June 2025

Stage 1: Remedial Appropriate Assessment - Screening and Stage 2: Natura Impact Statement

PATRICK McCAFFREY & SONS LTD

Substitute Consent Application

at

Ballymagroarty Quarries, Ballintra, Co. Donegal, Ireland

On behalf of

Patrick McCaffrey & Sons Ltd

MALONE O'REGAN ENVIRONMENTAL

MALONE O'REGAN

Form ES - 04

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Stage 1: Remedial Appropriate Assessment - Screening and Stage 2: Natura Impact Statement

Substitute Consent Application

Patrick McCaffrey & Sons Ltd

Ballymagroarty Quarries, Ballintra, Co. Donegal, Ireland

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1 INTRODUCTION

Malone O'Regan Environmental ('MOR Environmental') have been commissioned by Patrick McCaffrey & Sons Ltd ('the Applicant') to prepare a remedial Natura Impact Statement ('rNIS') at Ballymagroarty Quarries, Ballintra, Co. Donegal (ITM OS Reference 590736 867405).

The quarry requires regularisation through the planning process due to the historic activities on-site, this regularisation is accomplished through an application for Substitute Consent. The Substitute Consent process allows developers to apply to An Bord Pleanála ('ABP') seeking permission to regularise developments that are deemed to have required EIA or Appropriate Assessment ('AA') for their development, but which was not done due to exceptional circumstances. The provision was introduced under Section 177 of the Planning and Development Act 2000 [1].

This rNIS has been prepared in support of the Substitute Consent to assess likely significant effects, if any, on nearby sites with European conservation designations (i.e., Natura 2000 sites) from the Development, which was carried out without the required AA.

The original Substitute Consent application (SU0128) was lodged with ABP in December 2014 and was dismissed in May 2017, a decision of ABP which was ultimately found to be lawful following a judicial review in July 2024 (Case Ref: 2017 586 JR).

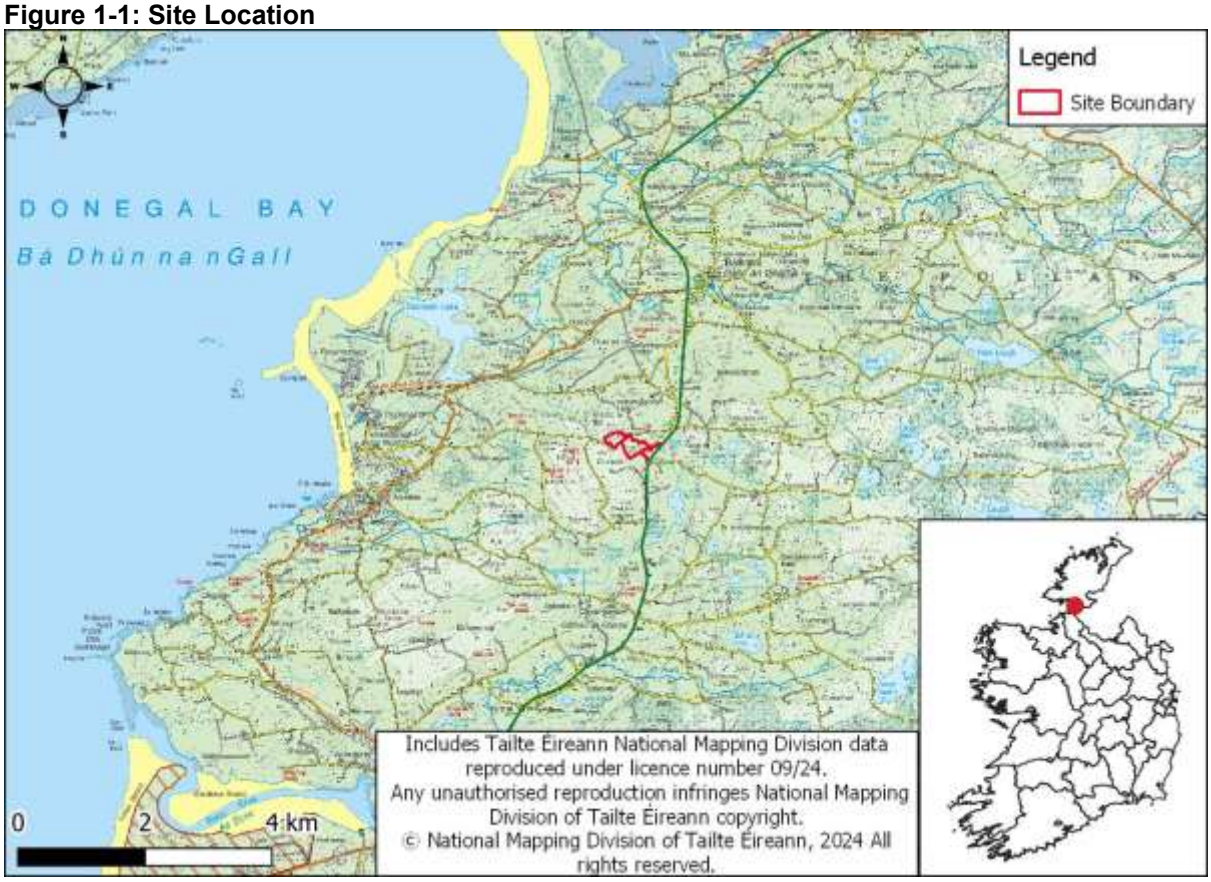
Following that outcome, the Applicant wishes to submit an application consistent with the outcome of the High Court decision and other matters raised by ABP's assessment of the original Substitute Consent application.

The application will seek to regularise the historic quarrying, macadam and concrete manufacturing, importation of rock for processing and use in manufacturing / re-export and provide for the continued importation and processing of aggregates for the export or use in the site manufacturing facility to produce macadam and concrete products ('the Development'). The application does not include provisions for future works development.

The Development is located on a site that has a total area of circa ('ca.') 13.26 hectares ('ha') and is located within the townlands of Ballymagrorty Irish, Ballymagrorty Scotch and Glasbolie, Co. Donegal, ca. 3.7km southwest of Ballintra and is shown in Figure 1-1 ('the Site').

On completion of the Appropriate Assessment Screening Report, it was found necessary to progress to a Stage 2 of the Appropriate Assessment process and prepare a remedial Natura Impact Statement ('rNIS') to assess effects on the integrity of European sites.

Figure 1-1: Site Location



1.1 Background

The Site was registered under Section 261 in 2005 and was provided with the reference number of QY01 by the competent authority ('Donegal County Council'). There are several structures on-site, including a concrete plant, macadam plant, blockmaking slab / shed, silos and offices. The extent of the Registered Area is shown in Figure 1-2 below.

Figure 1-2: QY01 Quarry Registered Area

The Site was reviewed in 2012 under Section 261A and given reference QY01.

This rNIS assesses the lands that have undergone development, shown in red Figure 1-2 above. This includes the north quarry, south quarry and ancillary works.

The north quarry was excavated to an estimated depth of -13mOD and has a plan area of ca. 4.62ha. It is no longer under extraction and has been allowed to flood to a water height of ca. 50mOD.

The south quarry is excavated to a depth of ca. 54.6mOD and has a plan area of 8.64ha. This land is used to operate the on-site screening, aggregate stockpiling and storage, aggregate crushing, asphalt plant, concrete batching plant, administration, welfare and maintenance garage.

Ancillary works include carparking, fuel storage, wastewater treatment, water management systems, fencing and security.

The above is referred to in this document as 'the Development' and covers an area of ca. 13.26ha, shown as 'the Site' with a red line in Figure 1-2 above.

On 22nd May 2014, Donegal County Council ('DCC') issued a new notice directing the Applicant to apply for Substitute Consent. DCC instructed that the application was required to include a rNIS and remedial Environmental Impact Screening ('rEIS') in the application. The Substitute Consent application was to be submitted within 12 weeks of the notice date; however, an extension of 16 weeks was granted to the Applicant, providing a new final date of 5th December 2014. On 4th December 2014, the Applicant lodged an application to ABP under the provisions of Section 177E of the Planning and Developments Acts 2000-2001 for Substitute Consent for the existing 4.4 ha quarry (north quarry) outside of Ballintra (Planning Reference: SU0128). However, this Substituted Consent application was unsuccessful.

Previous relevant planning application cases for the Site are listed in Table 1-1 below. It should be noted that in previous applications, the application for Substitute Consent did not include the entire quarry (Planning Reference: SU0128).

Table 1-1: Relevant Planning Application History

Planning Ref	Applicant	Details	Decision	Decision Date
01106	Patrick McCaffrey & Sons Ltd	Extension to and retention and completion of existing quarry operations and associated Buildings.	Refused on Appeal	23/10/2003
0721124	Patrick McCaffrey & Sons Ltd	Construction of a quarry. The nature of the development is for the extraction of rock, which consists of drilling, blasting and haulage of rock.	Outside the Statutory Period for Acceptance of Submissions	N/A
0721125	Patrick McCaffrey & Sons Ltd	Retention of a quarry. The nature of the development is for the extraction of rock, which consists of drilling, blasting, loading of rock and haulage of rock.	Outside the Statutory Period for Acceptance of Submissions	N/A
313030	Patrick McCaffrey & Sons Ltd	Whether the ongoing quarrying and ancillary activities at site is or is not development or is or is not exempted development.	Is development and is not exempted development	18/09/2024
308276	Patrick O'Gorman	Whether the ongoing quarrying and ancillary activities at site is or is not development or is or is not exempted development.	No Board Jurisdiction	05/10/2022
304087	Patrick O'Gorman c/o Sean McCarthy	Whether quarrying activity at a quarry in Ballymagroarty, Ballintra, Co. Donegal is or is not development or is or is not exempted development	N/A	N/A
QD0018	Patrick McCaffrey & Sons Ltd	Quarry	Refused	23/05/2017
SU0128	Patrick McCaffrey & Sons Ltd	For substitute consent for an existing quarry outside the village of Ballintra	Dismissed	23/05/2018

In addition, the Applicant has applied for and obtained licences in relation to emissions from the Site; this includes licences for water discharge from both the north and south quarries and an air emissions licence. Currently, the following licenses are active:

- Discharge License LWAT-41 2016;
- Discharge License LWAT-48 2016; and,
- Air Emission License APL 05/01 2005.

1.2 The Applicant

The Applicant, Patrick McCaffrey & Sons Ltd., is an Irish-owned family-run business established in 1949 that produces crushed stone aggregates and concrete products used in construction and roadmaking.

The Applicant is also one of the largest manufacturers of bituminous materials in Co Donegal. Patrick McCaffrey & Sons Ltd are local employers, with ca. 40 full-time staff across their off-site working crew and on-site staff.

The company provides the following products:

- Concrete blocks;
- Aggregates for civil engineering;
- Bituminous Macadam; and,
- Ready mix concrete.

They also provide contracting services for surfacing and civil engineering for public infrastructure, as well as public and private road maintenance. All products are made to the relevant international standards and nationally defined parameters and are certified as required under the Construction Products Regulations 2011.

1.3 Statement of Authority

This report was reviewed and approved by Mr. Dyfrig Hubble, Associate Director - Ecologist. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management ('CIEEM'). Dyfrig has over 18 years' experience working in the ecological consultancy sector, including habitat surveys and appraisals and specialist protected species surveys in support of Appropriate Assessments.

1.4 Regulatory Context

The following guidance documents were adhered to for the preparation of this rNIS report:

- Government of Ireland, *Planning and Development Regulations 2001 to 2022 (Part 10*) [2];
- OPR Practice Note PN01, *Appropriate Assessment for Screening for Development Management*, The Office of the Planning Regulator [3];
- *Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, European Commission [4];
- *Guidelines for Ecological Impact Assessment in the UK and Ireland*, Chartered Institute of Ecology and Environmental Management [5];
- *Managing Natura 2000 Sites:* The Provision of Article 6 of the Habitats Directive 92/43/EEC [6]*;*
- *Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities,* DoEGLH [7]; and,
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10*, DoEGLH [8]*.*

This rNIS was prepared in accordance with and in compliance with the following legislation:

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna better known as "The Habitats Directive". This provides the framework for legal protection for habitats and species of European importance. Articles 3 to 9 provide the

legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. The Habitats Directive was transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 / 2011) (as amended) [9].

For completeness, the Planning and Development Act 2000 (as amended) states "European site" means:

a. A candidate site of Community Importance;

b. A site of Community Importance, F815 [(ba) a candidate Special Area of Conservation];

c. A Special Area of Conservation ('SAC');

d. A candidate Special Area of Conservation ('cSAC'); or,

e. A Special Protection Area ('SPA')

These are Special Areas of Conservation ('SACs') designated under the Habitats Directive and Special Protection Areas ('SPAs') designated under the Conservation of Wild Birds Directive (79/409/EEC as amended 2009/149/EC) (better known as "The Birds Directive"). The Birds Directive was also transposed into Irish law through the Planning and Development Act 2000 (as amended) and S.I 477 / 2011 [9].

Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment.

> *"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public"*

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any negative impacts on European sites by identifying possible impacts early in the planning stage and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, it is rejected. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6 (4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

1.5 Stages of Appropriate Assessment

There are four distinct stages to undertaking an AA as outlined in current European Union ('EU') and Department of Environment, Heritage and Local Government ('DoEHLG') guidance:

Stage 1: Screening

This process identifies the potential impacts of a plan or project on a Natura site, either alone or in combination with other plans and projects and considers whether these impacts are likely to be significant. If potentially significant impacts are identified the plan or project cannot be screened out and must proceed to Stage 2.

Stage 2: Appropriate Assessment

Where potentially significant impacts are identified, an assessment of the potential mitigation of those impacts is required; this stage considers the appropriateness of those mitigation measures in the context of maintaining the integrity of the Natura 2000 sites. If potential significant impacts cannot be eliminated with appropriate mitigation measures, the assessment must proceed to Stage 3.

Stage 3: Assessment of Alternatives Solutions

This process examines alternative ways to achieve the objectives of the plan or project that avoid adverse impacts on the integrity of the Natura 2000 site if mitigation measures are deemed insufficient.

Stage 4: Imperative Reasons of Overriding Public Interest ('IROPI')

Assessment where no alternative solution exists for a plan or project and where adverse impacts remain. This includes an assessment of compensatory measures, where in the case of projects or plans, can be considered necessary for IROPI.

2 METHODOLOGY

2.1 Determining Zone of Influence

The starting point for this assessment was to determine the Zone of Influence. The Zone of Influence comprises of the area in which the Development may potentially affect the conservation objectives (or qualifying interests) of a European site.

Guidance in Appropriate Assessment of Plans and Projects in Ireland notes that a distance of 15km is recommended for the identification of relevant European sites [7]. However, guidance from the National Parks and Wildlife Service ('NPWS') recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative) [8]. For some projects, the distance could be greater than 15km, and in some cases, less than 100m.

The definition of the zone of influence for the proposed works includes evaluating the following:

- Identification of the European sites that are situated within, in close vicinity or downstream within the zone of influence of the Development;
- Identification of the designated habitats and species and conservation objectives for the identified European sites;
- Identification of the environmental conditions that stabilise and increase the qualifying interests of the European sites towards favourable conservation status;
- Identification of the threats / impacts, actual or potential, that could negatively impact the conservation objectives for the European sites;
- Identifying the activities of the proposed works that could give rise to significant adverse impacts; and,
- Identification of other plans or projects, for which in combination impacts would likely have significant adverse effects.

2.1.1 Source-Pathway-Receptor Model

European sites are only at risk from significant effects where a source-pathway-receptor link exists between a Development and a European site. This can take the form of a direct impact (e.g., where the Development is located within / in close vicinity to the boundary of a European site), or an indirect impact where impacts occur outside of the European site but affect ecological receptors within the European site (e.g., impacts to water quality which can affect estuarine habitats at a distance from the impact source).

The likely historical effects of the Development on any European site have been assessed using a source-pathway-receptor model. A source-pathway-receptor model is a standard tool used in environmental assessment [10] [11]. The model comprises of:

- A source: any potential impacts from the Development, e.g., the runoff of sediment / construction pollution;
- A pathway: the means or route by which a source can affect the ecological receptor; and,
- A receptor: the qualifying interests and / or special conservation interests of the European sites.

In order to establish the Zone of Influence of the Development, the likely key environmental impacts / changes associated with the Development were determined having regard to the

project characteristics set out in Section 3.3 of this report. The Zone of Influence for various potential impact pathways are discussed in Section 4.

2.2 Desk-Based Review

A desk-based review of information sources was completed, which included the following sources of information:

- Review of aerial maps of the Site and surrounding area;
- The NPWS website was reviewed with regard to the most up-to-date details on conservation objectives for the European sites relevant to this assessment [12];
- The Donegal County Council Planning Portal was reviewed to obtain details about existing / proposed developments in the vicinity of the Site [13];
- The Department of Housing, Local Government and Heritage's planning portal – the National Planning Application Database was reviewed to obtain details about existing / proposed developments in the vicinity of the Site [14];
- BirdWatch Ireland – The Irish Wetland Bird Survey ('I-WeBS') data, which is coordinated by BirdWatch Ireland and under contract to the NPWS, was reviewed with regard to wintering waterbird population within the vicinity of the Site [15];
- The National Biodiversity Data Centre ('NBDC') website was reviewed with regard to species distributions [16]; and,
- The Environmental Protection Agency ('EPA') Maps website was reviewed to obtain details about watercourses in the vicinity of the Site [17].

The desk-based review also included a comprehensive examination of historic aerial imagery as a means of evaluating the expansion of the Site and the habitats that were previously present within the area, using the following sources:

- The Geological Survey Ireland ('GSI') area maps website was consulted for the historic maps [18];
- The GeoHive Hub website was consulted for the examination and comparison of historical aerial imagery [19]; and,
- The Google Earth website was consulted to evaluate the expansion of the Site and the habitats that previously occurred in that area [20].

The information gathered from these resources has been used as baseline data within this report, where appropriate. This information has been presented in combination with the field survey results (methodology described below) in Section 5.3.1.

2.2.1 I–WeBS Data Request

As mentioned above, I-WeBS data was reviewed in order to understand the potential assemblages of wintering bird populations that tend to occur within the vicinity of the Site.

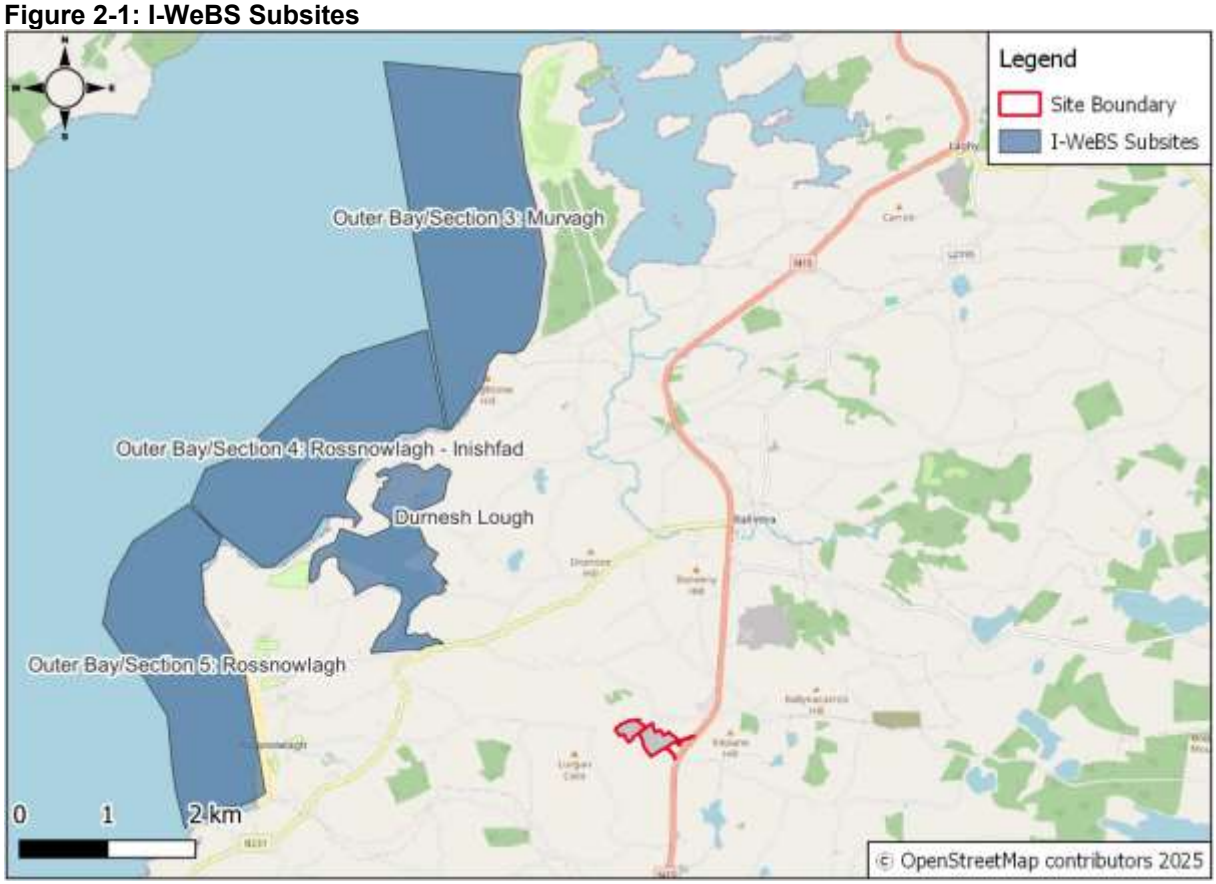
As part of this review, a data request was submitted to the I-WeBS on 15th January 2025. The data request was made for all available data from the nearest subsites to the northwest of the Site, as listed in Table 2-1 below. See Figure 2-1 for the location of the subsites in relation to the Site.

Table 2-1: I-Webs Data Request

Site Name	Subsite Name	Site Code	Subsite Code
Donegal Bay	Durnesh Lough	0A405	0A050

Site Name	Subsite Name	Site Code	Subsite Code
Donegal Bay	Outer Bay/Section 5: Rossnowlagh	0A405	0A464
Donegal Bay	Outer Bay/Section 4: Rossnowlagh - Inishfad	0A405	0A480
Donegal Bay	Outer Bay/Section 3: Murvagh	0A405	0A479

Figure 2-1: I-WeBS Subsites



2.3 Field Based Studies

2.3.1 Habitat Survey

A Site walkover was undertaken on 23rd October 2024 by three suitably qualified and experienced MOR Environmental Ecologists, with an updated survey completed on the 3rd April 2025. These surveys aimed to assess the extent and quality of habitats present on the Site and in the wider quarry registered extent. To identify any potential ecological receptors associated with the European sites.

The habitat survey was undertaken for the Site utilising the Heritage Council's – '*A Guide to Habitats in Ireland'* [21]. This is the standard habitat classification system used in Ireland and includes both a desk-based and field-based assessment.

The assessments were also extended to identify the potential for these habitats to support other features of nature conservation importance, such as species afforded legal protection under either Irish or European legislation.

2.3.2 Invasive Species

The Site was visually assessed for the presence of any noxious / invasive species that are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No.

374/2024) [22] such as Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*). The Site was also assessed for the presence of non-regulated invasive species that have the potential to impact local biodiversity.

2.3.3 Other Species

In addition, as part of the overall ecological assessment for the Site, an assessment was carried out for the potential of the Site to support any other species considered to be of value for biodiversity, including those that were identified as occurring locally by the desktop study. This information was used as part of the rNIS to inform the assessment of potential adverse effects on both Annex 1 Species and Habitats identified as part of the study.

2.4 Survey Conditions and Limitations

The fieldwork onsite was undertaken outside of the optimal season for botanical and mammal surveys. However, given the nature and size of the habitats on site and their location within a rural setting, it is not considered that this survey limitation will alter the findings of this assessment, and therefore, no further surveys are considered necessary as part of the rNIS.

3 DESCRIPTION OF THE DEVELOPMENT

3.1 Site Context

The Site is comprised of two quarry areas. The north quarry lies to the north of the L7265 road with an area of ca. 4.62ha, worked to a depth of approximately -13mOD. The quarry consisted only of blasting and extraction, with the aggregate transported to the south quarry for processing by dump trucks. Extraction at the north quarry was undertaken below the groundwater table; therefore, there was a requirement to abstract groundwater to maintain the water level at safe working levels during operation.

Quarry operations began in the south quarry in the 1940's. In ca. 1986, the south quarry had been excavated to a level of ca. 54mOD. Following the cessation of quarry activities in the southern quarry, operations moved to the north quarry.

The quarry operations in the north quarry consisted of the continued deepening of the late 1980's footprint, aggregates were extracted and transported to the south quarry to be processed.

North Quarry operations ceased in 2013, and the quarry void was allowed to flood. The south quarry has an area of ca. 8.64ha, with the quarry worked to a depth of ca. 54.6mOD. The south quarry is divided by a private road with the quarry activities, concrete batching plant, asphalt plant, screening plant and fixed processing plant located west of the road. Materials and aggregate are stored in sheds and stockpiles located in the south quarry. Quarry operations in the southern quarry ceased by 1990.

It should be noted that the quarrying activities at the Site began in the 1940's, which predates the European Habitats & Birds Directive.

The Site is situated ca. 2.6km southwest of Ballintra village and ca. 6.4km north of Ballyshannon in County Donegal. The N15 runs in a north-to-south direction, ca. 150m to the east of the Site. The Site is connected to the N15 via a private road. The N15 national road runs from Lifford, County Donegal to County Sligo and provides the primary transport route for Heavy Good's Vehicles ('HGVs') accessing and leaving the Site.

Donegal Town is ca. 10.6km to the north of the Site, approached via the N15. The surrounding area is generally rural agricultural land, primarily pastures. The landforms in the vicinity of the Site incorporate a pronounced undulation where Glasbolie Hill, to the immediate north of the Site, rises to a height of ca. 130m. Ballymagroarty Hill is located to the east beyond the N15, which rises to a similar height, while Lurgan Hill to the southwest of the Site rises ca. 140m. There is a high density of one-off housing within the wider area surrounding the Site, with a number of dwellings adjacent to the northeast boundary of the Site and numerous dwellings along the local roads which run along the northern and southern boundaries of the Site, respectively. The closest dwelling is ca. 50m from the boundary of the Site.

The Site has historically been used to extract and process stone, with origins prior to 1963. The entrance to the Site is located in the southeast corner, opening onto the private road. The Site includes the following components:

- Concrete batching plant;
- Asphalt plant;
- Fixed processing and washing plant;
- Screening plant;
- Aggregate stockpiles;
- Aggregate storage buildings;

- Site office;
- Mobile plant and vehicle parking;
- Laboratory;
- Workshop;
- Staff welfare facilities;
- Weighbridge;
- Block production area;
- Wheel wash; and,
- Associated settlement ponds.

Figure 3-1: Site Context and Overview

3.2 Watercourses within the Vicinity of the Site

The majority of the Site is located within the Donegal Bay North Water Framework Directive ('WFD') Catchment [Catchment_ID: 37] and the Ballintra _SC_010 subcatchment [Subcatchment_ID: 37_1] [17]. However, the southern portion of the Site is located within the Erne WFD Catchment [Catchment_ID: 36] and Erne_SC_050 subcatchment [Subcatchment_ID: 36_27] [17].

As per EPA maps there are four hydrological features of note within 500m of the Site, as described below:

1. Glasbolie Stream

The Glasbolie stream is located ca. 160m to the west of the Site, at its closest point. There is no hydrological connection between the Glasbolie Stream and the Site. This stream flows in

a northwest direction and drains into the Ballymagrorty_Scotch River ca. 2km downstream from the Site.

2. Ballymagrorty_Scotch ('Ballymagrorty Scotch Stream')

The Ballymagrorty Scotch stream is located ca. 165m north of the Site at its closest point. There are two authorised and monitored discharge points associated with the Site:

- Northern Quarry Water Discharge License LWAT 41; and,
- Southern Quarry Water Discharge Licence LWAT 48.

At the north quarry, water collects in the quarry void. This water is pumped out and discharged to the Ballymagrorty Scotch Stream north of the quarry to maintain safe water levels

Surface water from the southern quarry discharges from the Site and passes through existing drainage infrastructure, including drainage channels, settlement ponds and an interceptor. Therefore, there is a controlled hydrological connection between the Site and the Ballymagrorty Scotch Stream from both discharge points. The Ballymagrorty Scotch Stream flows in an easterly direction and merges with the Ballymagrorty_Scotch River ('Ballymagrorty Scotch River') ca. 500m northeast of the Site. The Ballymagrorty Scotch River then flows north, then west, eventually draining into the Durnesh Lough SAC and Durnesh Lough SPA, ca. 5.7km downstream of the Site and the Donegal Bay SPA, ca. 8.1km downstream of the Site.

3. Doo Lough

It should be noted that Doo Lough is located ca. 50m southeast of the Site, at its closest point. However, there is no hydrological connection between the Site and this water feature. Under the Water Framework Directive ('WFD') 2000/60/EC, all lake waterbodies with areal extents over 0.5km^2, or less than 0.5km^2 but located within a protected area, are assessed under the WFD. Lough Doo is less than 0.5km^2 is size and is not located within a protected area, hence it is not assessed under the WFD. Therefore, Doo Lough was not considered further in this report.

4. Abbey_010 ('Abbey Steam')

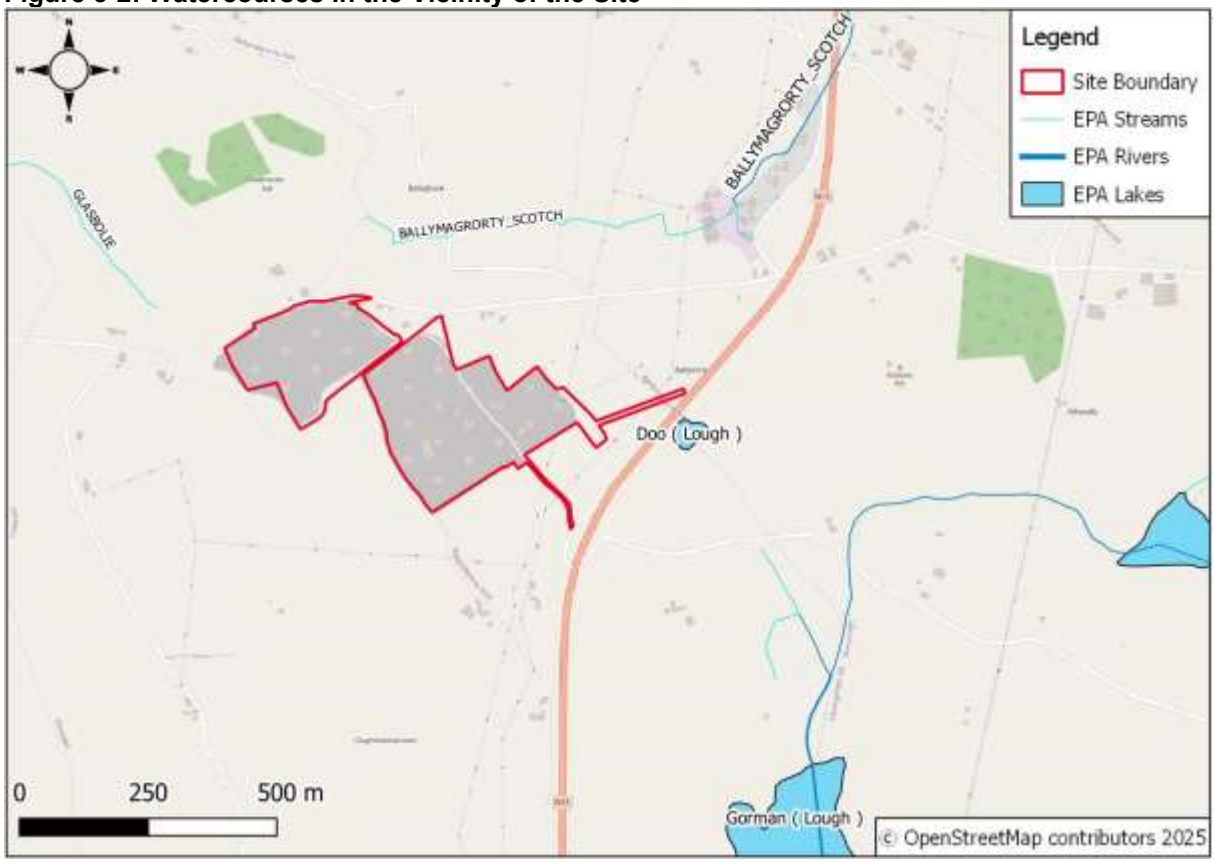
The Abbey Stream is located ca. 330m southeast of the Site, at its closest point. This stream flows in a southerly direction and drains into the Lough Gorman, ca. 600m southeast of the Site. This watercourse is hydrologically linked to the Donegal Bay SPA, ca. 9.3km downstream. However, there is no hydrological connection between the Site and this stream.

Water Quality Status and Risk

Under the WFD, the EPA classifies the status and the risk of not achieving good water quality status for all waterbodies in Ireland [17]. According to the river waterbody WFD 2016-2021, the water quality within the Glasbolie Stream, Ballymagrorty Scotch Stream and the Ballymagrorty Scotch River is considered to be '*moderate,'* whereas Abbey Stream is considered to have *'good'* water quality [17]. The risk of Abbey Stream, Glasbolie Stream Ballymagrorty Scotch Stream and the Ballymagrorty Scotch River achieving a high-water quality status is '*under review'* [17].

The location of the key surface water features in the vicinity of the Site is illustrated in Figure 3-2 below.

Figure 3-2: Watercourses in the Vicinity of the Site



3.2.1 Drainage Ditch Network

The Office of Public Works ('OPW') Flood Maps identifies Drainage Districts, Arterial Drainage Schemes and Benefited Areas [23]. Arterial Drainage Schemes were works that were carried out under the Arterial Drainage Act, 1945 to improve land for agriculture and to mitigate flooding. The Benefited land identifies land that was drained as part of the Drainage District with the aim to improve land for agriculture and to mitigate flooding.

It should be noted that the drainage ditches in which water discharge from the Site passes through are not designated as part of a Drainage District or Arterial Drainage Scheme, and the Site does not form part of any of the benefited areas [23].

3.3 Description of the Development

<u>The Site and Associated Activities</u>

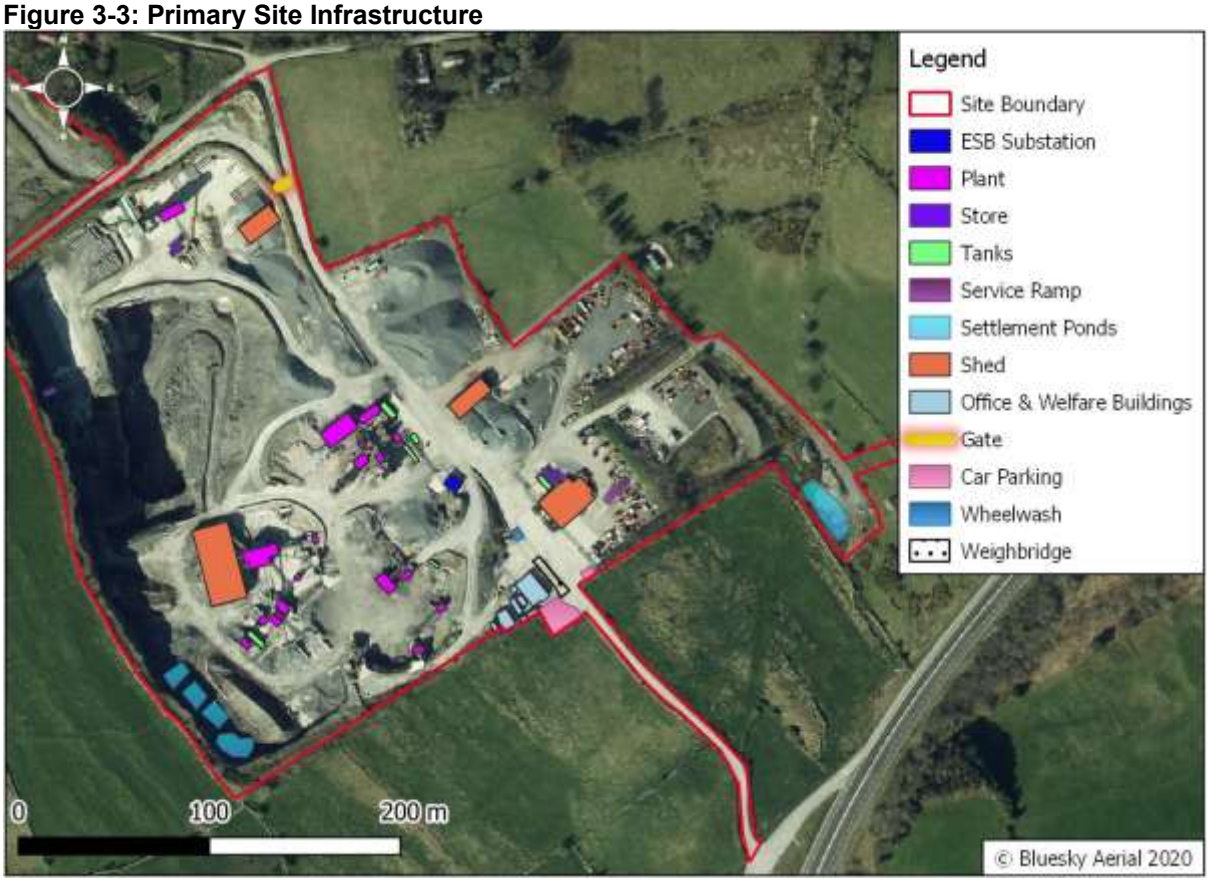
The Site has a total area of 13.9ha, with a long history of quarrying associated with the Site. The Site has evidence of pre-1963 origins, with quarrying beginning in the 1940's. The overall Site has been in possession of the Applicant since 1986 and has continued to be in regular use.

The entrance gate to the northern quarry is off the L7265 local road on the southeast boundary, and an access point into the southern quarry is positioned on the other side of the local road, facilitating the historic movement of material from the northern quarry to the southern quarry.

The workshop, aggregate storage sheds, aggregate stockpiles and truck parking are located east of the private road in the south quarry. Employee car parking is located south of the office and welfare buildings.

The concrete batching plant, asphalt plant, screening plant and fixed processing plant are located in the south quarry in the southern portion of the Site. The office, laboratory, weighbridge, wheel wash, mobile plant and vehicle parking and staff welfare facilities are located in the east and south of the Site adjacent to the entrance. The south quarry generally comprises of a quarry floor with haul routes extending to the aforementioned plant and equipment. Settlement ponds are located at the southern tip of the south quarry and at the east of the Site. See Figure 3-3 below.

Figure 3-3: Primary Site Infrastructure



Historic Activities

Quarry operations began in the south quarry in the 1940's. In ca. 1986, the south quarry had been excavated to a level of ca. 54mOD. Excavations in the south quarry ceased, and excavation operations moved to the north quarry.

The quarry operations in the north quarry consisted of the continued deepening of the late 1980's footprint, from which aggregate was extracted and exported to the south quarry to be processed. The rock was extracted using conventional blasting methods, which fragmented the rock into manageable sizes. When the quarry was operational, two dump trucks were used to transport material from the north quarry to the south quarry, with each dumper undertaking an average of 25 trips per day at its peak.

Plant and machinery which operated at the north quarry consisted of tracked excavators and dump trucks which transported material. Ancillary plant such as a drilling rig, a tractor and bowser were deployed when required.

Processing was carried out in the south quarry, which consisted of the breaking of the blast rock and the repeated crushing and screening of the aggregate to produce the required aggregate sizes.

In previous years, the excavated and processed volumes of aggregates from the Site reached up to 250,000 tonnes per annum, with additional volumes of imported rock processed (other limestone and high PSV rock).

Figure 3-4: Historical maps of the Site

Current Activities

Currently, the north quarry is no longer operating, with excavations ceasing in 2013, and the quarry was allowed to flood. A water storage tank is located beside the access gate, and the discharge pump is the only equipment at the north quarry.

Since the closure of the north quarry, the importation of other rock reserves for on-site processing was increased as the Site had effectively been reduced to a processing and manufacturing facility. During the original Substitute Consent application time period, the Applicant relied primarily on the importation of aggregate to the south quarry to be processed and then re-exported to the market. During this time, small excavations were made in the south quarry. These small excavations in the south quarry have also ceased.

The Applicant relies entirely on the importation of material for processing and the ongoing manufacturing of asphalt and concrete products. The processing plant at the Site is fixed and requires the use of various plant such as tracked excavators and a variety of crushers and screeners. The screening plant consists of a number of screens and conveyor belts capable of screening the crushed aggregate into various grades from the maximum size that the screen mesh can pass, down to dust.

Crushed and screened aggregate is stockpiled prior to exporting from the Site or is used in the asphalt or concrete batching plants. There is a range of mixes produced from Asphalt Concrete, concrete blocks and Stone Mastic Asphalt for driveways to Hot Rolled Asphalts, more commonly used on high-speed / stress road surfaces. Production of specified mixes can be designed and produced with prior notice.

Planning permission is being sought for the continuance of use of the existing facilities and importation of rock for processing, and the implementation is being sought in this application for a period of 30 years

3.3.1 Drainage

Surface water run-off is collected in the settlement lagoons located at the south tip of the south quarry. The water is pumped to a settlement lagoon to the east of the quarry before it is discharged to a drain to the east of the quarry in line with the Water Discharge Licence LWAT48.

At the north quarry, water collects in the quarry void. This water is pumped out and discharged to the Ballymagrorty Scotch Stream north of the quarry to maintain safe water levels under the Water Discharge Licence LWAT 41.

3.3.2 Fuel and Oil Storage

No fuel was stored at the north quarry. Fuel is stored at the south and dispensed directly into the plant and vehicles or transported by mobile bowsers to plant on-site. The Applicant uses reputable suppliers to transport fuel to the Site, who either dispense directly into plant or into fuel storage tanks.

3.3.3 Wheel Wash

The wheel wash comprises a concrete-lined depression and an overhead sprinkler system which are located adjacent to the weighbridge.

3.3.4 Water Supply

The south quarry is serviced by potable water for the office facilities and manufacturing plant.

3.3.1 Landscape Screening

The southeastern boundary of the northern quarry consists of a high bank with fencing on top, separating the quarry from the L7265. To the north and west, the land use is largely agricultural. The northern quarry is partially visible from the L7265 along the western boundary when approaching from the west.

The land use of the western and southern boundaries of the southern quarry is largely agricultural. The northern, western and southern boundaries consist of steep cliff faces with fencing on top. The L7265 runs through the Site along the eastern and northern boundaries of the southern quarry. Quarry operations are visible on the L7265 along the eastern boundary and partially visible from the northern boundary.

3.3.1 Safety and Security

Stock proof post and wire fencing is in place around the perimeter of the Site. Overburden stripped from the surface has been used to construct berms along the perimeter of the quarries.

On the access road down to the now-flooded north quarry floor, a warning sign has been erected to warn people against swimming in the quarry. The workshop area of the east side of the L7265 has security fencing around its perimeter. On the opposite side of the road, the south quarry has security fencing and gates at the access points into the quarry. The Site includes internal lighting and security cameras. Netwatch have been employed to add additional security to the quarry.

3.3.2 Working Hours

Operational hours associated with the Registered Area are:

- Monday to Friday 07:00 – 19:00;

- Saturday 07:00 – 14:00; and,
- Sunday & Public Holidays Closed.

3.3.3 Staffing Numbers

Currently, there are over 40 people employed for both on-site operations and an off-site team primarily from the local area.

3.3.4 Utilities

The south quarry has existing telecommunications, an ESB substation and an existing potable water supply connection which serves office facilities and manufacturing plant. Foul water for the office is collected and treated at the wastewater treatment plant / septic tank before it goes to a soakaway and into the ground.

All waste metal, batteries, tyres, etc. arising from the servicing of plant and equipment on-site was collected by the fitter and brought to the south quarry where it was stored until collection by a suitably licensed collector.

3.4 Receiving Waters

The receiving water for the north quarry is the Ballymagrorty Scotch Stream, located along the northern boundary of the Site. Water was, and on occasion continues to be, abstracted from the quarry and discharged in order to maintain a safe water level in the quarry void. This was and is undertaken in line with the Water Discharge Licence LWAT41.

This stream feeds into the Durnesh Lough SAC and Durnesh Lough SPA and is connected to the Donegal Bay (Murvagh) SAC and Donegal Bay SPA.

The south quarry discharges to a drain east of the quarry in line with the Water Discharge Licence LWAT48 applicable to the south quarry. The drain also flows into the Ballymagrorty Scotch stream.

Water monitoring has been and is carried out upstream and downstream of the Site, including at Durnesh Lough, which was a focal point in the granting of both Water Discharge Licences.

3.5 Restoration and Aftercare

At the time of writing, the only restoration to occur onsite is the north quarry being allowed to flood.

As part of this application, a restoration plan has been developed to maximise the ecological benefit provided by the Site's existing environmental features. The plan outlines the proposed restoration measures for the Site, primarily focusing on the north quarry, as the south quarry is still active.

The restoration plan will provide a mosaic of habitats including berms, hibernacula and habitat piles, floating vegetation rafts, bare ground, steep-sided cliffs and a potential ark site for crayfish, with natural succession and regeneration occurring over time, see Figure 3-5 below.

Figure 3-5: Restoration and Enhancement Plan Map

3.6 Existing Compliance Measures

When the quarry was registered under Section 261, no conditions were set out for the operation of the Site. However, the Site is subject to two Water Discharge Licences and an Air Emissions Licence, as referred to in Section 1.1 above.

There is also an Environmental Management System ('EMS') in use at the Site. The EMS was created in 2006. The document outlines policies and procedures in use at the Site to prevent and mitigate the effects of the Site and its associated activities on the receiving environment (see Appendix A).

4 IDENTIFICATION OF EUROPEAN SITES

In accordance with the European Commission Methodological Guidance [6] a list of European sites that can be potentially affected by the Development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment, Heritage and Local Government [7] states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location and the likely significant effects of the project. The key variables determining whether or not a particular European site is likely to be significantly affected by a project are:

- The physical distance from the project to the European site;
- The presence of impact pathways;
- The sensitivities of the ecological receptors; and,
- The potential for in-combination effects.

All SPAs and SACs within 15km have been considered to assess their ecological pathways and functional links. As acknowledged in the OPR guidelines [3], few projects have a zone of influence this large; however, the identification of European sites within 15km has become widely accepted as the starting point for the screening process. For this reason, all SPAs and SACs in 15km have been identified for consideration as part of the screening.

There are 12 European sites located within 15km of the Site - these are identified in Figure 4-1 and Table 4-1.

Figure 4-1: Site Location and European Sites within 15km

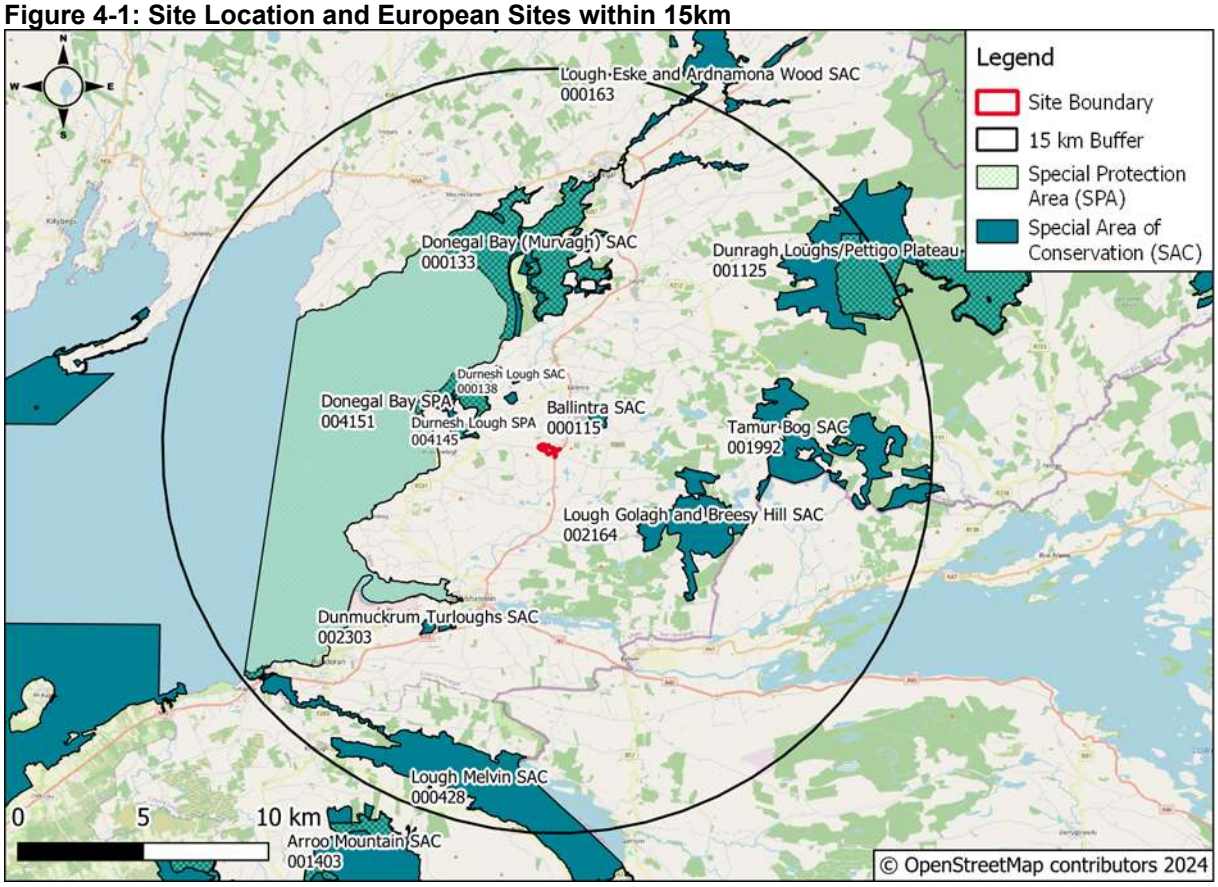


Table 4-1: European Designated Sites within 15km of the Site

Site Name	Code	Distance (km)	Direction from the Site
Special Areas of Conservation ('SAC')			
Ballintra SAC	000115	2km	NE
Durnesh Lough SAC	000138	2km	W
Lough Golagh and Breesy Hill SAC	002164	4km	SE
Donegal Bay (Murvagh) SAC	000133	5km	NW
Tamur Bog SAC	001992	8km	E
Dunmuckrum Turloughs SAC	002303	8km	S
Dunragh Lough / Pettigo Plateau SAC	001125	10km	NE
Lough Eske and Ardnamona Wood SAC	000163	11km	N
Lough Melvin SAC	000428	12km	S
Special Protection Area ('SPA')			
Durnesh Lough SPA	004145	2km	W
Donegal Bay SPA	004151	4km	W
Pettigo Plateau Nature Reserve SPA	004099	13km	NE

4.1 Hydrological Connection

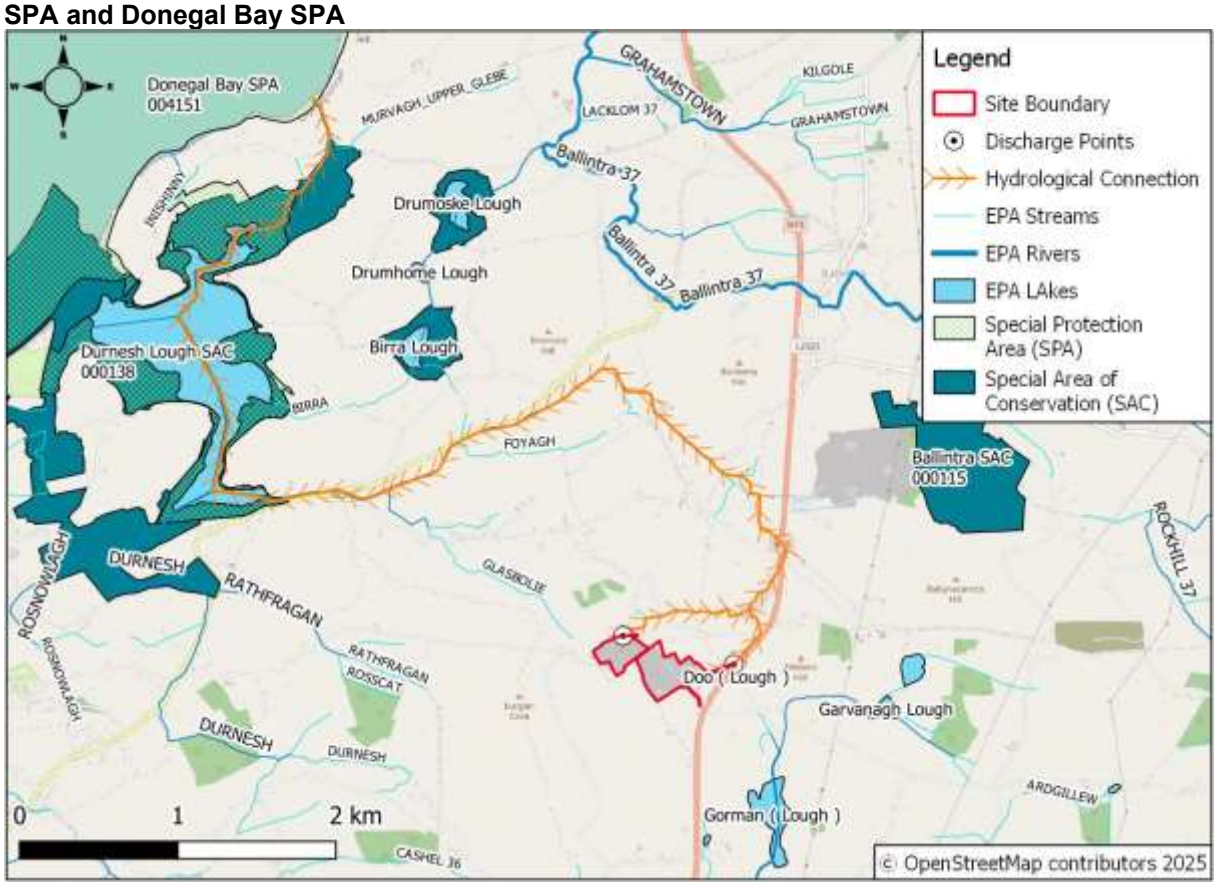
The northern quarry has a discharge licence (Ref: LWAT 41), which permits the discharge of water from the quarry pit via an off-site drainage ditch, which connects to the Ballymagrorty Scotch Stream.

The southern quarry surface water runoff is collected in the settlement lagoons located in the southwestern corner of the southern quarry. From there, it is pumped via an underground pipe to settlement ponds situated to the east of the southern quarry. The water is retained in this pond to allow solids to settle before being discharged into open drains that flow into the Ballymagrorty Scotch River. This discharge is regulated under discharge licence (Ref: LWAT 48).

The discharge licence for the Site includes conditions which require regular sampling and monitoring, the findings of which are reported to the local authority annually. In addition, spot checks are undertaken by the local authority and sent for analysis. There are no open or active actions with regard to water quality.

As a result of the discharges, there is a hydrological connection between the Site and the Durnesh Lough SAC, Durnesh Lough SPA, and Donegal Bay SPA through two off-site drainage ditches. Refer to Figure 4-2 below for further details.

Figure 4-2: Hydrological Connection between the Site and the Durnesh Lough SAC, Durnesh SPA and Donegal Bay SPA



4.2 Identification of European Sites within Zone of Influence ('ZoI')

The ZoI comprises the area in which the Development may potentially affect the conservation objectives (or qualifying interests) of a European site. The definition of ZoI for the Development evaluated multiple factors as outlined in Section 2.1 and discussed below. Please note that the extent of ZoI differs for different environmental aspects, e.g. air, water, etc.

4.2.1 Habitat Loss / Degradation

The Site is not located within or directly adjacent to any European sites.

Given the fact that the Site is not located within any European sites and given the distance separating the Site from any European sites, the Development has not resulted in any direct loss or degradation of designated habitats.

Furthermore, it is considered that the ongoing activities at the Site will not result in any direct habitat loss or degradation to the Dunragh Lough / Pettigo Plateau SAC, Lough Eske and Ardnamona Wood SAC, Lough Melvin SAC Ballintra SAC, Lough Golagh and Breesy Hill SAC, Donegal Bay (Murvagh) SAC, Tamur Bog SAC, Dunmuckrum Turloughs SAC and Pettigo Plateau Nature Reserve SPA, given the lack of impact pathways and the distance and lands separating the Site from these European sites.

However, the Durnesh Lough SAC, Durnesh SPA, and Donegal Bay SPA are hydrologically connected to the Site via an existing drainage infrastructure. Therefore, the potential for indirect habitat loss and degradation as a result of water quality impairment arising from the Development will need to be considered. Refer to the water quality section below for further information.

4.2.2 Water Quality Impairment

Potential water quality impacts associated with the Development could result from the release of sediment or other pollutants to surface water during the operational phase. The ZoI would include receiving waterbodies adjacent to and downstream of the Site, specifically those hydrologically connected to the Site.

The northern quarry ceased extraction in 2013 and has since been allowed to flood. It operates under discharge licence LWAT 41, which permits water to be discharged from the quarry pit via an off-site drainage ditch that connects to the Ballymagrorty Scotch Stream.

The southern quarry collects surface water runoff in the settlement lagoon within the quarry, located south of the quarry, which is then pumped to settlement ponds located east of the southern quarry via an underground pipe. It operates under discharge licence LWAT 48, which permits the water to be discharged into an offsite drainage ditch that connects to the Ballymagrorty Scotch stream. This is an EPA-monitored discharge point.

Therefore, through these off-site drainage ditches, the Site has a hydrological connection to the Ballymagrorty Scotch Stream, which connects to the Durnesh Lough SAC, Durnesh Lough SPA, and Donegal Bay SPA.

Given the hydrological connection between the Site and the Durnesh Lough SAC, Durnesh SPA and Donegal Bay SPA, the potential impairment of water quality during ongoing operations will need to be considered.

4.2.3 Air Quality Impairment

According to the Institute of Air Quality Management ('IAQM') Guidelines, the potential adverse effects from dust arising from construction to ecological receptors occurs within 50m of a construction site and / or 50m of the route(s) used by construction vehicles on the public highway of up to 250m from the Site entrance [24] . In addition, potential adverse effects from mineral dust to ecological receptors from hard rock quarries can occur within 400m of dust-generating activities [25].

Although the Development does not constitute a mineral operation, many activities traditionally associated with mineral extraction will occur as part of the Development, such as;

- Material handling;
- On-site transportation; and,
- Off-site truck movements.

Therefore, the ZoI for air quality impairment is established as the Site with a 400m buffer.

In addition, the Site is subject to an Air Pollution Licence (APL 05/01), which is regulated by the competent authority. Air quality at the Site is monitored and reported back to the local authority on an annual basis.

No European sites are located within 400m of the Site, with the nearest Site being located over ca. 2km away. Furthermore, it should be noted that under the Air Emissions Licence (APL 05/01 2005) Condition 2 sets out requirement for the management of activities onsite that include mitigation measures that have been implemented onsite. However, this report is not reliant on these mitigation measures in order to avoid impacts on any European sites.

Therefore, it is not considered that the Development will significantly affect the European sites that are listed in Table 4-1 above, as a result of air quality impairment.

4.2.4 Noise / Disturbance

Noise from anthropogenic activity has the potential to cause disturbance to resting, foraging and commuting qualifying species of the European sites. Individual species will provoke

different behavioural responses to disturbances at different distances from the source of the disturbance:

- Transport Infrastructure Ireland (formally the National Roads Authority) has produced a series of best practice planning and construction guidelines for the treatment of certain protected mammal species (i.e. otter), which indicate that disturbance to terrestrial mammals would not extend beyond 150m [26]; and,
- Studies have noted that different types of disturbance stimuli are characterized by different avifaunal reactions, however, in general a distance of 300m can be used to represent the maximum likely disturbance distance for waterfowl [27].

The ZoI for noise / disturbance is therefore established as the Site with a 300m buffer.

The Lough Golagh and Breesy Hill SAC, Donegal Bay (Murvagh) SAC, Tamur Bog SAC, Dunmuckrum Turloughs SAC, Dunragh Lough / Pettigo Plateau SAC and Dunesh Lough SAC are not designated for any species and therefore there is no potential for any designated species to be disturbed.

The Lough Golagh and Breesy Hill SAC, Donegal Bay (Murvagh) SAC, Tamur Bog SAC, Dunmuckrum Turloughs SAC, Dunragh Lough / Pettigo Plateau SAC, Lough Eske and Ardnamona Wood SAC and the Lough Melvin SAC are all located over 300m away from the Site, with the nearest Site located over 2km away. Therefore, it is concluded that there is no potential for the Development to result in any disturbances to the species designated as qualifying interests for these European sites.

The Lough Eske and Ardnamona Wood SAC, Pettigo Plateau Nature Reserve SPA and the Lough Melvin SAC are located over ca.11km away from the Site. The Site is hydrologically connected to the Dunesh Lough SAC, Durnesh Lough SPA and Donegal Bay SPA via the Ballymagrorty Scotch Stream; however, these sites are located ca. 2km from the Site, which is outside the ZoI.

It should be noted that prior to the Development commencing, historical maps show that the onsite habitats comprised primarily of exposed rock and grasslands. There were no waterbodies located onsite that would be considered suitable for designated bird species. Although grasslands may have provided suitable habitat for waterbird species, this habitat was common in the wider landscape, and areas of grassland were present within the vicinity of the SPAs. Therefore, it is considered that the Development would not have resulted in any disturbances to designated bird species.

It is important to note that the Site and its surrounding environs have a history of quarrying and ancillary activity. Therefore, any birds within the vicinity of the Site will be habituated to a high level of human activity and anthropogenic noise.

The north quarry ceased extraction in 2013 and was allowed to flood, which has the potential to provide suitable habitat for designated bird species; however, the waterbody is known to be oligotrophic and is considered to be suboptimal for designated bird species. It should be noted that remedial works that will be implemented will improve the northern quarry waterbody and provide suitable habitat for designated bird species. Therefore, it is considered that the Development will not result in any disturbances to designated bird species.

Taking the above into account, noise disturbance to species designated under the Durnesh Lough SPA and Donegal Bay SPA were dismissed.

4.2.5 Invasive Species

An isolated stand of Japanese knotweed (*Reynoutria japonica*) was identified onsite, which is a high-impact invasive species (including those that are regulated under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).

During the updated field survey in April 2025, it was noted that the location where the Japanese knotweed stand was located had been cleared of vegetation, and rock materials had been placed on the berm where the stand was previously recorded. A Japanese Knotweed management plan will be submitted as part of this application. See Appendix B – Ballymagroarty Japanese Knotweed Management Plan.

However, it should be noted that the Site is not located within or directly adjacent to any European-designated sites, and therefore, there will be no direct impacts associated with invasive species.

4.2.6 Identification of European Sites

The Site is not located within or directly adjacent to any European sites; however, the boundaries of 12 are located within 15km of the Site.

Given the distance separating the Site from the Ballintra SAC, Lough Golagh and Breesy Hill SAC, Donegal Bay (Murvagh) SAC, Tamur Bog SAC, Dunmuckrum Turloughs SAC, Dunragh Lough / Pettigo Plateau SAC, Lough Eske and Ardnamona Wood SAC, Dunragh Lough / Pettigo Plateau SPA and the Lough Melvin SAC, and the intervening lands separating the Site from the European sites and the lack of impact pathways, it is considered that the Development did not result in any adverse effects to these European Sites and they have therefore been screened out from further consideration.

The following European sites listed in Table 4-2 have been screened in for further consideration to assess potential adverse effects resulting from the Development.

Table 4-2: European Designated Sites within ZoI

Site Name	Legislation/Regulation Designation Date	Code	Distance at closest point and source-pathway-receptor link
Durnesh Lough SAC	Durnesh Lough SAC was designated in December 1999.	000138	The Site is located ca. 2km west of the Dunesh SAC, see Figure 4-1. Given the existing discharge pathway between the Site and the SAC, potential effects from water quality impairment and indirect habitat loss will be taken forward for further consideration.
Dunesh Lough SPA	Durnesh Lough SPA was designated in July 2010	004145	The Site is located ca. 2km west of the Dunesh Lough SPA, see Figure 4-1. Given the existing discharge pathway between the Site and the SPA, potential effects from water quality impairment on designated species and their supporting habitats will be taken forward for further consideration.
Donegal Bay SPA	Donegal Bay SPA was designated in February 2004	004151	The Site is located ca. 4km west of the Donegal Bay SPA and is hydrologically connected to the Site via the Ballymagrorty Scotch Stream. This SPA is ca. 8km downstream of the Site, which would have potential effects from the water quality impairment on designated species and their supporting habitats will be taken forward for further consideration.

The screening assessment for individual designated habitats and species for each of the screened in European sites and the potential for them to be adversely affected by the Development are presented in Section 6 below.

Further information on the screened in European sites is provided below.

4.3 Durnesh Lough SAC (Site Code: 000138)

This site is located on the southern side of Donegal Bay, ca. 10km north of Ballyshannon. It is designated as a SAC under the EU Habitats Directive, selected for Coastal Lagoons [1150]* and Molinia Meadows [6410]. Refer to Table 4-3.

Durnesh Lough, a large sedimentary lagoon separated from the sea by drumlins and sand dunes, contains diverse aquatic flora and fauna, including rare species such as *Gammarus chevreuxi* and *Cordylophora caspia.* Shoreweed and Common Club-rush dominate the stony shores, while emergent vegetation in muddy areas includes Bulrush and Yellow Iris. The site supports extensive reedbeds and wet grassland areas, providing important feeding grounds for Greenland White-fronted Goose, Mute Swan, Bewick's Swan, and Whooper Swan, as well as regionally significant populations of other waterfowl.

This SAC also includes sandhills, coastal beaches, and smaller loughs, adding to its botanical and ecological interest. The presence of Annex I habitats and species, including the Annex II-listed Otter, underscores the conservation significance of Durnesh Lough and its surrounding areas.

Table 4-3: Qualifying Annex I Habitats for the Durnesh Lough SAC

Qualifying Habitats (*denotes Priority Habitat)	Code	Site Specific Conservation Objective
Coastal lagoons*	1150	Restore favourable conservation condition
Molinia Meadows	6410	Restore favourable conservation condition

4.4 Durnesh Lough SPA (Site Code: 004145)

Durnesh Lough, situated on the southern side of Donegal Bay near Ballyshannon in Co. Donegal, is a significant sedimentary lagoon separated from the sea by drumlins, high sand dunes, and remnants of a cobble barrier. This SPA, designated under the EU Birds Directive, is of conservation interest, particularly for Whooper Swan and Greenland White-fronted Goose, both Annex I species.

The lagoon supports nationally important wintering populations of Whooper Swan (with a mean peak of 140 recorded from 1995/96 to 1999/2000) and a stable feeding population of Greenland White-fronted Goose (with a mean peak of 97 recorded between 1994/95 and 1998/99). Other species frequently utilizing the site include Wigeon, Teal, Pochard, Tufted Duck, Goldeneye, Scaup, and Coot.

Extensive reedbeds, dominated by Common Reed, Bulrush, and Common Club-rush, surround the lough, along with areas of wet grassland that provide essential winter feeding grounds for these species, making Durnesh Lough a vital wintering and staging site for a diverse range of waterfowl

Table 4-4: Qualifying Annex I Species of Birds for Durnesh Lough SPA

Species Names	Scientific Name	Code
Whooper Swan	*Cygnus cygnus*	A038
Greenland White-fronted Goose	*Anser albifrons flavirostris*	A395

4.5 Donegal Bay SPA (Site Code: 004151)

Donegal Bay SPA is a large, marine-focused site spanning approximately 15 km from Doorin Point near Donegal Town to Tullaghan Point in Co. Leitrim. The bay's habitats include rocky and sandy shorelines, littoral reefs, intertidal flats, and salt marshes, providing diverse ecological niches. Notably, the estuaries of the River Eske and River Erne add sheltered intertidal zones supporting rich macro-invertebrate communities essential for avian feeding.

Designated under the EU Birds Directive, Donegal Bay SPA is of special conservation interest for species such as Great Northern Diver, Light-bellied Brent Goose, Common Scoter, and Sanderling. The site supports internationally significant populations of Great Northern Diver (138 individuals) and Light-bellied Brent Goose (207), and nationally important numbers of Common Scoter (860) and Sanderling (68), as well as other waterbirds including Black-throated Diver, Red-throated Diver, and multiple waders and gulls. Five of these species, including Golden Plover and Bar-tailed Godwit, are listed in Annex I of the Birds Directive.

The diversity and significance of wintering waterbird populations underscore Donegal Bay SPA's high ornithological value, especially for its internationally important waterbird populations and essential intertidal habitats.

Table 4-5: Qualifying Annex I Species of Birds for Donegal Bay SPA

Species Names	Scientific Name	Code
Great Northern Diver	*Gavia immer*	A003
Light-bellied Brent Goose	*Branta bernicla hrota*	A046
Common Scoter	*Melanitta nigra*	A065
Sanderling	*Calidris alba*	A144
Wetland and Waterbirds		A999

4.6 Conservation Objectives

European and national legislation places a collective obligation on Ireland and its citizens to maintain a favourable conservation status at areas designated as candidate Special Areas of Conservation. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the Habitats Directive, favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, is stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and,
- The conservation status of its typical species is favourable as defined below.

The favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself;
- The natural range of the species is neither being reduced nor likely to be reduced for the foreseeable future; and,
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Conservation objectives for all identified Natura 2000 SAC Sites are as follows:

> *'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and the Annex II species for which the SAC has been selected.'*

Conservation objectives for all identified Natura 2000 SPA Sites are as follows:

> *'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.'*

The full reports for the conservation objectives for the Durnesh Lough SAC[1] , Durnesh Lough SPA[2] and Donegal Bay SPA[3] and can be found on the NPWS website [12].

[1] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000138.pdf
[2] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004145.pdf
[3] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004151.pdf

5 STUDY RESULTS

5.1 Historic Designated Species

Fauna that may have utilised the site prior to operations, based on the habitats present at that time and informed by existing species data in Table 5-1, are described below.

The NBDC provides records of designated species within 2km of the Site, offering further context for potential fauna use. These records span from 1977 to 2012, reflecting species that were present in the area during this period. The quarry's pre-development phase began in the 1940s, with the application for Substitute Consent submitted in 2014. Table 5-1 highlights species recorded during this timeframe.

Table 5-1: NBDC Records of Species Designated for the Durnesh Lough SAC, Durnesh SPA and Donegal SPA within 2km of the Site (G86Y, G96D, G96E, G96I, G96X, G96C, G86Z, G96J)

Common Name	*Scientific Name*	Date of earliest record	Designation
Bird Species			
Mallard	*Anas platyrhynchos*	31/07/1991 31/12/2011	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section I and Annex III and Section I Bird Species Birds of Conservation Concern Amber List
Mute Swan	*Cygnus olor*	31/07/1991	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List

5.2 Records of Designated Species

Table 5-1 provides a summary of records of legally protected or otherwise notable species protected under the Durnesh Lough SAC, Durnesh SPA and Donegal SPA that occur within 2km of the Site at the time of writing this report [16]. The NBDC records were checked on 28th February 2025 the following 2km grids were checked: G86Y, G96D, G96E, G96I, G96X, G96C, G86Z, G96J. These records have been used to determine the potential for species to utilise the Site.

Table 5-2: NBDC Records for Species Designated for the Durnesh Lough SAC, Durnesh SPA and Donegal SPA within 2km of the Site over the last 10 years (G86Y, G96D, G96E, G96I, G96X, G96C, G86Z, G96J)

Common Name	*Scientific Name*	Date of last record	Designation
Bird Species			
Great Northern Diver	*Gavia immer*	27/02/2022	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Bird Species Birds of Conservation Concern Amber List

Common Name	*Scientific Name*	Date of last record	Designation
Mallard	*Anas platyrhynchos*	16/03/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section I and Annex III and Section I Bird Species Birds of Conservation Concern Amber List
Mute Swan	*Cygnus olor*	19/03/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Whooper Swan	*Cygnus cygnus*	20/03/2020	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Bird Species Birds of Conservation Concern Amber List

5.2.1 Irish Wetland Bird Survey ('I-WeBS') Records

I-WeBS data was requested for nearby sites within the vicinity of the Site. The records were reviewed in order to gain an understanding of the potential assemblage of bird populations that may utilise the areas within the vicinity of the Development.

Data from Durnesh Lough, Outer Bay/Section 5: Rossnowlagh, Outer Bay/Section 4: Rossnowlagh – Inishfad and Outer Bay/Section 3: Murvagh subsites within Donegal Bay was received (refer to Table 2-1).

The I-WeBS data for wintering seasons between 1994/1995 to 2022/2023 for the listed subsite was provided. A total of 72 species were recorded during this period. However, during the most recent counts available for the 2022/2023 winter season a total of 28 species were recorded.

- Common scoter were recorded at the numbers of national importance between 1997/1998, 1998/1999, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2011/2012, 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2019/2020 seasons in Donegal Bay - Outer Bay/Section 5: Rossnowlagh;
- Common scoter were recorded in numbers that are considered to be of national importance between 1996/1997, 2000/2001, 2003/2004, 2005/2006, 2006/2007, 2008/2009, 2009/2010, 2010/2011, 2011/2012, 2015/2016, 2016/2017, 2017/2018, 2018/2019 seasons in the Donegal Bay - Outer Bay/Section 3: Murvagh;
- Common scoter were recorded in numbers that are considered to be of national importance in 2002/2003, 2010/2011, 2016/ 2017 seasons in the Donegal Bay - Outer Bay/Section 4: Rossnowlagh – Inishfad;
- Dunlin were recorded in numbers that are considered to be of national importance 2004/2005 seasons in the Donegal Bay - Outer Bay/Section 3: Murvagh;
- Goldeneye were recorded in numbers that are considered to be of national importance in 1995/1996, 1996/1997,2004/2005, 2005/2006, 2007/2008 seasons in the Donegal Bay - Durnesh Lough;

- Great northern diver were recorded in numbers that are considered to be of international importance 2003/2004, 2004/2005, 2005/2006, 2006/2007 2010/2011, 2016/2017seasons in the Donegal Bay - Outer Bay/Section 5: Rossnowlagh;
- Great northern diver were recorded in numbers that are considered to be of national importance 2004/2005,2010/2011, 2017/2018 seasons in the Donegal Bay - Outer Bay/Section 3: Murvagh;
- Great northern diver were recorded in numbers that are considered to be of international importance 2003/2004, 2004/2005,2005/2006, 2006/2007, 2007/2008, 2009/2010, 2010/2011,2013/2014, 2016/2017, 2017/2018, 2018/2019 seasons in the Donegal Bay - Outer Bay/Section 4: Rossnowlagh – Inishfad;
- Greenland white-fronted goose were recorded in numbers that are considered to be of national importance 1994/1995, 1995/1996,1999/2000, 2003/2004 seasons in the Donegal Bay – Durnesh Lough;
- Greenland white-fronted goose were recorded in numbers that are considered to be of national importance 1998/1999, 1999/2000, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018 seasons in the Donegal Bay - Outer Bay/Section 3: Murvagh;
- Little grebe were recorded in numbers that are considered to be of national importance 1996/1997, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2013/2014, 2014/2015, 2016/2017, 2017/2018, 2018/2019, 2019/2020 seasons in the Donegal Bay – Durnesh Lough;
- Mute swan were recorded in numbers that are considered to be of international importance 1994/1995,1996/1997, 1998/1999, 1999/2000, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018 seasons in the Donegal Bay – Durnesh Lough;
- Pochard were recorded in numbers that are considered to be of national importance 2010/2011, 2019/2020 seasons in the Donegal Bay – Durnesh Lough;
- Purple sandpiper were recorded in numbers that are considered to be of national importance 2012/2013, 2013/2014 seasons in Donegal - Outer Bay/Section 5: Rossnowlagh;
- Red-breasted merganser were recorded in numbers that are considered to be of national importance 2012/2013, 2013/2014 seasons in the Donegal Bay –Outer Bay/Section 3: Murvagh;
- Red-throated diver were recorded in numbers that are considered to be of national importance 2010/2011, 2013/2014, 2016/2017, 2017/2018, 2018/2019 seasons in the Donegal Bay – Outer Bay/Section 5: Rossnowlagh;
- Red-throated diver were recorded in numbers that are considered to be of national importance 2017/2018, 2018/2019 seasons in the Donegal Bay – Outer Bay/Section 4: Rossnowlagh – Inishfad;
- Ringed plover were recorded in numbers that are considered to be of national importance 2005/2006, 2015/2016, 2018/2019, 2019/2020 seasons in the Donegal Bay – Outer Bay/Section 4: Rossnowlagh – Inishfad;
- Sanderling were recorded in numbers that are considered to be of national importance 2010/2011 seasons in Donegal - Outer Bay/Section 5: Rossnowlagh;

- Sanderling were recorded in numbers that are considered to be of national importance 2012/2013, 2013/2014 2017/2018, 2018/2019, 2022/2023 seasons in the Donegal Bay –Outer Bay/Section 3: Murvagh;
- Sanderling were recorded in numbers that are considered to be of national importance 2008/2009 seasons in the Donegal Bay – Outer Bay/Section 4: Rossnowlagh – Inishfad;
- Scaup were recorded in numbers that are considered to be of national importance1996/1997, 2003/2004 seasons in the Donegal Bay – Durnesh Lough; and,
- Whooper swan were recorded in numbers that are considered to be of international importance 1996/1997, 2004/2005, 2012/2013, 2013/2014, 2014/2015, 2015/2016 seasons in the Donegal Bay – Durnesh Lough.

It should be noted that these subsites are not located within the immediate vicinity of the Site; the nearest records to the Site would be from the Durnesh Lough area, which is located ca. 2km west of the Site. The Outer Bay/Section 5: Rossnowlagh, Outer Bay/Section 4: Rossnowlagh – Inishfad and Outer Bay/Section 3: Murvagh subsites are located ca. 8km west of the Site.

5.3 Field-Based Study Results

5.3.1 Historic Habitats

Pre- 1990 Habitat Changes

The earliest available aerial imagery for the Site and the surrounding ownership area dates back to 1995. No aerial photography predating 1990 was found. As a result, the habitat types present prior to 1990 were determined using information provided by the quarry operators and historical mapping data from the Ordnance Survey of Ireland ('OSI') 6-inch and 25-inch maps [18].

OSI 6-inch Mapping (1837 – 1842)

The OSI 6-inch maps available were dated from 1837–1842, and the 25-inch maps dated from 1888–1913. The descriptions of historical habitats and ecologically significant features identified from these maps, as shown in Figures 5-1 and 5-2, reflect a period before the introduction of modern classification systems, such as the Fossitt habitat codes in 2000. The descriptions below are based on historical mapping data and traditional land-use practices and are outlined further in Appendix C – OSI Characteristic Sheet for Maps on a scale of 6 inches to 1 Mile and 25.344 inches to 1 Mile. [28]

Cropping Rock

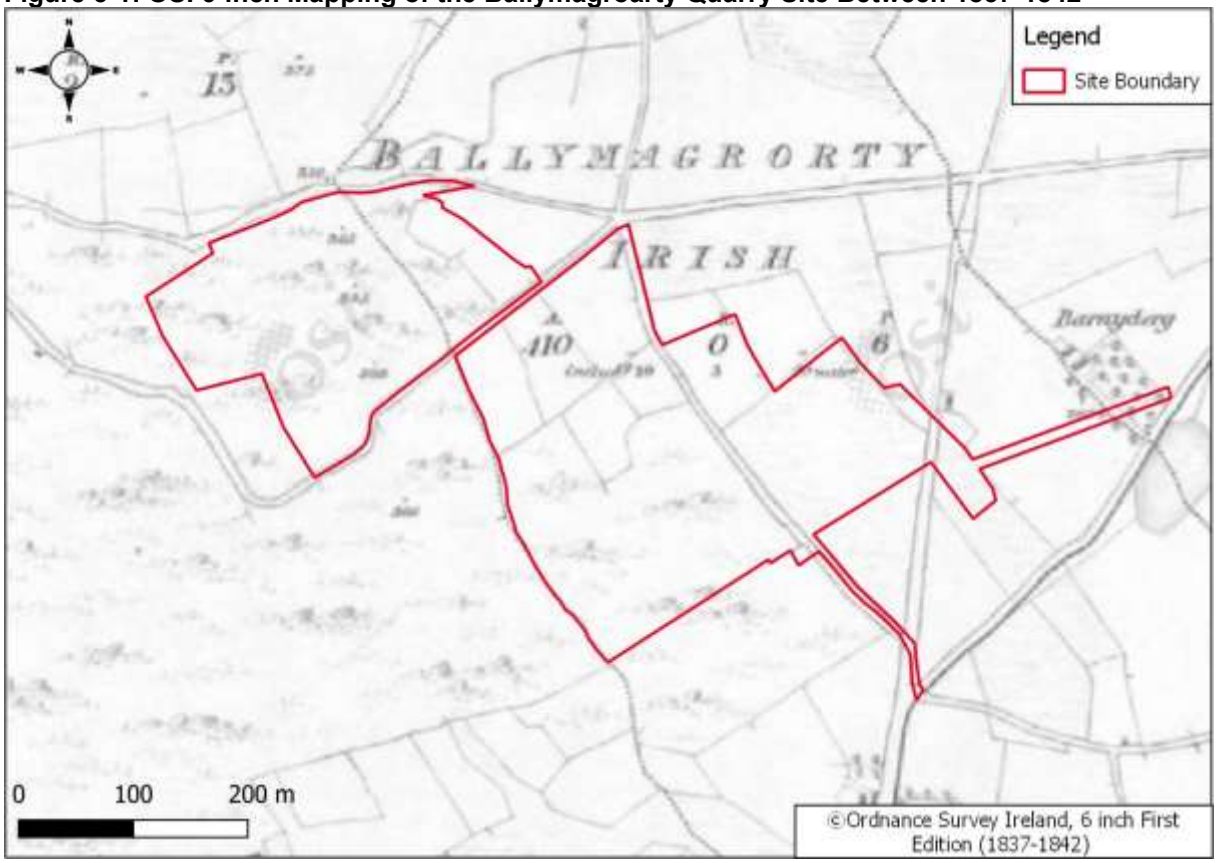
A large part of the Site was comprised of cropping rock prior to the extraction works, which was the dominant habitat at that time. Cropping rock refers to areas where bedrock is exposed or near the surface, often with minimal soil development. These areas were typically unsuitable for agriculture or grazing livestock. Based on available information, it is considered that this habitat would have been of low local ecological value.

Rough Pasture

The field east of the Site appears to have been rough pasture at this time. It is not known if this land was used for growing arable crops or was grazing pasture for livestock, Refer to Figure 5-1.

Based on the available information and based on an assessment of similar habitats within the surrounding area, it is considered that this habitat would have been of low ecological value.

Figure 5-1: OSI 6-inch Mapping of the Ballymagroarty Quarry Site Between 1837-1842



OSI 25-inch Mapping (1888 – 1913)

Rough Pasture

During this period, a large part of the Site appears to have been rough pasture, which may have been the dominant habitat prior to the commencement and expansion of the quarry works. In the earlier OSI 6-inch mapping, this area was predominantly cropping rock, characterised by exposed bedrock with minimal soil development. The transition to rough pasture by the time of the OSI 25-inch mapping was likely due to the alteration of the lands by local farms converting the land into rough pasture.

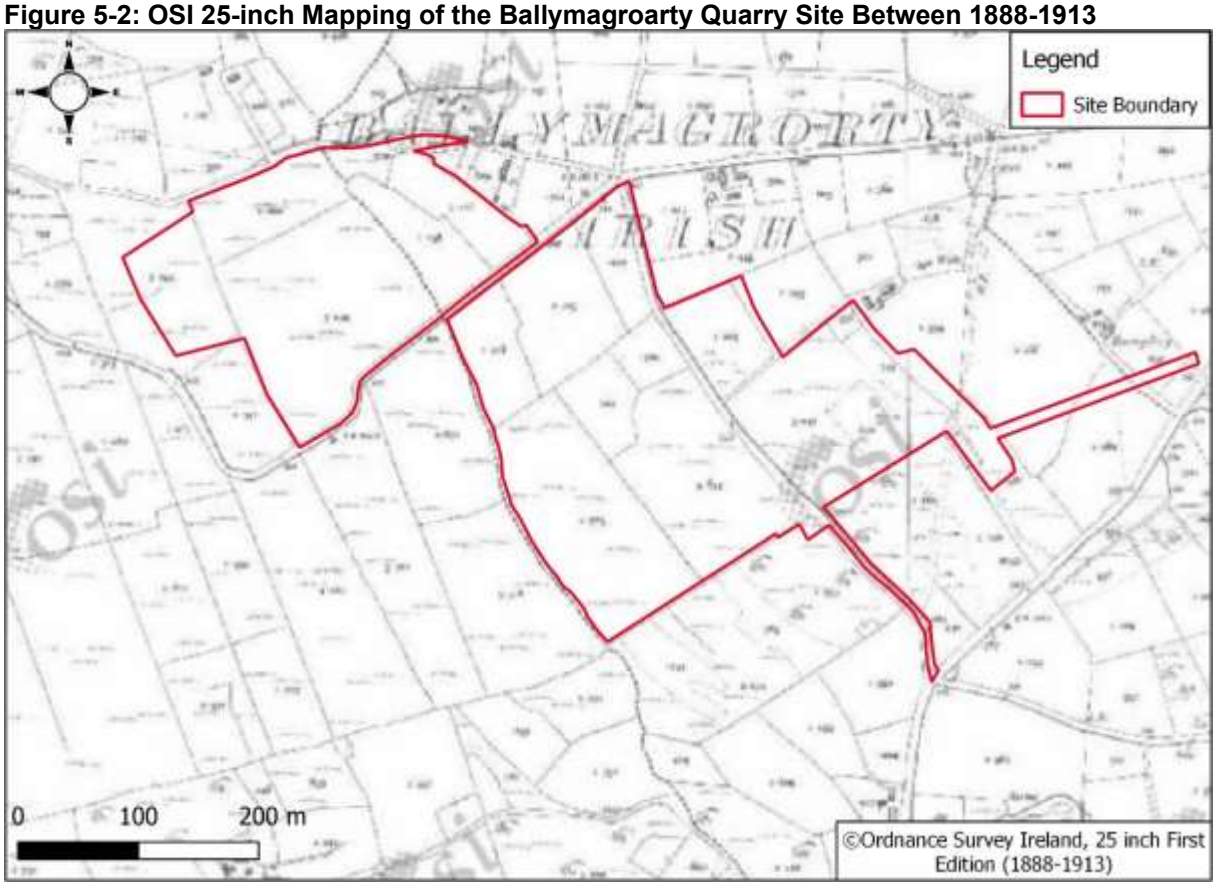
Based on the available information and an assessment of similar habitats within the surrounding area, it is considered that this habitat would have been of low ecological value.

Furze or Whines

The presence of furze or whins was documented in an area of rough pasture within the Site's northeast boundary prior to the expansion of the quarry works. Furze, also known as gorse or whins *(Ulex europaeus),* was a prominent feature of the Irish landscape during the historical mapping periods of 1888–1913 [29].

Based on the available information and an assessment of similar habitats within the surrounding area, it is considered that this habitat would have been of low ecological value.

Figure 5-2: OSI 25-inch Mapping of the Ballymagroarty Quarry Site Between 1888-1913



Subsequent Years

Aerial imagery from 1995, 1996, 2001, 2008, 2010, 2011, and 2013 provides evidence of the quarry's change, with corresponding loss and replacement of natural habitats by quarrying activities. Through a desktop study of these images, the habitats present during each year were identified and analysed and showed a consistent reduction of vegetated areas and their replacement with quarry infrastructure, exposed rock, and stockpiles. Refer to Figures 5-3, 5-4, 5-5, 5-6, 5-7, 5-8 and 5-9 below for context.

The habitats identified during the period 1995 to 2013 included active quarries and mines, hedgerows / treelines and improved agricultural grassland. These habitats remained present to varying degrees over this timeframe and were classified by Fossitt habitat codes in 2000.

Active Quarry and Mines (ED3)

The assessment of the historical aerial photography (1995, 1995, 1996, 2001, 2008, 2010, 2011, and 2013) showed that this was the dominant habitat type present on the Site over this 18-year period.

Based on the available information and an assessment of similar habitats within the surrounding area, it is considered that this habitat would have been of low ecological value.

Improved Agriculture Grassland (GA1)

Based on the review of 1995 aerial imagery, the Site appears to have included two areas of improved agricultural grassland.

North Quarry

This improved agriculture grassland was located in the northwestern section of the north quarry and the imagery indicates this was removed between 2001 to 2008, and is now an active quarry and mines (ED4) habitat.

South Quarry

This habitat was located in the southeast corner of the south quarry and divided into two small fields bordered by mature hedgerows and treelines. These fields are likely to have been improved agricultural grassland, as indicated by their similarity in shade and texture to adjacent agricultural fields. However, since the 1995 aerial imagery is in black and white, this classification cannot be definitively confirmed.

Between 1995 and 2011, these fields were gradually transitioned into artificial surfaces for the quarry operations. and are now reclassified as buildings and artificial surfaces (BL3). It should be noted that the mature hedgerows and treelines bordering the grassland were retained. See further info below.

The field survey conducted in 2024 on the surrounding improved agricultural fields identified a vegetation composition consistent with that described in Section 5.3.2. This is considered representative of the vegetation that was likely present within the improved agricultural grassland habitat at the Site prior to its replacement by quarrying operations.

It is considered that the areas of agricultural grassland, based on the available information and an assessment of similar habitats within the surrounding area, would have been of low ecological value.

Hedgerow / Treeline (WL1 / WL2)

A small area of hedgerow and treeline (WL1 / WL2) habitat was identified onsite in the south quarry in the 1996 imagery from historical aerial mapping.

North Quarry

Hedgerow / Treeline habitat was evident in the 1996 aerial imagery in the northeastern corner of the North Quarry. It would appear that ca. 230m of this habitat was gradually removed between 1996 and 2010 and transitioned over this period to Active Quarry and Mines (ED4) habitat.

Based on the available information and an assessment of similar habitats within the surrounding area, it is considered that this habitat would have been of high local ecological value.

South Quarry

The hedgerows and treelines previously dividing the two improved agricultural fields in 1995 (detailed above), ca.175m of this hedgerow / treeline has been removed, and it is evident in the 1996/2001 imagery ca. 140m of the L-shaped hedgerow / treeline remain intact. It is considered that this habitat would be of high local ecological value.

Figure 5-3: The Earliest Imagery Dated 1995 Showing the Presence of the Quarry

Figure 5-4: Aerial imagery dated 1996

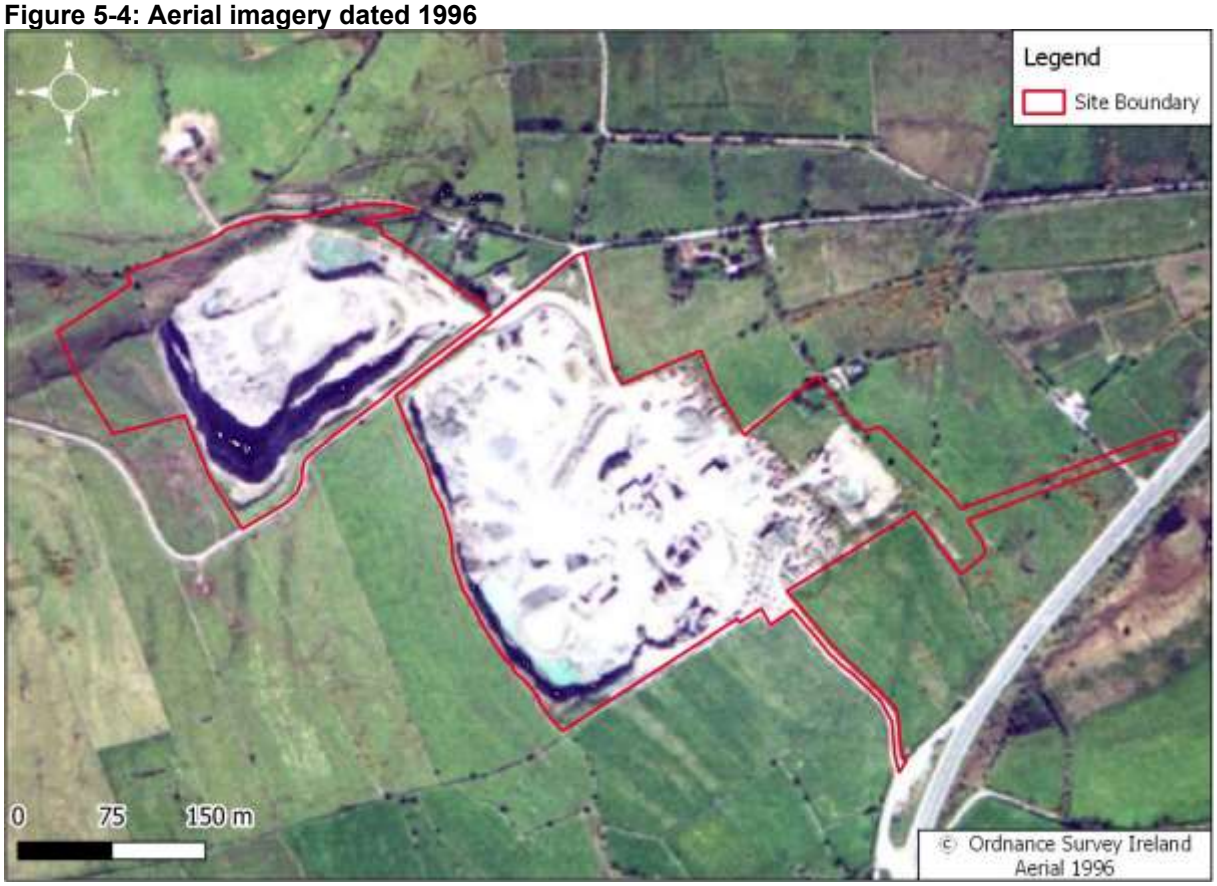


Figure 5-5: Aerial imagery dated 2001

Figure 5-6: Aerial imagery dated 2008

Figure 5-7: Aerial imagery dated 2010

Figure 5-8: Aerial imagery dated 2011

Figure 5-9: Aerial imagery dated 2013

5.3.2 Existing Habitats

The following section provides details of the field-based assessment that was undertaken for the Site on the 23rd of October 2024. A description of the habitats and features of ecological significance are outlined below and illustrated in Figure 5-1 above.

5.3.2.1 Habitats within the Site Boundary

Active Quarry and Mines (ED4)

The central section of the Site was comprised of the south active quarry habitat. Given the level of disturbance from ongoing activities, this habitat was mostly devoid of vegetation. Steep quarry faces, exposed rock, spoil, and bare ground were key features of this habitat.

A private road runs through the south quarry from the N15, which connects to the L7265 to the west of the Site. Vegetation has recolonised some of the road margins, which include some areas of hedgerow, which are detailed further below.

Hedgerow / Treeline (WL1/WL2)

An L-shaped treeline is located along the eastern boundary of the southern quarry, starting near the junction with the L7265 road and separating the private road from the southern quarry area. Adjacent to the treeline, a hedgerow runs parallel to the southern quarry edge.

In the southern quarry, a treeline divided the two storage yards. Additionally, a treeline followed the western Site boundary of the southern quarry near areas of improved agricultural grassland.

The treelines within the Site were comprised of the following species: hawthorn (*Crataegus monogyna*), Sitka spruce (*Picea sitchensis*), pine species (*Pinus spp.*), alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*).

A continuous hedgerow is located adjacent to the L-shaped treelines, which are separated by the private road L7265. In the southern quarry, located along the southern boundary, a section of hedgerow was present near improved agricultural grassland.

In addition, hedgerows were present in areas separating the storage yards and the active quarry area boundaries and along the entrance of the southern quarry either side of the private road L7265 into the southern quarry and extending to the sides of the amenity grassland.

The hedgerows on-site comprised dense hawthorn with common juniper (*Juniperus communis*) in sections.

The following species were recorded within the understory of the hedgerows and treelines onsite: ivy*,* bramble (*Rubus fruticosus),* bracken (*Pteridium aquilinum*), stinging nettle (*Urtica dioica*), dock (*Rumex spp.),* Japanese knotweed (*Reynoutria japonica),* thistle (*Cirsium spp*.) and coltsfoot (*Tussilago farfara).*

Scrub (WS1)

A few areas of scrub were identified within the Site.

Some were located in the southeast corner, dividing the storage yard from the south quarry and bordering agricultural grassland. A section of scrub was also situated in the northeast corner of the south quarry, with a long, narrow section identified along the western boundary of this quarry. Two further scrub areas were also identified within the northwest section of the Site, north and south of the large attenuation pond.

Species recorded within this scrub habitat included Willow (*Salix spp.),* gorse (*Ulex europaeus*), sycamore, elder (*Sambucus nigra),* alder, birch sapling (*Betula spp.),* lesser knapweed *(Centaurea nigra*), bramble, goat willow *(Salix caprea*), stinging nettle*,* common rush *(Juncus effusus*), dock and coltsfoot.

Recolonising Bare Ground (ED3)

This habitat was located in the northwest section of site, surrounding the large pond. The species recorded within this habitat included coltsfoot, ragwort (*Senecio jacobaea*), buttercup (*Ranunculus* spp.), plantain (*Plantago* spp.), daisy (*Bellis perennis*), hogweed (*Heracleum sphondylium*), bramble, white clover (*Trifolium repens*), knapweed, bush vetch (*Vicia sepium*) haplocladium (*Haplocladium microphyllum*), thistle, red clover (*Trifolium pratense*), ivy, broom (*Cytisus scoparius*), forked moss (*Dicranum scoparium*), red feather moss (*Pleurozium schreberi*), ribwort plantain (*Plantago lanceolata*), selfheal (*Prunella vulgaris*), bracken, stork's bill (*Erodium* spp.) and bird's-foot trefoil (*Lotus corniculatus*).

Buildings and Artificial Surfaces (BL1)

This habitat included workshops, aggregate storage sheds, aggregate stockpiles and vehicle parking which were located east of the private road in the south quarry.

The concrete batching plant, asphalt plant screening plant and fixed processing plant were located in the south quarry in the southern portion of the Site. The office, laboratory, weighbridge, wheel wash, car parking and staff welfare facilities were located in the south of the Site adjacent to the entrance. The south quarry generally comprised of a quarry floor with haul routes extending to the aforementioned plant and equipment.

Immature Woodland (WS2)

A small area of immature woodland was present in the northeast corner of the northern quarry and in the southern quarry located in the southeast boundary of the Site.

The following species were recorded within this habitat onsite: alder, hawthorn, ash, sycamore and willow.

Other Artificial Lakes and Ponds (FL8)

The majority of this habitat was located within the northern quarry, where the quarry pit collected water after operations ceased, which discharged into a drainage ditch outside of the Site's boundary, which flows into the Ballymagrorty Scotch River under licence LWAT41.

Additionally, four attenuation ponds were situated in the southern quarry of the Site, surrounded by scrub. These ponds collect surface water from the southern quarry pit and discharge it via an underground pipe into a drainage ditch located outside the Site boundary under licence LWAT 48.

5.3.2.2 Habitats within the Land Ownership Boundary

The Land Ownership Boundary encompasses agricultural grassland (GA1), stone walls (BL1), hedgerows (WL1), hedgerow / treelines and scrub (WS1). The following habitats were identified within the land ownership boundary, outside of the Site boundary.

Improved Agriculture Grassland (GA1)

This was the predominant habitat within the surrounding land ownership boundary, that was surveyed. These improved agricultural grasslands were primarily used as cattle and sheep pastures.

The species recorded within this habitat included creeping buttercup (*Ranunculus repens*), plantain, hogweed, coltsfoot, thistle, ragwort, creeping bent grass (*Agrostis stolonifera*), bramble, red clover, white clover, bush vetch, Yorkshire fog (*Holcus lanatus*), dandelion, ribwort plantain, bitter dock, oxeye daisy (*Leucanthemum vulgare*), silverweed (*Potentilla anserina*) and orchard grass (*Dactylis glomerata*).

Hedgerow (WL1) / Treeline (WL1 / WL2)

The field outside the eastern boundary of the Site featured hedgerow (WL1) and hedgerow / treeline (WL1/WL2). The latter ran along its eastern, northern and some of its western border. It comprised primarily of ash, hawthorn and sycamore.

A treeline of scattered ash ran through the centre of this field, while a hedgerow dominated by hawthorn was present along the western edge near the Site boundary.

Scrub (WS1)

This habitat was identified within the agricultural grassland fields located to the west and east of the Site, with gorse dominating this habitat.

Immature Woodland (WS2)

A small area of immature woodland was present in the eastern agricultural fields.

The following species were recorded within this habitat onsite: hawthorn, ash, and willow.

Stone Walls (BL1)

The fields on the western boundary had stone walls surrounding all field boundaries and also separating individual fields. Species found on these walls included broom forkmoss (*Dicranum scoparium*), bramble, hawthorn and ash. In sections of the fields, there were areas of scrub, which only contained gorse.

Wet Grassland (GS4)

The majority of this habitat was located within the western and eastern fields on-site. The species recorded within this habitat included common rush (*Juncus effuse).*

Figure 5-10: Habitat Map 2025

5.3.3 Protected / Notable Species

Designated Species

No species designated under the Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SPA were identified onsite or within the wider ownership boundary. No evidence of designated species was identified during 2024 field surveys.

Invasive Species

An isolated stand of Japanese knotweed (*Reynoutria japonica*) was identified onsite, located west of the junction of the L7265 road (Figure 5-10, TN1).

No other invasive species were noted during the Site walkover.

6 STAGE 1 SCREENING: IDENTIFICATION OF POTENTIAL SIGNIFICANT IMPACTS

6.1 Potential Significant Impacts

The potential for significant effects on the Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SPA were considered further in this section. The key output of this stage of the assessment is the identification of likely significant effects of the Development alone and in combination with other plans and projects on relevant European sites without the implementation of mitigation measures.

Table 6-1, Table 6-2 and Table 6-3 present further details and rationale of the screening assessment undertaken for each of the European sites identified as having the potential to be significantly affected by the Development, in light of their site conservation objectives and best scientific knowledge.

Table 6-1: Screening Assessment: Annex I Habitats – Durnesh Lough SAC

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Coastal lagoons*	The Conservation Objectives Report this habitat is present ca. 2km west of the Site, which is a part of Lough Durnesh [30]. In addition, according to the Status of EU Protected Habitats and Species in Ireland from 2019, this habitat has not been recorded within the Site [31]. Historical ecological surveys conducted by the NPWS in 1996 documented the lagoon's significant biodiversity, including rare and lagoon-specialist species such as *Chara canescens*, *Ruppia cirrhosa,* and *Ruppia maritima*. These surveys also highlighted the presence of diverse aquatic fauna and marginal vegetation, establishing Durnesh Lough as a representative example of a low-salinity lagoon with high conservation value. The findings were later incorporated into broader studies of Irish coastal lagoons [32] and the lagoon's conservation status assessment (Oliver 2007) [33]. This habitat is not present in the immediate vicinity of the Site and is located ca. 5.7km downstream from the Site.	Effects associated with pollution during the works - Decrease in water quality.	The coastal lagoon habitat is located ca. 2km west and over 5km downstream of the Site, with a hydrological link via the Ballymagrorty Scotch Stream and the two EPA licensed discharge points. It is highly unlikely that potential pollutants could reach this habitat, as they would either be diluted within the watercourse or pollutants, such as sediment, will settle to the bottom of the watercourse. In addition, all discharges from the Site have been and will continue to be controlled by the limited set in the EPA licences. As part of the conditions outlined in the EPA licences, water quality mitigation measures have been and will continue to be implemented onsite during the Development. Therefore, this habitat has been screened in for further consideration.	**Screened In**
Molinia Meadows	The Conservation Objectives Report show that this habitat is present ca. 2km northwest of the Site, which is found south of the Lough Birra [30]. This habitat is a terrestrial habitat that is typically located in lowland plains on neutral to calcareous gleys, with a marl layer under the surface, or on peaty soils [31]. This habitat is traditionally managed as hay meadows that are cut only once a year or as pasture lands [31]. This habitat is not present in the immediate vicinity of the Site and is located ca. 5.7km downstream from the Site.	• N/A	This habitat was not identified onsite or within the immediate vicinity of the Site during the habitat survey. The nearest record of this habitat is shown to be over 2km from the Site. Furthermore, this habitat is a terrestrial habitat and the area of the SAC in which this habitat is located is not directly hydrologically linked to the Site. Therefore, given the fact that this habitat is not located onsite and there are no impact pathways linking the Site to this habitat, this habitat can therefore be screened out and no further assessment is required.	**Screened Out**

Table 6-2: Screening Assessment: Annex I Bird Species for Durnesh Lough SPA

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Whooper Swan	The NBDC has no historic records of the whooper Swan within 2km of the Site; however, in 2020 this species was recorded within 2km of the Site [16]. This species primarily feeds on aquatic vegetation; however, whooper swans are also often observed grazing on agricultural grasslands and fields, where they consume spilt grain and occasionally potatoes from cultivated lands. The swans present in Ireland during winter migrate from breeding grounds in Iceland. A few individuals stay over the summer, with rare breeding records in the midlands and northwest. In winter, they are mostly found on lowland farmland around inland wetlands, frequently feeding on grasslands and stubble fields [34]. The Site is considered to be suitable to whooper swan given the close proximity to coastal lagoons and onsite grassland habitats.	Effects associated with pollution during the works - Decrease in water quality.	As previously mentioned, it is considered that Development would not have resulted in any direct disturbances to designated bird species given the fact that the historical maps show that there were no habitats onsite considered to be of importance for this species. Although, the current north quarry ceased extraction in 2013 and was allowed to flood, which has the potential to provide suitable habitat for designated bird species; however, the waterbody is known to be oligotrophic and is considered to be suboptimal for designated bird species. The SPA is hydrologically linked to the Site via the Ballymagrorty Scotch Stream and the two EPA-licensed discharge points; however, the SPA is located ca. 5.7km downstream of the Site. It is considered highly unlikely that potential pollutants could reach the wetlands within the SPA, as they would either be diluted within the watercourse or pollutants, such as sediment, would settle to the bottom of the watercourse. It should be noted that this species is highly mobile and has the potential to move away from the SPA and into wetland habitats upstream of the SPA. On that basis, there is potential for this species to occur upstream in the wider river network. However, as part of the conditions outlined in the EPA water discharge licences, water quality mitigation measures have been and will continue to be implemented onsite during the Development. Therefore, this species has been screened in for further consideration.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Greenland White-fronted Goose	The NBDC does not hold any historic records of the Greenland white-fronted goose, nor does it have any records of this species within 2km of the site in the last 10 years [16]. This species grazes on a variety of plant materials, including roots, tubers, shoots, and leaves, with a preference for grasses, clover, spilled grain, winter wheat, and potatoes. Foraging habitats include peat bogs, dune grasslands, and occasionally salt marshes, with a growing use of agricultural grasslands in recent years. Breeding occurs on lowland tundra near lakes and rivers, where nests are often scattered or in loose colonies. In winter, these geese are highly gregarious, traditionally occupying peatlands but now largely feeding on intensively managed grasslands in Ireland [35]. The Site is considered to be suitable to Greenland white-fronted goose given the close proximity to coastal lagoons and onsite grassland habitats.	As per whooper swan.	As per whooper swan.	**Screened In**

Table 6-3: Screening Assessment: Annex I Bird Species for Donegal Bay SPA

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Great Northern Diver	The NBDC does not hold any historic records of the great northern diver, nor does it have any records of this species within 2km of the Site in the last 10 years [16]. This species does not breed in Ireland, with the nearest breeding populations in Iceland. It occurs along the Irish coast from September to April, typically in deeper bays, inlets, and sandy bays, and can forage up to 10km offshore, especially near shore during onshore wind [36].	Effects associated with pollution during the works - Decrease in water quality.	As previously mentioned, it is considered that Development would not have resulted in any direct disturbances to designated bird species given the fact that the historical maps show that there were no habitats onsite considered to be of importance for this species. Although, the current north quarry ceased extraction in 2013 and was allowed to flood, which has the potential to provide suitable habitat for designated bird species; however, the waterbody is known to be oligotrophic and is considered to be suboptimal for designated bird species.	**Screened Out**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	The Site is considered not suitable to the great northern diver given the onsite habitats.		The SPA is hydrologically linked to the Site via the Ballymagrorty Scotch Stream and the two EPA licensed discharge points; however, the SPA is located ca. 8.1km downstream of the Site. It is considered highly unlikely that potential pollutants could reach the wetlands within the SPA, as they would either be diluted within the watercourse or pollutants, such as sediment, will settle to the bottom of the watercourse. Furthermore, as this species is typically found along the Irish coastline, it is considered unlikely that this species will be impacted by water quality impairment within the coastal habitat of the SPA. It should be noted that this species is highly mobile and has the potential to move away from the SPA and into wetland habitats upstream of the SPA. On that basis, there is potential for this species to occur upstream in the wider river network. However, as part of the conditions outlined in the EPA water discharge licences, water quality mitigation measures have been and will continue to be implemented onsite during the Development. Therefore, this species has been screened in for further consideration.	
Common Scoter	The NBDC does not hold any historic records of the common scoter, nor does it have any records of this species within 2km of the site in the last 10 years [16]. This species is a winter migrant, present along the Irish coast from September to April. Its diet primarily consists of benthic bivalve molluscs found in waters less than 20m deep with sandy substrates. The Site is considered unsuitable for the common scoter, as it lacks the coastal and shallow marine habitats this species requires for wintering and foraging [37].	As per great northern diver.	As per great northern diver.	**Screened Out**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Sanderling	The NBDC does not hold any historic records of the sanderling, nor does it have any records of this species within 2km of the site in the last 10 years [16]. This species feeds predominantly on small invertebrates, using a distinctive feeding technique where they rush along the tidal edge foraging for prey such as polychaete worms and shrimp-like crustaceans. Sanderling breed across the Arctic tundra, preferring small patches of vegetation. In winter, they migrate to coastal areas, typically found along sandy shorelines, where they continue their characteristic foraging behaviour. [38]. [38]	• As per great northern diver.	As per great northern diver.	**Screened Out**
Light-bellied Brent Goose	The NBDC does not hold any historic records of the Light-bellied Brent goose, nor does it have any records of this species within 2km of the site in the last 10 years. [16]. This species is a winter migrant that can often be found in Ireland between October and April feeding predominantly on eel-grass (*Zostera* spp.) that grows in estuaries [39]. However, in January / February, when the concentrations of Zostera grasses tend to be depleted by the wintering birds, Brent geese will move to inland *ex-situ* feeding sites [39]. Brent geese will utilise these *ex-situ* feeding sites until March / April when Brent geese will return to the coastal feeding sites, as the *Zostera* grasses have replenish, before then migrating to their breeding grounds [40]. Brent geese have shown a preference for inland ex-situ feeding sites that are typically large, open intensively managed short grasslands, such as sports fields, amenity grassland or golf courses [41]. Also, Brent geese have been known to display site fidelity to breeding and wintering sites, meaning juveniles that are brought to wintering sites by their parents will remain loyal to those parental sites [42]. Therefore, it is considered likely that Brent geese will likely remain faithful to their parental feeding sites.	As per great northern diver.	As per great northern diver.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	Therefore, due to the fact that there are no records held for Brent goose within 2km of the Site [16], the Site is not considered to be suitable to Brent goose.			
Wetland and Waterbirds	The NBDC holds historic records of mallard and mute swan in 1991 the within 2km of the Site, and in 2020 these species were also recorded within 2km of the Site [16] Although the Site is considered to be suboptimal for waterbird species, given the oligotrophic nature of the quarry lake, it is considered that these species may utilise the watercourse network and associated wetlands in the wider area.	As per great northern diver.	As per great northern diver.	**Screened In**

6.2 Stage 1 – Analysis of 'In-Combination' Effects

The Habitats Directive requires competent authorities to make an appropriate assessment of any plan or project which is likely to have a significant effect alone or in combination with other plans and projects.

A review of Donegal County Council [13] did not identify any current or previous granted plans or projects in the immediate vicinity that are considered likely to be in combination with the development and result in significant impacts on Durnesh Lough SAC, Durnesh Lough SPA, and the Donegal Bay SPA.

However, the following planning applications listed in Table 6-4 have previously been assessed by Donegal County Council within the planning system, all of which are located within the vicinity of the Site.

Table 6-4: Active Planning Applications within the vicinity of the Site

Application Ref	Decision	Development Description	Appropriate Assessment
Donegal County Council Planning Reference: 1950002	Granted – 24/10/2019	The development consists of the following: *'A readymix concrete manufacturing plant and a closed water management system all within an application area of 1.8 ha.. the proposed development seeks to provide for the occassional operation of the readymix concrete manufacturing plant outside normal working hours up to a maximum of 30 no. days per annum.'*	Stage 1 Appropriate Assessment was submitted as part of this planning application and concluded; '*There are no impacts and effects to Natura 2000 sites predicted to occur as a result of the ready mix concrete manufacturing plant, and therefore no consideration of in-combination effects with other plans or projects is required as there is no scope for cumulative effects.'*

All planning permissions in the surrounding area relate to one-off dwellings, garages, extensions and effluent treatment facilities (Planning References 2350874, 215197, 2151225, and 2152594) These planning applications are unlikely to have resulted in significant cumulative effects on biodiversity, given their small scale, lack of effects on ecological receptors and there being no connectivity to the Site or adjoining watercourse. Therefore, it is determined that the planning permissions in the surrounding area did not or will not result in significant in-combination effects.

It is therefore considered that the Development is unlikely to have any significant in-combination contribution to possible significant effects on Durnesh Lough SAC. Durnesh Lough SPA, Donegal Bay SPA

However, as identified in Section 6.1, a number of qualifying features require further consideration and appropriate mitigation measures to ensure that the Development alone will not lead to in-combination effects with any proposed future developments.

6.3 Stage 1 – AA Screening Conclusion

A detailed assessment of the layout and nature of the Development, the construction methods to be employed and the overall activities that will occur at the Site during construction and operation has been carried out and the potential for significant effects on European sites and qualifying features of interest within the zone of influence of the Site has been examined in detail.

The boundaries of 9 designated sites, Dunragh Lough / Pettigo Plateau SAC, Lough Eske and Ardnamona Wood SAC, Lough Melvin SAC Ballintra SAC, Lough Golagh and Breesy Hill SAC, Donegal Bay (Murvagh) SAC, Tamur Bog SAC, Dunmuckrum Turloughs SAC, Pettigo Plateau Nature Reserve SPA, were screened out given the distances separating the Site from these European sites and lack of impact pathways. It could be objectively concluded that the Development will not, either alone or in combination with other plans or projects, be likely to have significant effects on those sites.

A hydrological connection was identified between Durnesh SAC, Durnesh SPA and Donegal Bay and the Site via the drainage ditch that connects to Ballymagrorty Scotch Stream. Therefore, Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SPA. European sites were taken forward for further detailed consideration, Stage 2 appropriate assessment. Using professional experience, guidance and judgement, the following factors have been taken into account in identifying potential significant effects on the identified European site:

- Qualifying interests;
- Special conservation interests;
- Conservation objectives;
- The nature of the onsite habitats; and,
- The location of the Site.

The screening process has examined the potential for the Development cause to significant effects on European sites and the qualifying features of interest as per the screening determination in Section 4.

Based on the above factors and taking a precautionary approach, the screening exercise has identified the following designated habitats and species as potential receptors of significant likely effects as a result of the Development, in the absence of appropriate mitigation:

The screening process has examined the potential for the Development cause to significant effects on European sites and the qualifying features of interest as per the screening determination in Section 6.1.

<u>Durnesh Lough SAC</u>

Taking a precautionary approach, the screening exercise has identified the following designated habitats:

- Coastal lagoons

<u>Durnesh Lough SPA</u>

Taking a precautionary approach, the screening exercise has identified the following designated species:

1. Whooper Swan; and,
2. Greenland White-fronted Goose.

<u>Donegal Bay SPA</u>

Taking a precautionary approach, the screening exercise has identified the following designated species:

- Light-bellied Brent Goose; and,
- Wetland and Waterbirds.

AA Screening Conclusion

These habitats and species have been brought forward for further consideration due to the potential for adverse effects, as a result of the Development, in the absence of the appropriate mitigation measures.

Therefore, progression to Stage 2 of the Appropriate Assessment process is required.

Section 7 below further addresses potential issues arising from the Development and the mitigation measures required to negate any potential adverse effects on these habitats and species.

7 STAGE 2 NIS

7.1 Assessment of Potential Significant Effects

This section outlines the existing and remedial mitigation measures implemented to prevent any adverse effects on the integrity of the identified European sites as a result of the Development. The measures address potential impacts that could affect the conservation objectives of the Durnesh Lough SAC, Durnesh Lough SPA, and Donegal Bay SPA.

- Potential impairment of water quality.

The screening exercise did not identify any other factors that will result in any likely significant effects.

7.1.1 Potential Impairment of Water Quality

As previously mentioned, the Site is hydrologically linked to the Durnesh Lough SAC, Durnesh Lough SPA, and Donegal Bay SPA via discharge locations. The two discharge points operate under EPA Discharge Licenses, LWAT 41 and LWAT 48. Therefore, given the hydrological connection, the potential for water quality impairment will need to be considered.

Although it is considered highly unlikely that potential pollutants could reach the European Designated sites given the distances separating the Site and the European sites, should water quality impairment occur at these European Designated sites, or in the wider river network, this could significantly affect the habitats and species for which they are designated by inducing a bottom-up trophic cascade wherein the abundance and distribution of prey species is altered, conferring a negative impact upon the fauna at higher trophic levels and upon the functioning of the ecosystem processes.

However, as part of the Development, mitigation measures that have historically been implemented during the period for which substitute consent is being sought and will remain in place as part of the ongoing operations to ensure no impacts to water quality occur. These measures have been taken into consideration during the assessment of potential impacts.

The Applicant has applied for and obtained licences in relation to emissions from the Site; this includes licences for water discharge from both the north and south quarries and an air emissions licence. Further details on these are presented below:

- Discharge License LWAT41 (2016);
- Discharge License LWAT48 (2016); and,
- Air Emission license APL 05/01 (2005).

It should be noted that all discharge from the Site is regulated under the EPA Discharge Licences, and the discharge is limited to the conditions of the licences.

According to the most recent discharge volumes for the south quarry (LWAT48), from the 2022 Annual Environmental Report (‘AER’), the discharge rates from the south quarry increased during the winter months when precipitation would be greater and, therefore, greater volumes of water within the flooded quarry. The pump for the south quarry is generally not in use during the summer months when natural discharge into the quarry is low.

In addition, results from 2022 AER for the north quarry (LWAT41) show that discharge rates from the north quarry increased during the winter months when precipitation would be greater and, therefore, greater volumes of water were within the flooded quarry. The pump for the north quarry is generally not in use during the summer months when natural discharge into the quarry is low. When the south quarry is dry (seasonally) water is pumped from the northern quarry to aid in operations in the south quarry. Due to discharge volumes being distributed

between the onsite water tank as well as being diverted to the south quarry, it cannot be determined the exact discharge rates offsite.

The water quality and water quantity has not been impacted by the Development. Any pumping from the north quarry which occurs is minimal and is used for operations in the south quarry and dust suppression.

The Ballymagrorty Scotch Stream is classified as having '*moderate'* water quality status and regular monitoring of the river waterbody from the Site discharge points and downstream indicates there have been no negative impacts on the river water quality. The watercourse flows into the Durnesh Lake SAC, which is located ca. 5.7km downgradient of the Site. Contaminants and runoff from the Site are collected in oil interceptors and water is further treated in the attenuation area and settlement ponds. The magnitude of the impact on the river waterbody is considered to be 'negligible'. Therefore, it is considered that the effect of the Development on the river waterbody is 'imperceptible'.

In addition, the Applicant has indicated that mitigation measures completed at the Site (and Registered Area) were in accordance with the EPA (2006) Environmental Management Guidelines: Environmental Management in the Extractive Industry (Non-Scheduled Minerals) [43], whereby:

- All plant and HGVs used were refuelled onsite, on a concrete plinth which flows into the interceptor;
- Items of plant unsuitable for travelling to the refuelling area (dry screening plant), were refuelled utilising adequately sized and positioned drip trays;
- Fuel (diesel) was stored in a tank and was appropriately bunded;
- Spill kits were available adjacent to all refuelling and fuel storage operations;
- Unauthorised access was prevented in so far as possible; and,
- Waste oils and hydraulic fluids were collected in an underground waste oil interceptor and removed from the site for disposal or recycling.

Furthermore, as part of the Restoration works, the following mitigation measures should be implemented;

- All plant and HGVs used will be refuelled at the Permitted Area in accordance with existing procedures by trained personnel;
- Items of plant unsuitable for travelling to the refuelling area (dry screening plant), will be refuelled utilising adequately sized and positioned drip trays;
- Fuel (diesel) will be stored in a double-skinned tank in the Permitted Area in accordance with existing procedures;
- Spill kits will be available adjacent to all refuelling and fuel storage operations;
- Unauthorised access will be prevented in so far as possible; and,
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the Registered Area for disposal or recycling.

It can, therefore, be reasonably concluded that there will be no likely significant effects on the Durnesh Lough SAC, Durnesh Lough SPA, or Donegal Bay SPA.

7.1.2 Stage 2 - Analysis of 'In-Combination' Effects

Based on the mitigation measures as described in Section 7.1, the Development alone will not have any direct or indirect adverse effects on the integrity of any European Sites.

Following a review of the Donegal County Council Planning Files [13], and the Department of Housing, Local Government and Heritage's planning portal – the National Planning Application Database as listed in Table 6-4, no current or previously granted plans or projects were identified in the immediate vicinity that are considered to have the potential to have any in-combination with the Development to result in significant impacts on the integrity of European Sites.

It is therefore considered that the Development is unlikely to have any significant in-combination contribution to possible significant effects on Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SPA.

Taking the above into account and given the fact that the aforementioned projects will not result in any adverse effects to European Designated Sites, it can be concluded that the Development will not result in any in combination contribution to adverse effects on the integrity of any European Sites.

8 NIS CONCLUSIONS AND STATEMENT

A detailed assessment of the layout and nature of the Development, the construction methods to be employed and the overall activities that will occur at the Site during both the construction and operational phases has been carried out and the potential for significant effects on European sites and qualifying features of interest within the zone of influence of the Site has been examined in detail.

As detailed in Section 4.2, the Stage 1 AA Screening conclusion states that the boundaries of nine designated sites, the Dunragh Lough / Pettigo Plateau SAC, Lough Eske and Ardnamona Wood SAC, Lough Melvin SAC Ballintra SAC, Lough Golagh and Breesy Hill SAC, Donegal Bay (Murvagh) SAC, Tamur Bog SAC, Dunmuckrum Turloughs SAC, Pettigo Plateau Nature Reserve SPA, were screened out. It can be concluded that the Development will not, either alone or in combination with other plans or projects, be likely to have significant effects on these European sites.

However, a hydrological connection was identified between Lough Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SAC and the Site, via the Ballymagrorty Scotch Stream and Ballymagrorty River, which forms part of the / where the European sites are located. Therefore, Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SAC European sites were taken forward for further detailed consideration.

Avoidance, design requirements and mitigation measures are detailed within this NIS which will ensure that any impacts on the Lough Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SAC or any other European site, having regard to their conservation objectives, will be avoided during all phases of the Development, such that there will be no adverse effects on the integrity of any European sites.

Following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impacts from the Development and all associated works, it has been objectively concluded that with the implementation of the proposed mitigation measures, the Development will not, either alone or in combination with other plans or projects, adversely affect the integrity or conservation status of any of the qualifying interests of the Lough Durnesh Lough SAC, Durnesh Lough SPA and Donegal Bay SAC or any other European site in light of best scientific knowledge. No reasonable scientific doubt exists in relation to this conclusion.

Accordingly, progression to Stage 3 of the Appropriate Assessment process (i.e. Assessment of Alternatives Solutions) is not considered necessary.

9 REFERENCES

[1] Government of Ireland, *S.I. No 600/2001 Planning and Development Regulations 2001,* Dublin: Government of Ireland, 2001.

[2] Government of Ireland, *Planning and Development Act,* Dublin, 2000.

[3] OPR, “Appropriate Assessment Screening for Development Management,” 2021.

[4] European Commision, “Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC,” Brussels, 2021.

[5] CIEEM, “Guidelines for Ecological Impact Assessment in the UK and Ireland (Terrestrial, Freshwater, Coastal and Marine), Version 1.2,” 2022.

[6] EC, “Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC,” European Commision, 2018.

[7] DoEHLG, “Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities,” Department of the Environment, Heritage and Local Government, 2010.

[8] DoEHLG, “Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10,” Department of Environment,Heritage and Local Government, 2010.

[9] Statutory Instruments, “S.I No. 477/2011 - European Communities (Bird and Natural Habitats) Regulations 2011,” European Commission, 2011.

[10] L. M. Cooper, “Guidelines for Cumulative Effects Assessment in SEA of plans.,” Imperial College London., 2004.

[11] OPW, “ArteriaDrainage Maintenance categories, Source » Pathway » Receptor Chains for Appropriate Assessment,” OPW, Galway, 2012.

[12] NPWS, “National Parks and Wildlife Service,” 2025. [Online]. Available: https://www.npws.ie.

[13] DCC, “Donegal County Council Planning Portal,” 2025. [Online]. Available: https://www.eplanning.ie/DonegalCC/searchexact.

[14] Department of Housing, Local Government and Heritage, “National Planning Application Database,” 2025. [Online]. Available: https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de.

[15] BirdWatch Ireland, "Irish Wetland Bird Survey," 2025. [Online]. Available: https://birdwatchireland.ie/our-work/surveys-research/research-surveys/irish-wetland-bird-survey/. [Accessed 2025].

[16] NBDC, "National Biodiveristy Live Maps," 2025. [Online]. Available: http://maps.biodiversityireland.ie/. [Accessed 28 02 2025].

[17] EPA, "EPA Map Viewer," July 2025. [Online]. Available: https://gis.epa.ie/EPAMaps/.

[18] GSI, "GSI Spatial Resources (Geological Survey of Ireland)," 2025. [Online]. Available: https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228. [Accessed 6 December 2024].

[19] Ordnance Survey Ireland, "Geohive," OSI Ireland, 2025. [Online]. Available: https://www.geohive.ie. [Accessed 03 December 2024].

[20] "Google Earth," Google Earth, [Online]. Available: https://earth.google.com/web/@54.55622518,-8.14282789,95.78636802a,1461.63022092d,35y,0h,0t,0r/data=ChYqEAgBEgoyMDEwLTA1LTIyGAFCAggBQgIIAEoNCP_____wEQAA. [Accessed 03 December 2025].

[21] J. A. Fossitt, A Guide to Habitats in Ireland, Dublin: The Heritage Council, 2000.

[22] EC, "S.I. No. 374/2024 - European Union (Invasive Alien Species) Regulations 2024," European Union, 26 07 2024. [Online]. Available: https://www.irishstatutebook.ie/eli/2024/si/374/made/en/print.

[23] OPW, "Flood Maps," 2024. [Online]. Available: http://www.floodinfo.ie/map/floodmaps/#.

[24] IAQM, "Guidelines on the assessment of dust from demolition and construction," 2014.

[25] IAQM, "Guidance on the Assessment of Mineral Dust Impacts for Planning," Institute of Air Quality and Management, London, 2016.

[26] National Roads Authority, "Guidelines for the Treatment of Otters prior to the Constrcution of National Road Schemes," National Roads Authority, 2006.

[27] N. H. K. S. J. Cutts, "Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning and Construction Projects," 2013.

[28] J. A. Fossitt, A Guide to Habitats in Ireland, Dublin: The Heritage Council, 2000.

[29] Theresagreen, "Of Gorse, Furze or whin," February 2014. [Online]. Available: https://theresagreen.me/2014/02/02/of-gorse-furze-or-maybe-even-whin/. [Accessed 04 December 2024].

[30] NPWS, “Durnesh Lough SAC,” National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht., 2011.

[31] NPWS, “The Status of EU Protected Habitats and Species in Ireland,” Unpublished NPWS report, 2019.

[32] O. GA, “Conservation status report: Coastal Lagoons (1150),” Oliver GA, National Parks and WIldlife Service Dublin , 2007.

[33] NPWS, “Conservation status report: Coastal Lagoons (1150) Report,” NPWS, 2016.

[34] BirdWatch Ireland, “Whooper Swan,” 2025. [Online]. Available: https://birdwatchireland.ie/birds/whooper-swan/. [Accessed 2025].

[35] BirdWatch Ireland, “Greenland white - fronted goose,” 2025. [Online]. Available: https://birdwatchireland.ie/birds/greenland-white-fronted-goose/. [Accessed 2025].

[36] BirdWatch Ireland, “Great Northern Diver,” 2025. [Online]. Available: https://birdwatchireland.ie/birds/great-northern-diver/. [Accessed 2025].

[37] BirdWatch Ireland, “Common Scoter,” 2025. [Online]. Available: https://birdwatchireland.ie/birds/common-scoter/. [Accessed 2025].

[38] BirdWatch Ireland, “Sanderling,” 2025. [Online]. Available: https://birdwatchireland.ie/birds/sanderling/. [Accessed 2025].

[39] BirdWatch Ireland, “Brent Goose (Light-bellied),” 2025. [Online]. Available: https://birdwatchireland.ie/birds/brent-goose-light-bellied/. [Accessed 2025].

[40] J. Robinson, K. Colhoun, G. Gudmundsson, D. Boertmann, O. Merne, M. O’Briain, A. Portig, K. Mackie and H. Boyd, “Light-bellied Brent Goose Branta bernicla hrota (East Canadian High Arctic population) in Canada, Ireland, Iceland, France, Greenland, Scotland, Wales, England, the Channel Islands and Spain, 1960/61-1999/2000,” *Waterbird Review Series,* 2004.

[41] Defra Wildlife Management Team, “Geese - Management of Brent Geese (WCA25 & WCA26),” 2001. [Online]. Available: http://adlib.everysite.co.uk/adlib/defra/content.aspx?id=000HK277ZW.0A4HIW1LG0GAJ8.

[42] X. Harrison, T. Tregenza, R. Inger, K. Colhoun, D. Dawson, G. Gudmundsson, D. Hodgson, G. Horsburgh, G. McElwaine and S. Bearhop, “Cultural Inheritance drives site fidelity and migratory connectivity in a long-distance migrant,” *Molecular Ecology,* 2010.

[43] EPA, “Environmental Management in the Extractive Industry (Non-Scheduled Minerals),” Environmental Protection Agency , Wexford, 2006.

APPENDICES

APPENDIX A

Environmental Management System

For

P. McCaffrey & Sons Limited

Ballymagroarty Quarry,

Ballintra,

Co. Donegal

Prepared by:

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Date: June 2006

Consulting Engineers, Geologists & Environmental Scientists

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Appendices

Appendix I –Sampling Locations

Appendix II –Environmental Monitoring Report 2006.

1.0 Introduction

Earth Science Partnership Ltd (ESP), Consulting Engineers, Geologists and Environmental Scientists, were instructed by P. Mc Caffrey & Sons Ltd., ('The Client') to develop an Environmental Management System for their quarry.

The purpose of an Environmental Management System (EMS) is to show that P. McCaffrey & Sons Ltd. is committed to a policy of compliance with all applicable legislation and regulations and, beyond that, committed to continuous improvement in environmental performance.

An EMS can

- Provide confidence in the commitment from P. McCaffrey & Sons Ltd.'s management team to meet the objectives and targets set out in its policy,
- Show how Mc Caffrey & Sons Ltd. places an emphasis on prevention rather than corrective action.
- And that they are committed to continual improvement.

1.1 History of the Company

The extraction of limestone at Ballymagroarty Quarry, Ballintra, Co. Donegal was initiated in the 1940's by Donegal County Council. Patrick Mc Caffrey & Sons Ltd. took over the operations at the site from Donegal County Council in 1969. Due to the size of the quarry area and the quality of the limestone being extracted, Mc Caffrey & Sons foresee being in operation at this location for numerous years to come. Within this time they hope to reduce, even prevent where possible the impacts the operations at their quarry are having on the surrounding environs. Mc Caffrey & Sons Ltd extract approximately 200,000 cubic meters of limestone per annum.

2.0 Policy Statement

The Environmental Policy Statement outlines the objectives and commitment of P. Mc Caffrey & Sons Ltd. to prevent pollution, minimise all impacts on the environment and the local community, comply with all relevant legislation and continuously improve on their environmental performance.

This policy will be reviewed annually or when it is deemed necessary by management to ensure that the policy and the objectives set out remain relevant to P. Mc Caffrey & Sons Ltd's operations. It will be revised and reissued in accordance with changing circumstances.

The main objectives of P. Mc Caffrey & Sons Ltd's environmental policy are to recognise the potential impacts their activities may have on the environment and on the local community and to minimise these impacts where possible. P. Mc Caffrey & Sons Ltd is committed to compliance with all relevant environmental legislation and to maintain a good effective environmental management system.

2.1 Details of management organisation & responsibilities

The senior management of P. McCaffrey & Sons Ltd. are responsible for ensuring that all the objectives and commitments set out in the Policy Statement are appropriately defined, documented, implemented and relayed to all employees, contractors and visitors on the site. The Policy Statement will be reviewed annually at the Management Review and updated accordingly.

The Directors at P. McCaffrey & Sons Ltd. consists of;

- Edward Mc Caffrey
- James Mc Caffrey
- William Mc Caffrey

The Foreman on site is Mr. Adrian Britton

Environmental Policy

P. Mc Caffrey & Sons Limited operates a Limestone Quarry at Ballymagroarty Quarry, Ballintra, Co. Donegal.

We, P. Mc Caffrey & Sons Ltd. recognise that the activities, production and services that are carried out at our facility have a potential to impact on the environment and the local community. We are committed to minimising the level of impact that our operation has on the environment and where applicable provide environmental benefit.

Our objectives are to:

- Recognise all of the potential impacts the activities at our quarry has on the environment and on the local community,

- We are dedicated to minimising these where possible, and

- We are committed to complying with all existing environmental legislation and guidelines

In order to comply with these objectives an Environmental Management System has been established within the company. This system will provide a positive programme to ensure that all areas where the impacts are likely to occur are looked at in order to best protect the environment and where possible help improve the environment. This system will be incorporated as part of the every day management systems.

3.0 Register of Environmental Legislation

The Register of Legislation comprises of a list of all environmental legislation that P. Mc Caffrey & Sons Ltd. will abided by in relation to the processes and activities that are carried out on site. The register will to be updated when necessary and checked on an annual basis with any new environmental legislation, regulations or standards that are applicable to Mc Caffrey & Son's activities, processes, products and services. Consideration will also be given to proposed or pending legislation.

3.1 Register of Legislation

Licensing of emissions to waters	Local Government (Water Pollution) Acts, 1977 to 1990 Local Government (Water Pollution) Regulations, 1978 to 1999
Licensing of emissions to the atmosphere	Air Pollution Act, 1987 Air Pollution (Licensing of Industrial Plant) Regulations, 1988
Planning Permission	Planning and Development Act 2000, as amended 2002 (Section 261) Planning and Development Regulations 2001 as amended
Noise	EPA Act 1992 – 2003

3.2 Environmental Guidelines

Guidelines have been developed by numerous expert bodies to assist companies in the implementation of best practices, so that they are in compliance with all relevant legislation and that the best procedures are being followed to minimise impacts on the environment and on local communities. These guidelines include;

Draft consultation document titles "Environmental Management in the Extractive Industry (Non-Scheduled Minerals) Guidelines for Operators" – EPA October 2003

EPA (1996) Guidance Note for Noise in Relation to Scheduled Activities. EPA, Ireland

4.0 Environmental Emergency Response

Emergency plans and procedures are established throughout the company to ensure that the appropriate responses to unexpected or accidental incidents are carried out.

P. Mc Caffrey & Son's have set out a plan for emergency action to be taken in the event of an incident or potential incident at their facility, in order to protect company personnel, the general population and the environment. A list of emergency contact details are kept in prominent positions throughout the site so that they can be accessed easily in the event of an emergency. Emergency contact details include names, addresses and phone numbers for the local doctor, local authority, Gardai, fire brigade, etc.

4.1 Contact Details

Local County Council	County House Lifford, Co. Donegal Environment Section	Tel Fax Tel Fax	074 – 9172222 074 – 9141640 074– 9172258 074 – 9141260
Fire Brigade	Letterkenny Central Fire Station (Office) Tel 074 – 9121676 Fax 074 - 9122284		
An Garda Síochána	Ballintra Tel 073 - 9734002		
EPA Regional Offices;	11 Rosemount Lane, Letterkenny, Co. Donegal Tel: 074 - 22274		
Northern Regional Fisheries Board;	Station Road, Ballyshannon, Co. Donegal Tel: 071 9851435		

5.0 Harmful Substances Details

The only harmful substances used at Ballymagroarty Quarry are oil, diesel and Bitumen. All these materials are stored in appropriate bunded areas on site.

Procedures for accepting / dispensing fuels

Fuelling of plant machinery is carried out using fixed bunded fuel tanks.

Plant at the site is maintained and checked on a daily basis to prevent any hydrocarbon leaks.

Maintenance of septic tanks

The sewage treatment system installed at Ballymagroraty Quarry has been designed, constructed and maintained to recommended standards, such as the NSAI S.R.6: For Septic Tank Systems.

6.0 Procedures on Site/Processes carried out on site

P. Mc Caffrey & Sons Ltd is involved in the extraction of limestone. The processes that are carried out at Ballymagroarty Quarry consist of;

- Drilling, blasting and loading of rock
- Primary and secondary crushing of rock
- Screening aggregate
- Loading lorries
- Production of bituminous products
- Production of ready-mix concrete

7.0 Environmental Aspects/Monitoring

7.1 Noise

The basic principle behind quarrying involves processes that have the potential to create noise. These processes include the blasting of the bedrock, the crushing of the rock, the movement of bedrock on chutes and hoppers, the operations of machinery, etc. all of which have the potential to create noise that may impact on the surrounding environment and local residence.

P. McCaffrey & Sons Ltd. recognises that the activities that are carried out on their site have the potential to create noise levels that may cause a nuisance. In view of this, P. McCaffrey & Sons Ltd. have regular noise monitoring carried out on their site at various locations to monitor the level of noise emitted from their site and to ensure that these noise levels are within acceptable limits. In the event of these noise levels being over the permitted levels the source of such noise is determined and mitigation measures are applied to reduce the noise or where possible to prevent it.

P. McCaffrey & Sons Ltd. has implemented numerous measures to minimise the noise levels that are emitted from the plant and that could impact on the local residences. These measures include the use of cladding where possible throughout the site and the development of earth mounds around the perimeter of the site which will act to help absorb the noise emitted from the activities carried out on site. To date P. Mc Caffrey & Sons Ltd. have received no complaints in relation to the noise that is generated from the activities carried out at the quarry. The location of the quarry site is adjacent to a National Primary Road (N15) and few residences are situated along the boundary roads to the quarry, this results in the traffic noise from the site not having a significant impact on the surrounding environs.

7.1.1 Noise Limits

The following are the limits on allowable noise to be emitted according to the EPA (1996) Guidance note for Noise in Relation to Scheduled Activities.

Day Time Maximum (08.00 – 20.00 hrs)	LAeq	55dB(A)
Night Time Maximum (20.00 – 08.00 hrs)	LAeq	45dB(A)

7.1.2 Monitoring

A noise survey monitoring the noise emissions from activities carried out at Ballymagroarty Quarry was carried out on the 30th September 2002 at 4 locations in the vicinity of the working quarry. The monitoring and reporting was carried out by Earth Science Partnership on behalf of P. Mc Caffrey & Sons Ltd. The report checked for any noise levels in excess of the set limits of 55 dB (A). Measurements were recorded using a Larson Davis Model 812, integrated sound level meter, serial number 0646, which was calibrated before and after the survey. The survey recorded noise levels above 55 dB (A) and below 55 dB (A). However the survey was only carried out for 15-minute intervals at each location and it is recommended that a longer test period of 60 minutes be used to gather a more representative idea of the noise generally emitted from the activities at the quarry.

7.2 Blasting and Vibration

Due to the nature of quarrying, blasting is a necessity so that the bedrock can be accessed. This process in itself can prove a nuisance due to the vibration and audible noise that occurs from this process. P. McCaffrey & Sons Ltd. recognises that the blasting operations that are carried out at their quarry can cause a disturbance to the local community. P. McCaffrey & Sons Ltd. wish to reduce this impact on the local residences as much as is reasonably possible. P. McCaffrey & Sons Ltd. has implemented numerous measures to try to reduce this impact where possible. These include:

- The Control of Maximum Instantaneous Charge (M.I.C.)
  This is achieved by
  - reducing face heights to facilitate a lesser charge weight
  - double deck individual holes used
- The MIC of every blast is calculated prior to drilling of each quarry face to ensure the vibration limit is not exceeded.
- Holes will be settled out after the face has been mucked out to prevent higher than expected vibration readings.
- Subgrade drilling will be controlled
- Correct sized drill bit sizes will be used to reduce the cause of excess vibration or excessive flyrock
- Air overpressure is controlled by making sure collar height of each drill hole will not exceed 4.0 metres
- Holes with light burdens are loaded according to blast design
- Face proofing is applied
- Proper chippings are used to fill holes in each blast
- Blast size is controlled by the number of holes in used in the blast

Other mitigation measures that have been applied on site to reduce the noise levels from the blasting include the building of mounds around the plant and the planting of trees around the perimeter of the quarry. These obstructions will act to adsorb the noise omitted from the quarry due to the blasting.

P. McCaffrey & Sons Ltd. has contracted Irish Industrial Explosives Ltd. to carry out vibration reading for each blast that occurs at the quarry. The vibration readings are usually carried out at the nearest sensitive location or where ever it is deemed necessary.

Irish Industrial Explosives Ltd. issues a report to P. McCaffrey & Sons Ltd after each blasting episode; these records are kept on file at the quarry. If the recorded level exceeds 12mm/sec measured in any mutually orthogonal directions or the noise level of 130 dB Linear Maximum Peak Value, then action will be taken by Irish Industrial Explosives Ltd and P. McCaffrey & Sons Ltd. to ensure that these levels will not be exceeded on a future blast. These thresholds limits for blasting have been set by the Irish Concrete Federation (ICF).

To further reduce the impact blasting has on the local residences, prior notification, before blasts are to occur will take place. This will be in the form of a telephone call on the morning of the blast. There are four households in the vicinity of the quarry who are notified of the quarries intention to blast.

Monitoring is carried out at two locations (nearest residences). Ground vibration and air overpressure readings are recorded at each of the monitoring locations. The distance from the blast and the weather conditions are also recorded.

A copy of the levels of vibration and air overpressure recorded during blasting operations at two sensitive locations can be seen in the following table.

Results of readings taken for Air Overpressure and Ground Vibration at two sensitive locations during blasting operations

		S. Kilpatrick		Shantie Namara	
Date of Blast in 2004		Ground Vibration	Air Overpressure dB(lin)	Ground Vibration	Air Overpressure dB(lin)
January	8th	5.5	118	1.6	120
	22	3.7	114	1.4	115
	28				
February	4	3.7	117	1.6	115
	24				
	25	7.0	120	1.4	122
March	24	5	108	1.2	114
April	7	6.1	117	2.2	129
	22	1.6	119	<1.5	<133
	29	8.2	115	0.8	133
June	4	4	116	1.6	114
	25			2.2	122
July	9	0.2	109	<1.5	<122
	16	3.5	114	0.8	100
August	20	2.0	120	1.3	114
	27	4.7	117	3.0	114
September	22	4.3	114	1.2	109
October	4	5.0	118	1.6	117
	4	3.0	118	1.0	119
	18	2.5	115	2.0	117
	22	6.5	118	1.8	116
November	5	2.7	125	2.3	120
	19	5.7	116		
December	3			4.8	114
	17	3.7	123	<2.5	<128
	17	6.3	127	<2.5	<128

7.3 Dust & Air Quality

As with noise, there are a numerous sources where dust can be generated within quarries. Dust can be generated from activities such as stripping of top soil, the excavation of limestone, the crushing and screening of aggregates, ancillary activities such as concrete mixing, and the transport of machinery.

Due to the possible occurrence of high levels of dust, monitoring is carried out on a regular basis at the quarry. The German TA Luft Air Quality Standards using the Bergerhoff Dust Gauge method is used to measure dust deposition in the area. This method involves the placement of dust jars in various locations throughout the perimeter of the quarry to collect a representative measure of the amount of dust particles that are present in the air due to activities carried out at the quarry. The dust jars are left *in situ* for a period of 30 days +/- 2 days before they are removed and sent for analysis. Analysis involves the matter that has been collected in the dust jars to be dried, weighted and analysed for total solids, ash and heavy metals.
The T.A. Luft method sets a dust deposition (soluble and insoluble) limit of 350 mg/m^2day.

Under the Air Pollution Act, 1987, the following ELV's are recommended for emissions to air arising from asphalt / tar macadam plants;

Sulphur Dioxide	500 mg/Nm^3
Nitrogen Oxide	450 mg/Nm^3
Carbon Monoxide	170 mg/Nm^3
Dust	50 mg/Nm^3

The main sources of dust emissions from quarry activities are from point sources and fugitive sources. At Ballymagroarty Quarry, point sources are emitted from crushers & mills, filter stacks. Fugitive emissions are created from the stock piles and pit floors.

To help minimise the amount of dust particles emitted from the activities carried out at the quarry, P. Mc Caffrey & Sons Ltd. have implemented various mitigation measures. These mitigation measures include:

- Enclosures around crushers and screens
- Dust filters
- Maintenance of good internal road surfaces,
- Water spraying on conveyors, stockpiles, and internal roads to dampen down any dust generated,
- Berms and vegetation planted to minimise soil blow-off from the site,
- Tree planting to minimise soil blow-off from the site and to reduce wind impact on the site,
- Wheel wash for road traffic is used to remove any dirt and dust particles that may be attached to the vehicles and therefore prevent the dust from being transported to other areas,
- Spraying of roads with a fine mist of water to dampen down any dust present. This will prevent the dust particles from becoming air borne and thus becoming a nuisance.

7.4 Water

Water is an essential element to quarrying whether it is as dust suppression, the washing of aggregates, washing of vehicles, or to aid in the manufacture of products at the quarry. P. McCaffrey & Sons Ltd. recognises that water plays an important role in some of the activities that take place at their quarry. Due to the nature of these activities they have the potential to impact on the quality of the water used and on the receiving water bodies where the water is discharged. P. McCaffrey & Sons Ltd. accepts that one of their main objectives is to protect the existing surface water and ground water courses and to install good water management practice through the activities at their quarry.

To reduce the impact the activities of the quarry have on the quality of the surface water and ground water in the area mitigation measures are applied. These mitigation measures include the installation of settlement and filtration systems and the recycling of water in processes where possible.

7.4.1 Monitoring

Due to the nature of quarrying and the use of water on the site, monitoring of both ground water and surface waters are carried out on a regular basis. P. Mc Caffrey & Sons have discharge/sampling chambers situated at exit points from their quarry. Monitoring is carried out every three months. The following table shows typical levels obtained from water analysis and the threshold limits place on the discharge water. More detailed results are provided in Appendix II Environmental Monitoring Report 2006.

Parameter	Typical value obtained	Threshold limit set
pH	8.2	9
Total Suspended Solids	<4	35
BOD	<1	25

7.4.2 Water Management

P. McCaffrey & Sons Ltd. has established a water management system, implemented throughout their quarry to optimise the use of all waters on site and to protect the quality of the receiving water bodies. The water management system at Ballymagroarty Quarry acts to monitor and control all water movements on the quarry from surface runoff to water used in its processes and to the quality of the water before it is discharged from the site.

The quarry can be divided into two distinctive areas with separate trade effluent discharge points. The main quarry consists of all the fixed plant. The excess water from this area of the quarry is collected on the quarry floor and is pumped to a settlement lagoon where it is given sufficient time for the suspended solids to settle out of suspension. Where possible this water is reused and recycled on site to provide water for the quarry plant, wheel wash, sprinkler system, and various other uses on site. The excess clean effluent is then discharged from the site into a stream adjacent to the N15. The second part to the quarry (known as the North Quarry) is a separate excavation with no fixed plant and is used solely for the excavation of rock and transportation of the material to the main quarry for processing. Surface water is collected in the floor of the quarry where it is pumped into settlement lagoons before being discharged from the site. The effluent is discharged into a stream adjacent to the quarry.

7.4.3 Receiving Waters

The final receiving waters for the discharge are Durnesh Lough, cSAC. Durnesh Lough is situated approximately 4.5 km from the discharge point at Mc Caffreys Quarry. Durnesh Lough is classified by the National Parks and Wildlife Services as a candidate Special Ares of Conservation because it hosts some species of flora and fauna that are protected under European legislation namely the EU Habitats Directive. Durnesh Lough is also ranked as amongst the best 10 lagoons in Ireland, which is a prority habitat in Annex I of the EU Habitats Directive. Also present are *Molinia Meadows*, another Annex I habitat.

Durnesh Lough has also been recorded as supporting populations of Otter (species listed under Annex II of the Habitats Directive), Bewick's Swan, Whooper Swan and Greenland White-fronted Geese (all listed under Annex I of the Birds Directive.

7.4.4 Bunding tanks

Bunding tanks are used for the storage of fuels, oils, chemicals, additives and bitumen. Bunded areas act as a protective enclosure to prevent any liquids spilt from these tanks from entering a watercourse or drain where they could ultimately impact on the water quality. Each tank in the bunded area is clearly and individually labeled as to its contents, its concentration and its volume. The capacity of the bunded area is to be able to hold 110% of the capacity of the largest tank within the area. Mc Caffrey & Sons Ltd. has recently installed a new mobile double skinned tank with a 3,500 litre capacity. The oil drums for the garage have also been bunded. An oil interceptor has been installed beside the garage to collect any accidental oil or fuel spills that may occur.

7.5 Waste Management

P. McCaffrey & Sons Ltd. recognises that it is their responsibility to ensure that all waste generated at their facility is properly recovered / recycled / or disposed of. To ensure this, a waste management plan has been establish on site. The waste management plan involves the allocation of proper facilities on site for the segregation of waste into separate waste streams, the temporary storage of different waste streams until they are removed from site, the use of properly permitted waste collection contractors and the prevention of fly-tipping on or near their site.

Wastes that will be dealt with on site:

7.5.1 Oil

Waste oils from the garage area are collected and stored in a bunded area on site. Ballymagroarty Quarry have commissioned Atlas Oil to collect all waste oil from the quarry and recycle it for further use.

7.5.2 Batteries

P. McCaffrey & Sons Ltd. has contracted Returnbatt Ltd. to collect and dispose if any waste batteries from the site. The company supplies a battery waste box which is collected on an 'as filled' basis.

7.5.3 Waste Metal

P. McCaffrey & Sons Ltd. has an agreement with Erne Recyclers Ltd. from Kinlough, Co. Leitrim to collect and dispose of waste metals from the quarry. An area has been designated for the storage of the metal until it is collected.

7.5.4 General Waste

P. Mc Caffrey & Sons Ltd employs a wheelie bin service on a contract basis for general waste from the site such as canteen waste. The waste is collected on a weekly basis by Laghey Waste Ltd, Donegal who dispose of the waste appropriately.

Figure 1. One of the many Wheelie bins located throughout the quarry

7.5.5 Paper Waste

A recycling company has been employed by P. McCaffrey & Sons Ltd. to collect and recycle any waste paper from the site. Laghey Waste Ltd, from Donegal collects the waste office paper to be recycled every three weeks.

7.5.6 Waste Tyres

P. McCaffrey & Sons Ltd. retains all used tyres on site and positions them on the haul roads as safety barriers. The tyres that are not used on site are disposed of by Donegal Tyre Centre Ltd.

7.5.7 Waste Concrete & Tarmac

P. McCaffrey & Sons Ltd. has a practice that all returned materials are recycled. This is achieved by the implementation of designated areas for returned road materials for recycling in cold mix plant and returned concrete put into moulds.

Illegal dumping by other parties within the site or at the quarry boundary is prevented by the erection of CCTV, boundary fencing, gates to extraction area locked at night, and regular inspections of the areas.

7.6 *Visual Impact*

P. McCaffrey & Sons Ltd. recognises that the presence of their quarry can have an impact on the visual amenity of the local area. To alleviate this P. McCaffrey & Sons Ltd. are committed to improving the visual appearance of their quarry. Some of the measures that P. McCaffrey & Sons Ltd. have applied include the management and development of landscape features around the perimeter of the quarry to minimise the visual impact of the operations from the public. Landscaping has involved the development of existing woodlands and hedgerows, to act as shelter belts and physical screens around the quarry.

The overall appearance of the quarry has been improved by the development of physical screens such as tree and hedge planting. P. Mc Caffrey & Sons Ltd. propose to further alleviate this impact by the additional planting and landscaping of the boundary to the site and the establishment of landscaped screening mounds around the site. Plantation of these areas will commence in March and April during the planting season. It is also proposed that the aluminum roofs of the buildings at the quarry site will be painted green to aid in their camouflage in the area.

Figure 2: Planted Berm and Screen.

7.7 Transport

P. Mc Caffrey & Sons Ltd are aware that the traffic generated from the operations at their quarry may impact on the surrounding environs. P. Mc Caffrey & Sons Ltd is committed to reducing this impact where possible and has implemented numerous mitigation measures. These mitigation measures include;

- All vehicles on site are regularly serviced and maintained to a high standard in order to reduce the noise and emissions that they emit.
- All vehicles are fitted with the necessary safety equipment i.e. beacons, flashing lights, upright exhaust systems to prevent dust being blown around, reversing alarms, roll over covers etc.
- The prevention of reversing unless necessary as this will reduce the noise generated from the site.
- Public roads will be swept when necessary
- All lorries are wheel washed before weighing and leaving the quarry, see figure 3.
- All transport vehicles are maintained in a clean and appropriate visual appearance.
- All tarmac lorries are sheeted before leaving the site
- Lorries transporting fine dry materials are trimmed/sheeted/dampened to prevent the fine material from escaping the trailers.
- Designated areas are appointed for staff and visitor parking. These areas are appropriately signposted and have sufficient lighting.

Figure 3: Wheel wash in operation at the quarry

7.8 Reinstatement & After-Use

P. McCaffrey & Sons Ltd. operates a limestone quarry at Ballymagroarty Quarry, Ballintra, Co. Donegal. This quarry is predicted to be in operation at this location for approximately another 50 years or more. The total site area of the quarry is 33.9 hectares. P. McCaffrey & Sons Ltd. have developed a restoration plan to reinstate the exhausted quarry into an amenable area after all operations have ceased. Some restoration plans will be implemented on a phased basis. This will help to re-establish the area as a natural landscape on an on-going basis, which will mean that when all activities cease at the quarry, some vegetation will have become established in the area, which will help the quarry as a whole to return to a natural environment.

P. Mc Caffrey & Sons Ltd. propose to;

- remove all plant and machinery from the site on completion of all quarrying activities;
- demolish structures on the site;
- secure all site boundaries;
- level and/or remove all spoil heaps;
- fill in any deep excavations where required;
- decommission lagoon areas;
- control the blasting at the quarry so that the sides and faces of the quarry slope are less than 50 degrees;
- grade the finished ground levels and redistribute mounds and topsoil heaps along the finished ground;
- allow the entire area to re-vegetate as a parkland/wildlife habitat for use by the local community.

7.9 Ecology

Due to the nature of quarries and the activities that are associated with them, they have a potential to impact on the ecology of an area. This impact can affect the behavioral patterns, populations and lifecycles of all living things in the area. Quarry operators need to be aware of the potential impacts the excavation and processing at the quarry can have on the flora and fauna in the vicinity of the quarry. To determine what these impacts are, their severity and significance, an ecological impact assessment needs to be carried out on all sites. An invertebrate analysis was carried out in June 2005.

P. McCaffrey & Sons Ltd. had an ecological survey of the land surrounding their quarry carried out. This survey did not find any area on or near the quarry to be an area of significant sensitivity such as a Proposed Natural Heritage area or a Candidate Special Area of Conservation. Therefore no specific protection measures need to be applied to the area. P. McCaffrey & Sons Ltd. are not interfering to a great extent on the existing habitats as there is very slow land usage at the quarry due to the deep workings that are carried out. P. McCaffrey & Sons Ltd. has begun to develop woodland in the area, which will help to create new habitats and encourage the establishment of flora and fauna in the area.

7.10 Archaeology

Our archaeological heritage is a non-renewable resource that is being impacted on by quarrying activities.

P. McCaffrey & Sons Ltd had an archaeological survey carried out at their Ballymagroarty Quarry in 2001 by Moore Archaeological & Environmental Services Ltd. This study found that there are no sites of archaeological significance located on their site at location. The Moore Archaeological & Environmental Services Ltd. recommended that 'no further mitigation be required and that the development be allowed progress'.

7.11 Energy

Quarries and their associated ancillary facilities in general are large users of energy, both as fuel and electricity. There are significant environmental and financial benefits from ensuring that the use of energy is optimised on sites. Energy use can be optimised by identifying the key areas where it is used and recognising where energy consumption can be reduced or used in a more economical manner.

This is achieved by monitoring energy consumption on site for both electricity and fuel use. From this monitoring various control procedures have been put in place by P. McCaffrey & Sons Ltd. to help conserve energy consumption on their site. These procedures include;

- Heating control measures
- Insulation of buildings
- The shut down of idling plant and conveyors
- Tariff management
- Efficient motors
- Regular maintenance of machinery and equipment to ensure that they are work efficiently
- Use of storage heater in offices and canteens
- Consider energy consumption when purchasing new equipment and machinery
- Installation of a Watt-less Unit Control System

P. McCaffrey & Sons Ltd. recognises the benefits of optimising energy use on their premises. They propose to maintain their current level of awareness and to review the procedures in place annually to ensure they are maintaining their efficiency.

7.12 Public Safety

P. McCaffrey & Sons Ltd. are committed to protecting all members of the public from any danger while they visit the quarry site.

No members of the public are allowed on site without being escorted by a member of staff and being appropriately attired. Safety equipment (hard hats and visibility vests) are available in the office for visitors to the site.

P. McCaffrey & Sons Ltd. have identified all areas of the quarry that pose a risk to members of the public and visitors to the site. Appropriate control measures have been implemented to prevent these risks from impacting on individuals.

P. McCaffrey & Sons Ltd. have ensured that their facilities area is secure and in a safe condition by;

- All relevant safe passes, machine tickets and passes are necessary in the quarry workings
- Erecting suitable hazardous signs throughout the quarry area
- The site boundary has been secured by fencing, CCTV, security guards, etc
- All steep faces have been fenced
- All ponds and lagoons on site have been properly fenced
- Life preserves have been located at ponds

Proper notification has been erected throughout the quarry site. This has been achieved by;

- The erection of warning notices on approaches to the site entrance
- Appropriate safety warning notices have been erected throughout the quarry site
- All erected signs are clear, well maintained and give clear instructions
- All working areas are well lit
- All working areas are kept tidy and free of obstructions

7.13 Good Housekeeping

The overall condition of the entrances, plant and buildings at P. McCaffrey & Sons Ltd. are kept in good condition. This helps to reduce the impact the existence of the quarry has on its surrounding environs.

P. McCaffrey & Sons Ltd. has incorporated certain measures into their management programme of plant machinery and equipment to reduce noise, dust and visual impacts from the quarry. These measures include the replacement of any damaged conveyors, or damaged plant and building panels. Soundproofing associated with the plant and all equipment will be maintained and changed wherever necessary.

The plant stockyard and quarry areas are kept tidy by the implementation of;

- Designated stock areas,
- Designated scrap storage areas,
- Internal roads are paved or leveled

P. McCaffrey & Sons Ltd. ensures that all office and employee's facilities are kept clean by the routine cleaning of toilets on a weekly basis and the routine cleaning of offices and canteens also on a weekly basis

Buildings on the quarry site will be painted suitable colours to keep in contrast with the surrounding area and help minimise their visual intrusion.

Training is provided annually to all employees on health and safety and environmental issues associated with the quarry, to ensure they are reminded of and continue to implement best practices in these areas.

7.14 Community Relations

P. McCaffrey & Sons Ltd. recognises the importance of maintaining good relations with the local community in Ballymagroarty and Ballintra. P. McCaffrey & Sons Ltd. have established links with the local community through supporting numerous local events. Some of the organizations sponsored by P. Mc Caffrey & Sons consist of;

- Ballyshannon Musical Society
- Saint Vincent de Paul, Ballyshannon
- Ballintra Races
- Open Day Golf, Donegal Golf Club
- G.A.A Golf Classic, Bundoran Golf Club
- G.A.A. Melvin Gaels, Kinlough
- Ballyshannon Agricultural Show
- Sheil Hospice Patients Comfort Fund
- Ballyshannon Drama Society
- Colaiste Cholmcille, Ballyshannon
- Irish Deaf Sports
- St. John Bosco Boxing Club, Donegal

P. McCaffrey & Sons Ltd. ensures that all their employees are aware of the environmental aspects of the activities from the quarry operations and how these impacts are reduced. This information is relayed to all staff members through appropriate regular training.

P. McCaffrey & Sons Ltd. recognises the importance of maintaining good relations with members of the local community. That is why all complaints are addressed with utmost importance and rectified wherever possible. All complaints that are received are recorded in a set format with the date, time complaint was received, who received the complaint, who made the complaint, what the complaint was in relation to and what action was taken to rectify the matter. The complaint must be signed off by a member of management.

8.0 Monitoring

Results and records of all monitoring carried out on site are kept on file in the quarry office. These results are used to evaluate the performance of the activities at quarry, ensuring they are not impacting on the surrounding environment and to observe that the emissions from the quarry are within all set limits. This data is also used to monitor the quarry's progress in improving its environmental performance.

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8.1 Monitoring carried out on Site

Monitoring is carried out on a regular basis on various key environmental issues. The main elements monitored are Air (dust deposition), Noise, Blasting and Vibration, Surface Water Quality and Ground Water Quality. These environmental characteristics are monitored to establish how the operations from the quarry are impacting on each of these factors. Each parameter is monitored at varying rates.

8.1.1 Air

Air (dust deposition analysis) is carried out monthly. Sampling is carried out over a 30-day period +/- 2days. The sampling method used is the Bergerhoff Dust Gauge method set out in the German TA Luft Air Quality Standards. Results from previous sampling is recorded and kept on file.

8.1.2 Noise

Noise monitoring is carried out annually at sensitive locations near the quarry site, or whenever necessary. At least four locations around the perimeter of the quarry are monitored for a period of 1 hour each. The noise is monitored using a Larson Davis Model 812, integrated sound level meter, serial number 0646. Results from the noise surveys are kept on file in the offices at the quarry.

8.1.3 Blasting & Vibration

Irish Industrial Explosives Ltd. carries out the blasting and monitoring of the vibrations at Ballymagroarty Quarry. A Vibrograph Test is carried out during all blasting. Blasting only occurs during the hours of 10.00 and 15.00 on allocated days. Blasting takes place approximately once every two weeks at Ballymagroarty Quarry.

8.1.4 Water Quality

Samples of surface waters, ground waters and water effluent discharges from around the quarry have been taken on a monthly basis.

9.0 **Complaints & Actions**

Due to the nature of quarries and the activities that occur on site, some members of the public may become agitated and issue complaints towards the quarry. P. McCaffrey & Sons Ltd. regards these complaints with the utmost importance. P. McCaffrey & Sons Ltd. have set procedures in place to be followed whenever a complaint is made to the quarry. These procedures involve filling out a complaints form outlining the date the complaint was made, who made the complaint, what the complaint was about and what action was taken to rectify the complaint. All complaints must be signed off by a member of management to ensure that they were dealt with in the proper manner.

Complaint Record

1.0 Date of Complaint: _____ **2.0 Time:** _____

3.0 Complaint Method: _____ **4.0 Taken by:** _____

5.0 Name & Address of Complainant: _____

_____

6.0 Nature of Complaint: _____

_____

_____

7.0 Detail Investigation Action Taken & Identify the Investigating Person

_____

_____

_____

8.0 Detail Weather Conditions: _____

9.0 Detail Results of Investigation

_____

_____

10.0 Detail any corrective & preventative action taken

_____

_____

11.0 Detail whether complainant was contacted

_____

_____

Signed: _____ Date: _____

10.0 Environmental Achievements to Date

1. P. Mc Caffrey & Sons Ltd has obtained an Air Discharge Licence.

2. A wheel wash system for all vehicles leaving the quarry site has been installed in order to keep the county and national roads clean.

4. Consultants namely Earth Science Partnership Ltd. (ESP) has been appointed to monitor P. Mc Caffrey & Sons Ltd environmental compliance.

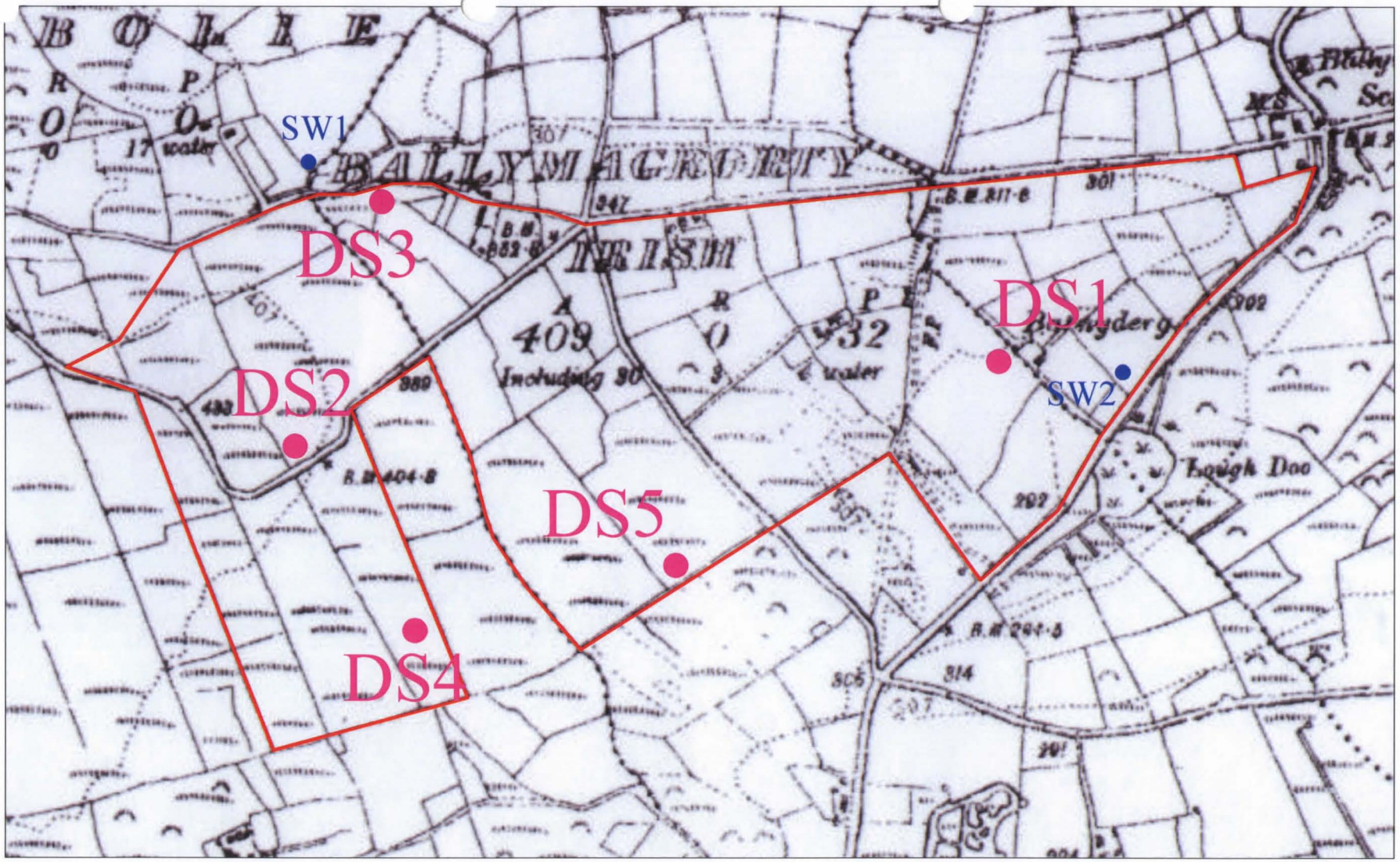
5. We have appointed licensed waste collectors to deal with all waste produced on site.

6. The installation of a new mobile double skinned fuel tank with a 3,500 litre capacity.

7. The installation of an oil interceptor beside the garage and fuel tanks.

Appendix I

Sampling Locations



North

EARTH SCIENCE PARTNERSHIP

CONSULTING ENGINEERS, GEOLOGISTS & ENVIORMENTAL SCIENTISTS

James Street Westport Co. Mayo
tel:- +353(098) 28999 fax:- +353(098) 24727
email: earthsciencepartnership@eircom.net

Project:-	EMS
Title:-	Dust Station & Surface Water Monitoring Locations
Drawn By: E Naughton	
Scale: 1/5,000	Date: February 2006

Appendix II

Results of Analysis on Bergerhoff Gauges & Surface water

EARTH SCIENCE PARTNERSHIP

CONSULTING ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

James Street, Westport, Co Mayo.
Tel (098) 28999 Mob: 087 2050504 Fax: (098) 24727
E – mail: earthsciencepartnership@eircom.net

Customer Name McCaffreys **Ref No** EI027 **Monitor Collection Date** 25/5/06

RESULTS FOR MAY 2006

SURFACE WATER

RESULTS			
	Test	**Result**	**Limits**
SW1	Temperature	9.9	25^0
	pH	7.6	6-9
	Conductivity	520	2500uS/cm
	Dissolved Oxygen (DO)	8.6	-
	Fats, oils and Greases	1	-
	Suspended Solids (ss)	<4	≤25mg/L
	COD	<10	40mg/L 0_2
	BOD (d)	<2	5mg/L 0_2
	Ammonia as NH-3 – N (d)	0.015	0.02mg/L NH_3
SW2	Temperature	10.2	25^0
	pH	7.5	6-9
	Conductivity	484	2500uS/cm
	Dissolved Oxygen (DO)	9.59	-
	Fats, Oils and Greases	1	-
	Suspended Solids (ss)	<4	≤25
	COD	<10	40mg/L 0_2
	BOD (d)	<2	5mg/L 0_2
	Ammonia as NH3	0.094	0.02mg/L NH_3

DUST MONITORING

DUST STATION	POT REF NO	RESULTS	LIMIT
DS1	EI027DS10506	83 mg/m^2/day	180mg/m^2/day
DS2	EI027DS20506	176 mg/m^2/day	180mg/m^2/day
DS3	EI027DS30506	20mg/m^2/day	180mg/m^2/day
DS4	EI027DS40506	73 mg/m^2/day	180mg/m^2/day
DS5	EI027DS50506	74 mg/m^2/day	180mg/m^2/day

Signed: Eileen Mullarkey

EARTH SCIENCE PARTNERSHIP

CONSULTING ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

James Street, Westport, Co Mayo.
Tel (098) 28999 Mob: 087 2050504 Fax: (098) 24727 **E.S.P**
E – mail: earthsciencepartnership@eircom.net

Customer Name McCaffreys **Ref No** EI027 **Monitor Collection Date** 26/6/06

RESULTS FOR JUNE 2006

SURFACE WATER

RESULTS			
	Test	**Result**	**Limits**
SW1	No water was being pumped to the discharge point		
SW2	Temperature	11.3	25^0
	pH	7.2	6-9
	Conductivity	521	2500uS/cm
	Dissolved Oxygen (DO)	9.25	-

DUST MONITORING

DUST STATION	POT REF NO	RESULTS	LIMIT
DS1	EI027DS10506	53 mg/m^2/day	180mg/m^2/day
DS2	EI027DS20506	47 mg/m^2/day	180mg/m^2/day
DS3	EI027DS30506	46 mg/m^2/day	180mg/m^2/day
DS4	EI027DS40506	19 mg/m^2/day	180mg/m^2/day
DS5	EI027DS50506	28 mg/m^2/day	180mg/m^2/day

Signed: Eileen Mullarkey

APPENDIX B

June 2025

Japanese Knotweed Management Plan

Ballymagroarty Quarries, Ballintra, Co. Donegal, Ireland

On behalf of

Patrick McCaffrey & Sons Ltd.

MALONE O'REGAN ENVIRONMENTAL

MALONE O'REGAN

QUALITY
I.S. EN ISO 9001:2015
NSAI Certified

Form ES - 04

MALONE O'REGAN ENVIRONMENTAL

Ground Floor – Unit 3
Bracken Business Park
Bracken Road, Sandyford
Dublin 18, D18 V32Y
Tel: +353- 1- 567 76 55
Email: enviro@mores.ie

Title: Japanese Knotweed Management Plan, Ballymagroarty Quarries, Ballintra, Co. Donegal, Ireland, Patrick McCaffrey & Sons Ltd.

Job Number: E2321

Prepared By: Emma Dolan **Signed:** _____

Checked By: Sarah de Courcy **Signed:** _____

Approved By: Dyfrig Hubble **Signed:** _____

Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	12/05/2025	JK Mgt. Plan	Final	ED	SDC	DH
02	06/06/2025	JK Mgt. Plan	Final	ED	SDC	DH

Japanese Knotweed Management Plan
Ballymagroarty Quarries, Ballintra, Co. Donegal, Ireland
Patrick McCaffrey & Sons Ltd.

Contents

FIGURES

TABLES

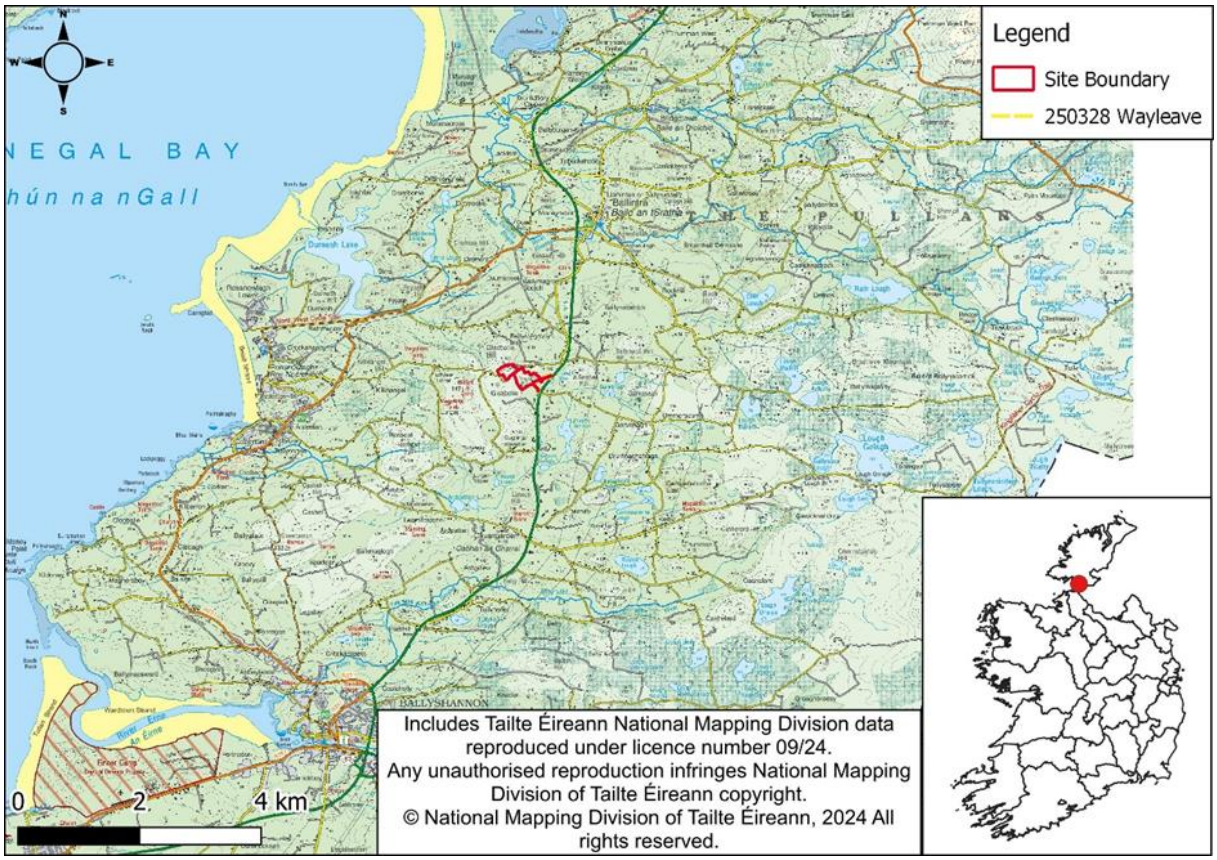
PLATES

1 INTRODUCTION

1.1 Background

Malone O'Regan Environmental ('MOR Environmental') was commissioned by Patrick McCaffrey & Sons Ltd ('the Applicant') to prepare a Japanese Knotweed Management Plan for the identified stand of Japanese knotweed (*Reynoutria japonica*) ('JK'), at Ballymagroarty Quarries, Ballintra, County ('Co.') Donegal (ITM OS Reference 590736 867405) ('the Site'). The location of the Site is shown in Figure 1-1.

Figure 1-1: Site Location



1.2 Statement of Authority

This report was reviewed and approved by Mr. Dyfrig Hubble, Associate Director - Ecologist. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management ('CIEEM'). Dyfrig has over 18 years' experience working in the ecological consultancy sector and has extensive experience in undertaking invasive species surveys, preparing invasive species management plans and supervising the implementation of these plans.

1.3 Purpose / Aims of the JK Management Plan

The principal aim of this JK Management Plan is to remediate the JK located within the Site in order to safeguard existing operations at the Site. This JK Management Plan also aims to prevent the unintentional spread of JK during existing operations.

The key objectives of this JK Management Plan are to:

- Identify and map all locations where JK is present on the Site;
- Identify the best method for managing and controlling JK on the Site with regard to the existing operations;

- Provide an outline of the measures that will be implemented to remediate the JK on the Site;
- Provide an outline of measures which should be implemented as a matter of priority to prevent any potential spread of JK on the Site;
- Communicate the plan to all site operatives to ensure the success of the plan; and,
- Document and record the treatment and management methods carried out onsite.

1.4 Site Context and Description

The Site is situated circa ('ca.') 2.6km southwest of Ballintra village and ca. 6.4km north of Ballyshannon in County Donegal. The area surrounding the Site is characterised by a high density of one-off residential dwellings and agricultural land, primarily in the form of pastures. The N15 national road runs in a north-to-south direction ca. 150m to the east of the Site. The Site is connected to the N15 via a private road.

The Site comprises two quarry areas, the northern quarry and the southern quarry.

The southern quarry covers an area of ca. 9.2 hectares ('ha'). Quarrying operations began in the southern quarry in the 1940s and ceased by 1990. The southern quarry had been excavated to a level of ca. 54.6 metres Ordnance Datum ('mOD') by this time. Following the cessation of quarrying activities in the southern quarry, operations moved to the northern quarry. The southern quarry was then used for ancillary operations such as concrete batching, asphalt production, screening and processing of aggregates.

The northern quarry lies to the north of the L7265 local road and covers an area of ca. 4.7ha. The northern quarry was worked to a depth of approximately -13 mOD, which is below the groundwater table. The aggregate within the northern quarry was transferred to the southern quarry for processing. Operations ceased in the northern quarry in 2013 and the quarry pit was allowed to flood.

A habitat survey conducted on 23rd October 2024 recorded active processing areas, the northern quarry waterbody, settlement ponds, disturbed and recolonising bare ground and pockets of scrub within the Site boundary. Sections of hedgerows / treelines were identified bordering active areas.

2 BACKGROUND INFORMATION

JK is an injurious, invasive herbaceous perennial. Since it was introduced as an ornamental plant in the 19th Century from Japan, it has spread across much of Ireland, particularly along watercourses, transport routes and waste grounds where its movement is unrestricted.

JK is considered to be a serious issue on the basis that it can:

- Damage buildings, hard surfaces and infrastructure by growing through concrete, tarmac and other hard surfaces;
- Outcompete and negativity impact on native plants and thus animals by forming dense thickets;
- Cause damage to flood defence infrastructure along watercourses and increases flood risk through reduced capacity of channels to carry flood water;
- Negativity impact the ability of projects to gain planning permission. Proper planning process requires measures to remove and eradicate the species from a development site;
- Cost of remediation can be both expensive and negatively impact on construction works; and,
- Decrease land value.

In Ireland, JK has not yet been recorded as producing viable seeds and so far, all JK plants recorded in Ireland are female, which only reproduce through vegetative propagation. There are records of hybrid JK plant, which are male, however, as of yet no records of viable seed have been reported.

JK spreads through vegetative propagation from the crown, stem and rhizome (underground root), even small amounts of cut stem, crown or rhizome are capable of producing a new plant.

The rhizomes of JK are considered to be main cause of the spread of JK. The rhizomes are particularly resistant to dehydration and freezing and as little as 0.7 gm of rhizome can regenerate into a new plant. Therefore, when a rhizome is disturbed or cut it will produce a new shoot and it is known that digging or other disturbance, such as earth works, can significantly increase stem density. Also, JK plants can regrow from soil contaminated with JK rhizomes.

Similarly, the crown and stems of JK are also capable of regenerating. Small fragments of cut crown or stem are capable of regenerating and becoming a new plant. However, once stems are thoroughly dried, they are unable to regenerate.

Therefore, controlling the spread of JK is dependent on preventing the spread of all of these parts of the plant.

2.1 Legislation Relevant to Invasive Species

JK is a legally controlled species within Ireland due to the harm that it can cause to the natural environment and to built structures. It is controlled under the following legislation:

- Regulation (EU) No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species. [1];
- Wildlife Act, 1976 to 2012 [2];
- European Communities (Birds and Natural Habitats) Regulations 2011–2015 [3]*;*
- Planning and Development Acts, 2000 to 2016, and 2017 Amendment [4]; and,
- The European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [5].

Under this legislation, it is an offence to:

- Plant, disperse, allow dispersal or cause the spread of JK;
- Keep the plant in possession for purpose of sale, breeding, reproduction, propagation, distribution, introduction or release;
- Keep anything from which the plant can be reproduced or propagated from without a granted licence; or,
- Keep any vector material, in this case soil or spoil taken from JK, for the purposes of breeding, distribution, introduction or release.

3 SITE ASSESSMENT

An assessment of the Site was undertaken on 23rd October 2024 by three suitably qualified MOR Environmental Ecologists. A follow-up assessment was completed on 4th April 2025 by one suitably qualified MOR Environmental Ecologist. The results are outlined below.

3.1 Field Study Results

During the survey conducted in October 2024, an isolated, mature stand of JK was identified onsite. The JK stand was identified growing out of a berm along the Site boundary. This JK stand was located within the northeast portion of the southern quarry, southwest of the L7265 junction with local roads, refer to TN1 in Figure 3-1 for indicative location.

During the updated field survey in April 2025, the mature JK stand was no longer present. The surveyor noted that vegetation in this area had been cleared, and aggregates had been placed on the berm, which previously supported the mature JK stand. Refer to Plates 3-1 and 3-2 below for context.

Three new JK shoots were identified emerging from the disturbed berm in the same place as the mature stand was recorded previously (refer to Plate 3-3 and TN1 in Figure 3-1 below for context).

No additional stands of JK were identified elsewhere on the Site during the 2025 walkover. JK was not observed along adjoining sections of the berm or within the nearby roadside verge. It should, however, be noted that given the northern location of the Site and the time of the survey (early April), not all JK shoots may have emerged yet.

It is understood that no formal treatment of the mature JK stand was carried out prior to the ground disturbance in this area. The presence of emerging JK growth confirms that the species remains active at this location.

Figure 3-1: JK Location

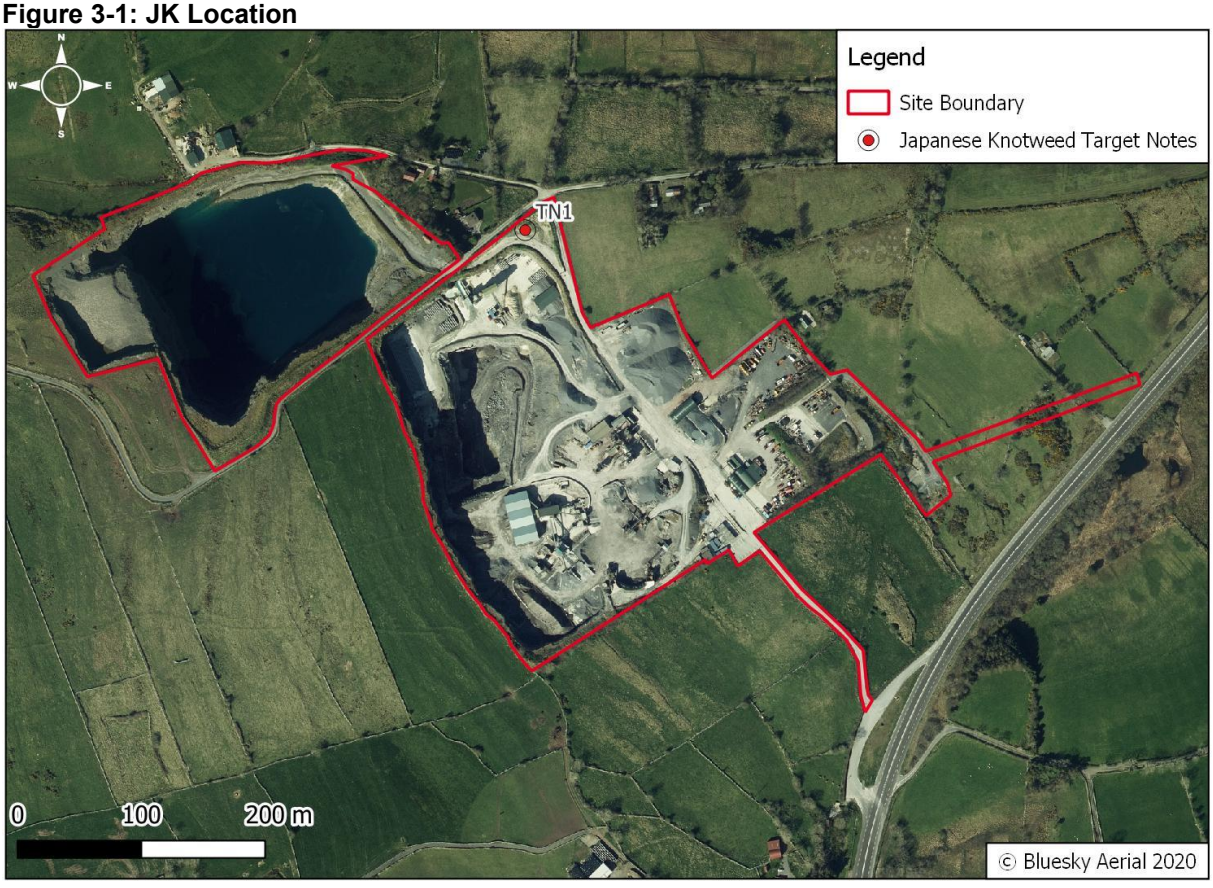


Plate 3-1: Disturbed Berm with Excess Materials (4th April 2025)

Plate 3-2: Wide View of Area which previously contained the Mature JK Stand. Additional Material on Berm Visible (4th April 2025)

Plate 3-3: New JK Shoots Identified on 4th April 2025

3.2 Assessment Constraints

During the 2024 and 2025 surveys, certain areas were inaccessible due to their proximity to active vehicle routes, operational plant and equipment or as a result of steep inclines/cliff edges. These inaccessible sections were visually assessed from their peripheries using binoculars. These areas did not show signs of supporting invasive species. Given the good visibility of these areas from afar, it is not considered that the lack of access into these areas will materially alter the findings of this assessment.

It should be noted that the optimal period for surveying JK is during its growing season (late April to the beginning of October. Therefore, the 2025 survey was conducted during the optimal survey period for this species. However, JK can be surveyed all year round. Therefore, no survey limitations in relation to seasonal constraints were encountered, and the findings of the 2024 survey remain valid.

4 JAPANESE KNOTWEED MANAGEMENT PLAN

The JK Management Plan detailed below aims to ensure the remediation of the JK onsite and to ensure that there will not be unintentional spreading of JK onsite or to locations offsite. It is recommended that JK is remediated utilising herbicide treatment. Variations to herbicide treatment should only be undertaken with advice from an experienced and competent JK specialist, and a revised plan developed.

4.1 Description of the JK Management Plan

The herbicide treatment of JK onsite shall be overseen by the project Ecologist Clerk of Works ('ECoW'). This JK Management Plan, appendices and any subsequent revisions shall be kept for future monitoring and remediation works. This JK Management Plan should be read in conjunction with:

- The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites [6];
- '*The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads*' [7];
- Best Practice Management Guidelines: Japanese Knotweed *(Reynoutria japonica),* [8]*;and,*
- Best Practice for Control of Japanese Knotweed *(Reynoutria japonica)* [9].

4.2 Setting Priorities

High Priority:

- JK signage should be erected;
- Remediation of JK and prevent unintentional spread of JK; and,
- No works should take place in the area containing JK nor any areas where JK is identified in the future until the project ECoW has signed off that the JK remediation works have been completed.

4.3 Specific Remediation Actions

4.3.1 Site Preparation

Prior to any remediation works being undertaken, the following Site preparation actions will be required to limit the potential for any further spread of JK both on and off the Site:

- The infected area should be cordoned off (with an adequate 7m buffer zone) and signage should be erected to prevent access. These works should be supervised by the project ECoW;
- No vegetation management works or earthworks should take place within the area identified as having JK present or within the buffer zones;
- No new material or soil should be stored adjacent to the JK area; and,
- No plant or machinery should be tracked through the area containing JK or within the 7m buffer zone.

4.3.2 Herbicide Treatment

It is recommended that herbicide treatment be undertaken at the Site. The area containing JK (and any other areas where JK is identified) should be treated before the end of the growing season, which is typically from the end of September to the start of October. Herbicide treatments are known to be highly effective and cause significant dieback of JK. Herbicide

treatments generally take between 3-5 years with spot treatment required each year until no regrowth is observed.

The initial JK treatment should be undertaken as soon as practically possible and before the end of the growing season, this will allow the JK to draw as much herbicide as possible into the below ground rhizomes. Following completion of the initial spray, this will then need to be followed up by a programme of regular spray treatments, comprising of 3 treatments per year during the growing season for a period of 3 to 5 years.

4.4 Site Biosecurity Measures

In order to mitigate against the unintentional spread of invasive species from and to the Site, the following biosecurity measures should be implemented.

- All vehicles, machinery and any other equipment entering/leaving the Sites should be washed and cleaned before entering and exiting the Site to prevent the spread of invasive plant material;
- Before machinery or equipment is unloaded at the Site, equipment will be visually inspected to ensure that all adherent material and debris have been removed; and,
- Any vehicles and machinery that are not clean will not be permitted entry to the Site.

4.4.1 Monitoring

The treatment works should be supervised by the project ECoW. As part of these works, the project ECoW will also monitor the effectiveness of the treatment.

On-going monitoring should be undertaken by the project ECoW in conjunction with chemical treatment to provide effective control of this species, as knotweed rhizomes that have not been completely killed off may send up new shoots as many as three years later.

Continued monitoring with the Site is required in order to limit any potential spread of species to ensure desired results are being achieved and also to adapt remediation plans to improve success and treat any re-growth.

5 FURTHER REMEDIATION OPTIONS

To expedite the remediation of JK within the landholding (see Table 5-1), there are a number of remediation options that can be implemented in order to reduce the length of time required for remediation works. Combinations of the remediation options may be implemented to facilitate any potential development. Table 5-1 below provides an outline of potential options that are available.

Table 5-1 Further Remediation Options

Narrative	Advantages	Disadvantages
A) Onsite Treatment This option involves excavating the JK and stockpiling the contaminated soil within a contained bund to allow for intensive herbicide treatment.	• Far cheaper option than offsite disposal.	• A suitable sized area needs to be sterilised for the duration of the treatment process. • Bunded area would need to be fully contained. • Need for ongoing herbicide treatment. • Monitoring will be required.
B) Onsite Burial Contaminated soil and JK would be buried onsite and fully encapsulated in a lined cell. Clean soil would then be placed on top of the cell.	• Far cheaper option than offsite disposal. • No need for any ongoing herbicide treatment.	• JK would need to be placed within a full encapsulated cell. • Dependant on suitable ground conditions. • The optimum requirement would be for 2m of cover materials. • May be a need to provide backfill materials. • Low level risk would remain if the liner integrity was ever compromised. • Monitoring will be required.
C) Removal to Landfill Excavation and removal of contaminated soil offsite to a suitably licenced facility.	• Complete Removal of Soil from Site • Very quick to implement.	• Expensive option. • Availability of suitably licenced facilities would need to be considered.

6 CONCLUSION

Following the invasive species assessment carried out at the Site, one isolated JK stand was identified within the Site.

To remediate the JK onsite, the Site preparation measures, herbicide treatment and biosecurity measures detailed in Section 4 must be implemented as soon as possible. The implementation of this JK Management Plan will halt the spread of JK within the Site and ensure that JK does not spread to offsite locations. Ongoing monitoring will be carried out by the project ECoW to track treatment effectiveness and manage any potential regrowth.

7 REFERENCES

[1] EU, “Regulation (EU) No 1143/2014 of the European Parliament,” 2014.

[2] Goverment of Ireland, “Wildlife Act 1976,” 1976.

[3] G. o. Ireland, “S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011,” Ireland, 2011.

[4] G. o. Ireland, “Planning and Development (Amendment) Act 2017,” Ireland, 2017.

[5] EC, “S.I. No. 374/2024 - European Union (Invasive Alien Species) Regulations 2024,” European Union, 26 07 2024. [Online]. Available: https://www.irishstatutebook.ie/eli/2024/si/374/made/en/print.

[6] Environment Agency, “The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites,” 2016.

[7] NRA, “Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads,” National Roads Authority, 2010.

[8] Invasive Species Ireland, “Best Practice Management Guidelines: Japanese Knotweed (Reynoutria japonica),” 2008.

[9] IFI, “Best Practice for Control of Japanese Knotweed (Reynoutria japonica),” Inland Fisheries Ireland, 2012.

APPENDIX C

ORDNANCE SURVEY OF IRELAND.

CHARACTERISTIC SHEET

FOR MAPS ON A SCALE OF

1:10,560 or 6 Inches to 1 Mile and 1:2,500 or 25·344 Inches to 1 Mile.

BOUNDARIES

SCALES

	1:10,560 or 6" to 1 Mile.	1:2,500 or 25·344" to 1 Mile.
Counties		
Baronies		
Parishes (only shown in County Boros. & Urban Dists.)		
Townlands		
Counties & Baronies		
Baronies & Parishes		
Parishes & Townlands		
Counties, Baronies, Parishes & Townlands		
County Boroughs, Urban Districts, & Towns (when not coincident with other Boundaries)	(Described)	(Described)
Wards (only shown in County Boros.)		
When Centre of River		C.R.
When Centre of Stream		C.S.
When Side of River		S.R. S.R.
When Side of Stream		S.S. S.S.
When Centre of Road		C.R.
When Centre of Wall or Fence		C.W. C.F.
When Face of Wall or Fence		F.W. F.F.
When 6' Root of Hedge		6' R.H.

WRITINGS

Plans published prior to 1938.	*Plans published subsequent to 1938.*
*BARONIES	*BARONIES
PARISHES	PARISHES
TOWNLANDS	TOWNLANDS
Co BOROUGHS	Co BOROUGHS
MARKET TOWNS	MARKET TOWNS
Villages Villages (Important)	Villages Villages (Important)
Workhouses	County Homes
Bridges, Public Buildings, Churches.	Bridges, Public Buildings, Churches.
RAILWAYS, Locks, Manufactories, Bridges, &c.	RAILWAYS, Manufactories, Locks.
PARKS	PARKS
BAYS & HARBOURS	BAYS & HARBOURS
NAVIGABLE or TIDAL RIVERS	NAVIGABLE or TIDAL RIVERS
Smaller Rivers, Brooks.	Smaller Rivers, Brooks.
Antiquities	Antiquities
Area Figures 4·370	Area of parcels given in Statute Acres, thus 4·370
	Braces indicating that the enclosures so connected are included in the same area
Bench Marks B.M. 5·47	Bench Marks B.M. 5·47
Minor Altitudes 121	Minor Altitudes 121
Initial Letters to Small Objects.	Initial Letters to Small Objects.
M.P Mile Post M.S Mile Stone	M.P Mile Post M.S Mile Stone
S.P Signal Post S.B. Signal Box	S.P Signal Post S.B. Signal Box

These Examples vary in Size and Extent according to the Importance of the District and Object to which they refer.

SYMBOLS

Bridges

Weirs or Dams

Ferries

Fords

Canals (Cutting, Embankment)

Railways

Tunnels

Light Railways

1st Class Roads

2nd Class Roads

3rd Class Roads

Unfenced Roads

Quarries

Gravel Pits

Forts & Mounds

Wells & Springs

Pumps

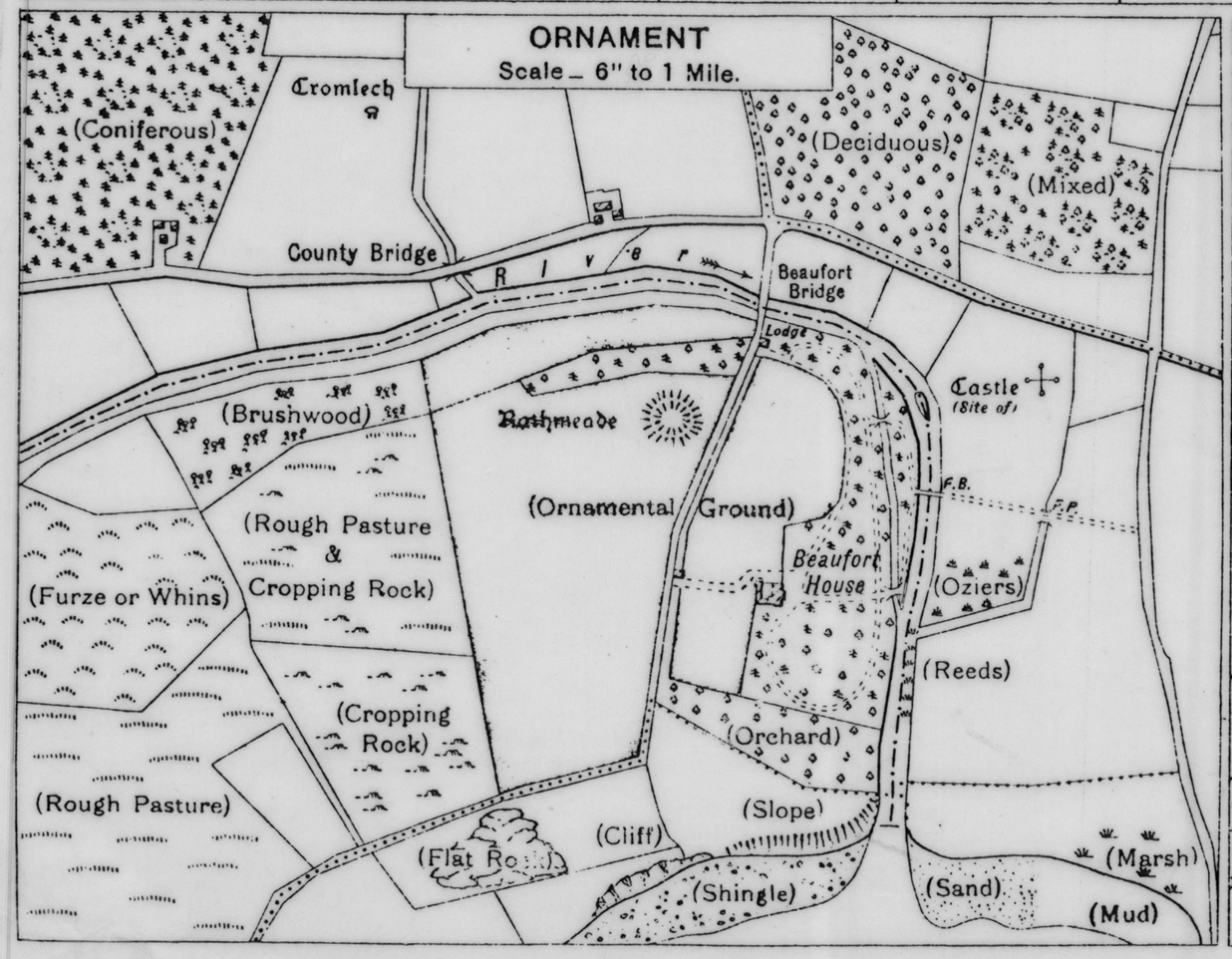
Trigonometrical Station △

Contours 200 (Black)

" 200 (Red)

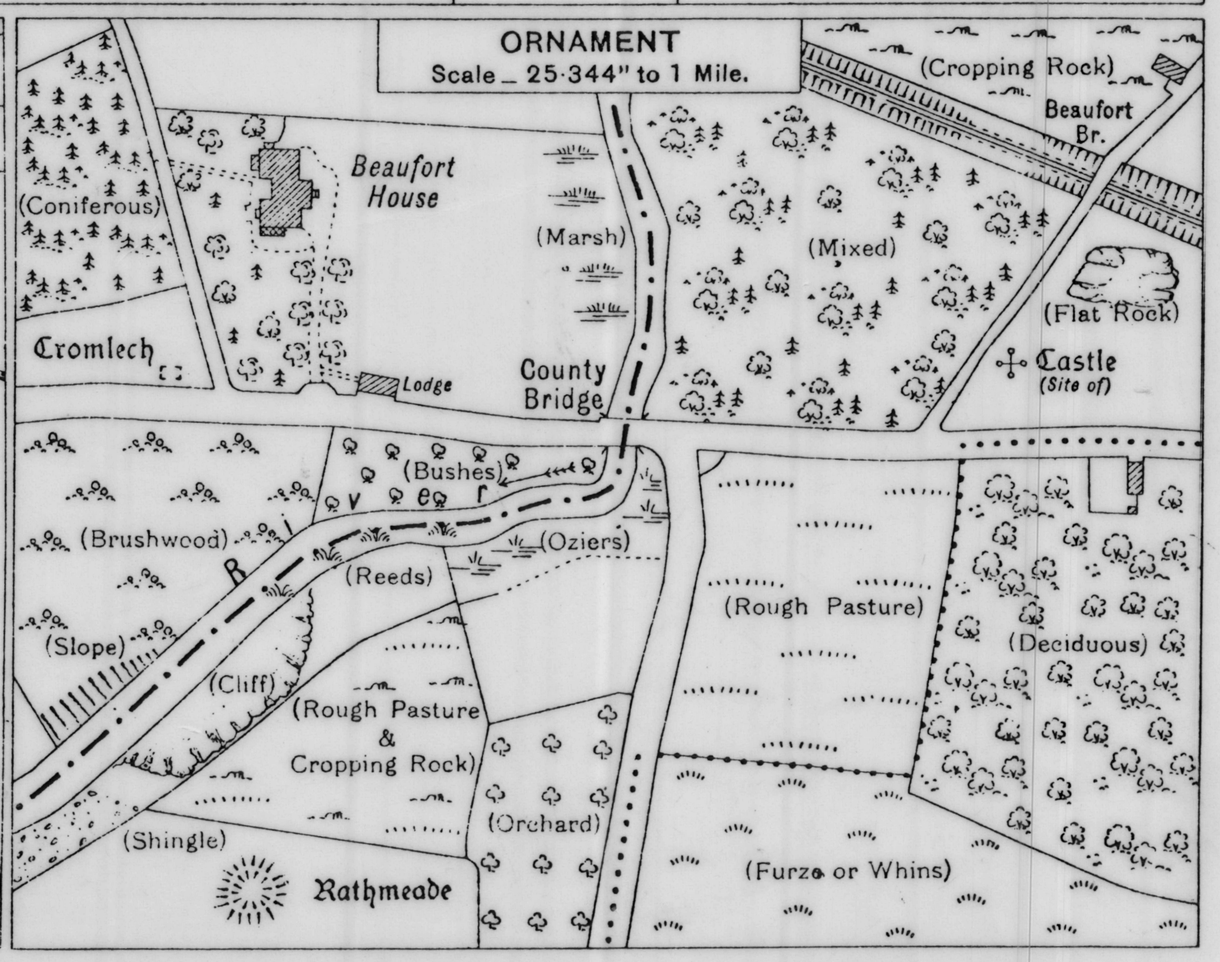
ORNAMENT

Scale – 6" to 1 Mile.



ORNAMENT

Scale – 25·344" to 1 Mile.



* Character used when entirely on body of Sheet.