

Remedial Appropriate Assessment Screening Report

Cartron Quarry, Co. Galway

May 2021



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DOCUMENT CONTROL

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STATEMENT OF AUTHORITY

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1. INTRODUCTION

1.1 Background

Woodrow Sustainable Solutions Ltd. (Woodrow) was commissioned by Quarryplan Ltd (Quarryplan) on behalf of McTigue Quarries Ltd. ("the Applicant") to prepare a Remedial Appropriate Assessment Screening Report (rAASR) for an existing quarry located in Cartron, Co. Galway.

1.2 Requirement for Remedial Natura Impact Statement

An Bord Pleanála served a notice under s.177D(6) of the Planning and Development Act 2000 (as amended) that there was a requirement for a substitute consent application for unauthorised quarry activities at Cartron Quarry under section 261A of the Planning and Development Act 2000. In accordance with the Act, and specifically in accordance with Section 177E, both a Remedial Environmental Impact Assessment Report (REIAR) and a Remedial Natura Impact Assessment are required.

Section 177T of the Planning and Development Act 2000 states the following with respect to *meaning* of a Natura Impact Statement:

- (1) (b) A Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.
- (2) Without prejudice to the generality of subsection (1), a Natura impact report or a Natura impact statement, as the case may be, shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites.

Section 177G of the Planning and Development Act 2000 states the following with respect to *required content* of a Natura Impact Statement:

- (1) A remedial Natura impact statement shall contain the following:
 - (a) a statement of the significant effects, if any, on the relevant European site which have occurred or which are occurring or which can reasonably be expected to occur because the development the subject of the application for substitute consent was carried out;
 - (b) details of—
 - (i) any appropriate remedial or mitigation measures undertaken or proposed to be undertaken by the applicant for substitute consent to remedy or mitigate any significant effects on the environment or on the European site;
 - (ii) the period of time within which any such proposed remedial or mitigation measures shall be carried out by or on behalf of the applicant;
 - (c) such information as may be prescribed under section 177N;
 - (d) and may have appended to it, where relevant, and where the applicant may wish to rely upon same:
 - (i) a statement of imperative reasons of overriding public interest;
 - (ii) any compensatory measures being proposed by the applicant.

A Natura Impact Statement is intended to facilitate decisions under Regulation 42 (2) of the 2011 Habitats Regulations by a competent authority (An Bord Pleanála) in its consideration of the planning application, as competent authority, with respect to:

- A determination on whether the proposal is directly connected with or necessary to site management for conservation; and if not,
- A determination on whether the proposal is likely to have a significant effect on the site either individually or in combination with other plans or projects; and if so,
- An Appropriate Assessment of the implications (of the proposal) for the site in view of the Natura 2000's conservation objectives.

This report provides information which can be used to assist the Competent Authority in applying Article 6(3) and 6(4) of the Habitats Directive¹ as necessary, remedially, under their roles, functions and responsibilities in relation to the Appropriate Assessment of plans or projects. The Competent Authority may use such information to carry out an Appropriate Assessment of the Development and Quarry Activities in order to ascertain whether or not the project may adversely affect the integrity of any European Sites.

European Sites, also known as Natura 2000 Sites, include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The legal basis on which SACs are selected and designated is the EU Habitats Directive, transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended. SACs are designated to assist the protection of certain habitats and species under the Habitats Directive. Ireland is required under the terms of the EU Birds Directive (2009/147/EC) to designate Special Protection Areas (SPAs) for the protection of endangered species of wild birds. This includes; certain listed rare and vulnerable species; regularly occurring migratory species, such as ducks, geese and waders; and, wetlands, especially those of international importance, which attract large numbers of migratory birds each year.

1.3 Legislative Background to Natura Impact Statement

European Directive 92/43/EEC (The Habitats Directive) requires competent authorities to carry out an Appropriate Assessment (AA) of plans and projects that, either alone or in combination with other plans and projects are likely to have a significant effect on European designated sites.

The Habitats Directive was transposed into Irish law by the European Communities (Natural Habitats) Regulations 1997 and European Communities (Birds and Natural Habitats) Regulations 2011 (the Habitats Regulations). Regulation 42 of the 2011 Regulations requires that any proposal likely to have a significant effect on a European Site, alone or in combination with other operations or activities, needs to be assessed with respect to its potential impact in the site's conservation objectives (an Appropriate Assessment).

In general terms in Ireland, a Natura Impact Statement is a report that contains the Screening Stage of a Habitats Directive Article 6 assessment and, if required by the conclusions of the Screening Stage, the Appropriate Assessment.

1.3 Structure/ layout of the report

The report sections, paragraphs and tables relate in sequence to the process of assessing the potential impact of the project in the context of sequential requirements of Article 6 of the EU Habitats Directive.

1.4 Main Sources of Information

The following information sources were consulted:

- Department of Environment, Heritage and Local Government (DoEHLG, 2009). *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*;
- European Community Habitats Directive (92/43/EEC) – The Habitats Directive;
- European Communities (Natural Habitats) Regulations 1997;
- European Commission Environment DG (2001). *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*;
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC*;
- Environmental Protection Agency (EPA) Maps²;
- National Biodiversity Data Centre's grid squares for rare and protected species³

¹ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, as amended by Council Directive 97/62/EC. Available at: http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm [Accessed May 2021].

² EPA Maps. Available at: <https://gis.epa.ie/EPAMaps/> [Accessed May 2021].

³ NBDC: Available at: <https://maps.biodiversityireland.ie/> [Accessed May 2021]

- National Parks and Wildlife Services online MapViewer⁴;
- Galway County Council Planning Portal⁵;
- NEO, Planning Consultancy Services, OCM, Dixon Brosnan, Gabriel Dolan & Associates (2013). Remedial Environmental Impact Statement, Limestone Quarry at Cartron, Belclare, Co. Galway. April 2013
- Woodrow (2021). Remedial Ecological Impact Assessment Report (REIAR) Cartron Quarry, Co. Galway

Woodrow carried out surveys within the Site Boundary on the following dates:

- 17.09.2020 to 02.10.2020 – Potential roost features were identified and static detectors were deployed over this timeframe
- 22.04.21 - An Extended Phase 1 Habitat assessment and habitat mapping covering birds, mammals, reptiles/amphibians and invasive alien species (IAS)

2 DESCRIPTION AND FEATURES OF THE PROJECT AND AREA

2.1 Location

Cartron Quarry is located approximately 7 km south west of Tuam, Co Galway and can be accessed from a side road off the R333. The geology of this area is mapped as Visean limestone and calcareous shale by the EPA.

The quarry is immediately surrounded by improved agricultural fields except for an area of woodland to the north west of the site.

2.2 Description of the quarry site

This rAASR accompanies the substitute consent planning application submitted to the Board (SC) for Cartron Quarry, Co. Galway. The application covers all activities at the site between the previous grant of SC for the site in 2015 and present day, to include all operations up until June 2019.

The application and development description also includes ancillary structures and buildings in the north eastern part of the site. These structures were previously included within the original rNIS but were not referenced in the development description or public notices and were therefore omitted from the previous grant of permission.

Cartron Quarry has been a feature within the landscape since 1954 when quarrying operations were begun at the site. Activity has been carried out at the quarry on a small-scale continual basis between 1954 and 1999, when more intensive mechanical extraction of mineral began to take place

As previously outlined, the site is located in the Townland of Cartron some 7 kilometres southwest of Tuam. The site is bounded to the south by Mortimer's Quarry, and to the north, east and west by agricultural fields. The precise location of the site's application area can be seen from Figure 2.1. The application site.

2.3 Description of Quarry Operations 2015-2019

- **Drilling, Blasting and Rock Breaking-** There have been approximately 40 blasts at the quarry post the 5th January 2015. The requirement for blasting has been determined by aggregate sales, with one blast occurring on average every 2 months. This involved the controlled filling of the drilled holes with explosive material and the inclusion of detonators and charges. The holes were then detonated in a tight time sequence to ensure that the potential impact was limited to the equivalent nature of one component hole of the blast. Drilling took place for 2-3 days prior to each blast.

⁴ NPWS Map Viewer. Available at: <http://webgis.npws.ie/npwsviewer/> [Accessed May 2021]

Following each blast, rock breaking has been carried out using a hydraulic breaker unit mounted on to a tracked excavator for approximately 1.5 days following each blast in order to eliminate oversized boulders.

- **Processing of material-** The processing of material within the site continued to be undertaken within the quarry void at the active face. A mobile impact crusher and screen deck were used which were tracked back to the face following each blast. Screened output has been stockpiled on the quarry floor. On occasion, secondary crushing and screening may have been carried out in order to produce chips and specified aggregates. This was undertaken in the quarry floor using a mobile cone crusher and screen deck. Secondary crushing was undertaken when demand dictated as was the production of lime, with the use of a tertiary crusher.
The crushing and screening units utilised at the site are fully mobile and are able to operate on any standard bench removing the requirement for the blast rock to be hauled. Modern mobile primary track crushing and screening units are fitted with dust suppression units and enclosures of all potential emission points.
The benefits of mobile plant are numerous, with an obvious reduction in internal haulage from blast pile, in addition to the potential emission points with respect to dust and noise being adjacent to a working face and for the completed development at levels significantly below the level of the surrounding lands, which affords significant natural attenuation.
- **Vehicle Movements-** The primary method of transportation of aggregates off-site over the SC period has been via eight-wheel rigid lorries, each with a capacity of 20 tonnes. Although an articulated lorry and smaller vehicles were used on occasion, eight-wheel rigid HGV's have been the made mode of distribution.
The site has extracted on average 100,000 tonnes per annum over the SC period. Based on a 20-tonne payload and 275 working days per annum, this equates to an average of 19 two-way trips per day.
- **Hours of Operation-** The quarry operated within the hours of 07.00 to 18.00 Monday to Friday and from 08.00-13.00 on Saturdays. The quarry did not operate on Sundays or Bank Holidays.
- **Discharge and Fuel Storage-** No off-site discharge of waters is required at the quarry with rainfall naturally percolating into the quarry floor.
Fuel for the on-site machinery is stored in a bunded tank in the north eastern part of the site. Vehicles are fuelled from the fully bunded and enclosed double skin tank within the north eastern part of the quarry adjacent to the workshop area. Fuel is transported to plant and machinery at the working face via a double skinned bowser which is filled within the bunded area surrounding the tank in the north eastern part of the site. No fuel is stored within the quarry floor and operatives have been trained in best practice for refuelling of machinery and also in emergency procedures.
- **Buildings and structures-** Ancillary buildings and structures within the quarry site are comprised of:
 - Garage/ Workshop used for the servicing of quarry vehicles and machinery;
 - Store/ Workshop used for the for storage and servicing of quarry vehicles, plant and machinery);
 - Canteen;
 - Pumphouse;
 - Oil tank;
 - Water tank, weighbridge and wheel wash.

The Garage/ Workshop/ store buildings are used to house and maintain the plant and machinery used on-site. Planning permission was granted by Galway Co.Co. in May 2007 (Ref 06/3299) for a garage/ workshop; a wheel was unit and weighbridge unit. These aspects of the development benefit from planning permission and therefore are excluded from this SC application. The remaining unauthorised buildings/ structures are included within the SC application. Detailed drawings of the same are enclosed within the application package.



Figure 1 - Red line boundary of the application site

2.4 Biodiversity Records

The application site is located within the National 10 km Grid Square M34, and the National 2 km Grid Square M34U. Given the lack of hydrological connectivity with the surrounding environment, a 2km grid square was deemed sufficient. All protected species data were collated from the 2 km grid square M34U, and bat records from the 10 km grid squares M34⁶. Any invasive species recorded in these areas are also noted. Furthermore, a map showing habitat suitability for bats⁷ is shown in figure 3.

Table 1 - Species of conservation interest recorded in the National Grid squares M34U, and bats recorded in the 10 km squares M34. Invasive species are indicated in pink (Source: National Biodiversity Data Centre)

Species	Scientific Name	Habitats Dir. (Annex II / IV)	Birds Dir. (Annex I)	Wildlife Act	Red List Status ⁸	Birds of Conservation Concern (2014)	Likelihood on site	Most recent record	Record Source
Brown long-eared Bat	<i>Plecotus auritus</i>	Y	-	Y	LC	-	1	2007	NBDC
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	Y	-	Y	LC	-	1	2009	NBDC
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Y	-	Y	LC	-	1	2009	NBDC
Natterer's bat	<i>Myotis nattereri</i>	Y	-	Y	LC	-	2	2001	NBDC
Lesser noctule	<i>Nyctalus leisleri</i>	Y	-	Y	LC	-	1	2006	NBDC
Common kestrel	<i>Falco tinnunculus</i>	N	N	Y	LC	Amber	2	2011	NBDC
Common starling	<i>Sturnus vulgaris</i>	N	N	Y	LC	Amber	2	2015	NBDC
Wood pigeon	<i>Columba palumbus</i>	N	N	Y	LC	-	2	2015	NBDC
Greater white-fronted goose	<i>Anser albifrons</i>	N	N	Y	LC	Amber	4	2011	NBDC
Northern lapwing	<i>Vanellus vanellus</i>	N	N	Y	NT	Red	4	2011	NBDC
Rough earwort	<i>Scapania aspera</i>	-	-	-	LC	-	3	2014	NBDC
White earwort	<i>Diplophyllum albicans</i>	-	-	-	LC	-	3	2014	NBDC
Great plait-moss	<i>Hypnum lacunosum var. lacunosum</i>	-	-	-	-	-	3	2014	NBDC
Spiral extinguisher-moss	<i>Encalypta streptocarpa</i>	-	-	-	LC	-	3	2014	NBDC
Green-tufted stubble-moss	<i>Weissia controversa var. controversa</i>	-	-	-	LC	-	3	2014	NBDC
Eurasian red squirrel	<i>Sciurus vulgaris</i>	-	-	Y	LC	-	4	2007	NBDC
Cherry laurel	<i>Prunus laurocerasus</i>	Invasive species					3	2011	NBDC
Sycamore	<i>Acer pseudoplatanus</i>	Invasive species					1	2015	NBDC

Key to likelihood of species presence (note – for birds this relates to nesting or foraging within the site): 1 = Confirmed; 2 = Likely; 3 = Possible; 4 = Unlikely

Key to Red List Status: CR = Critical; NT = Near threatened; VU = Vulnerable; LC = Least Concern

⁶ National Biodiversity Data Centre (NBDC) (2020): <https://maps.biodiversityireland.ie/Map> [accessed 29.04.2021]

⁷ National Biodiversity Data Centre (NBDC) (2020): <https://maps.biodiversityireland.ie/Map> [accessed 29.04.2021]

⁸ The IUCN Red List of threatened Species (2020): <https://www.iucnredlist.org/> [accessed 29.04.2021]

2.5 Baseline conditions prior to commencement of unauthorised activities (January 2015)

Baseline conditions for the site, prior to the commencement of unauthorised activities was detailed in a 2013 REIS (NEO et al, 2013) which was accepted as part of a 2015 substitute consent application. A synopsis of which is detailed in this section.

Bats

The 2013 surveys did not identify potential roost features in the quarry area, and hence no formal bat studies were conducted. However, biodiversity records for the time indicate the presence of five species in the local 2km grid square. This fact, in combination with the presence of mature trees with roost potential, just outside the northwest boundary of the active quarry area indicates that there was probable bat activity in the vicinity of the site, despite conclusions reached by the 2013 REIS.

Terrestrial Mammals

During field surveys conducted in 2013, there were no signs of mammal activity, with the exception of rabbit droppings which were present to the south of the site. Red squirrel was noted as being present in the locality during the desk study of biodiversity records (NBDC), however, there was no suitable habitat present in the quarry site.

Birds

The previously referenced 2013 REIS chapter did not appear to include a substantial bird survey. The report referenced sightings of chaffinch (*Fringilla coelebs*), Robin (*Erithacus rubecula*) and great tit (*Parus major*). Biodiversity records indicated the presence of one red listed species (lapwing); however, the site does not contain suitable habitat for this species. Later surveys suggest that a broader diversity of species was present and likely breeding on or in close vicinity to the site.

Reptiles and Amphibians

No signs of reptile or amphibian activity were reported as a result of 2013 surveys.

Invasive Species

No invasive species were noted as a result of the 2013 surveys

Habitats

The REIS identified nine different habitats based on fieldwork conducted in 2013 using classifications by Fossitt (2000). This provides the clearest account of the habitat composition of the site prior to the commencement of unauthorised quarrying in 2015. This habitat composition is displayed in Figure 2. Active quarry (ED4) represented the largest amount of cover area of the site prior to 2015, while the north east of the site was predominantly covered in Buildings and artificial structures (BL3). Recolonised bare ground (ED3) was present to much of the site's western margin, in addition to an area on its southern boundary. Areas of Scrub (WS1) existed along much of the site boundary. To the south east of the site, bunds supported an area of dry meadows and grassy verge (GS2) habitat. A small, narrow area of amenity grassland (GA2) was situated near the entrance of the site. A stone wall (BL1) stood along the southern edge of the quarry site while there was hedgerow (WL1) to the south (described as 'defunct hedge').

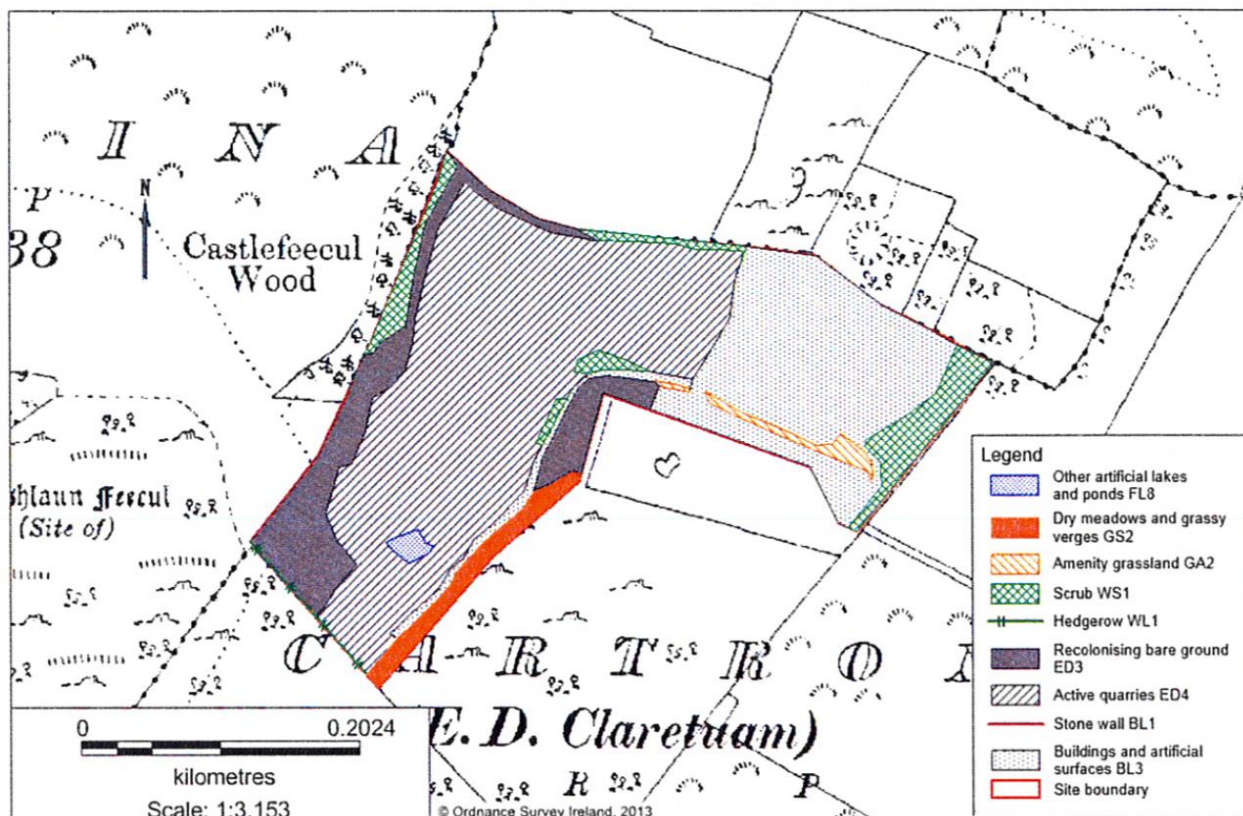


Figure 2 - Habitats prior to the commencement of unauthorised activities

2.6 Baseline conditions post cessation of unauthorised activities (June 2019)

Bats

A 2020 survey (Woodrow, 2020) identified several trees just outside the application boundary, showing cracks in the bark and gaps from broken branches, thereby providing moderate suitability as potential roost features. Following a two-week deployment of static bat detectors, the following species were recorded outside the fringes of the application site;

- At least one unidentified *Myotis* sp.;
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- Leisler's bat (*Nyctalus leisleri*);
- Brown long-eared bat (*Plecotus auritus*); and
- Lesser horseshoe bat (*Rhinolophus hipposideros*).

Only one to five passes of the lesser horseshoe bat were recorded at each unit over the entire deployment period. Pipistrelle social calls were recorded near the Application Site, suggesting that the areas adjacent to the Application Site is likely to be used by pipistrelles as a mating area during autumn.

Birds

An April 2021 bird walkover noted the presence 10 different species either on site or occupying site boundaries. The majority of activity was associated near the main quarry entrance to the south of the site. Peregrine falcon, listed under Annex I of the EU Birds Directive was observed flying over the edge of the site, in the direction of the south west rock face at Mortimer's Quarry. Checks for fouling or other signs of nesting on the cliff faces of the application site did not yield signs of breeding. A pair of the red listed (BoCCI 2020-26), grey wagtail (*Motacilla cinerea*) was observed feeding near the more easterly of the two quarry pools. There is potential that this species is breeding onsite, utilising nooks and crannies in the exposed rock faces. Other species observed were green listed passerines and corvids and included blackcap (*Sylvia atricapilla*), bluethroat (*Cyanistes caeruleus*), hooded Crow

(*Corvus cornix*), pied wagtail (*Motacilla alba yarrellii*), willow warbler (*Phylloscopus trochilus*), blackbird (*Turdus merula*), house sparrow (*Passer domesticus*) and starling (*Sturnus vulgaris*)

Reptiles and Amphibians

Quarry pools were visually surveyed in April 2021 for reptile and amphibian activity. No sign of activity was noted during surveys. No submerged vegetation had yet formed and pools are known to dry out for much of the year, creating unfavourable conditions for smooth newt (*Lissotriton vulgaris*). While some habitat features on site such as stone wall provide potential habitat for common lizard (*Zootoca vivipara*), the high level of activity on site and improved agricultural surroundings means the species is unlikely to occur. Overall, the site is considered to be of low suitability for reptiles and amphibians.

Invasive Alien Species (IAS)

Butterfly-bush (*Buddleja davidii*), a medium impact invasive species has established around some of the fringes of the quarry floor.

Mammals

No signs of mammal activities were observed during the 2021 surveys.

Habitats

The 2021 surveys revealed changes in the habitat composition of the site (figure 2.3), with a reduction of scrub (WS1) and recolonised bare ground (ED3) habitat, as well as the removal of the pre-existing dry meadow and grassy verge (GS2) habitat. The quarry pool recorded in 2013, has been expanded to several times its initial size, with the creation of a second, deeper pool to the south of the site, near the main quarry entrance. It should be noted that these quarry pools dry out in summer/autumn months.

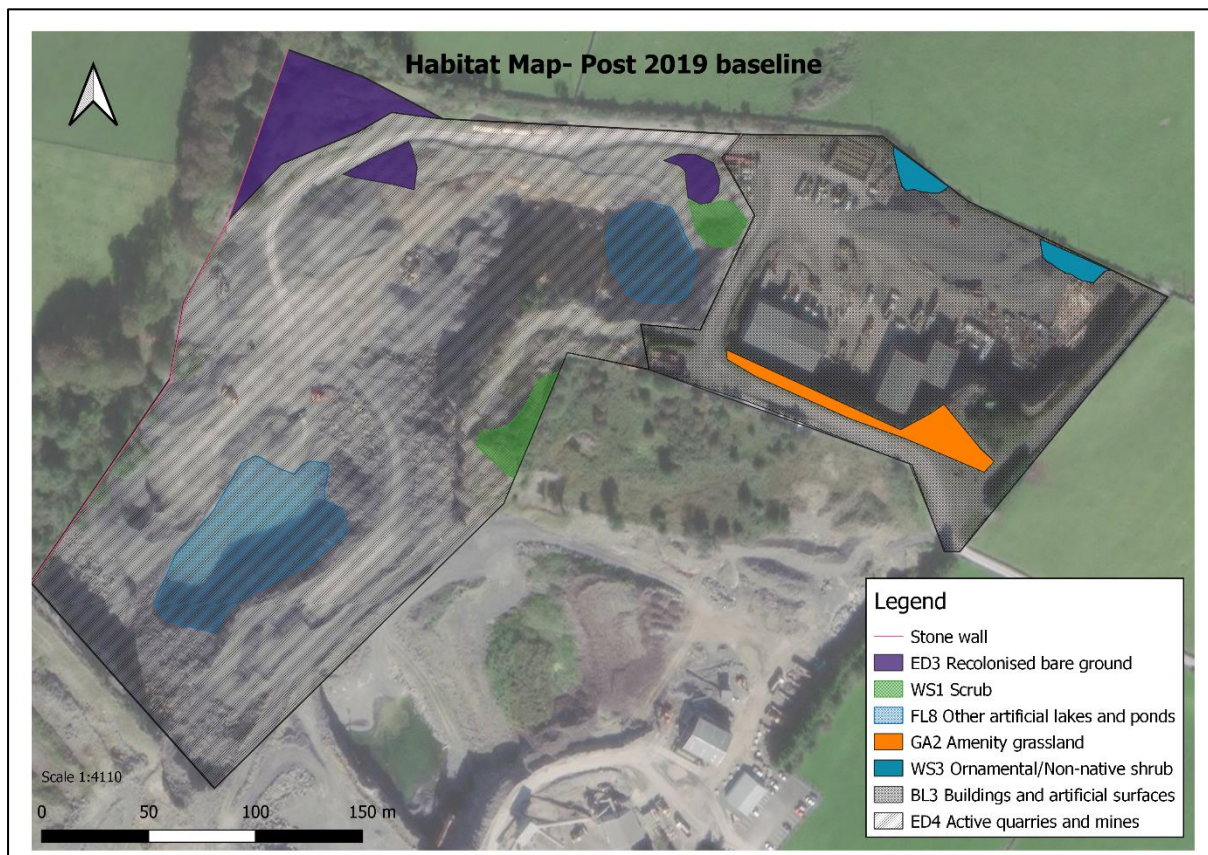


Figure 3 - Habitats post cessation of unauthorised quarrying activities

3. SUBJECTS OF THE REMEDIAL APPROPRIATE ASSESSMENT SCREENING REPORT

The impacts of the two proposals outlined in **Table 2.2** below on Natura 2000 sites are considered in this rAASR.

Table 2 - The proposals covered within this rAASR

Proposal Title	Assessment Requirements	Background	Assessment Period
Presence of unauthorised structures	<ol style="list-style-type: none"> 1. Garage/workshop 2. Workshop/Storage unit 3. Canteen 4. Pumphouse 5. Lime crushing enclosure 6. Water tank 	It is considered appropriate to consider the continued impact of the presence of quarry structures within the red-line boundary (see Figure 2.1) from the 5 th of January onwards, the point at which the continuation of site activities became unauthorised until their cessation on the 5 th of January 2019.	5 th January 2015 to 11 th June 2019 & 11 th June 2021 to the present day.
Quarry Activities January 2015- June 2019	<ol style="list-style-type: none"> 1. Drill and Blast and rock breaking 2. Manufacturing 3. Transport to and from Site 	It is considered appropriate to consider the continued impact of all quarry activities ("Quarry Activities") within the red-line boundary (see Figure 2.1) including the Manufacturing Facilities from the 5 th of January onwards, the point at which the continuation of site activities became unauthorised until their cessation on the 5 th of January 2019.	5 th January 2015 to 11 th June 2019

Three time periods of operation of this quarry, with respect to the unauthorised structures and quarrying activities, are considered as part of this RNIS.

- **Impacts which have occurred-** This refers to the time period between 5th January 2015 to 11th June 2019 during which unauthorised structures were present and unauthorised quarrying activities were operating (described in detail in section 2.2)
- **Impacts which are occurring:** This refers to the time period following the cessation of unauthorised quarrying activities in June 2019, until the present day. While no quarrying has taken place in this period, there is currently some quarry vehicle movement onsite.
- **Impacts that can reasonably be expected to occur:** Two possible future scenarios

- **Scenario A:** Restoration of the quarry site. This would comprise of the removal of all buildings, plant and machinery the utilisation of existing soil making material available on-site in the to provide suitable conditions for the creation of scrub/woodland with marginal grassland habitat, bare rock/scree and ephemeral ponds.

-**Scenario B:** The continuation of quarrying. The extent of any continued quarrying activity on site has not yet been defined, but will be supported by its own environmental assessment to support the planning process. Contained in this report is an approximation of potential impacts assuming that the quarry footprint does not change and that activities retain a similar character to previous extraction works at the site.

4. NATURA 2000 SITES WITHIN THE ZONE OF INFLUENCE OF THE SITE

As stated above, European Directive 92/43/EEC (The Habitats Directive) requires that any plans or projects that could, alone or in combination with other plans or projects, affect a Natura 2000 site, be subject to screening for potential significant effect on any Natura 2000 site.

3.1 Screening Assessment of Natura 2000 sites

The following section provides information on the Natura 2000 sites in the vicinity of the quarry site at Cartron, Co. Galway which have the potential to be within the zone of influence of the proposals (namely the the presence of unauthorised structures and the continuation of quarrying activities from January 2015 to June 2019). In many cases a standard 15 km distance from a subject is used as a potential zone of influence within which Natura 2000 sites should be screened for potential impact. However, in reality, the potential impacts on Natura 2000 sites are dependent on the nature of impacts arising, the sensitivity of receptors and the causal links and conduits, rather than distance. In many cases the potential zone of influence is considerably less than 15 km (for example noise and airborne pollution) while the potential zone of influence could be greater than 15 km, for example if there is a direct water connection.

Natura 2000 Sites with potential pathways for impacts are identified in order to establish the zone of influence of the proposals. These can then be assessed based on factors such as proximity to the proposals, the Qualifying Interests (QI's) of the Natura 2000 Sites (and the species or habitats upon which these rely), and their conservation status. A screening matrix, shown in **Table 3** below, is provided which illustrates the potential impacts, and any potential significant effect of the proposals on these Natura 2000 sites.

The screening process highlights that five Natura 2000 Sites: Lough Corrib SAC, Shrle Turlough SAC Cloughmoyne SAC, Mocarha Lough SAC and Lough Corrib SPA (**Figure 3.1**) occur within 15 km of the quarry site. The quarry site is approximately 3.5 km west of Lough Corrib SAC in direct distance (**Figure 3.1**). The Quarry site is not directly hydrologically connected to any Natura 2000 site.

Each of the Natura 2000 Sites within 15 km of the quarry site is listed in **Table 3**. Also, in **Table 3**, the QIs are listed, the potential for the proposals to affect them is considered and a conclusion on the potential for the proposals to have a significant effect on the QIs (and therefore the Natura 2000 Site) is made.

Table 3 - Screening Matrix of European Sites with a Pathway-Receptor-Linkage to the Proposed Development

European Site (Site Code)	Qualifying Interest [QI code]	Approximate Distance (at the closest point)	Potential Impacts	Within the Zone of Influence?	Potential Significant Effect(s)?
Lough Corrib SAC (000297) (NPWS, 2017)	<ul style="list-style-type: none"> Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae [7210] Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230] Limestone pavements [8240] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Bog woodland [91D0] <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Salmo salar</i> (Salmon) [1106] <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] 	3.5 km terrestrial distance. No hydrological connection	<p>Potential for the proposal to impact water quality in the form of sedimentation and hydrocarbon pollution.</p> <p>Potential loss of bat roosting, commuting and foraging habitat features.</p>	No. There is considered to be no potential source-pathway-receptor linkage to this Site. As such, this site does not lie within the zone of influence of the proposed development.	<p>There are no surface water features in the vicinity of the site, as a result there is no connectivity with a Natura 2000 site via surface water connectivity.</p> <p>Impacts which have occurred Operations during the 2015-2019 period did not involve extraction below groundwater levels or dewatering. Therefore, no lowering of the water-table or drawdown related impacts occurred (Quarryplan, 2021). Impacts on groundwater were assessed as being imperceptible. Furthermore, a 2013 REIS (NEO <i>et al.</i> 2013) stated that there was no physical or olfactory evidence of contamination of ground water. As such, there is no pathway for significant effects on aquatic species or habitats.</p> <p>Quarrying works have been confined to the quarry site, there has been no impact on QI habitats.</p> <p>The conservation objectives for Lough Corrib SAC (NPWS, 2017) list the northern shores of Lough Corrib as hosting designated populations of lesser horseshoe bat (<i>Rhinolophus hipposideros</i>). The application site is located ca. 27km from these known lesser horseshoe bat locations. This distance, by far exceeds the known 2.5km foraging range for this species (Bontadina <i>et al.</i>, 2002). Furthermore, quarrying activities remained restricted to the application site. There will be no alterations of linear features, potential roost features or changes to lighting features within the bounds of Lough Corrib SAC or any known roost. There is no potential for significant effects on this QI species.</p> <p>Impacts which are occurring Quarrying activities have not occurred since 2019, removing some sources of disturbance such as blasting and rock breaking. Given the lack of connectivity with European sites, the nature of site activities and the continuation of control measures on site (section 2.2), it can be concluded that no significant effects on any natura 2000 sites are occurring.</p> <p>Impacts that can reasonably be expected to occur Under a return to active quarrying, similar to the intensity of activities in 2015-2019 (which resulted in no significant effects to European sites) or the restoration of the quarry site (which would represent a</p>

European Site (Site Code)	Qualifying Interest [QI code]	Approximate Distance (at the closest point)	Potential Impacts	Within the Zone of Influence?	Potential Significant Effect(s)?
	<ul style="list-style-type: none"> <i>Lutra lutra</i> (Otter) [1355] <i>Najas flexilis</i> (Slender Naiad) [1833] <i>Hamatocaulis vernicosus</i> (Slender Green Feather-moss) [6216] 				<p>positive ecological change) there will be no likely significant effects on any European Site.</p> <p>In summary, there were/will be no significant effects on the qualifying interests of Lough Corrib SAC as a result of activities occurring in any timeframe assessed in this report</p>
Shrle Turlough SAC (000525) (NPWS, 2021a)	<ul style="list-style-type: none"> Turloughs [3180] 	Ca. 10.9km terrestrial distance. No hydrological connection.	Potential for the proposal to impact water quality in the form of sedimentation and hydrocarbon pollution.	No. There is considered to be no potential source-pathway-receptor linkage to this Site. As such, this site does not lie within the zone of influence of the proposed development	<p>There are no surface water features in the vicinity of the site, as a result there is no connectivity with a Natura 200 site via surface water connectivity.</p> <p>Impacts which have occurred Operations during the 2015-2019 period did not involve extraction below groundwater levels or dewatering. Therefore, no lowering of the water-table or drawdown related impacts occurred (Quarryplan, 2021). Impacts on groundwater were assessed as being imperceptible. Furthermore, a 2013 REIS (NEO et al. 2013) stated that there was no physical or olfactory evidence of contamination of ground water. As such, there is no pathway for significant effects on aquatic species or habitats.</p> <p>Impacts which are occurring Quarrying activities have not occurred since 2019, removing some sources of disturbance such as blasting and rock breaking. Given the lack of connectivity with European sites, the nature of site activities and the continuation of control measures on site (section 2.2), it can be concluded that no significant effects on any natura 2000 sites are occurring.</p> <p>Impacts that can reasonably be expected to occur Under a return to active quarrying, similar to the intensity of activities in 2015-2019 (which resulted in no significant effects to European sites) or the restoration of the quarry site (which would represent a positive ecological change) there will be no likely significant effects on any European Site.</p> <p>In summary, there were/will be no significant effects on the qualifying interests of Shrle Turlough SAC, occurring in any timeframe assessed in this report</p>
Cloughmoyne SAC (000479) (NPWS, 2019)	<ul style="list-style-type: none"> Limestone pavements [8240] 	13.7 km terrestrial distance. No hydrological connection.	Potential for the proposal to impact water quality in the form of sedimentation	No. There is considered to be no potential source-pathway-receptor linkage to this Site. As such,	<p>There are no surface water features in the vicinity of the site, as a result there is no connectivity with a Natura 200 site via surface water connectivity.</p> <p>Impacts which have occurred</p>

European Site (Site Code)	Qualifying Interest [QI code]	Approximate Distance (at the closest point)	Potential Impacts	Within the Zone of Influence?	Potential Significant Effect(s)?
			and hydrocarbon pollution.	this site does not lie within the zone of influence of the proposed development.	<p>Quarrying operations were confined to the application site and as a result there were no significant effects on this terrestrial habitat during this period.</p> <p>Impacts which are occurring Quarrying activities have not occurred since 2019, removing some sources of disturbance such as blasting and rock breaking. Given the lack of connectivity with European sites, the nature of site activities and the continuation of control measures on site (section 2.2), it can be concluded that no significant effects on any natura 2000 sites are occurring.</p> <p>Impacts that can reasonably be expected to occur Under a return to active quarrying, similar to the intensity of activities in 2015-2019 (which resulted in no significant effects to European sites) or the restoration of the quarry site (which would represent a positive ecological change) there will be no likely significant effects on any European Site.</p> <p>In summary, there were/will be no significant effects on the qualifying interests of Cloughmoyne SAC, occurring in any timeframe assessed in this report</p>
Mocorha Lough SAC (001536) (NPWS, 2019a)	<ul style="list-style-type: none"> Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae [7210] 	14.8 km terrestrial distance. No hydrological connection.	Potential for the proposal to impact water quality in the form of sedimentation and hydrocarbon pollution.	No. There is considered to be no potential source-pathway-receptor linkage to this Site. As such, this site does not lie within the zone of influence of the proposed development.	<p>There are no surface water features in the vicinity of the site, as a result there is no connectivity with a Natura 200 site via surface water connectivity.</p> <p>Impacts which have occurred Operations during the 2015-2019 period did not involve extraction below groundwater levels or dewatering. Therefore, no lowering of the water-table or drawdown related impacts occurred (Quarryplan, 2021). Impacts on groundwater were assessed as being imperceptible. Furthermore, a 2013 REIS (NEO <i>et al.</i> 2013) stated that there was no physical or olfactory evidence of contamination of ground water. As such, there is no pathway for significant effects on aquatic habitats.</p> <p>Impacts which are occurring Quarrying activities have not occurred since 2019, removing some sources of disturbance such as blasting and rock breaking. Given the lack of connectivity with European sites, the nature of site activities and the continuation of control measures on site (section 2.2), it can be concluded that no significant effects on any natura 2000 sites are occurring.</p> <p>Impacts that can reasonably be expected to occur</p>

European Site (Site Code)	Qualifying Interest [QI code]	Approximate Distance (at the closest point)	Potential Impacts	Within the Zone of Influence?	Potential Significant Effect(s)?
					<p>Under a return to active quarrying, similar to the intensity of activities in 2015-2019 (which resulted in no significant effects to European sites) or the restoration of the quarry site (which would represent a positive ecological change) there will be no likely significant effects on any European Site.</p> <p>In summary, there were/will be no significant effects on the qualifying interests of Mocerha Lough SAC, occurring in any timeframe assessed in this report</p>
Lough Corrib SPA (004042) (NPWS, 2021)	<ul style="list-style-type: none"> • Gadwall (<i>Anas strepera</i>) [A051] • Shoveler (<i>Anas clypeata</i>) [A056] • Pochard (<i>Aythya farina</i>) [A059] • Tufted Duck (<i>Aythya fuligula</i>) [A061] • Common Scoter (<i>Melanitta nigra</i>) [A065] • Hen Harrier (<i>Circus cyaneus</i>) [A082] • Coot (<i>Fulica atra</i>) [A125] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] • Common Gull (<i>Larus canus</i>) [A182] • Common Tern (<i>Sterna hirundo</i>) [A193] • Arctic Tern (<i>Sterna paradisaea</i>) [A194] • Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] • Wetland and Waterbirds [A999] 	9.2 km terrestrial distance. No hydrological connection.	<p>Potential for the proposal to impact water quality in the form of sedimentation and hydrocarbon pollution.</p> <p>Disturbance to bird species as a result of blasting and rock breaking.</p>	No. There is considered to be no potential source-pathway-receptor linkage to this Site. As such, this site does not lie within the zone of influence of the proposed development.	<p>There are no surface water features in the vicinity of the site, as a result there is no connectivity with a Natura 200 site via surface water connectivity.</p> <p>Impacts which have occurred Operations during the 2015-2019 period did not involve extraction below groundwater levels or dewatering. Therefore, no lowering of the water-table or drawdown related impacts occurred (Quarryplan, 2021). Impacts on groundwater were assessed as being imperceptible. Furthermore, a 2013 REIS (NEO <i>et al.</i> 2013) stated that there was no physical or olfactory evidence of contamination of ground water. As such, there is no pathway for significant effects on wetlands and waterbirds.</p> <p>Impacts which are occurring Quarrying activities have not occurred since 2019, removing some sources of disturbance such as blasting and rock breaking. Given the lack of connectivity with European sites, the nature of site activities and the continuation of control measures on site (section 2.2), it can be concluded that no significant effects on any natura 2000 sites are occurring. The large terrestrial distance and lack of direct line of site between the application site (9.2 km) and Lough Corrib SPA precludes disturbance effects.</p> <p>Impacts that can reasonably be expected to occur Under a return to active quarrying, similar to the intensity of activities in 2015-2019 (which resulted in no significant effects to European sites) or the restoration of the quarry site (which would represent a positive ecological change) there will be no likely significant effects on any European Site.</p> <p>In summary, there were/will be no significant effects on the qualifying interests of Lough Corrib SPA, occurring in any timeframe assessed in this report</p>

5. CONSIDERATION OF 'IN-COMBINATION' IMPACTS

Article 6 of the EU Habitats Directive and Regulation 15 of the European Communities (Natural Habitats) Regulations state that any plan or project that may, either alone or in combination with other plans or projects, significantly affect a European Site should be the subject of an Appropriate Assessment. The assessment of in-combination impacts is therefore an important part of the screening process.

In-combination impacts can be an issue when proposals have a small impact on European Sites as a result of factors such as disturbance or pollution. If other proposals also have a further small impact, the combined result can be a significant impact on the European Site. A search was conducted using Galway County Council's public planning viewer⁹.

Given that there are no receptor-pathway linkages between the application site and any Natura 2000 site, this section focused on potential cumulative effects of cumulative disturbance as a result of dust and noise, in addition to cumulative ground water quality impacts.

The major factor which could potentially contribute to cumulative impacts is the directly adjacent Mortimer's Quarry.

Habitat features which were removed or reduced during the 2015-2019 period were contained within the site itself and did not play considerable roles in the connectivity of the broader surroundings. Furthermore, the linear features around the outside of the site perimeter such as treelines and hedgerows have been retained. There is therefore not considered to be any potential for cumulative impacts in this regard.

Disturbance on breeding birds, bats and other fauna have been considered in previous sections to be absent or not significant in the light of baseline conditions which entailed regular quarrying activities. This is not considered to contribute to wider disturbance in a significant extent. The 'Noise and Vibration' Section of the accompanying REIAR (Quarryplan, 2021) found that operations between the two adjacent quarries have consistently operated below the DOEHLG guideline figure for recommended noise levels.

Activities at the application site were deemed not to contribute to groundwater pollution during the quarry's period of activity, showing no physical or olfactory evidence of contamination (NEO *et al.* 2013). The 'Water Environment' section of the REIAR which accompanies this application (Quarryplan, 2021) concluded that the quarry has continued operating without significant impact on the water environment. Furthermore, it was concluded that there will be no lowering of the water table or drawdown related impacts as a result of continued quarry operations. Cumulative impacts on groundwater along with Mortimer's Quarry were also deemed to be negligible in the 'Water Environment' chapter of the 2013 REIS (NEO *et al.* 2013). As there is no pathway for impacts on turlough ecosystems in the same groundwater body, there is no possibility of significant cumulative effects.

There are no other issues that are considered to be relevant with respect to potential in-combination impacts for this site. There will be no significant effects on any Natura 2000 site as a result of in-combination impacts.

⁹ <https://galwaycoco.maps.arcgis.com/apps/webappviewer/index.html?id=3570e45b0e354cf0b740ecbc7505adb2> (accessed 10/05/21)

6. CONCLUSIONS OF SCREENING

According to the Department of Environment, Heritage and Local Government (2009), the Appropriate Assessment Stage 1: Screening exercise can result in one of three conditions:

- An Appropriate Assessment is not required i.e., where the plan / proposal is associated with the management of the site;
- There is no potential for significant effects i.e., Appropriate Assessment is not required; and,
- Significant effects are certain, likely or uncertain i.e., the project must either proceed to Stage 2: Appropriate Assessment, or be rejected.

As displayed in the screening matrix in **Table 3.1** above it has been concluded that there is 'no potential for significant effects' to occur in relation to Lough Corrib SAC, Shrulough SAC, Cloughmoyne SAC, Mocarha Lough SAC and Lough Corrib SPA or any other European Sites. **The nature of the Proposed Development, its lack of hydrological connectivity and its separation distance from the five European Sites means that there is no potential for significant effects on Qualifying interests of European Sites.**

The Screening for Appropriate Assessment has identified that, on the basis of best scientific knowledge, there has been and will be no significant effects on any European Sites as a result of this proposal, taking account of the Sites' conservation objectives, either individually or in combination with other plans or projects. Consequently, it is considered that there is therefore no requirement to progress to Appropriate Assessment in this case .

7. REFERENCES

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