

**Belmullet Residential Development
Ecological Impact Assessment**



Prepared By:

**Moore Group -
Environmental Services**

**On behalf of:
Mayo County Council**

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1. INTRODUCTION

Moore Group was commissioned by DMC Design on behalf of Mayo County Council to undertake a Habitat Survey and EclA of the site of a proposed new residential development in Belmullet, Co. Mayo.

The report provides information on ecological features if present within the study areas, of particular significance, primarily designated habitats and species, including habitats/species listed in Annex I, II and IV of the EU Habitats Directive, rare flora listed in the Flora Protection Order along with other semi-natural habitats of conservational value.

The report has been compiled in compliance with the European Communities Legal requirements and follows EPA Draft Guidelines on Information to be contained in an EIAR (EPA, 2017) and on CIEM and NRA Guidelines for Ecological Impact Assessment outlined in Section 2.

The report provides information on ecological features if present within the study areas, of particular significance, primarily designated habitats and species, including habitats/species listed in Annex I, II and IV of the EU Habitats Directive, rare flora listed in the Flora Protection Order along with other semi-natural habitats of conservational value.

The following important ecological receptors were considered in planning and designing the project, and in assessing its likely ecological effects:

- Sites with nature conservation designations, including proposed NHAs, the reasons for their designation, and their conservation objectives, where available;
- Annex IV (Habitats Directive) species of fauna and flora, and their breeding sites and resting places, which are strictly protected under the European Communities (Birds and Natural Habitats) Regulations, 2011;
- Other species of fauna and flora which are protected under the Wildlife Acts, 1976-2012;
- '*Protected species and natural habitats*', as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including:
 - Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur);
 - Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur);
- Other habitats of ecological value in a national to local context, including rocky habitats in the general area;
- Stepping stones and ecological corridors encapsulated by Article 10 of the Habitats Directive.

The report has been compiled in compliance with the European Communities Legal requirements and follows EPA Draft Guidelines on Information to be contained in an EIAR (EPA, 2017) and on Transport Infrastructure Ireland TII policy and guidance outlined in Section 2.

The report was compiled by Ger O'Donohoe M.Sc. Ger is the principal ecologist with Moore Group and has over 25 years' experience in ecological impact assessment. He graduated from GMIT in 1993 with a B.Sc. in Applied Freshwater & Marine Biology and subsequently worked in environmental consultancy while completing an M.Sc. in Environmental Sciences, graduating from Trinity College, Dublin in 1999. He has over 15 years' experience of carrying out bat surveys and has completed the Bat Conservation Ireland, Bat Detector Workshop which is the standard training for the carrying out of bat surveys in Ireland and follows the Bat Conservation Ireland 'Bat Survey Guidelines' (Aughney et al., 2008).

The European Habitats Directive 92/43/EEC (Article 6) indicates the need for plans and projects to be subject to Habitats Directive Assessment (also known as Appropriate Assessment) if the plan or project not directly connected with or necessary to the management of a Natura 2000 site (which includes SACs and SPAs) but which has the potential to have implications on a site's conservation objectives. These implications can be significant effects either individually or in combination with other plans or projects. The Appropriate Assessment process is addressed in a Report for AA Screening which is presented as part of the planning application. The site location is presented in Figure 1 below.

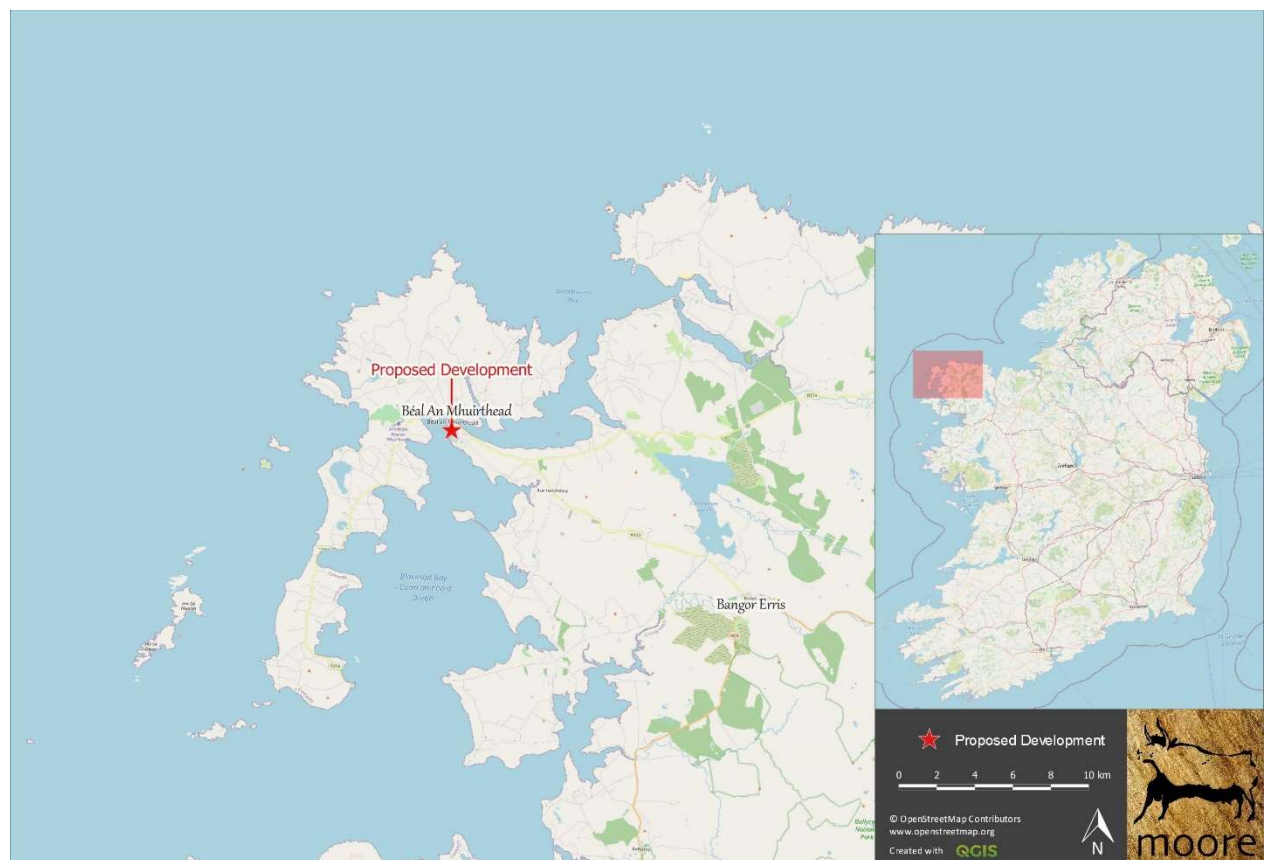


Figure 1. Showing the site location (©OSM).

2. METHODOLOGY

2.1. POLICY & LEGISLATION

2.1.1. EU Habitats Directive

The “Habitats Directive” (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union and lists certain habitats and species that must be protected within wildlife conservation areas, considered to be important at a European as well as at a national level. A “Special Area of Conservation” or SAC is a designation under the Habitats Directive. The Habitats Directive sets out the protocol for the protection and management of SACs.

2.1.2. EU Birds Directive

The “Birds Directive” (Council Directive 79/409/EEC and Council Directive 2009/147/EC on the Conservation of Wild Birds) provides for a network of sites in all member states to protect birds at their breeding, feeding, roosting and wintering areas. This directive identifies species that are rare, in danger of extinction or vulnerable to changes in habitat and which need protection (Annex I species). Appendix I indicates Annex I bird species as listed on the Birds Directive. A “Special Protection Area” or SPA, is a designation under The Birds Directive.

2.1.3. Wildlife Acts 1976 - 2012

The primary domestic legislation providing for the protection of wildlife in general, and the control of some activities adversely impacting upon wildlife is the Wildlife Act of 1976. The aims of the wildlife act according to the National Parks and Wildlife Service are “... to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims.” All bird species are protected under the act. The Wildlife (Amendment) Act of 2000 amended the original Act to improve the effectiveness of the Act to achieve its aims.

2.2. SURVEY METHODOLOGY

2.2.1. Desk Study

The assessment was carried out in three stages, firstly through desktop assessment to determine existing records in relation to habitats and species present in the study areas. This included research on the NPWS metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the development area.

Sources of information that were used to collect data on the Natura 2000 network of sites, and the environment within which they are located, are listed below:

- The following mapping and Geographical Information Systems (GIS) data sources, as required:
 - National Parks & Wildlife (NPWS) protected site boundary data;
 - Ordnance Survey of Ireland (OSI) mapping and aerial photography;
 - OSI/Environmental Protection Agency (EPA) rivers and streams, and catchments;
 - Open Street Maps;
 - Digital Elevation Model over Europe (EU-DEM);
 - Google Earth and Bing aerial photography 1995-2021;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie including:
 - Natura 2000 - Standard Data Form;
 - Conservation Objectives;
 - Site Synopses;
- National Biodiversity Data Centre records;
 - Online database of rare, threatened and protected species;
 - Publicly accessible biodiversity datasets.
- Status of EU Protected Habitats in Ireland. (National Parks & Wildlife Service, 2019); and
- Relevant Development Plans;
 - Mayo County Development Plan 2017-2023

2.2.2. Field Study

The second phase of the assessment involved site visits to establish the existing environment in the footprint of the proposed development area. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al.*, 2011). Habitats in the proposed development area were classified according to the Heritage Council publication “A Guide to Habitats in Ireland” (Fossitt, 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of “An Irish Flora” (Parnell & Curtis, 2012).

Habitats were surveyed on the 8 April 2021 by conducting a study area walkover covering the main ecological areas identified in the desktop assessment. The survey date is outside the optimal botanical survey period but adequate given the fallow improved arable land within the site. A photographic record was made of features of interest during fieldwork.

Birds were surveyed using standard transect methodology and signs were recorded where encountered during the field walkover survey.

The final part of the assessment involves an evaluation of the study area and determination of the potential impacts on the habitats of the study area. This part of the assessment forms the basis for Impact Assessment and is based on the following guidelines and publications:

- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2019).
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009)
- Assessment of plans and projects significantly affecting Natura 2000 sites (EC, 2002);
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, December 2009, Rev 2010);
- EPA Draft Guidelines on Information to be contained in an EIAR (EPA, 2017);
- Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011);
- Ecological Surveying Techniques for Protected Flora & Fauna (NRA, 2008)

2.2.3. Site Evaluation and Impact Assessment

CIEEM Guidelines for Ecological Impact Assessment (2019) and Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009) outline the methodology for evaluating ecological impacts of the project in the present report:

- Designated conservation areas and sites proposed for designation within the zone(s) of influence of any of the route options,
- All the main inland surface waters (e.g. rivers, streams, canals, lakes and reservoirs) that are intersected by any of the route corridor options, including their fisheries value and any relevant designations,
- Aquifers and dependent systems and turloughs and their subterranean water systems,
- Any known or potentially important sites for rare or protected flora or fauna that occur along or within the zone(s) of influence of any of the route options,
- Any other sites of ecological value, that are not designated, along or in close proximity to any of the route corridor options,
- Any other relevant conservation designations or programmes (e.g. catchment management schemes, habitat restoration or creation projects, community conservation projects, etc.),
- Any other features of particular ecological or conservation significance along any of the route options.

The Guidelines set out a method of evaluating the importance of sites identified and in turn the evaluation of the significance of impacts. The Evaluation Scheme is presented in Appendix 1.

3. PROJECT DESCRIPTION

The Proposed Development consists of the construction of 4 no. dwellings along with all associated site development works including roads, car parking, footways, site boundaries, drainage, associated earthworks, public lighting, utilities, services connections and ancillary works.

The mix of dwellings includes, 2 No. 2-bedroomed 2 storey houses and 2 No. 1- bedroomed apartments in a 2 storey block.

Figure 2 shows a detailed view of the existing site on high resolution aerial photography. Figure 3 shows the layout of the proposed development.



Figure 2. Showing the Proposed Development boundary on recent aerial photography.

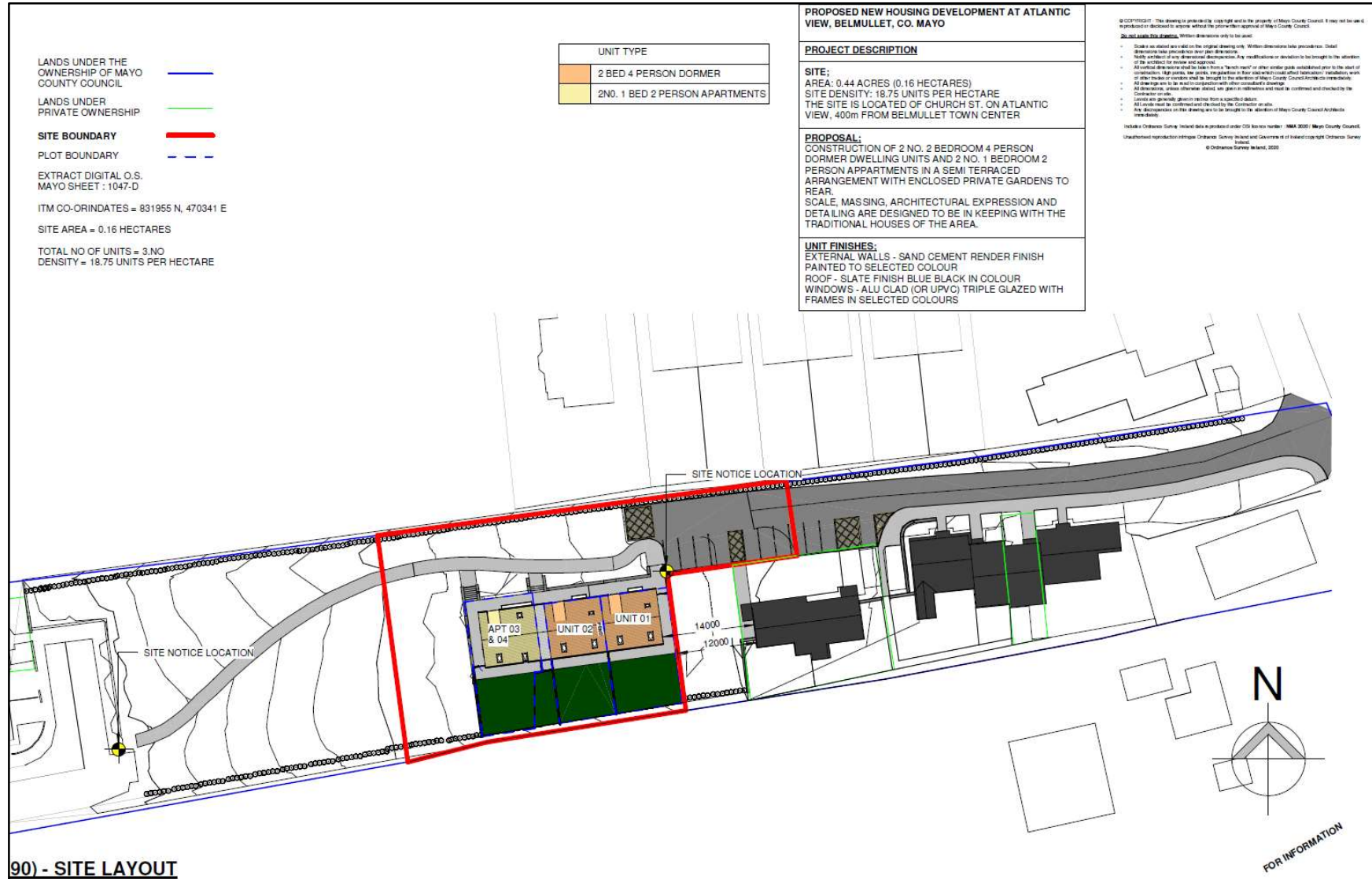


Figure 3. Plan showing layout of the proposed development.

4. EXISTING ENVIRONMENT

4.1. DESIGNATED CONSERVATION AREAS

Department of Environment, Heritage and Local Government (2009) Guidance on Appropriate Assessment recommends an assessment of European sites within a Zone of Influence (Zoi) of 15km. This distance is a guidance only and a zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source- Pathway-Receptor framework and not by arbitrary distances (such as 15 km).

The Zone of Influence may be determined by connectivity to the Proposed Development in terms of:

- Nature, scale, timing and duration of works and possible impacts, nature and size of excavations, storage of materials, flat/sloping sites;
- Distance and nature of pathways (dilution and dispersion; intervening ‘buffer’ lands, roads etc.); and
- Sensitivity and location of ecological features.

The potential for source pathway receptor connectivity is firstly identified and detailed information is then provided on sites with connectivity. European sites that are located within 15km of the Proposed Development are listed in Table 1 and presented in Figures 4 and 5, below. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website (www.npws.ie) on the 16 April 2021.

Table 1 European Sites located within 15km or the potential Zone of Influence¹ of the Proposed Development.

Site Code	Site name	Distance (km) ²
000470	Mullet/Blacksod Bay Complex SAC	0.20
000472	Broadhaven Bay SAC	0.39
000476	Carrowmore Lake Complex SAC	10.68
000500	Glenamoy Bog Complex SAC	12.01
000507	Inishkea Islands SAC	14.08
001501	Erris Head SAC	5.89
002998	West Connacht Coast SAC	4.47
004004	Inishkea Islands SPA	14.21
004037	Blacksod Bay/Broad Haven SPA	0.20
004052	Carrowmore Lake SPA	10.72
004084	Inishglora and Inishkeeragh SPA	8.35

¹ All European sites potentially connected irrespective of the nature or scale of the Proposed Development.

² Distances indicated are the closest geographical distance between the Proposed Development and the European site boundary, as made available by the NPWS. Connectivity along hydrological pathways may be significantly greater.

Site Code	Site name	Distance (km) ²
004093	Termoncarragh Lake and Annagh Machair SPA	4.26
004227	Mullet Peninsula SPA	1.88

The nearest European sites to the Proposed Development are associated with the Mullet/Blacksod Bay Complex and include the Mullet/Blacksod Bay Complex SAC 0004700, Broadhaven Bay SAC 000472, Blacksod Bay/Broad Haven SPA 004037 and Mullet Peninsula SPA 004227.

There is no connectivity to any European sites within or outside the guideline 15km zone of potential impact.

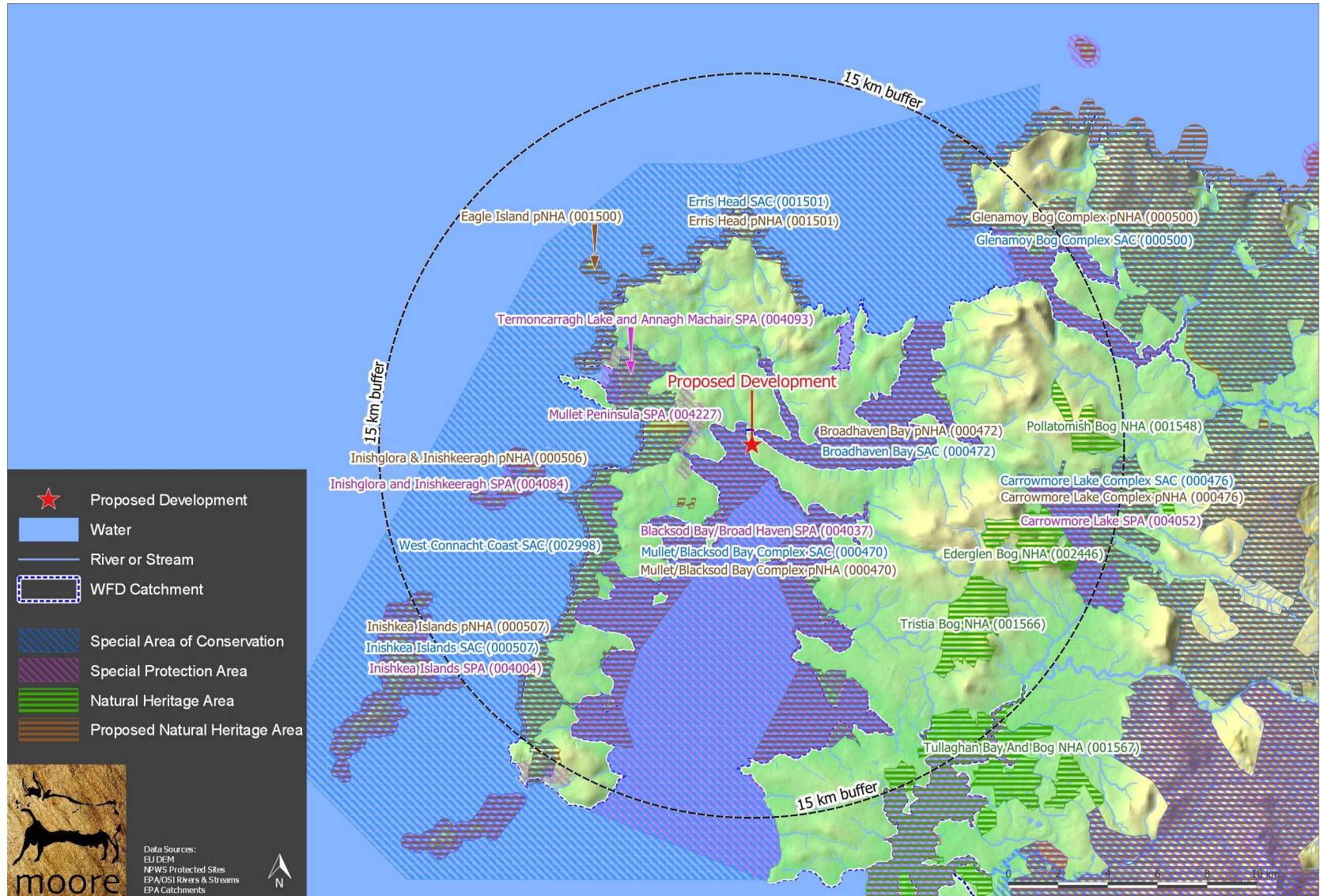


Figure 4. Showing European sites and NHAs/pNHAs within 15km of the Proposed Development.



Figure 5. Detailed view of European sites in the vicinity of the Proposed Development.

4.2. HABITAT DESCRIPTIONS

4.2.1. Habitats & Flora

The site in question consists of a rectangular shaped field located between two developed areas of the Atlantic View Housing Estate in Belmullet.

There are no records of rare plants in the site specific polygon selected on the Biodiversity map viewer.

Habitats recorded during fieldwork in April 2021 are presented in Figure 6 below.

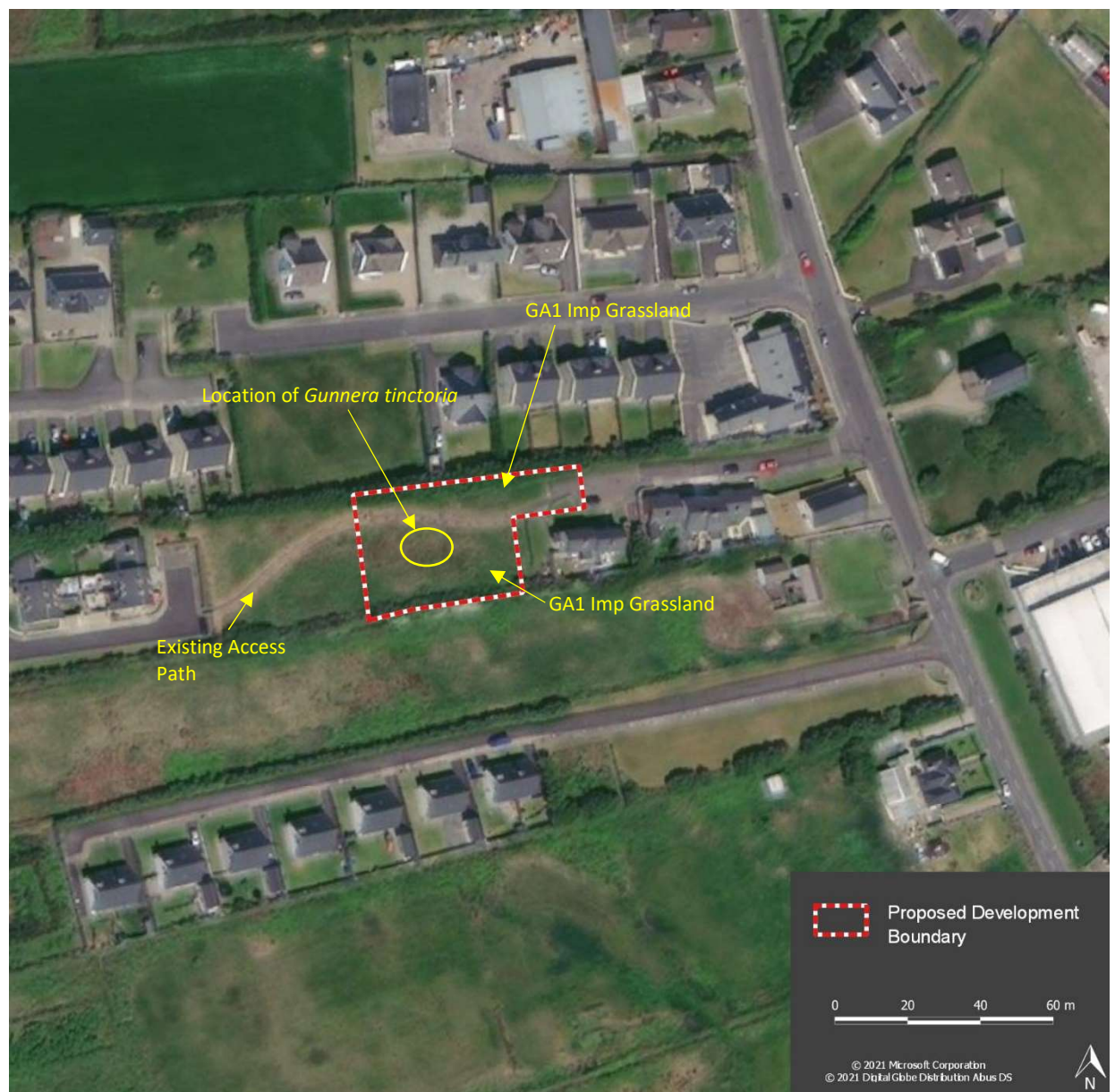


Figure 6. Habitat map based on recent aerial photography.

Grass species present including Cocksfoot (*Dactylis glomerata*) and to a lesser extent False oat-grass (*Arrhenatherum elatius*). Other species for this habitat recorded on site include; Nettle (*Urtica dioica*),

extensive Broad-leaved Dock (*Rumex obtusifolius*), Common sorrel (*Rumex acetosa*), Red clover (*Trifolium pratense*) and Ribwort plantain (*Plantago lanceolata*) with Cleavers (*Galium aparine*), Thistles (*Cirsium* spp.) and occasional Hogweed (*Heracleum sphondylium*).

Bramble (*Rubus fruticosus* agg.) scrub occurs along field boundaries with Nettle (*Urtica dioica*), Cleavers (*Galium aparine*), Ivy (*Hedera helix*) also present. Parts of the site were relatively wet and showed spreads of Soft rush (*Juncus effuses*).

There are no Annexed Habitats or Species present within the boundary of the Proposed Development site.

4.2.2. Invasive Species

The site contains a stand of *Gunnera tinctoria* in the centre of the site. The spread refers to an area c. 2sq.m and comprises two plants beginning to regenerate on disturbed ground.

4.3. FLORA

4.3.1. Mammals

Otters

There are no otter habitats in the study area and no potential for otters on the site.

Badgers

There are no badger setts in the study area and no potential for badgers on the site. The field boundaries were surveyed and no setts were recorded.

Bats

There is low potential for bat habitats or bat commuting on site. The area is relatively developed and has existing street lighting.

4.3.2. Birds

All birds are protected under the Wildlife Acts. A list of breeding bird species recorded during fieldwork in April 2021 is presented in Table 2 below.

Table 2. Birds recorded during fieldwork in April 2021.

Birds	Scientific name	BWI Status	Habitat Type
Magpie	<i>Pica pica</i>	Green	Anywhere in lowland areas
Woodpigeon	<i>Columba palumbus</i>	Green	Gardens, woods, hedges
Wren	<i>Troglodytes troglodytes</i>	Green	Gardens, woods, hedges
Robin	<i>Erithacus rubecula</i>	Green	Gardens, woods, hedges

5. ASSESSMENT OF IMPACTS

5.1. SITE EVALUATION

Due cognisance of features of the landscape which are of major importance for wild flora and fauna, such as those with a “*stepping stone*” and ecological corridors function, as referenced in Article 10 of the Habitats Directive were considered in this assessment.

The ecological value of the site was assessed following the guidelines set out in the Institute of Ecology and Environmental Management’s Guidelines for Ecological Impact Assessment (2019) and according to the Natura Scheme for evaluating ecological sites (after Nairn & Fossitt, 2004). Judgements on the evaluation were made using geographic frames of reference, *e.g.* European, National, Regional or Local. Following a detailed literature review, desktop assessment and field survey the footprint of the proposed development site can be categorised into a single habitat type:

- Improved grassland (GA1)

There were no rare or protected species recorded on the site.

The habitats under the footprint of the proposed development are of low local ecological value.

On the basis of the information supplied, which is considered adequate to undertake a screening determination and having regard to:

- the nature and relatively small scale of the proposed development,
- the intervening land uses and distance from European sites,
- the lack of direct connections with regard to the Source-Pathway-Receptor model,

It may be concluded that the proposed development, individually or in-combination with other plans or projects, would not be likely to have a significant effect on the above listed European sites or any other European site, in view of the said sites’ conservation objectives.

5.2. IMPACT ASSESSMENT

5.2.1. Direct Impacts

Habitats

The residential development will be sited on land which is currently classed as improved grassland as a result there will be a minor local insignificant loss of grassland.

Fauna

Otters

There will be no direct or indirect impact on otters.

Badgers

There will be no direct or indirect impact on badgers.

Bats

There will be no impacts on commuting bats.

Birds

There are no predicted impacts on birds.

5.2.2. Indirect Impacts

There are no water courses on or adjacent to the proposed works areas and there will be no impacts on the surrounding marine environment.

5.2.3. Invasive Species

The spread of Giant rhubarb will be addressed by formulating an Invasive Species Management Plan for the infected area prior to construction works and site development. The management plan will be drawn up by an experience specialist in a timely fashion in order for treatment to commence prior to development.

5.2.4. Cumulative Impacts

Cumulative impacts or effects are changes in the environment that result from numerous human-induced, small-scale alterations. Cumulative impacts can be thought of as occurring through two main pathways: first, through persistent additions or losses of the same materials or resource, and second, through the compounding effects as a result of the coming together of two or more effects.

A review of the National Planning Application Database was undertaken. The first stage of this review confirmed that there were no data outages in the area where the Proposed Development is located. The database was then queried for developments granted planning permission within 500m of the Proposed Development within the last three years, these are presented in Table 3 below.

Table 3.Planning applications granted permission in the vicinity of the Proposed Development.

Planning Ref.	Description Of Development	Comments
18839	retention of a change of use of the existing retail commercial unit to veterinary surgery and all associated site works	No potential for in-combination effects given the scale and location of the project.
19103	demolish existing 2 storey retail unit and vacant residence and construct new 3 storey development comprising 1 no. retail unit and 6 no. apartments and associated site development works	As above. No potential for in-combination effects given the scale and location of the project.

Planning Ref.	Description Of Development	Comments
19187	retain existing development	No potential for in-combination effects given the scale and location of the project.
19210	retain 27.9 sqm and 25.5 sqm rear and side extensions as constructed. permission for construction of new gable end window and removal of stone cladding to front elevation	No potential for in-combination effects given the scale and location of the project.
19491	renovate and alter existing house, consisting of re-development of existing kitchen wing and construction thereover of 2 no. bedrooms, alter and amend existing elevations, upgrade/modify existing entrance to the public road, install a wind turbine with a mast height of no greater than 10m and rotor diameter not exceeding 6m and carry out all required ancillary works on site	No potential for in-combination effects given the scale and location of the project.
19616	change of use at ground floor level from a commercial floor space to a restaurant. new ground floor layout shall consist of restaurant area, kitchen, public toilets and ancillary support areas. minor elevation change to incorporate new rear access door into building, new signage provisions and to include all other ancillary site services and development works associated	No potential for in-combination effects given the scale and location of the project.
19709	partial change of use at ground floor level from commercial to residential accommodation, including the change of use of the entire first floor area from office space to residential accommodation, extending to five no. bedrooms in total over ground and first floor, all of which are for letting (air b & b). permission also sought for an extension to the retained and existing commercial unit at ground floor including permission for minor modifications to the front elevation and to include all other ancillary site services and development works associated with this permission	No potential for in-combination effects given the scale and location of the project.
201037	demolish existing detached dwelling house, construct replacement detached dwelling house together with associated site works	No potential for in-combination effects given the scale and location of the project.
20240	redevelopment of the existing single storey detached dwelling to include new first floor accommodation within a new roof element, internal reconfigurations at ground level, provision of an extension at ground floor level located to the rear of the property, modifications to the existing elevations and to include all other site services and development works associated.	No potential for in-combination effects given the scale and location of the project.
208	modifications to p08/304 the parent application and subsequent planning under p09/779- planning retention for two no. window sections inserted upon the existing western elevation at ground floor level. planning permission is sought at first floor level, for a change of use to convert the existing dining room, bar area, stairs shaft, five female and male toilet facilities, part of the existing external terrace and change their use into sleeping accommodation. the sleeping accommodation extends to providing an additional ten no. bedrooms to the existing development. permission is also sought for alterations to existing western elevation all at first floor level to accommodate bedroom window openings and to include all other ancillary site services and development works associated	No potential for in-combination effects given the scale and location of the project.
20810	provide an additional use to a previously approved restaurant development under p19/616. the additional use sought is for a takeaway service/use to support the previously approved development and to include all other ancillary site services and development works associated with this permission.	No potential for in-combination effects given the scale and location of the project.
20895	revisions to previously approved development under p20/240	No potential for in-combination effects given the scale and location of the project.

There are no predicted in-combination effects given that the reasons discussed in the 'Comments' column of Table 2 above.

The listed developments have been granted permission in most cases with conditions relating to sustainable development by the consenting authority in compliance with the relevant Local Authority Development Plan and in compliance with the Local Authority requirement for regard to the Habitats Directive. The development cannot have received planning permission without having met the consenting authority requirement in this regard. There are no predicted in-combination effects given that it is predicted that the Proposed Development will have no effect on any European site.

6. CONCLUSIONS

There are no significant impacts predicted from the proposed development on habitats, flora, fauna or biodiversity.

An invasive species management plan will be drawn up and employed to eradicate the spread of Giant Rhubarb on site.

Should best practice guidelines for the prevention of invasive species spread be adhered to, no potential for the spread or introduction of high impact invasive species are foreseen as a result of this Scheme.

It has been determined that the Proposed Development is not likely to have a significant effect on any European sites.

The predicted impacts on low value local ecology are neutral and imperceptible and that the Proposed Development would not trigger an EIA in terms of Biodiversity, Flora and Fauna.

7. REFERENCES

CIEEM (2019) Guidelines for Ecological Impact Assessment in the UK And Ireland Terrestrial, Freshwater, Coastal and Marine September 2018 Version 1.1 - Updated September 2019.

Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010).

EPA (2017) EPA Draft Guidelines on Information to be contained in an EIAR; EPA, August 2017.

Fossitt, J. (2000) A Guide to Habitats in Ireland. The Heritage Council.

Nairn, R. and J. Fossitt (2004) The Ecological Impacts of Roads, and an Approach to their Assessment for National Road Schemes. In: J. Davenport and J.L Davenport (eds) The Effects of Human Transport on Ecosystems: Cars and Planes, Boats and Trains, 98-114. Dublin. Royal Irish Academy.

NPWS (2019) The Status of EU Protected Habitats and Species in Ireland. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.

NPWS (2021) National Parks and Wildlife Service Metadata available online at <https://www.npws.ie/maps-and-data>

NRA (2008) Ecological Surveying Techniques for Protected Flora & Fauna. Available at: <http://www.nra.ie/Environment/>

NRA (2009) Guidelines for Assessment of Ecological Impacts of National Road Schemes. Dublin: National Roads Authority. Available at: <http://www.nra.ie/Environment/>

Parnell, J. and T. Curtis (2012) Webb's An Irish Flora. Cork University Press.

Smith, G.F., O'Donoghue, P., O'Hara, K. and E. Delaney (2011) Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council.

Appendix 1

TII Evaluation of Habitats

Ecological valuation: Examples
<p>International Importance:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. <input type="checkbox"/> Proposed Special Protection Area (pSPA). <input type="checkbox"/> Site that fulfills the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). <input type="checkbox"/> Features essential to maintaining the coherence of the Natura 2000 Network.⁴ <input type="checkbox"/> Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. <input type="checkbox"/> Resident or regularly occurring populations (assessed to be important at the national level)⁵ of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or <input type="checkbox"/> Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. <input type="checkbox"/> Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). <input type="checkbox"/> World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). <input type="checkbox"/> Biosphere Reserve (UNESCO Man & The Biosphere Programme). <input type="checkbox"/> Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). <input type="checkbox"/> Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). <input type="checkbox"/> Biogenetic Reserve under the Council of Europe. <input type="checkbox"/> European Diploma Site under the Council of Europe. <input type="checkbox"/> Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).⁶
<p>National Importance:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Site designated or proposed as a Natural Heritage Area (NHA). <input type="checkbox"/> Statutory Nature Reserve. <input type="checkbox"/> Refuge for Fauna and Flora protected under the Wildlife Acts. <input type="checkbox"/> National Park. <input type="checkbox"/> Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. <input type="checkbox"/> Resident or regularly occurring populations (assessed to be important at the national level)⁷ of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Species protected under the Wildlife Acts; and/or <input type="checkbox"/> Species listed on the relevant Red Data list. <input type="checkbox"/> Site containing 'viable areas'⁸ of the habitat types listed in Annex I of the Habitats Directive.

County Importance:

- Area of Special Amenity.⁹
- Area subject to a Tree Preservation Order.
- Area of High Amenity, or equivalent, designated under the County Development Plan.
- Resident or regularly occurring populations (assessed to be important at the County level)¹⁰ of the following:
 - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
 - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
- County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP,¹¹ if this has been prepared.
- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.
- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

Local Importance (higher value):

- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;
- Resident or regularly occurring populations (assessed to be important at the Local level)¹² of the following:
 - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
 - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.

Local Importance (lower value):

- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;
- Sites or features containing non-native species that are of some importance in maintaining habitat links.

Appendix 2 Site Photos



Photo 1. Grassland on the northern portion of the site.



Photo 2. Existing street lighting on the site.



Photo 3. Showing the area of Giant rhubarb *Gunnera* on site.



Photo 4. Detail of Giant rhubarb *Gunnera* on site.