



Preliminary Ecological Appraisal Report

Preliminary Ecological Appraisal Report
for social housing site located in Ballyhasky,
Newtowncunningham, Co. Donegal.

Greentrack Environmental Consultants

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Prepared By:



Greentrack Consultancy Limited
4 Roe House,
Dry Arch Business Park,
Letterkenny,
Co. Donegal
F92 NHT0

074 9126483

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1 INTRODUCTION

Greentrack Consultants have been instructed by Donegal County Council to undertake a Preliminary Ecological Appraisal Report (PEAR) on a site in Newtowncunningham proposed by Donegal County Council for social housing. The PEAR is to examine (through field and desk study) environmental matters such as watercourses, designated sites, invasive species etc relating to the site, and provide an overview on same that may be taken into consideration in the design specification decision making process.

2 METHODOLOGY

2.1 Purpose of this Report

This PEAR report aims to provide initial information on:

- General description of the site
- Bedrock and aquifer properties of the site
- Groundwater karst data and Source Protection Areas
- Flood risk assessment
- Watercourses draining the site, hydrological connection and Water Framework Directive (WFD) status
- Watercourse designation and fisheries value
- Habitats present on site and in immediate surrounding area.
- Nearest Natura 2000 sites: SAC, SPA, Margaritifera SAC Catchment & connectivity
- Species present
- identify the likely ecological constraints associated with proposed development.
- identify any additional surveys that may be required to inform an Appropriate Assessment Screening Report

2.2 Legislation, Policy and Guidance Documents

This report was carried out in accordance with relevant guidance, in particular:

- EU Birds Directive 2009/147/EEC.
- EU Habitats Directive 92/43/EEC
- Flora (Protection) Order, 2022, S.I. No. 235 of 2022
- Wildlife Act, 1976
- Wildlife (Amendment) Act, 2000
- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Fossitt (2000) A Guide to Habitats in Ireland. The Heritage Council, Kilkenny.
- Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011) Best Practice Guidance for Habitat Survey and Mapping. Heritage Council, Kilkenny.
- National Roads Authority (2009) Guidelines for Assessment of Ecological Impacts of National Roads Schemes

2.3 Desk Study

A desk-based analysis was conducted to obtain information on geological, hydrological and ecological features in the vicinity of the proposed site, and to source pathway receptors avenues of connectivity to potential sensitive receptors.

- Latest boundary data for Designated sites, available from www.npws.ie/mapsanddata (Accessed July 2024)
- NPWS Site Synopsis and Conservation Objectives, available at www.npws.ie (Accessed July 2024)

- Hydrological data from the EPA available from www.gis.epa.ie/GetData/Download (Accessed July 2024)
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to species records and distribution (www.maps.biodiversityireland.ie) (Accessed July 2024)
- Flood information was obtained from www.floodinfo.ie (accessed July 2024).
- Geological & Hydrogeological information was sourced through the Geological Society of Ireland www.gsi.ie (Accessed July 2024)

2.4 Field Study

A multidisciplinary site walkover took place on 28th June 2024. Site characteristics and incidental observation of species were noted during visits. A phase 1 equivalent habitat survey was conducted. Species identification informed classification of habitats to Fossit's level 3. Site suitability for birds, terrestrial mammals, amphibians, reptiles, and invertebrates was investigated. Hydrological features and potential avenues of hydrological connectivity were assessed.

2.5 Statement of Authority

This report has been compiled by Shannen McEwen, Ecologist with Greentrack. Shannen holds a B.Sc. (Hons) Environmental Science with a Diploma in Professional Practice from the University of Ulster. She has been involved in all aspects of Appropriate Assessment, Natura Impact Statement and Environmental Impact Assessment preparation since 2017. Shannen is an Associate Member of the Institution of Environmental Sciences.

3 DESCRIPTION OF THE PROJECT

3.1 Project Description

The proposal is for a housing project on a partially greenfield site in Ballyhasky, Newtowncunningham, Co. Donegal. The site is approximately 1.45 ha in size, broadly rectangular in shape and adjacent to the L-2051 road. There are proposals to construct up to 40 no. social housing units as part of the development. The development will be a mix of 1-bedroom apartments, and 2, 3 and 4-bedroom houses. Plans are in the early stages and a feasibility layout drawing is provided by Donegal County Council in Figure 3.1.

Figure 3.1: Provisional site layout drawing



(Supplied by Donegal County Council – not to scale)

3.2 Characteristics of the Project

The project is to construct a housing development on the site. Construction will be in 3 phases, Phase 1, Phase 1A and Phase 2.

3.2.1 Construction Stage

It is assumed that the project will follow a Construction and Environmental Management Plan for all construction activities on site.

3.2.2 Operational Stage

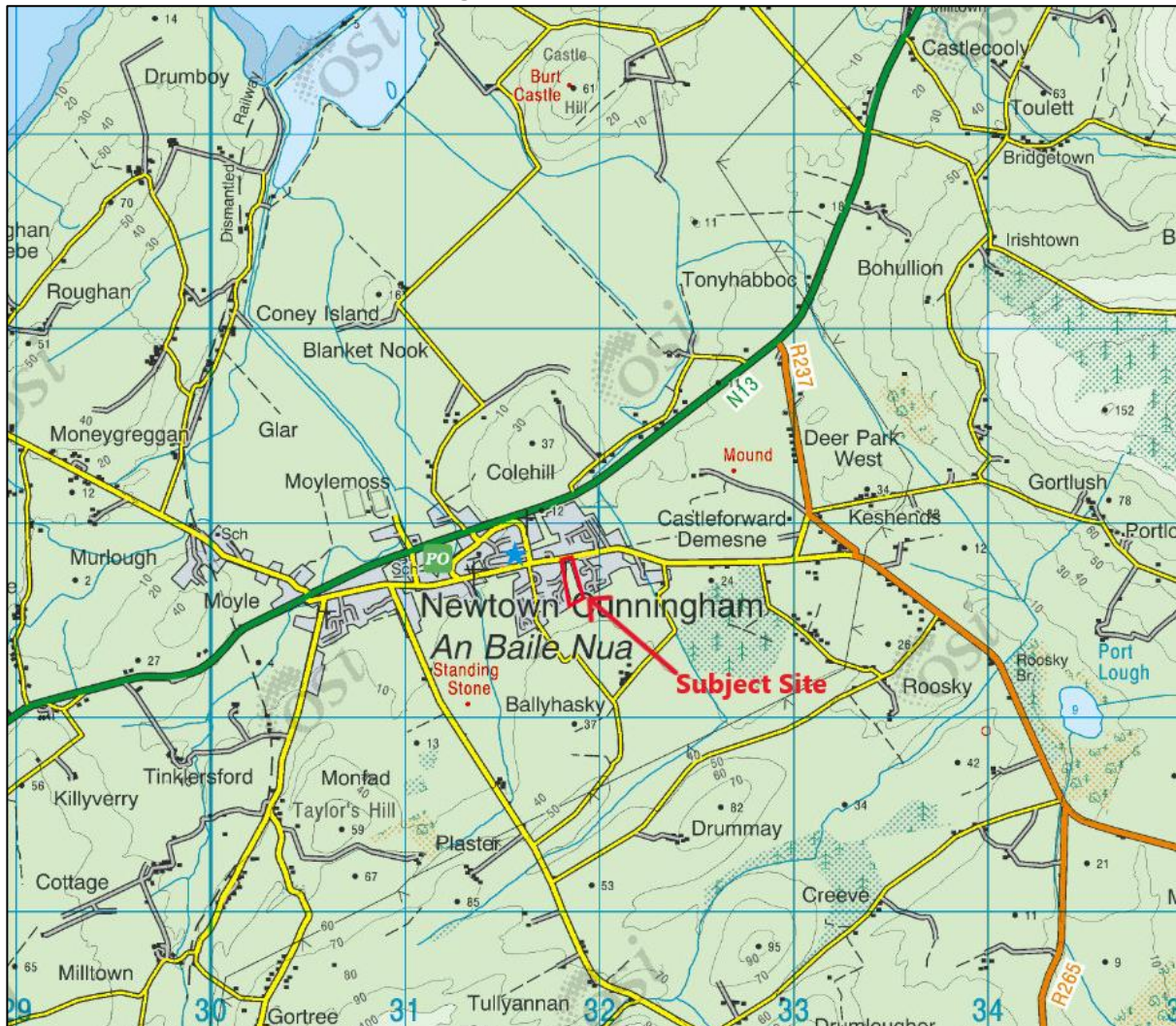
This will involve normal day to day use of a housing development.

4 THE RECEIVING ENVIRONMENT

4.1 General Location

The subject site is located adjacent to the local L-2051 road. Access to the site is directly off the L-2051. The site is surrounded by housing developments to the east and west, and by the L-2051 and further housing and commercial premises to the north. The site is bounded by agricultural field to the south. Figure 4.1 below shows the site location.

Figure 4.1: Site Location



CYAL50381113 © Ordnance Survey Ireland/Government of Ireland

4.2 Geology, Soils and Hydrogeology

4.2.1 Bedrock Geology

The site is underlain by schist. The bedrock is classified by the GSI as belonging to the Lough Foyle Succession, which is characterised by schist and grit with thin marble units.

4.2.2 Bedrock Aquifer

The underlying aquifer of the site is classified by the GSI as a Poor Aquifer (PI) – Bedrock which is generally unproductive except for local zones.

4.2.3 Soils

The southern half of the site is classified as Acid Brow earth & brown podzols (well drained). The northern half of the site is classified as surface water gleys (poorly drained) vast majority is the

site is classified as made ground. The subsoils are classified as till derived from metamorphic rocks.

4.2.4 Karst Features

There are no Karst features anywhere within a 30km radius of the subject site. The nearest Karst feature is an enclosed depression in County Tyrone approximately 39 km south of the site.

4.2.5 Groundwater wells, Source Protection Areas & Group Water Scheme Abstraction Points

The nearest wells are two boreholes approximately 900 m west of the subject site. Yield is reported to be poor at 17.5 m³ per day for one and unknown for the other borehole. The nearest Source Protection Area is located 7.41 km to the southwest of the site at Magherabeg/Veagh.

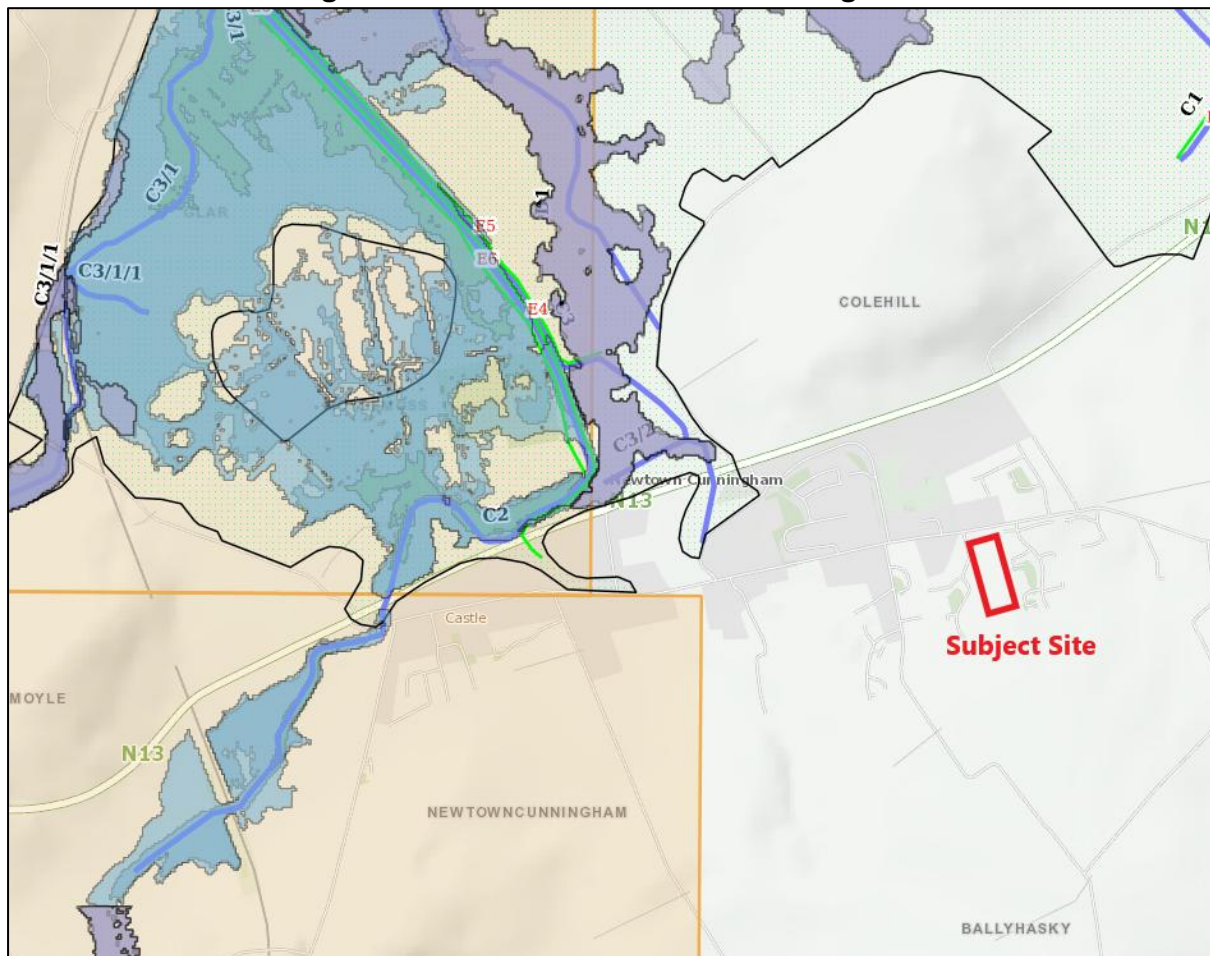
4.3 Hydrology

4.3.1 Flood Risk

The flood risk was assessed using the online tool created by the Office of Public Works. An extreme layer modelling both high end Catchment Flood Risk Assessment Maps (CFRAM) for coastal and fluvial scenarios was engaged. Modelling included a 30% increase in rainfall and a sea level rise of 1,000 mm.

The site or immediate surrounding area was shown not to be at risk of flooding. An extract from the OPW mapping tool is presented below in Figure 4.2. The site is noted to be outside any potential flood risk areas.

Figure 4.2: Flood risk for Newtowncunningham



(extract from floodmaps.ie)

There were no historical records of past flood events on the site. The nearest recurring flood site is approximately 700 m to the northwest of the site on the N13 at Newtowncunningham where runoff is reported to be the source. There are also several reports of flooding approximately 800 m west of the subject site in Newtowncunningham where river flooding is the source.

4.3.2 Hydrological setting

The site lies within the 39-Lough Swilly Water Framework Directive (WFD) catchment, the Leslie Hill (Stream) WFD sub catchment and the Glar river sub basin (EPA code: IE_NW_39G380790).

The site is relatively flat with a gentle slope from south to north for most of the site. The very southern end of the site appears to slope gently south. There are no drains ditches or watercourse present on site. There was no lying water on the site. At present it appears that incident rainfall percolates to ground and, in the scenario where there is surface water runoff from the site, it will be picked up by the surrounding stormwater drainage network of the adjacent housing estates and road network. The overgrown hedge at the rear of the site along the southern boundary may have an associated drainage ditch but access is restricted so this is unconfirmed. Flow from the surrounding stormwater drainage network is likely to discharge northeast to a tributary of the Glar River.

The approximate hydrological distance from the site to the nearest tributary of the River Glar is 340 m, and then a further 1 km to the nearest SPA (Lough Swilly SPA) and a further 2.73 km to the nearest SAC (Lough Swilly SAC) at Blanket Nook Lough.

At the point the River Glar discharges into Lough Swilly, the waterbody is classified as a transitional waterbody due to the tidal influence. The WFD status of Lough Swilly as a transitional waterbody is assessed as good by the EPA for the period 2016 - 2021. Lough Swilly is designated as a shellfish production area listed in the Irish Shellfish Regulations (S.I. 200/1994) as amended 2009 in accordance with the European Communities (Quality of Shellfish Waters) (Amendment) Regulations 2009. The River Glar is not designated a Salmonid water under SI No 293 of 1988 – EC (Quality of Salmonid waters) Regulations. The River Glar does not contain the annex 1 species, the freshwater pearl mussel (*Margaritifera*). The site does not form part of any *Margaritifera* catchment area.

The WFD status of the underlying groundwater body at the site (Lough Swilly groundwater body) is assessed by the EPA as good for the period 2016 – 2021.

4.4 Habitats on Site

The site is a mosaic of several habitats. The site is classified as a mixture of wet grassland (GS4), recolonising bare ground (ED3), buildings and artificial surfaces (BL3), scrub (WS1) with a hedgerow (WL1) along the southern boundary. The northern part of the site appeared to have been partially cleared several years ago and the ground had subsequently recolonised. Spoil heaps of the cleared topsoil are present in the centre east of the site and in the southeast corner of the site. There are 7 partially completed dwellings on site. These are built to the base of the windows on the ground floor, and most are obscured by the scrub (3-6 m height) that has grown up around them. Photograph 4.1 shows a typical building on site, and Photograph 4.2 shows the scrub which is located towards the north of the site. The scrub species present was predominantly willow (*Salix spp.*) with occasional birch (*Betula pendula*) and alder (*Alnus glutinosa*).

Species present in the wet grassland and recolonising bare ground were Timothy grass (*Phleum pratense*), Yorkshire fog (*Holcus lanatus*), Cock's-foot (*Dactylis glomerata*), bush vetch (*Vicia sepium*), rushes (*Juncus spp.*), docks (*Rumex spp.*), ribwort (*Plantain lanceolata*), cow parsley (*Anthriscus sylvestris*), creeping buttercup (*Ranunculus repens*), nettles (*Urtica urens*), Teasel

(*Dipsacus fullonum*) and Rosebay Willowherb (*Chamerion angustifolium*) in varying amounts. Photograph 4.3 shows the wet grassland habitat in the southern half of the site.

There is a hawthorn (*Crataegus monogyna*) hedge along the southern boundary of the site. It is gappy in places and tree height averages 6 m.

Photograph 4.1: Partially constructed buildings on site.



Photograph 4.2: Scrub in the northern part of the site



Photograph 4.3: Overview of the southern part of the site**4.5 Invasive Species**

A walkover terrestrial invasive species survey of the subject site was carried out on 28th June 2024. The survey was carried out for species listed on part 1 (plants) of the third schedule of the European Communities (Bird and Natural Habitats) Regulations 2011 (SI No. 477 of 2011). The regulations prohibit the introduction and/or dispersal of these species, and if this is caused to occur, the party involved shall be guilty of committing an offence.

A small stand of *Montbretia* was encountered in the northern part of the site. This is described fully in the Invasive Species Survey and Management Plan produced for the site.

4.6 Identification of Natura 2000 Sites

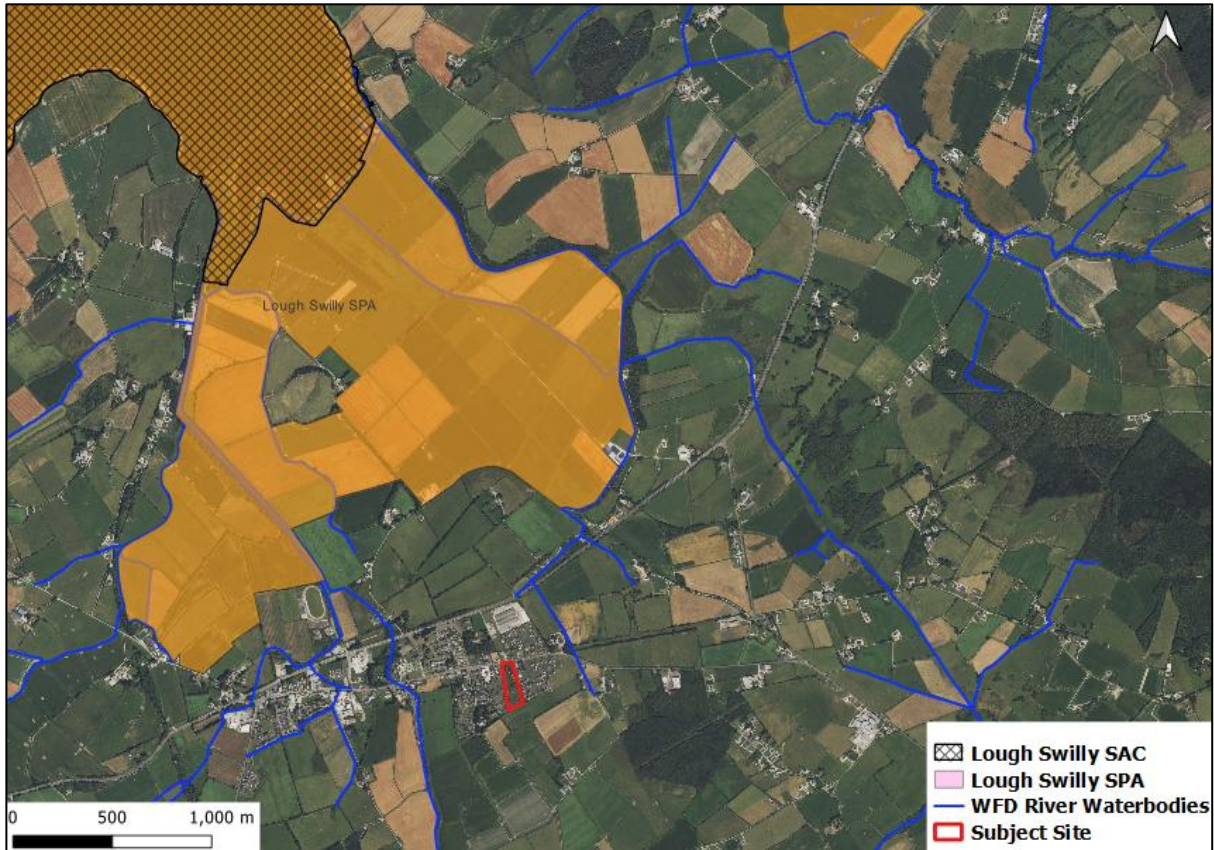
In terms of the identification of relevant Natura 2000 sites, the zone of impact (also known as the area of influence) is determined based on their potential connectivity (*source-pathway-receptor* model) to the proposed project in terms of, for example:

- Nature, scale, timing, and duration of works and possible impacts.
- Distance and nature of pathways (dilution and dispersion; intervening ‘buffer’ lands, roads etc.); and
- Sensitivity and location of ecological features.

The ‘zone of influence’ (Zoi) is essentially the effect area over which alterations may have potential ecological impact. The Zoi over which the proposed development may impact upon Natura 2000 Sites and their Qualifying Interests will vary for different ecological receptors, depending on the pathway for potential impacts, as well as the specific nature of the habitats/species (e.g., some species have ability to move/disperse, and some habitats have better ability than others to absorb impacts). Having considered the potential ecological impacts through source-receptor-pathway connectivity (e.g., hydrological link) and given the nature of the proposed project, the nearest Natura 200 sites are listed below in table 4.1 and shown in Figure 4.2.

The nearest Natura 2000 site is Lough Swilly SPA which lies 820 m north of the site. The Lough Swilly SAC lies 2.37 km to the northwest of the site. There is a hydrological link from the site to the SPA of approximately 1.34 km through the public stormwater system and the River Glar. The hydrological link to Lough Swilly SAC is c.4.07 km.

Figure 4.2: Designated Sites Proximal To The Proposed Development



(Created using QGIS, Bing satellite imagery and datasets from NPWS)

Table 4.1: Natura 2000 Sites

Site Name	Site Code	Distance from Subject Site	Avenue of Connectivity to Subject Site
Lough Swilly SAC	002287	2.37 km northwest	Potential hydrological link to the SAC through surface water drainage to the public stormwater system and the River Glar. Hydrological link is approximately 4.07 km
Lough Swilly SPA	004075	850 m north	Potential hydrological link to the SPA through surface water drainage to the public stormwater system and the River Glar. Hydrological link is approximately 1.34 km

4.7 Protected Flora and Fauna

4.7.1 Plants

No rare or protected Flora was observed during the habitat survey.

4.7.2 Birds

Several common species were observed within the site. Any clearance of vegetation/scrub/hedges should be undertaken outside the bird breeding season.

4.7.3 Badger

Following site investigation within the footprint of the site there were no signs of Badger presence.

4.7.4 Otter

Following site investigation within the footprint of the site there were no signs of Otter presence.

4.7.5 Bats

The site may contain suitable foraging habitat for bats along the edges of the scrub areas and along the hedge at the southern boundary. There does not appear to be any suitable trees or structures on site to host bat roosts and the Bat Roost Potential on site is considered low.

4.7.6 Other Mammals

No evidence of other mammals was observed during the field survey.

4.8 Field Survey Limitations

Most of the site could be accessed freely.

5 CONSTRAINTS AND RECOMMENDATIONS

5.1 Key Constraints to Design

5.1.1 Designated Sites

The site is 820 m distant from Lough Swilly SPA and 2.37 km distant from Lough Swilly SAC. The proposed development has a hydrological link of 1.34 km from the site to the Lough Swilly SPA, and 4.07 km to the Lough Swilly SAC.

5.1.2 Invasive Species

Montbretia was encountered in a small stand in the northern part of the site. An appropriate control plan should be implemented as outlined in the Invasive Species Survey & Management Plan before any start of works. The site should be regularly monitored for the further presence of any invasive species and a suitable control plan implemented if any encountered.

5.2 Further Surveys Required

None

6 CONCLUSION

This Preliminary Ecological Assessment Report outlines the findings of a preliminary environmental desk study and site walkover. Desk research and Field Surveys were carried out to identify ecological constraints to this projects design.

- No rare or protected flora was identified.
- Montbretia was encountered in a small stand in the northern part of the site. The control plan should be implemented as per the Invasive Species Survey and Management Plan before any start of works. The site should be regularly monitored for any further presence invasive species and an appropriate control plan implemented if encountered.
- The proposed development has a hydrological link of 1.34 km from the site to the Lough Swilly SPA, and 4.07 km from the site to Lough Swilly SAC. The site is 820 m distant from the Lough Swilly SPA. It is recommended to screen this site for Appropriate Assessment.
- Any clearance of scrub/trees should be undertaken outside of the bird nesting season.

7 REFERENCES

- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
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