application. For full details on the trees within Woodquay Park, refer to the **Tree Schedule and Condition Survey Report** submitted as part of this application. Further, to facilitate the Proposed Works, it is proposed to remove approx 155m of **Hedgerow (WL1)** to the northern, eastern, and western margins of Woodquay Park. Species to be removed include Spindle (*Euonymus europaeus*), Ivy (*Hedera Hibernica*), Bramble (*Rubus fructicosus*), Hawthorn (*Crataegus monogyna*), Montbretia (*Crocosmia x crocosmiiflora),* Nettle (*Urtica dioica*), Wild Teasel (*Dipsacus fullonum*), Bindweed (*Calystegia sepium*), Sycamore (*Acer pseudoplatanus*), Creeping Buttercup (*Ranunculus repens*), Narrow leaved Hawkweed (*Hieracium umbellatum*), Silverweed (*Potentilla anserina),* and Bittersweet *(Solanum dulcamara).*
Assessment of Significance prior to mitigation	The loss of approx 2x trees from the **Treeline (WL2)** habitat, one Grade B and one Grade C and approx 155m of **Hedgerow (WL1)** is considered **significant at a local geographical scale.**
Mitigation	In order to mitigate the above loss of approx 2x trees from **Treeline (WL2)** habitat, and approx 155m of **Hedgerow (WL1)** habitat within Woodquay Park, the following mitigation measures are proposed: › It is proposed to plant an additional 4x Golden Alder (*Alnus incana 'Aurea'*) tree to the northeast and southeast of Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application. › It is proposed to plant approx 148m of mixed native Hedgerow to the eastern and western margins of Woodquay Park, as a double staggered row, supported by a timber post and wire fence until established. The hedge will be maintained to a maximum of 1m high. Native species to be planted within the proposed hedgerow

	include Common dogwood (*Cornus sanguinea*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Crab apple (*Malus sylvestris*), Blackthorn (*Prunus spinosa*), and Guelder Rose (*Viburnum opulus*). › Further, additional soft landscaping in the form of bulb planting, rain garden planting, Molinia meadow planting, ground cover planting, and amenity grass planting is proposed throughout Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application. › The remaining 16x trees within the Treeline (WL2) habitat to the eastern and western margins of Woodquay Park will be protected via protective fencing. The protective fencing will be in accordance with the British Standard BS5837: Trees in relation to design, demolition, and construction (2012) guidelines.
Residual Effect following Mitigation	Following the implementation of the mitigation as described above, there will be a short-term loss of approx two trees, and approx 155m of hedgerow habitat, which will be supplemented with additional planting of approx 4x native trees, and approx 148m of native hedgerow There will be no significant residual effect on Treeline (WL2) or Hedgerow (WL1) habitat at any geographic scale as a result of the Proposed Works at Woodquay Park.
Potential for Cumulative Effect	The Proposed Works will not result in any significant effects to Treeline (WL2) and Hedgerow (WL1) habitat. It therefore cannot contribute to any significant cumulative effect in this regard.

6.2.2 Impacts on Fauna

The effects on faunal species that have been identified as Key Ecological Receptors to facilitate construction are described in the following sections.

6.2.2.1 Impacts on Birds

Table 6-2 Impacts on Birds During the Construction Phase

Description of Effect	**Habitat Loss/Degradation** The Treeline (WL2) and Hedgerow (WL1) habitat within Woodquay Park may be used by local populations of common foraging and nesting birds. As such, the loss of approx 2x trees including one grade B Grey Alder (*Alnus incana*) to the eastern parcel of site, and one grade C Swedish Whitebeam (*Sorbus intermedia*) to the southwest margin of the site, and approx 155m of Hedgerow (WL1) to the northern, eastern, and western margins of Woodquay Park, may result in the loss of supporting habitat for local bird species. Woodquay Park is an urban amenity public park, with existing high levels of anthropogenic activity in the form of human activity, noise, and lighting. The main habitats recorded within Woodquay Park include Buildings and Artificial Surfaces (BL3), Amenity Grassland (Improved) (GA2), Treeline (WL2), and Hedgerow (WL1). As such, the proposed work site does not provide any significant supporting habitat and has no potential for disturbance to the SCI Species associated with Inner Galway Bay SPA
	Disturbance The loss of approx 2x trees including one grade B Grey Alder (*Alnus incana*) to the eastern parcel of site, and one grade C Swedish Whitebeam (*Sorbus intermedia*) to the southwest margin of the site, and approx 155m of **Hedgerow (WL1)** to the northern, eastern, and western margins of Woodquay Park, has the potential to result in disturbance to birds and potentially to cause mortality to juvenile birds in the nest.
Assessment of Significance prior to mitigation	**Habitat Loss/Degradation** The potential loss of nesting and foraging habitat for common bird species would be considered **significant at a local geographical scale.**
	Disturbance Mortality/disturbance to the local bird population as a result of vegetation clearance in the nesting season would be considered **significant at the local geographic scale.**
Mitigation	**Habitat Loss/Degradation** • It is proposed to plant an additional 4x Golden Alder (*Alnus incana 'Aurea'*) tree to the northeast and southeast of Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled **'Planting Plan'** submitted as part of this application. • It is proposed to plant approx 148m of mixed native Hedgerow to the eastern and western margins of Woodquay Park, as a double staggered row, supported by a timber post and wire fence until established. The hedge will be maintained to a maximum of 1m high. Native species to be planted within the proposed hedgerow include Common dogwood (*Cornus sanguinea*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Crab apple (*Malus sylvestris*), Blackthorn (*Prunus spinosa*), and Guelder Rose (*Viburnum opulus*). • Further, additional soft landscaping in the form of bulb planting, rain garden planting, Molinia meadow planting, ground cover planting, and amenity grass planting is proposed throughout Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled **'Planting Plan'** submitted as part of this application.

	• The remaining 16x trees within the Treeline (WL2) habitat to the eastern and western margins of Woodquay Park will be protected via protective fencing. The protective fencing will be in accordance with the British Standard BS5837: Trees in relation to design, demolition, and construction (2012) guidelines.
	Disturbance Where possible, all cutting of trees, scrub and tall vegetation will be undertaken outside the bird nesting season which runs from the 1st of March to the 31st of August, in accordance with the Wildlife Act 1976-2019. Any cutting of vegetation that may be required outside the season described above will be supervised by a suitably qualified ecologist to ensure that no birds' nests are present. Should nesting birds be encountered, the trees will be left until nesting activity has concluded.
Residual Effect following Mitigation	**Habitat Loss** – No significant effect
	Disturbance – No significant effect.
Potential for Cumulative Effect	**Habitat Loss** The proposed works will not result in any significant effect in regard to habitat loss for birds. It therefore cannot contribute to any cumulative effect in this regard.
	Disturbance The proposed works will not result in any significant effect in regard to disturbance to birds. It therefore cannot contribute to any cumulative effect in this regard.

6.2.2.2 Impacts on Bats

Table 6-3 Impacts on Bats During the Construction Phase

Description of Effect	**Roosting habitat:** With regard to roosting bats, the Treeline (WL2) includes mature deciduous trees, none of which present roosting potential. No trees within the site had potential to support roosting bats. No bats were observed emerging or re-entering any trees during the survey. Overall, the site is not considered to provide significant suitable roosting habitat for bat species. **Foraging and commuting habitat** As described fully in **Section 5.3.2** of this report, a high number of bat passes (1326) were recorded during the manual activity survey conducted by MKO on the 19/06/2024. Activity levels were concentrated to the Treeline (WL2) habitat to the eastern and western margins of Woodquay Park. Therefore, Woodquay park provides 'Moderate to High' foraging/ commuting habitat for bat species in an urban environment. Following the precautionary principle, the construction phase has the potential to result in some habitat loss to local bat species via the removal of approx 2x trees including one grade B Grey Alder (*Alnus incana*) to the eastern parcel of site, and one grade C Swedish Whitebeam (*Sorbus intermedia*) to the southwest margin of the site, and approx 155m of Hedgerow (WL1) to the northern, eastern, and western margins of Woodquay Park.
Assessment of Significance prior to mitigation	**Roosting** There will be no loss of roosting habitat within Woodquay Park as a result of the proposed works. **Foraging** and **commuting** The loss of approx 155m of Hedgerow (WL1), and approx 2x trees from the Treeline (WL2) would not result in significant loss of foraging and commuting habitat for local bat species.

Mitigation	The following landscaping proposals, as described fully in **Section 2.3** of this report, and detailed on **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application, will result in an increase in bat usage on the site, by providing additional and enhanced foraging habitat: › It is proposed to plant an additional 4x Golden Alder (*Alnus incana 'Aurea'*) tree to the northeast and southeast of Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application. › It is proposed to plant approx 148m of mixed native Hedgerow to the eastern and western margins of Woodquay Park, as a double staggered row, supported by a timber post and wire fence until established. The hedge will be maintained to a maximum of 1m high. Native species to be planted within the proposed hedgerow include Common dogwood (*Cornus sanguinea*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Crab apple (*Malus sylvestris*), Blackthorn (*Prunus spinosa*), and Guelder Rose (*Viburnum opulus*). › Further, additional soft landscaping in the form of bulb planting, rain garden planting, Molinia meadow planting, ground cover planting, and amenity grass planting is proposed throughout Woodquay Park. For further details refer to the **Drawing 12357-LUC-XX-00-DR-L-0105** titled '**Planting Plan'** submitted as part of this application. › The remaining 16x trees within the Treeline (WL2) habitat to the eastern and western margins of Woodquay Park will be protected via protective fencing. The protective fencing will be in accordance with the British Standard BS5837: Trees in relation to design, demolition, and construction (2012) guidelines.
Residual Effect following Mitigation	With the implementation of the prescribed mitigation measures, no significant residual effects are predicted.
Potential for Cumulative Effect	The proposed works will not result in any significant effect in regard to bats. It therefore cannot contribute to any cumulative effect in this regard.

6.2.3 Deterioration of Water Quality

Table 6-4 Impacts on Water Quality During the Construction Phase

Description of Effect	The construction phase of the development will involve earth moving and levelling operations 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. The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to south/ west of Woodquay Park, flowing in a southerly direction in Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA. Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering the River Corrib, adversely impacting the aquatic influenced QI habitats and species within Lough Corrib SAC, in the absence of mitigation. Due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution.
Assessment of Significance prior to mitigation	In the absence of best practice design and mitigation the potential impact on water quality is considered to be **significant at an International Scale** given the proximity of the site to the River Corrib, which at this point is designated as part of Lough Corrib SAC.
Mitigation	The mitigation measures outlined to protect water quality during construction have been outlined fully in the **Construction and Environmental Management Plan (CEMP)** submitted as part of this application**,** and are summarised below:

The mitigation measures described below ensure that the proposed works does not prevent or obstruct any of the Qualifying Interests (QIs) from reaching favourable conservation status as per Article 1 of the EU Habitats Directive, ensuring that the proposed works does not adversely affect the integrity of any Designated European sites or biodiversity.

- Prior to the commencement of any 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; thus, ensuring the protection of surface water during the works. 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.
- 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 of the CEMP** provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects.
- Excavation works have the potential to encounter sub-surface and groundwater. If groundwater is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached onto an area of overland vegetation within the site boundary.

Prevention Pollution Control Measures

The Proposed Works site does not contain any mapped watercourses, and no watercourses were identified within the site boundary during site visits. However, the River Corrib, which is designated as part of the Lough Corrib SAC, is located directly adjacent to northern margin of the Proposed works boundary. The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering the wider environment.

- Prior to the commencement of earthworks, silt fencing will be erected around the northern boundary of the Proposed Development site, along the River Corrib. This will be embedded into the ground adjacent to the perimeter boundary. The silt fences will be left in place throughout construction until all exposed soil has revegetated.
- The appointed contactor will be fully briefed by an ecologist as to the sensitive nature of the site (i.e., proximity to the River Corrib and Lough Corrib SAC), and the required mitigation measures.
- The majority of excavated spoil will be transported off-site for appropriate treatment or disposal. Some spoil may be retained onsite for infilling and landscaping. Stockpiles will be covered in polyethylene sheeting and if required, surrounded by a layer of silt fencing.
- All excavated material which is not required for future landscaping works or for backfill of excavations will be removed to an authorised waste recovery facility. This will also apply to material which is not suitable for reuse on site.
- Earthworks will not take place during periods of high rainfall to reduce runoff and potential siltation of watercourses. 'High rainfall' is defined as follows:
    - >10 mm/hr (i.e. high intensity local rainfall events); or
    - >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or,
    - Rainfall total greater than monthly average recorded in 7 consecutive days (prolonged heavy rainfall over a week).
- If ground water is encountered during excavations, water will be pumped from the excavation and discharged through a pipe with a silt bag attached onto an area of overland vegetation within the site boundary.
- Good construction practices will be implemented at the site. This 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, 2001), which provides information on these issues. This will ensure that surface water arising during the course of construction activities will contain minimum sediment.

Cement Based Product 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 any watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

Refuelling, Fuel, and Hazardous Materials Storage

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

- Storage/refuelling will be located in and carried out in a designated area of the construction site, located a suitable distance from excavation works. This area should be underlain by impermeable hard standing, and tanks should be inspected for leaks regularly. Spill kits should be supplied at these stations and staff should be trained in their use and in spill control. Drainage from these areas shall be diverted for collection and not discharged into waterbodies or municipal drains without treatment and other best management practices.
- 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.
- Onsite 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.
- The small volume of fuels, lubricants and hydraulic fluids that will be stored at the site will be placed within an appropriately bunded storage area within the boundaries of the Proposed Development site.
- Storage bunds/trays, if required will be constructed of an impermeable membrane (High density polyethylene (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.
- 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 spillage etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.
- Spill kits will be used to deal with any accidental spillage in and outside the refuelling area.

Dust Control

Construction dust can be generated from many on-site activities such as soil stripping 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. Proposed measures to control dust include: › 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, 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 15 km/h
Residual Effect following Mitigation	With the implementation of the prescribed mitigation measures, no significant effects are predicted.
Potential for Cumulative Effect	The proposed works will not result in any significant effects to water quality. It therefore cannot contribute to any significant cumulative effect in this regard.

6.3 Operational Phase

6.3.1 Impacts on Habitats

There will be no additional habitats loss associated with the operational phase of the proposed project. No direct or indirect impacts on adjacent habitats are considered likely as a result of the operational phase of the proposed project. The proposal therefore will not have a significant negative impact at any geographic scale and no mitigation is required.

6.3.2 Impacts on Fauna

The additional impacts on fauna during the operational phase of the Proposed Works have been considered. There will be no additional impact to faunal species, with the exception of bats, as a result of the operational phase of the Proposed Works. Disturbance to local Bat Species is discussed below in **Table 6.5.**

6.3.2.1 Impacts on Bats

Table 6-5 Impacts to Bats During the Operational Phase

Description of Effect	The operation of the Proposed Works will result in increased human activity, noise, and lighting within, and adjacent to Woodquay Park. Therefore, the potential for disturbance to bats requires consideration. The Proposed Works site is an existing public amenity park, bordered by existing residential and commercial developments to the north, south, west, and east, as well as busy local roads, pathways, and existing street lighting surrounding Woodquay Park. As such, it is likely that the Local Bat Species in the area are already accustomed to some levels of anthropogenic disturbance due to the urban nature of the site.
Assessment of Significance prior to mitigation	In the absence of appropriate design, the Proposed Works has the potential to disturb bats by illumination of commuting and foraging areas. This would be considered **significant at a local geographical scale.**
Mitigation	**Mitigation** The lighting plan for the operational phase of the Proposed Works, has been designed with consideration of the following guidelines: *Bat Conservation Ireland (Bats and Lighting: Guidance Notes for Planners, Engineers, Architects and Developers, BCI, 2010) and the Bat Conservation Trust (Guidance Note 08/18 Bats and Artificial Lighting in the UK (BCT, 2018)*, Dark Sky Ireland, to minimise light spillage, thus reducing any potential lighting disturbance to bats. For full details refer to the **Electrical Installation Site Plan Drawing P100** submitted as part of this application. The proposed light fitting/scheme will be designed to help mitigate the effect of the artificial lighting on the local bat populations by incorporating the following: • A light source colour temperature of 2700k and zero UV will be incorporated. • A lighting control regime is proposed to reduce illuminance during hours of lower human activity (i.e., 12:00am – 6:00am)- Lighting control consists of photocell and timeclock to ensure the lights are only on during hours of darkness and during hours of use. A hand-off auto switch shall be provided to facilitate manual override of the external lighting. • The lighting fixtures proposed are bollards, with flat tops which will reduce upward light spill.

	• The proposed lighting is concentrated to the central pathway of the park, reducing light spill on the linear treeline features to the east and west of the site.
Residual Effect following Mitigation	With the implementation of the prescribed mitigation measures, no significant effects are predicted.
Potential for Cumulative Effect	The proposed works will not result in any significant effect on bats. It therefore cannot contribute to any cumulative effect in this regard.

6.3.3 Impacts on Water Quality During the Operational Phase

The proposed works will result in the generation of additional surface water. However, due to the project design, described fully in **Section 2.2**, there is no potential for deterioration of water quality during the operational phase of the proposed works.

6.4 Impacts on Designated Sites

6.4.1 Impacts on European Designated Sites

The EPA Guidance 2022 states:

> *"A biodiversity section of an EIAR, should not repeat the detailed assessment of potential effects on European sites contained in a Natura Impact Statement"* but should *"incorporate their key findings as available and appropriate".*

This section provides a summary of the key assessment findings with regard to Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

The potential for impact on European sites has been fully assessed in the **Natura Impact Statement (NIS)** that has been prepared in support of the current application.

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 NIS:

- Lough Corrib SAC [000297]
- Galway Bay Complex SAC [000268]
- Inner Galway Bay SPA [004031]

The NIS identified a potential pathway for indirect effects on the aquatic dependent Qualifying Interests (QIs) of Lough Corrib SAC, Galway Bay Complex SAC, and Special Conservation Interests (SCI's) of Inner Galway Bay SPA were identified in the form of deterioration of water quality/ habitat quality resulting from pollution to surface waters during the construction phase, adversely impacting the aquatic QI habitats and species, and supporting aquatic and Wetland habitats for SCI Species within the SPA, in the absence of mitigation

The River Corrib (IE_WE_30C020600), which is designated as part of the Lough Corrib SAC, is located directly adjacent to the north of Woodquay Park (ITM Co Ordinates: 529706, 725709). The River Corrib flows to the west of Woodquay Park, flowing in a southerly direction into Corrib Estuary (IE_WE_170_0700), which is designated as part of Galway Bay Complex SAC and Inner Galway Bay SPA. The Corrib Estuary flows in a southerly direction into Inner Galway Bay.

Therefore, construction activities associated with the proposed works may result in excess sediment/ surface water run off entering Lough Corrib SAC, Galway Bay Complex SAC, and Inner Galway Bay SPA, via the hydrological pathways described above, adversely impacting the aquatic influenced QI habitats and species within these SACs, and supporting aquatic and Wetland habitats for SCI within the SPA, via the deterioration of water quality, in the absence of mitigation.

Further, due to the small nature and scale of the proposed works, there is no potential for the proposed works to result in groundwater pollution.

The proposed works will not contribute to any effect on the hydrological regime in the area or to any water pollution effects.

The NIS concludes as follows:

'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 phase of the proposed works does not adversely affect the integrity of European sites.

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

6.4.2 Impacts on Nationally Designated Sites

Impacts on Nationally Designated Sites including NHAs and pNHAs are considered in this section of the report. Where such sites are also designated as SACs or SPAs (European Sites) they have been assessed and considered under that designation and summarised below.

Taking a precautionary approach, a potential pathway for indirect effects on Galway Bay Complex pNHA [000268] was identified in the form of deterioration of water quality resulting from potential hydrological connectivity via surface water, as described fully in **Table 4. 1.**

However, there is no potential for significant indirect effects on this pNHA based on mitigation measures as outline in the **Construction and Environmental Management Plan (CEMP)** submitted as part of this application, which are in place to protect this nationally designated site from pollution arising from construction activities.

No potential pathways for impact on any pNHA or NHA have been identified, following the implementation of mitigation and best practice as described above.

No significant effects on nationally designated sites are anticipated.

7. CUMULATIVE IMPACT ASSESSMENT

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 considered in **Table 4.1.** 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.

7.1 Plans

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

- Galway County Council Development Plan 2022-2028
- Ireland's 4th National Biodiversity Action Plan 2024-2030

The review focused on policies and objectives that relate to Natura 2000 sites and natural heritage.

Table 7-1 Review of Plans

Plans	Key Policies/Issues/Objectives Directly Related to European Sites in The Zone of Influence	Assessment of Potential Effects on European Sites
Galway County Council Development Plan 2022-2028	**NHB 1 Natural Heritage and Biodiversity of Designated Sites, Habitats and Species** Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan. Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI 94 of 1999). Support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas, Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries (and other designated sites including any future designations) and the promotion of the development of a green/ ecological network. **NHB 2 European Sites and Appropriate Assessment** To implement Article 6 of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). All assessments must be in compliance with the European Communities (Birds and Natural Habitats) Regulations 2011. All such projects and plans will also be required to comply with statutory Environmental Impact Assessment requirements where relevant. **NHB 3 Protection of European Sites** No plans, programmes, or projects etc. giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects.* **NHB 4 Ecological Appraisal of Biodiversity** Ensure, where appropriate, the protection and conservation of areas, sites, species and ecological/networks of biodiversity value outside designated sites. Where appropriate require an ecological appraisal, for development not directly connected with or necessary to the management of European Sites, or a proposed European Site and which are likely to have significant effects on that site either individually or cumulatively.	The Development plan was 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. There will be no impact on designated sites or biodiversity as a result of the Proposed Works.

	NHB 5 Ecological Connectivity and Corridors Support the protection and enhancement of biodiversity and ecological connectivity in non-designated sites, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife areas where these form part of the ecological network and/or may be considered as ecological corridors in the context of Article 10 of the Habitats Directive. **NHB 6 Implementation of Plans and Strategies** Support the implementation of any relevant recommendations contained in the National Heritage Plan 2030, the National Biodiversity Plan, the All-Ireland Pollinator Plan and the National Peatlands Strategy and any such plans and strategies during the lifetime of this plan. **NHB 7 Mitigation Measures** Require mitigating measures in certain cases where it is evident that biodiversity is likely to be affected. These measures may, in association with other specified requirements, include establishment of wildlife areas/corridors/parks, hedgerow, tree planting, wildflower meadows/marshes and other areas. With regard to residential development, in certain cases, these measures may be carried out in conjunction with the provision of open space and/or play areas. **NHB 8 Increased Awareness of the County's Biodiversity and Natural Heritage** Facilitate increased awareness of the County's biodiversity and natural heritage through the provision of information to landowners and the community generally, in cooperation with statutory and other partners. NHB 9 Protection of Bats and Bats Habitats Seek to protect bats and their roosts, their feeding areas, flight paths and commuting routes. Ensure that development proposals in areas which are potentially important for bats, including areas of woodland, linear features such as hedgerows, stonewalls, watercourses and associated riparian vegetation which may provide migratory/foraging uses shall be subject to suitable assessment for potential impacts on bats. This will include an assessment of the cumulative loss of habitat or the impact on bat populations and activity in the area and may include a specific bat survey. Assessments shall be carried out by a suitably qualified professional and where development is likely to result in significant adverse effects on bat populations or activity in the area, development will be prohibited or require mitigation and/or compensatory measures, as appropriate. The impact of lighting on bats and their roosts and the lighting up of objects of cultural heritage must be adequately assessed in relation to new developments and the upgrading of existing lighting systems. **WR 1 Water Resources** Protect the water resources in the plan area, including rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater	

	and water dependant species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the River Basin District Management Plan 2018 – 2021 and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same) and also have regard to the Freshwater Pearl Mussel Sub-Basin Management Plans. **TWHS 1 Trees, Hedgerows, Natural Boundaries and Stone Walls** Protect and seek to retain important trees, tree clusters and tree boundaries, ancient woodland, natural boundaries including stonewalls, existing hedgerows particularly species rich roadside and townland boundary hedgerows, where possible and replace with a boundary type similar to the existing boundary. Ensure that new development proposals take cognisance of significant trees/tree stands and that all planting schemes developed are suitable for the specific site and use suitable native variety of trees of Irish provenance and hedgerows of native species. Seek Tree Management Plans to ensure that trees are adequately protected during development and incorporated into the design of new developments.	

Ireland's 4th National Biodiversity Action Plan 2024-2030	**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 biodiversity initiatives and international governance processes, such as the United Nations Convention on Biological Diversity	The Development plan was 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. There will be no impact on designated sites or biodiversity as a result of the Proposed Works

7.2 Other Projects

Assessment material for this in-combination impact assessment was compiled on the relevant developments within the vicinity of the Proposed Works and was verified on the 26/09/2024. The material was gathered through a search of relevant online Planning Registers, reviews of relevant documents, planning application details and planning drawings, and served to identify past and future projects, their activities, and their environmental impacts. All relevant projects were considered in relation to the potential for in-combination effects. All relevant data was reviewed (e.g., individual EISs/EIARs, layouts, drawings etc.) for all relevant projects where available. These consisted mainly of small-scale domestic developments and upgrades.

- Permission for development which will consist of construction of a vehicle entrance to the back of site accessing from The Plots Road. (Planning Ref:21334).
- Permission for development which consists of construct a single storey extension to the back of existing dwelling house. (Planning Ref: 2360062).
- Permission for alterations and extension to existing house to include retention of existing two storey extension to rear, relocation of front door, demolition and reconstruction of existing sunroom, single storey extension to rear, re-positioning and enlargement of access gate at rear of property and all associated site works and services. (Planning Ref: 1732).
- Permission for retention which will consist of retention of demolition to rear wall of house and existing rear extension. Construction of new rear single and two storey extension. Modifications to existing house and all associated site works to house. (Planning Ref: 2267).
- Permission for retention which will consist of retention of first floor level rear extension. (Planning Ref:2266).
- Retention is sought for (1) single storey extension to the rear and renovations to existing dwelling house (2) renovations to old shed to rear of the house, along with all associated works. (Planning Ref: 19229).
- Permission for development which will consist of the subdivision of the existing ground floor retail area into two separate retail units of approximately 863sqm and 217sqm to include an approximate 17sqm rear extension, and alteration to western façade. There is a protected structure on site in the form of an inscribed stone (RPS Ref No. 7202). (Planning Ref: 20290).
- Permission for development which will consist of a change of use of the former Carbon Nightclub to provide for a licenced premise and restaurant. The development will consist of demolition and refurbishment works at ground floor level including the front elevation at Eglinton Street. and extension to first floor level to include a roof terrace, customer toilets and staff facilities. The works include internal modifications to provide for public house and restaurant uses; the modifications to existing beer garden area at ground floor level; the provision of a roof terrace/outdoor beer garden at first floor level; all associated landscaping, boundary treatments and all other ancillary site development works necessary to facilitate the development on site. (Planning Ref: 22206).
- Permission for development which will consist of new shop front on to Eglinton Street retention of rear emergency escape stairs and smoking area and the provision of a new external smoking area at ground floor level. (Planning Ref: 17229).
- Permission at the former Connacht Tribune site (part of a protected structure) consisting of change of use of former printworks, paper store and associated areas to indoor licenced food hall/market and dining space, with associated ancillary outdoor space/use with ancillary use as an occasional event space, along with all associated and ancillary works and development. (Planning Ref: 18337).
- Permission is sought for the development which will consist of Change of Use of Paper Store (ground and first floor level) area to Co-Working Office Space use; Reconfiguration of internal layout of existing two storey office area as a Co-Working Office Space; Partial demolition of two storey projection to rear and side, and replacement with new enlarged projection over four floors; Construction of additional (second floor) flat roofed floor above part of the existing two storey building; Construction of roof garden/deck area above part of second floor area; Alteration of front and side elevations including replacement façade along Market Street;

Installation of external plant and equipment, revised boundary treatments, hard and soft landscaping, cycle parking, signage and branding, connections to services and utilities; Consequential superseding of Reg. Ref: 18/337 relating to provision of a Food Market, insofar as it relates to the ground level Paper Store, and associated and ancillary revisions to northern and southern laneway serving the printworks/permitted Food Market area; and All associated and ancillary work and development above and below ground level. All part of a protected structure. (Planning Ref: 20108).

- Permission for development which will consist of: (a) demolition and replacement of existing single storey storage building (23m2) with new purpose built single storey building including infill of the space between the existing building and the building to be demolished (9m2) all to match existing at rear of AIB bank and (b) internal modifications and non-structural remodelling of the banking hall adjacent to but not including the Lynch's Castle structure (a protected structure - Ref No. 9313). (Planning Ref: 22150).
- Permission for development which will consist of the change of use of existing two storey warehouse to co-working office space use, associated two storey extension, demolition of existing arched concrete gateway, internal reconfiguration, alteration of elevations, roof replacement (and removal of chimney), installation of external plant and equipment, revised boundary treatments, hard and soft landscaping, cycle parking, signage and branding, connections to services and utilities, creation of pedestrian and cycle access to Market Street (through Market Street car park, a protected structure), and all associated and ancillary works and development above and below ground level. (Planning Ref: 2089).
- Planning permission for the development will consist of(Protected Structure RPS Ref 3801) (1) Amendments to the ground floor layout including reconfiguration of the bathrooms and creation of a fire escape corridor, (2) Alterations to the existing fenestration and conversion of a window into a doorway at ground floor level on the south-western elevations, (3) Alterations to the layout at fourth floor level including the insertion of alternative fire escape corridor, (4) Change of use at 5th floor from an existing leisure centre to 13 no. bedrooms. (5) The construction of an additional 6th floor containing 6 no. bedrooms, fire escape corridor, and plant areas and (6) All other associated site development and servicing works. (Planning Ref:19221).
- Permission for development which will consist of 1) internal alterations/revisions to amalgamate Forster Court Hotel & the adjoining building formally known as 'Aras Failte Tourist Information Office' at basement, ground and first floor levels 2) Change of use of the adjoining building formally known as 'Aras Failte Tourist Information Office' from Tourist information centre including ancillary offices and retail space to a Hotel / Conference centre. Changes to include - a) 11 no. hotel sites at first floor level, b) Alterations at ground floor level to facilitate the enlargement of the existing Forster Court Hotel restaurant bar area and new conference centre reception with ancillary refreshment area, meeting room & toilet facilities, c) New stairs & lift to conference centre at basement level to include conference/function room(s), meeting rooms, kitchen, and toilets. 3) Associated external signage, together with all associated site works. (Planning Ref: 2112).
- Permission for development which will consist of 1. Construct a new porch to front elevation of terrace house (3.02m2) 2. Demolish the existing rear extension (2.93m2) 3. Construct a new extension to ground floor and first floor levels to rear of dwelling (81.95m2) 4. And all associated site works. (Planning Ref: 21366).
- Permission for development which consists of minor amendments to previously approved development (PL 20/184, ABP-309673-21). The proposed amendments consist of the following: - Relocation of internal bin store to standalone external store to rear of the building. - Minor modifications to building footprint, elevations, landscaping, external surface treatments and site boundary treatments, - Minor modification and increased provision of bicycle parking, - Removal of previously granted mezzanine area between ground and second level, - Repositioning of firefighting emergency generator at ground level - Minor adjustments to Retail Units 1, 2, 3 and 4 with change of previous first floor of retail unit 1 to an office area with standalone entrance at street level. - Minor adjustments to student accommodation entrance. - Conversion of previously approved second floor gym to student accommodation communal areas - Minor amendments to second floor roof garden layout , - Minor

amendments to second, third, fourth, fifth and sixth floor layouts to increase total number of bed spaces from 223 (68 units) to 272 bed spaces (69 units) - Minor amendments to plantroom at roof level (increased area by 7.2sqm) - Permission for proposed mechanical and electrical external plant concealed behind acoustic louvres at roof levels. (Planning Ref: 22259).

- Permission for development which consists of: - Partial amalgamation of the existing licensed discount food store (Unit 1) and adjoining retail unit (Unit 2) on the ground floor and associated change of use of extended Unit 1 area to convenience retail. Amended floor areas as follows: Increase in Unit 1 floor area by 618m2 to provide a gross floor area of 1832m2 and Decrease in Unit 2 floor area by584m2 to provide a gross floor area by 629m2. Demolition of existing Unit 1 Entrance Pod (20 sq.m). Relocation of existing permitted signage on the front elevation. Provision of freestanding trolley bay. Alterations to external fenestration of Unit's 1 & 2. Reconfiguration and realignment of existing carpark. Relocation of the existing Unit 1 store entrance; and All associated site development works. (Planning Ref: 23248).
- Permission for development which will consist of: Provision of 73 sq.m (gross) single storey extension to south-eastern façade of existing building. Provision of trolley bay and associated amendments to car parking layout. Provision of pedestrian crossing. Provision of 3 no. internally illuminated 3.02 sq.m gable signs and provision of 1 no. non illuminated 1.78 sq.m glass entrance sign. External amendments to façade of building and alterations to internal layout. (Planning Ref: 21205).
- Permission for development which consists of development in the curtilage of the Quadrangle Building, University of Galway Campus, University Road, Galway. The development will consist of a university accessible footpath along the front façade (east side) of the Quadrangle Building and a universally accessible footpath in College Park, also on the east side of the Quadrangle Building running north south and linking up with existing foothpaths on campus. The Quadrangle Building is a protected structure Ref. no. 10303. (Planning Ref: 23247).
- Permission for development which consists of alterations to a previously granted two storey convent development (Pl. Ref: 21/238) to include the construction of a new internal boundary wall, railings and gates and associated site works including internal road and path alterations located at the Presentation Convent a Protected Structure (Galway City Council Ref. No. 7702) and in proximity to St. Joseph's Church a Protected Structure (Galway City Council Ref No. 7701), the Presentation National School a Protected Structure (Galway City Council Ref. No. 7703) and the Rivers & Waterways a Protected Structure (Galway City Council Ref. No. 8501). (Planning Ref: 2360031).
- Permission for development which consists of the demolition of 5 no. existing buildings on the proposed site, including No. 14 Distillery Road, Block T, the Storage Facility, the former Pharmacology building and the adjacent car parking area together with associated boundary walls and ancillary structures: to facilitate the development of a new Learning Commons facility on a site extending to 0.4396 ha. The development will consist of: i. The development of a stepped building which extends to 10,133 sqm metres and ranges in height from 4 to 6 storeys, at an overall maximum height of c. 28.350m and at an overall height of 36.15m OD (Ground Level at 7.80m OD) ii. The proposed Learning Commons features an automated book storage and retrieval system known as a "Book Bot" facility. iii. 2 no. covered entrance plazas are provided on both the north-east and south-east elevations of the building. iv. The ground floor incorporates a catering area, an exhibition space and a Learning Success Hub; upper floors contain individual and group study areas, seating areas, a book pickup station, book collection areas, a teaching and learning space and office space and ancillary spaces. v. An external roof-top amenity space is proposed on the four-storey element, of the southern elevation. vi. Plant and photovoltaics proposed at roof level. vii. Provision of 2 no. disabled car parking spaces for the building with an additional 2 no. spaces to support the Sports Centre Building in the vicinity. viii. New soft and hard landscaping, including a new external amenity space located in the northern western portion of the site. ix. An ESB substation located in the south-western portion of the site. x. All associated site engineering works which includes nature-based drainage proposals and all ancillary work. The proposed site is located immediately west of Protected Structure Ref 8501 (rivers & waterways), circa 40 meters north-west of Protected Structure Ref 7003 (Arts Science Building) and circa 155 metres north-west of

Protected Structure 7001 (James Hardiman Library). The planning application is supported by a Natura Impact Statement. (Planning Ref: 23104).

- Permission for development which consists of 1) the retention and completion of the slipway, 2) the demolition of the substandard boat house and its replacement with, 3) the construction of a two storey boat house building accommodating a repair/working dry dock inlet at the ground floor and the club house meeting room kitchenette, W.C and changing areas at the first floor, a cantilevered quayside boardwalk with floating pontoons at ground level and viewing deck to the water front at first floor and 4) all associated site works at Corrib Village, Newcastle, Galway on behalf of Galway Hooker Club. A Natura Impact Statement (NIS) will be submitted to the Planning Authority with the application. (Planning Ref: 23178).
- Permission for development which will consist of the extension of an existing dwelling house at No.3 Courthouse Square, a protected structure (RPS Ref.No.2605). The extension will be three storey and to the rear of 3 Courthouse Square. The development once complete will consist of 6 bedrooms with a total of three bathrooms and a separate living kitchen and dining area at No. 3 Courthouse Square, Woodquay , Galway City. (Planning Ref: 21388).
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7.2.1 Conclusion of Cumulative Assessment

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 works.

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.

8. CONCLUSION

A comprehensive assessment of the potential significant effects on biodiversity has been undertaken. Mitigation has been prescribed where necessary and the residual effects have been assessed. Following the implementation of best practice and mitigation, there will be no significant impacts on biodiversity.

The potential residual impacts on ecological receptors will not be significant and no potential for the proposed works to contribute to any cumulative impacts on biodiversity when considered in-combination with other plans and projects was identified.

In conclusion, provided that the proposed works are constructed and operated in accordance with the design described within this application, there will be no significant effects on biodiversity at any geographic scale.

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