



Water Framework Directive Assessment Cam, Co. Roscommon

Continuance of Use of Existing Cam Quarry

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Basis of Report

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Table of Contents

Basis of Report	i
1.0 Introduction	1
1.1 Site location and details.....	1
1.2 Development overview	1
1.3 Water Framework Directive Assessment report.....	2
1.4 Supporting documents.....	2
1.5 Statement of Authority	2
1.6 Zone of influence	3
2.0 Water Framework Directive	5
2.1 River Basin Management Plans	6
2.1.1 River Basin Management Plan for Ireland 2022-2027	6
2.2 WFD Surface Water Bodies and catchments.....	7
2.3 WFD Groundwater bodies	7
2.4 Source Protection Areas.....	7
2.5 Designated Areas.....	7
3.0 WFD Assessment Methodology	8
4.0 Stage 1 - WFD assessment screening	9
4.1 Screening exercise.....	9
4.1.1 Surface Water	9
4.1.2 Groundwater	9
4.1.3 Drinking water Schemes.....	9
4.1.4 Designations	9
4.2 Screening outcomes.....	9
5.0 Stage 2 - WFD Assessment Scoping	11
5.1 Identified potential risks from the proposed development	11
5.2 Identification of potential receptors	11
5.3 Source Pathway Receptor Model	11
5.4 Potential Pollution Sources.....	12
5.5 Pathways.....	12
5.6 WFD receptors for assessment	12
5.6.1 Surface Water	12
5.6.2 Groundwater	13
5.6.3 Public Water Supplies	13
5.6.4 Groundwater Dependant Environments.....	13
5.6.5 Ecological Designation	13



5.7 Findings from the scoping	13
6.0 Stage 3 - WFD impact assessment.....	15
6.1 Baseline Environmental Conditions	15
6.1.1 WFD identified pressures on waterbodies	15
6.1.2 Baseline Aquatic Survey.....	15
6.2 Designated areas	15
6.3 WFD impact assessment methodology	16
6.4 Sensitivity of WFD receptors	16
6.5 Mitigation measures	17
6.6 Potential impacts on WFD receptors	18
6.7 Risk of deterioration in status	22
7.0 WFD compliance findings.....	23

Tables in Text

Table 1 Site WFD Catchment Areas	3
Table 2 Site WFD Groundwater Body	4
Table 3. WFD screening outcome	10
Table 4: Identified potential receptors within the development potential zone of influence	11
Table 5: Sensitivity and Significance of WFD Environmental Receptors.....	16
Table 6. WFD Impact Assessment – significance of effects with embedded mitigation measures	19
Table 7: Risk of deterioration in status of identified WFD receptors as a result of Proposed Development.....	22

Figures

Figure WFD-1: Site Location and Zone of Influence.....	
Figure WFD-2: River Sub Basins and Surface Water Bodies	
Figure WFD-3: Groundwater Bodies	
Figure WFD-4: Public Water Supply Zones.....	
Figure WFD-5: Ecological Designations and Zone of Influence.....	

Appendices

Appendix A	WFD Catchments, Watercourses and Groundwater Bodies in Study Area
Appendix B	Surface Waters Classification
Appendix C	Ecological Status Classification
Appendix D	WFD Stage 1 Screening for surface water bodies and WFD details



Appendix E	WFD Stage 1 Screening for groundwater bodies and WFD details
Appendix F	Designated Areas
Appendix G	Drinking Water Protected Areas
Appendix H	Hydrogeological Report by OGE (Copy provided in EIAR Chapter 7 – Appendix J submitted with the planning application)



1.0 Introduction

SLR Environmental Consulting (Ireland) Ltd. (SLR) has been appointed by Roadstone Limited to prepare a Water Framework Directive (WFD) Assessment report for Cam Quarry, Co. Roscommon and is submitted in support of a Planning Application and accompanying Environmental Impact Assessment Report (EIAR) for the proposed continued use of the existing permitted quarry, and ancillary facilities.

In the absence of specific Irish guidance on undertaking WFD Assessments, this assessment and report has been undertaken with regard to the following guidelines:

- Nationally Significant Infrastructure Projects - Advice Note Eighteen: The Water Framework Directive, Planning Inspectorate for England and Wales (Rev.1, June 2017).

This WFD assessment report sets out the potential implications of the existing Quarry development for the objectives of the WFD, identifies relevant water bodies which may be impacted, and identifies whether the requirements of the WFD are being met and the development will not result in a deterioration in status.

The WFD Assessment report has been updated to provide supporting information to the first party appeal submission against the decision of Roscommon County Council to refuse permission in the case of planning ref. PD/25/60577. The updated assessment considers the additional mitigation measures in relation to water management at the site, namely:

- Upgrade the existing surface water management system so that surface water run-off will be directed to two lined lagoons before discharge to ground. Water run-off will be directed to collection Lagoon 1 to prevent infiltration of fines to the existing sump / infiltration area; this water will then be directed to settlement Lagoon 2 for the settlement of fines before being directed via a hydrocarbon separator and pipeline to the existing sump / infiltration area where clean, treated water will be discharged to ground.

1.1 Site location and details

The application Site is located within the townlands of Curry / Cloonacaltry, Co. Roscommon and approximately 4 km to the west of Brideswell, and c. 12 km west of Athlone. The landholding comprises c. 68 hectares (c.168 acres) of lands, see **Figure WFD-1**.

The proposed development site is located within the Upper Shannon (ID 26D) Catchment.

1.2 Development overview

The proposed development at Cam Quarry applied for under planning ref. PD/25/60577 consists of:

- Permission for continued use of the existing quarry development currently permitted by P. Ref. 04/1479 and ABP PL20.215417 for a further period of 10 years, within an application area of c. 66.3 hectares, with an extraction area of c. 12.9 hectares and permanent overburden storage area of c. 2.9 hectares;
- Permission for continued use of the permitted facilities consisting of: ESB substation (26m²), portacabin office facilities including canteen and washroom facilities (91m²), bunded fuel storage, vehicle circulation/access including wheelwash and weighbridge, settlement tanks/hydrocarbon interceptors for treatment of water, construction of overburden and screening mounds, all other associated site works and ancillary activities;
- Permission for continued extraction of limestone using conventional blasting techniques and processing of rock using crushing and screening plant;



- Upgrade of the existing Wastewater Treatment System (WwTS) and percolation area to new Secondary WwTS and constructed soil polishing filter area;
- Provision of the permitted concrete batching plant, truck washdown facility with wash water recycled via a closed settlement tank system, the storage of aggregates; and
- Restoration of the overall application site to a natural habitat including a seasonal waterbody.

In terms of the water environment and the WFD, the key aspects of the proposed development which relate to potential impacts on water are:

- there is currently no discharge (and none proposed) of water from the Site to any watercourses.
- there will be no surface water abstraction from any waterbodies;
- a truck washdown facility with wash water recycled via a closed settlement tank system;
- the existing fuel storage is within a bunded tank, and the hard stand refuelling area has a hydrocarbon interceptor; and
- a new packaged Secondary WwTS and constructed soil polishing filter area will be installed at the site to replace the existing WwTS.

1.3 Water Framework Directive Assessment report

This WFD Assessment report has been prepared for the Proposed Development and includes the following stages:

- **Stage 1** - WFD Screening (Section 4.0 of this report);
- **Stage 2** - WFD Scoping (Section 5.0 of this report); and
- **Stage 3** - WFD Impact Assessment (Section 6.0 of this report).

This report will demonstrate how the requirements of WFD have been complied with and provides information on how the objectives of the River Basin Management Plan (RBMP) have been met.

1.4 Supporting documents

A number of documents have been prepared for the Proposed Development in support of the planning application. This WFD Assessment report has been prepared with regard to the following documents and should be read in conjunction with them, the documents include:

- The Environmental Impact Assessment Report (EIAR) for the planning application, specifically Chapter 5 Biodiversity and Chapter 7 Hydrology and Hydrogeology, prepared by SLR (November, 2025) and updated May 2026 as part of the Further Information submission to the Planning Authority. The EIAR includes details of the Geophysical ground investigation as well as the borehole ground investigation and groundwater level monitoring; and
- The Appropriate Assessment Screening and Natura Impact Assessment Report (NIS), prepared by SLR (November, 2025) and updated May 2026 as part of the Further Information submission to the Planning Authority. A revised NIS report forms part of the information submitted to ACP as part of this first party appeal

1.5 Statement of Authority

This WFD Assessment report was prepared by SLR Environmental Consulting (Ireland) Ltd. The project team consists of:



- Michelle Sherry – Project Hydrogeologist BSc. (Environmental Bioscience), GradCIWEM, MIAH;
- Dominica Baird - Technical Director (Hydrogeology) BSc. (Earth Science), MSc (Hydrogeology), CGeol, EurGeol, MIAH; and
- Peter Glanville - Technical Director (Hydrology) BA (Geography), PhD (Geomorphology), PGeo, EurGeol.

Michelle is Project Hydrogeologist with the Hydrology and Hydrogeology team based in SLR Consulting Dublin. Since joining SLR, some of her roles and responsibilities have included undertaking groundwater and surface quality monitoring, collecting and analysing logger data from a variety of sites, compiling site monitoring data and preparing reports to be sent to clients. She also has contributed to the preparation of Environmental Impact Assessment Reports and of Water Framework Directive reports. A First Class Honours degree in Environmental Bioscience (BSc) has provided a solid foundational knowledge in hydrology and the Water Framework Directive plus the ability to collect, handle and analysis datasets and write scientific reports.

Dominica is a Chartered Hydrogeologist with twenty-two years' consultancy experience. Dominica has practised hydrogeology, groundwater risk and contaminated land assessment in London, Edinburgh and Dublin and leads groundwater monitoring, water resources and due diligence projects. Key competencies include hydrogeological assessments and aquifer characterisation, developing conceptual site models, quantitative and qualitative groundwater risk assessments and groundwater investigations. Dominica has presented findings of hydrogeological assessments at oral hearings and prepared briefs of evidence. She has project managed numerous water assessments for EIARs, which have predicted potential impacts on the water environment.

Peter is a technical and project Director in the Water (Hydrology and Hydrogeology) team in SLR's Dublin office. He has over 20 years' experience in environmental consulting including hydrology, geomorphology and geology and is a Professional Geologist (PGeo. EurGeol.) with the Institute of Geologists of Ireland. Peter's specialist experience is in the field of water assessments, hydrological monitoring (hydrology and hydrogeology) and hydromorphology. He has overseen the design and practical implementation of a number of field scientific monitoring programmes, supported the management, analysis and interpretation of the scientific data collected, and written and reviewed the resultant technical reports. Peter has worked on a wide range of projects in the minerals and mining, power, commercial and infrastructure sectors. He leads as project manager on multi-disciplinary projects and also acts as project director for multi-disciplinary teams.

1.6 Zone of influence

The zone of influence, or study area, for the purpose of this WFD Assessment is taken to be a 15 km radius from the Site boundary, see **Figure WFD-1**. This zone of influence is consistent with the standard zone of influence radius used in the Appropriate Assessment and Natura Impact Assessment. The zone of influence can extend beyond 15 km radius from the Site in certain circumstances where there is a direct hydrological link to a designated site and if it is considered that the Proposed Development has the potential to impact on a waterbody.

The Site WFD catchment hierarchy is shown in **Table 1** below. The Catchments, Sub-Catchments and River Sub Basins within the study area are listed in **Appendix A**. The application Site is located in the Suck South Groundwater Body (GWB), see **Table 2** and GWBs located within the wider study area are listed in **Appendix A**.

Table 1 Site WFD Catchment Areas

WFD Catchment Hierarchy	WFD Catchment Name
Catchment	Upper Shannon - Catchment ID. No. 26D
Sub-catchment	Suck_SC_090 Sub-catchment ID. 26D_5



WFD Catchment Hierarchy	WFD Catchment Name
River Sub-Basin	Sub-basin ID. BALLYGLASS_010

Table 2 Site WFD Groundwater Body

WFD Groundwater Body	WFD Groundwater Body Name
Suck South GWB	IE_SH_G_225



2.0 Water Framework Directive

The Water Framework Directive (WFD) (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy)¹ was adopted and came into force in 2000 and sought to align provisions for water resource protection in response to emerging scientific data on widespread degradation of quality. It establishes a legislative framework for the protection of surface waters (including rivers, lakes, transitional waters (Article 2 of 2000/60/EC defines 'Transitional waters' which for the purposes of this Advice Note are referred to as estuarine waters) and coastal waters) and groundwater throughout the EU.

The EU WFD became EU law in December 2000 and provides for a single European approach to assessing water quality (Ecological status) and allows for the comparison of results across Europe.

The WFD requires all Member States to protect and improve water quality in all waters so that we achieve good ecological status by 2015 or, at the latest, by 2027. It was given legal effect in Ireland by the European Communities (Water Policy) Regulations². The Directive requires that management plans be prepared on a river basin basis and specifies a structured method for developing these plans.

Surface waters are classified into five quality classes (Ecological status) under the WFD; High, Good, Moderate, Poor and Bad Ecological status. Groundwater is classified into just two quality classes, Good and Poor Ecological status. High Ecological status is when the water is unpolluted, while at the opposite end of the classification Bad Ecological status is when the water is highly polluted.

The Ecological Status is assessed based on a combination of biological, chemical and hydromorphological quality parameters. The overall status sought for all waterbodies under the objectives of the WFD by 2027, at the latest, is based on the combined analysis of these three variables is Good or High ecological status and Good chemical status for surface waters and Good chemical and quantitative status for groundwaters.

The overall aims and objectives of the WFD are to:

- enhance the status and prevent further deterioration of surface water bodies, groundwater bodies and their ecosystems;
- ensure progressive reduction of groundwater pollution;
- reduce pollution of water, especially by Priority Substances and Certain Other Pollutants (Annex II, Environmental Quality Standards (EQS) Directive (2008/105/EC) as amended);
- contribute to mitigating the effects of floods and droughts;
- all water bodies must reach at least 'Good' overall status by 2027, at the latest. For surface waters, good overall status is a combination of good ecological status (or potential) and good chemical status;
- the status of each water body, including all the quality elements which make up the overall status, must not deteriorate relative to the baseline reported in the relevant RBMP; and
- to promote sustainable water use.

The WFD identifies where actions are required to achieve Good Ecological status or maintain waterbodies which are already Good or High Ecological status. Waterbodies can be restored to

¹ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

² European Communities (Water Policy) regulations 2003 (SI No. 722 of 2003).



Good and High Ecological status by using targeted actions and measures to reduce the impact of human activities on them.

For heavily modified or artificial water bodies, which are incapable of achieving Good Ecological status without impairing an existing specified water use, the environmental objective is to achieve Good Ecological potential.

The WFD requires that management plans are prepared on a river basin basis and specifies a structured method for developing these plans.

The WFD surface waters classification is shown in **Appendix B** and the ecological status classification is shown in **Appendix C**.

2.1 River Basin Management Plans

The WFD requires the consideration of a single system of water resource management through characterisation, protection and enhancement of water resources considered within the context of a river basin district (RBD) with the production of a River Basin Management Plan (RBMP) by the Environmental Protection Agency (EPA).

The RBMPs describe the current state of the water environment for each RBD, the pressures effecting the water environment, the objectives for protecting and improving it, and the programme of measures needed to achieve the statutory environmental objectives of the WFD. RBMPs are subject to a six year planning cycle and are to be routinely reviewed and updated to ensure compliance with the overall WFD objectives.

The RBMPs provide a single system of water management based on the natural delineation of river catchments and is the method by which the aims of the WFD are implemented.

For each river basin district in Ireland a RBMP plan needs to be established and updated every six years, to provide the context for the co-ordination requirements of the WFD, key aims of which are to:

- provide for protection to all waters, surface waters and groundwater;
- achieving Good Ecological status for all waters by 2027;
- establish water management measures based on river basin catchment areas;
- establish a combined approach of emission limit values and quality standards for waters;
- involving citizens more closely in the WFD and RBMP; and
- streamlining and aligning national legislation.

The RBMP provides a detailed account of how the objectives set for each river basin in terms of ecological status, quantitative status, chemical status and protected area objectives are to be reached within the timescale of the plan. The plans include the results of the catchment analysis including the river basin's characteristics, a review of the impact of human activity on the status of waters in the basin, estimation of the effect of existing legislation and the remaining gap to meeting these objectives; and establish a set of measures designed to meet the objectives.

2.1.1 River Basin Management Plan for Ireland 2022-2027

The current RBMP report for Ireland is at the draft stage³. The draft report states that while substantial progress has been made in the management of water services and how we work together to protect, restore and improve water quality with the improvement in some areas and

³ Draft River Basin Management Plan for Ireland 2022-2027, Government of Ireland



aspects of water quality, many waterbodies are still subject to mounting environmental pressures and overall water quality is in decline primarily due to nutrient pollution.

The RMBP states that due to the overall decline in water quality, stronger measures are now required which will improve overall water quality. The sustainable management of water resources is important to address and adapt to the impacts of climate change, with many of the required measures having co-benefits for climate mitigation and biodiversity. Protecting and restoring water quality in Ireland will most of all need measures to address:

- the loss of agricultural nutrients to water;
- continue to improve waste water treatment; and
- to re-establish natural free-flowing conditions in more rivers.

The plan states that Ireland's water resources and services face challenges on a number of fronts including a continued need for investment in infrastructure and increasing demand for water services due to urbanisation, population and economic growth. These challenges are set against a backdrop of widespread, rapid and intensifying climate change.

2.2 WFD Surface Water Bodies and catchments

The local surface water bodies and catchments within the potential zone of influence for rivers and the river catchments are identified in **Figure WFD-2**.

2.3 WFD Groundwater bodies

The WFD groundwater bodies within the potential zone of influence are identified in **Figure WFD-3**.

2.4 Source Protection Areas

Public water supply source protection areas in the vicinity of the site are shown in **Figure WFD-4**.

2.5 Designated Areas

The designated areas within the potential zone of influence are identified in **Figure WFD-5**.



3.0 WFD Assessment Methodology

The WFD impacts have been considered in a three-stage assessment process the stages in the assessment process are set out as follows:

- Stage 1 WFD screening.** To determine if there are any activities associated with the Proposed Development that don't require further consideration, for example activities which have been ongoing since before the current RBMP plan cycle and which have thus formed part of the baseline;
- Stage 2 WFD scoping.** To identify risks of the Proposed Development's activities to receptors based on the relevant designations and hydrological link using a source-pathway-receptor approach; and
- Stage 3 WFD impact assessment.** An assessment of water bodies and their quality elements that are considered likely to be impacted by the Proposed Development, identification of any areas of noncompliance; consideration of mitigation measures and contributions to the WFD objectives to achieve Good Status

Any mitigation measures relied upon to demonstrate compliance at any of the above stages needs to be appropriately defined in order to ensure securement through any Planning Permission conditions for the Proposed Development.

Preplanning consultations were undertaken with statutory consultees including Roscommon Co. Council during the EIA process undertaken for the Proposed Development. In response to the initial consultation, an aquatic survey of the Ballyglass River was undertaken. The survey was requested by Roscommon Co. Council at the time of the initial planning application on the basis that there would be dewatering and discharge off site to the Ballyglass River. However, the proposed scheme has been subsequently amended; the revised scheme will eliminate the requirement to dewater and to discharge water off site to the Ballyglass River.



4.0 Stage 1 - WFD assessment screening

The WFD catchments, surface waterbodies and groundwater bodies in the 15 km zone of influence of the Site are shown in **Figure WFD-2** and **Figure WFD-3**. The drinking water supplies are shown in **Figure WFD-4** and ecological designation within the 15 km zone of influence of the Site are shown in **Figure WFD-5**.

4.1 Screening exercise

4.1.1 Surface Water

Screening for WFD surface water bodies has been carried out, identifying all WFD surface water bodies within a 15 km of the Site or the potential zone of influence, see **Appendix D**. A 15 km area for the zone of influence is used here as this is in line with the study area used for the Appropriate Assessment and Natura Impact Statement undertaken for the Proposed Development and submitted in support of the planning application.

The identified surface water bodies within the potential zone of influence and their details are set out in **Appendix D**.

4.1.2 Groundwater

Screening for WFD groundwater bodies has been carried out, identifying all WFD groundwater bodies within a 15 km of the Site or the zone of influence, see **Appendix E**. A 15 km radius for the zone of influence is used here as this is consistent with the study area used for the Appropriate Assessment and Natura Impact Statement undertaken for the Proposed Development and submitted in support of the planning application.

The identified groundwater bodies within the potential zone of influence and their details are set out in **Appendix E**.

4.1.3 Drinking water Schemes

Screening for drinking water supplies schemes and source protection areas has been undertaken to identify sites within a 15 km of the Site or the potential zone of influence, see **Appendix G**. A 15 km radius for the zone of influence is used here as this is consistent with the study area used for the Appropriate Assessment and Natura Impact Statement undertaken for the Proposed Development and submitted in support of the planning application.

The identified designated areas within the potential zone of influence and their details are set out in **Appendix G**.

4.1.4 Designations

Screening for designated areas has been undertaken to identify sites within a 15 km of the Site or the potential zone of influence, see **Appendix F**. A 15 km radius for the zone of influence is used here as this is consistent with the study area used for the Appropriate Assessment and Natura Impact Statement undertaken for the Proposed Development and submitted in support of the planning application.

The identified designated areas within the potential zone of influence and their details are set out in **Appendix F**.

4.2 Screening outcomes

Based on the identified potential zone of influence for the Proposed Development and hydrological links, the following WFD waterbodies in **Table 3** are screened in for the purpose of this assessment.



The remainder of the waterbodies identified in **Appendix D** and **Appendix E**, and the designations in **Appendix F** are therefore screened out from further consideration as part of this WFD Assessment as there is no hydrological link to the Proposed Development Site.

Table 3. WFD screening outcome

No.	WFD Feature	Reason for Screening in
1	Local surface water courses Cross River, North Killeglan tributary, Killeglan River and River Suck	These surface waterbodies have a potential hydrogeological link to Site as there is a high degree of interaction between surface water and groundwater due to numerous karst features in this area.
2	Killeglan Public Water Supply (PWS) located within the Killeglan River Sub Basin.	Potential hydrogeological link as groundwater flows naturally from the Ballyglass River Sub Basin, in which the site is located in, to that of the Killeglan Public Water Supply/Killeglan River Sub Basin/Killeglan River.
3	Corkip Lough SAC and Feacle Lough pNHA (Turloughs)	Groundwater dependent features which are hydrogeological link to the site as both turloughs are groundwater controlled.
4	Suck South groundwater body (GWB)	Site is located within the Suck South GWB.



5.0 Stage 2 - WFD Assessment Scoping

This section of the assessment identifies the risks from the Proposed Development's activities to receptors based on the relevant water bodies and their water quality elements and includes the following:

- identify the potential risks from the proposed development on WFD waterbody receptors, PWS and designated areas within the zone of influence, based on hydrological linkages; and
- identification of those water bodies where a more detailed WFD impact assessment is required.

5.1 Identified potential risks from the proposed development

In terms of identified potential impacts on WFD receptors, the key aspects of the proposed development which relate to water are set out here:

- There will be no abstraction of surface water from any waterbodies;
- The development will continue to be worked dry to an extraction depth of 65 mAOD with the implementation of the proposed water management system;
- There will be no dewatering and no discharge of waters to any adjoining water courses;
- Treated, clean water from the settlement ponds will be discharged to ground via the existing quarry sump / infiltration area in the southwest corner of the quarry;
- Wastewater is currently treated using an existing septic tank which will be upgraded with a Secondary Wastewater Treatment System (WwTS) with a constructed soil polishing filter area; and
- All hydrocarbons at the Site are bunded to 110% of the maximum tank capacity and a hard standing refuelling area with hydrocarbon interceptor will be provided.

5.2 Identification of potential receptors

Receptors within the potential zone of influence of the quarry development have been identified here in this Stage 2 Scoping. The potential receptors are set out in **Table 4** below.

Table 4: Identified potential receptors within the development potential zone of influence

Receptor Type	Figure	List of Identified Receptors
WFD surface water bodies	Figure WFD-2	Appendix D
WFD groundwater bodies	Figure WFD-3	Appendix E
Public water supply areas	Figure WFD-4	Appendix G
Designated areas	Figure WFD-5	Appendix F

5.3 Source Pathway Receptor Model

Potential impacts from the quarry development on identified receptors can be identified using the Source-Pathway-Receptor (SPR) model.

Risk can be defined as “the chance of a defined hazard occurring and achieving its potential”. Reference to documentation (CLR 11)⁴ by the Environment Agency in the UK indicates that there

⁴ Environment Agency (UK). Model Procedures for the Management of Land Contamination (CLR 11)



must be a pollutant linkage between the source of pollution and the receptor, in order for harm to human beings or the environment to occur. The pollutant linkage comprises:

- A **Source** of potential pollution (contaminant);
- A **Pathway** for the pollutant to move from source to receptor. This can include the transport of contamination via groundwater, and
- A **Receptor** (target), which is affected by the pollutant. According to the EPA, key receptors include groundwater, surface water and protected ecological sites.

This scoping assessment is based on the 'source-pathway-receptor' pollution linkage concept. For a potential risk to arise each stage of the pollution linkage must be present.

5.4 Potential Pollution Sources

Potential pollution sources from the Proposed Development are the decrease in groundwater quality from potential increase in suspended solids and accidental fuel leakage / spillage during construction and operational stages. Migration of a pollution source in the shallow groundwater could then migrate laterally to surface water or could migrate vertically to the underlying bedrock aquifer.

Accidental fuel leakage/spillage at the Site is a potential impact and could also infiltrate into the underlying groundwater body.

The construction stage is taken to be the establishment of the concrete batching plant.

The operational stage will consist of continued limestone extraction being carried out over an overall extraction area. The quarry is currently worked dry above the underlying groundwater table.

5.5 Pathways

Pathways are the means by which a receptor is likely to come into contact with a source.

As noted above, suspended solids could migrate laterally in the shallow groundwater to the nearby surface water bodies, including the Cross River and the River Suck. Suspended solids could then migrate from the river to further surface water bodies downstream i.e. River Shannon.

Suspended solids in shallow groundwater could also migrate vertically to the underlying bedrock aquifer and groundwater body.

If an accidental spillage occurred, hydrocarbons could also migrate laterally to nearby surface water bodies and further downstream surface water bodies and could migrate vertically to the underlying bedrock aquifer.

5.6 WFD receptors for assessment

Based on the screening exercise undertaken in Section 4.0 above and scoping exercise undertaken here the following surface water, groundwater, public water supplies, groundwater dependant environments and designated areas are included in this assessment.

5.6.1 Surface Water

The WFD surface water receptors identified and scoped in for this assessment are:

- The Cross River may be hydrogeologically linked to the Site via shallow groundwater flow discharging to local rivers and streams.
- The River Suck may be hydrogeologically linked to the Site via shallow groundwater flow discharging to local rivers and streams.



- Groundwater flows naturally from the Ballyglass River Sub basin to that of the Killeglan River Sub basin and hence, the Killeglan River.

5.6.2 Groundwater

The WFD groundwater receptor identified and scoped in for this assessment is:

- The bedrock aquifer is within the Suck South GWB which has a good status (2016 - 2021).

The Suck South GWB is classified as being a regionally important karstified bedrock aquifer.

5.6.3 Public Water Supplies

The public water supply identified as a receptor and scoped in for this assessment is

- The Killeglan Public Water Supply (PWS) which is supplied by the Tobermore Spring.

The Killeglan PWS supplies over 5,300 homes and has a reported abstraction rate of c. 9,090 m³/d.

5.6.4 Groundwater Dependant Environments

The groundwater dependant environment receptors identified and scoped in for this assessment are:

- Corkip Lough SAC (Site Code 002339); and
- Feacle Lough pNHA (Site Code 001634).

While these turloughs are not designated as Groundwater Dependent Terrestrial Environments (GWDTE) under the WFD, they are environments that are dependent on groundwater levels. Hence, they have been scoped in as a receptor for this assessment.

5.6.5 Ecological Designation

The identified ecological designated sites which are hydrologically linked to the Site are:

- The River Suck Callows SPA (Site Code 004097) and Suck River Callows NHA (Site Code 000222) may be hydrogeologically linked to the Site via shallow groundwater flow discharging to local rivers and streams.
- Corkip Lough SAC (Site Code 002339) and Feacle Lough pNHA (Site Code 001634) which are both turloughs fed by groundwater in the area.

5.7 Findings from the scoping

Based on the Proposed Development outlined above and investigations undertaken at the Site the following statements can be made in terms of the scoping of local surface water and groundwater in the vicinity of the Site:

- i. there is no direct hydrological pathway between the Proposed Development and the adjacent surface water courses as there will be no abstraction of surface water or discharge to surface water courses. **There is no direct hydrological linkage.**
- ii. there are several turloughs in the area which are fed by groundwater. However, O'Neill Groundwater Engineering (OGE) undertook a pump test in 2004 as part of the EIS for Cam Quarry, see **Appendix H** for copy of hydrogeological report written up by OGE. In this pump test, they tested the permeability of the karstified areas of the bedrock below the Site. The results suggest that the permeability of the karst features below the Site is relatively low. Hence, although the turloughs (in particular Feacle Lough and Corkip Lough) may be located above zones of deeper karstification, the contribution of groundwater from the



deeper karst is likely to be very limited. Therefore, while **there is a direct hydrogeological linkage** with the turloughs, it is considered unlikely that continued use of the quarry development will have a significant impact on the turloughs in the surrounding areas.

- iii. There is a **direct hydrogeological link** pathway via the groundwater underlying the Site and the Killeglan Spring, located within the Suck South GWB, as demonstrated by OGE in their report. The report found that the groundwater below the site discharges to both the Killeglan Spring catchment and the Cross River (Corkip Lough).

The proposed development will have a final extraction depth of 65 mAOD, and the proposed surface water management system will direct all surface water run-off to Lagoon 1 (lined) to prevent infiltration of fines to the existing sump / infiltration area in the quarry void. This water will then be directed to Lagoon 2 (lined) for the settlement of fines before being directed via a hydrocarbon separator and pipeline to the existing sump / infiltration area where clean, treated water will be discharged to ground.



6.0 Stage 3 - WFD impact assessment

This impact assessment includes a detailed assessment of the Proposed Site activities and water bodies identified at the WFD screening and scoping Stages 1 and 2 above.

6.1 Baseline Environmental Conditions

The baseline hydrological and hydrogeological conditions at the Site have been identified from the geophysical surveys and ground investigations undertaken at the Site and are presented in Chapters 6 and 7 of the EIAR.

The baseline aquatic ecology (Q Survey) in the surrounding watercourses is outlined in the Aquatic Survey which is included in Chapter 7 of the EIAR.

6.1.1 WFD identified pressures on waterbodies

The baseline conditions in the identified surface water bodies and groundwater bodies are set out in **Appendix D** and **Appendix E**, including the identification of pressures on the waterbodies and the WFD Third-Cycle risk rating for the water bodies not achieving Good Status by 2027.

A number of pressures have been identified downstream for the River Suck from the WFD Third-Cycle, these are set out in **Appendix D** and are included here:

- SUCK_140 and SUCK_150 identified issues are Hydrological and Morphological from Hydromorphology pressures (such as changes in the flow, channels, sediment or riparian zone of a river) and Peat drainage/extraction.

6.1.2 Baseline Aquatic Survey

The aquatic baseline survey undertaken in the Ballyglass River included an invertebrate survey, the findings of which are presented here.

Biological water quality & pressures

A biological water quality assessment was undertaken at surface water sampling locations SW1 and SW2. Two rounds of Q survey monitoring were conducted on the Ballyglass River. In April 2025, a kick sample could not be taken at SW1 for health and safety reasons. Sampling site SW2 received a Moderate status (Q3-4). In July 2025, a kick sample could safely be undertaken at both sampling sites. The results revealed that SW1 achieved a Q value score of Q2-3 (Poor status) and SW2 received a Q value score of Q3 (Poor status) which is a decrease in status from the April 2025 Q survey.

According to CORINE Land Cover mapping (2018), the surrounding land use of the Ballyglass River comprises of agricultural pastures. SW1 is inaccessible to livestock, however, there is a storm drain present at the sample location which feeds into the river after heavy rainfall. Previous surface water chemical quality sampling rounds reveal that after heavy rainfall, the colour and silt levels of the Ballyglass River is impacted. SW2 is located in a pasture field and cows have direct access to the river and it is considered they use the river as a drinking water source.

Therefore, it is considered the main pressure on the Ballyglass River currently is agriculture and surface run-off and the river will not be impacted as a result of the proposed development.

6.2 Designated areas

The identified designated areas which have a hydrological link to the Site are as follows:

- Feacle Turlough pNHA (Site Code 001634) is located c. 550m southeast of Site; and
- Ballynamona Bog and Corkip Lough SAC (Site Code 002339) is located c. 2km southeast of Site



The River Suck is not a drinking water protected river under the WFD but is designated as an SPA's.

Killeglan Public Water Supply (PWS) is a receptor that is hydrologically linked to the Site and provides drinking water to over 5,300 homes.

All Groundwater bodies in Ireland, including Suck South GWB, have been designated as Drinking Water Protected Areas under the WFD. This designation is based on the possibility of meeting the criteria for water abstraction for human consumption, as defined in Article 7 of the WFD. These Drinking Water Protected Areas encompass the complete extent of each WFD groundwater body. The Suck South GWB is classified as a regionally important karstic bedrock aquifer and therefore, is considered as capable of supplying regionally important water supplies.

6.3 WFD impact assessment methodology

The methodology used here to assess the nature, scale and magnitude of impact in terms of WFD potential receptors is the same as that used in the EIAR Chapter 7 for Hydrology and Hydrogeology. The methodology applied here is a qualitative risk assessment methodology in which the nature of the potential impacts is described in terms of the character, magnitude, duration, probability and consequence of the impact are considered.

First the significance and sensitivity of the receptor is classified and then the description of the potential impact is then screened against the significance and sensitivity of the receiving environment to establish the overall significance of the potential impact. The classification of the impact significance is determined using the matrix from the EPA Guidelines (2022).

The following sections identify the sensitivity of the WFD environmental receptors and potential impacts of the Proposed Development during the Construction Stage (concrete batching plant), the Operation Stage (extraction and processing) and Post Operational Stage (Site restoration).

6.4 Sensitivity of WFD receptors

The sensitivity and significance of the identified WFD environmental receptors are outlined in **Table 5** below.

Table 5: Sensitivity and Significance of WFD Environmental Receptors

No.	WFD Environment Receptor	Significance	Sensitivity	Existing Environment Significance / Sensitivity Rating (H/M/L/N)
1	Local Rivers and Streams	Surface watercourses: Cross River located within c. 2km of Site. North Killeglan tributary and Killeglan River and River Suck is in connectivity with Killeglan spring and turloughs in the area.	Cross River is of Moderate WFD status and at risk. The north Killeglan tributary is Moderate WFD status and under review. Killeglan River is Moderate WFD status and not at risk. The River Suck is Moderate WFD status and not at risk. High degree of interaction between surface water and groundwater due to numerous karst features (e.g. turloughs, swallow holes, springs etc). surface and groundwater quality are closely linked.	Medium – Attribute has a medium quality or value on a local and regional scale due to regionally important karstic aquifer.



No.	WFD Environment Receptor	Significance	Sensitivity	Existing Environment Significance / Sensitivity Rating (H/M/L/N)
2	Killeglan PWS, located within the Suck South GWB, is located south of the Site (Suck South GWB)	Killeglan PWS, located within the Suck South GWB, supplies water to over 5300 homes in the area.	The PWS, located within the Suck South GWB, is hydrogeologically linked to the Site as the groundwater under the Site discharges to the PWS. However, the groundwater levels in the Suck South GWB, at the Killeglan PWS are not likely to be affected as there will be no dewatering at the site and therefore no reduction in groundwater levels.	High – Attribute is considered to be of High quality or value on a regional or national scale as it is a regionally important aquifer that supplies > 5300 homes with drinking water.
3	Feacle Turlough pNHA, located c.550m southeast of Site and Corkip Lough SAC, located c. 2km southeast of Site	pNHA is a designated area of protection due to its habitat and wildlife. SAC is a European designated Natura 2000 site. The turloughs are fed by groundwater. In wintertime, when regional groundwater levels rise, the turloughs fill with water.	The groundwater levels at the turloughs will not be affected as there will be no dewatering at the site and therefore no reduction in groundwater levels.	High - Attribute has a high quality or value on an international (SAC status) and regional scale (pNHA status)

6.5 Mitigation measures

In terms of the identified WFD receptors and the potential impacts from the Proposed Development, the existing embedded mitigation measures at the development will continue in place during the proposed continued use of the quarry. The existing and proposed mitigation measures are as follows:

- There will be no abstraction of surface water from any adjoining water courses;
- There will be no discharge of surface or process waters to any adjoining water courses;
- The development will continue to be worked dry with no dewatering (refer to EIAR Addendum Chapter 7 – Water included with the appeal submission);
- A new water management system will be set up to direct all surface water run-off to Lagoon 1 (lined) to prevent infiltration of fines to the existing sump / infiltration area. This water will then be directed to Lagoon 2 (lined) for the settlement of fines before being directed via a hydrocarbon separator and pipeline to the existing quarry sump / infiltration area where clean, treated water will be discharged to groundwater (refer to EIAR Addendum chapter 7 for design and details);
- A new packaged Secondary WwTS and constructed soil polishing filter area will be installed at the site to upgrade the existing WwTS; and



- All hydrocarbons at the Site will continue to be bunded to 110% of the maximum tank capacity and the existing hard standing refuelling area has a hydrocarbon interceptor provided.

These mitigation measures for the Proposed Development will be secured via any future planning permission and associated conditions relating to an approval.

6.6 Potential impacts on WFD receptors

The potential impacts on the identified WFD receptors are set out in **Table 6** below with the embedded mitigation measures in place.

Based on the Proposed Development and with the identified mitigation measures in place it is considered that the potential impacts on the identified WFD receptors will be Not Significant.



Table 6. WFD Impact Assessment – significance of effects with embedded mitigation measures

No.	WFD Receptor	WFD Receptor Significance / Sensitivity Rating	WFD Status	WFD Risk Status	Potential Impacts	Description of Effects	Significance of Effects
1	Local Water courses	Medium - Attribute is considered to be of high quality or value under the WFD as it currently meets Good Status requirements and is upstream from an SPA/pNHA designation.	Moderate status CROSS (ROSCOMMON)_010, KILLEGAN TRIB NORTH_010, KILLEGLAN_010, SUCK_130 WFD rivers all have a Moderate WFD status	Cross River is At risk due to morphological issues and excess nutrients as a result of agriculture and hydromorphological pressures. The north Killeglan tributary is under review. Killeglan River and the River Suck are not at risk .	Potential to effect surface water quality in nearby surface waterbodies located south-southwest of the Site, through potential migration of hydrocarbons laterally. High degree of groundwater and surface water interactions in the vicinity of the Site. However, only clean treated water will discharge to ground at the quarry and therefore there will be no impact on water quality on any surface waterbody as a result of the proposed development.	Negligible. Indirect effect from a pollution incident at the Site. The extent of any effect from a pollution incident at the Site will be over a small area only, if pollution entered the watercourse, it would extend downstream. The duration of any pollution event would be brief lasting less than a day. The probability of a pollution event occurring is considered unlikely given existing and future embedded mitigation measures. The quality of the effect is considered to be neutral on the waters of the Ballyglass River.	Not Significant



No.	WFD Receptor	WFD Receptor Significance / Sensitivity Rating	WFD Status	WFD Risk Status	Potential Impacts	Description of Effects	Significance of Effects
2	Killeglan PWS, located within Suck South GWB, located south of Site (Suck South GWB)	High – Attribute is considered to be of High quality or value on a regional or national scale as it is a regionally important aquifer that supplies > 5300 homes with drinking water.	Suck South GWB has a Good GWB status (2019-2024)	Suck South GWB is Not at risk of not achieving its WFD objectives by 2027.	PWS, located within Suck South GWB, is hydrogeologically linked to Site as groundwater underneath the Site discharges to the PWS. However, the groundwater levels in Suck South GWB, at the Killeglan PWS are not likely to be affected as there will be no dewatering at the site and therefore no reduction in groundwater levels. Similarly, only clean treated water will discharge to the Suck South GWB at the quarry and therefore there will be no impact on water quality on the Killeglan PWS or the Suck South GWB as a result of the proposed development.	Negligible Indirect effect from a pollution incident that has the potential to affect groundwater quality through lateral migration in underlying aquifer. The extent of any effect from a pollution incident at the Site will be over a small area only, The duration of any pollution event at the Site would be brief lasting less than a day. The probability of a pollution event occurring is considered unlikely given embedded mitigation measures. The quality of the effect therefore is considered to be neutral on the Killeglan PWS.	Not Significant
3	Feacle Turlough pNHA and	High - Attribute is considered to be of high quality or value as it has	N/A	N/A	Potential to effect groundwater quality by migration is	Negligible.	Not Significant



No.	WFD Receptor	WFD Receptor Significance / Sensitivity Rating	WFD Status	WFD Risk Status	Potential Impacts	Description of Effects	Significance of Effects
	Corkip Lough located southeast of Site	pNHA designation and the turlough and fen is fed by groundwater.			limited by low permeability in deeper karstic structures. While groundwater flows in a southeasterly direction from Site towards Feacle Lough and Corkip Lough, it is via deeper karstic channels and cavities while Feacle Lough and Corkip Lough are fed by groundwater in the shallower epikarst. Only clean treated water will discharge to ground at the quarry and therefore there will be no impact on water quality on Feacle Lough and Corkip Lough (or any other Natura 2000 site) as a result of the proposed development.	Indirect effect from a pollution incident at the Site. The extent of any effect from a pollution incident at the Site will be over a small area only, if pollution entered the groundwater, it would not extend to Feacle Lough due to the turlough only being fed by shallow epikarst groundwater. The duration of any pollution event at the Site would be brief lasting less than a day. The probability of a pollution event occurring is considered unlikely given embedded mitigation measures. The quality of the effect is considered to be neutral on the waters of the Feacle Lough.	



6.7 Risk of deterioration in status

The potential risk to the identified WFD receptors as a result of the Proposed Development is considered to be Not Significant as set out in **Table 6** above.

This section of the assessment identifies any risk of deterioration of WFD status as a result of the Proposed Development with all embedded mitigation measures in place, see **Table 7** below. Based on the project design and mitigation measures, the WFD screening, WFD scoping and WFD assessment, it is predicted that there will be no risk of deterioration in the status of the identified WFD receptors.

Table 7: Risk of deterioration in status of identified WFD receptors as a result of Proposed Development

WFD Receptor Details				Embedded mitigation measures	Risk of deterioration in Status
No.	WFD Receptor	WFD Status	Identified Existing Pressures		
1	Cross River	All local watercourse receptors are of Moderate WFD status	At risk due to morphological issues and excess nutrients as a result of agriculture and hydromorphological pressures.	Yes	No
	North Killeglan Tributary		Under review		
	Killeglan River		Not at risk		
	River Suck		Not at risk		
2	Killeglan PWS, located within Suck South GWB	Good	Not at risk	Yes	No
	Suck South GWB				
3	Feacle Turlough / Corkip Lough	N/A	N/A	Yes	No

It is considered that based on the nature of the Proposed Development and the designed embedded mitigation measures in place then the Proposed Development will not result in a deterioration in the status of the identified WFD receptors.



7.0 WFD compliance findings

Based on the findings from the WFD screening, scoping and assessment undertaken here, it is considered that the Proposed Development, with the mitigation measures in place, will not result in a deterioration of the existing status of the identified WFD receptors.

It is not considered that the Proposed Development will be a contributing risk factor in any of the identified WFD receptors failing to achieve their status objectives in future.



Figures

Figure WFD-1: Site Location and Zone of Influence

Figure WFD-2: River Sub Basins and Surface Water Bodies

Figure WFD-3: Groundwater Bodies

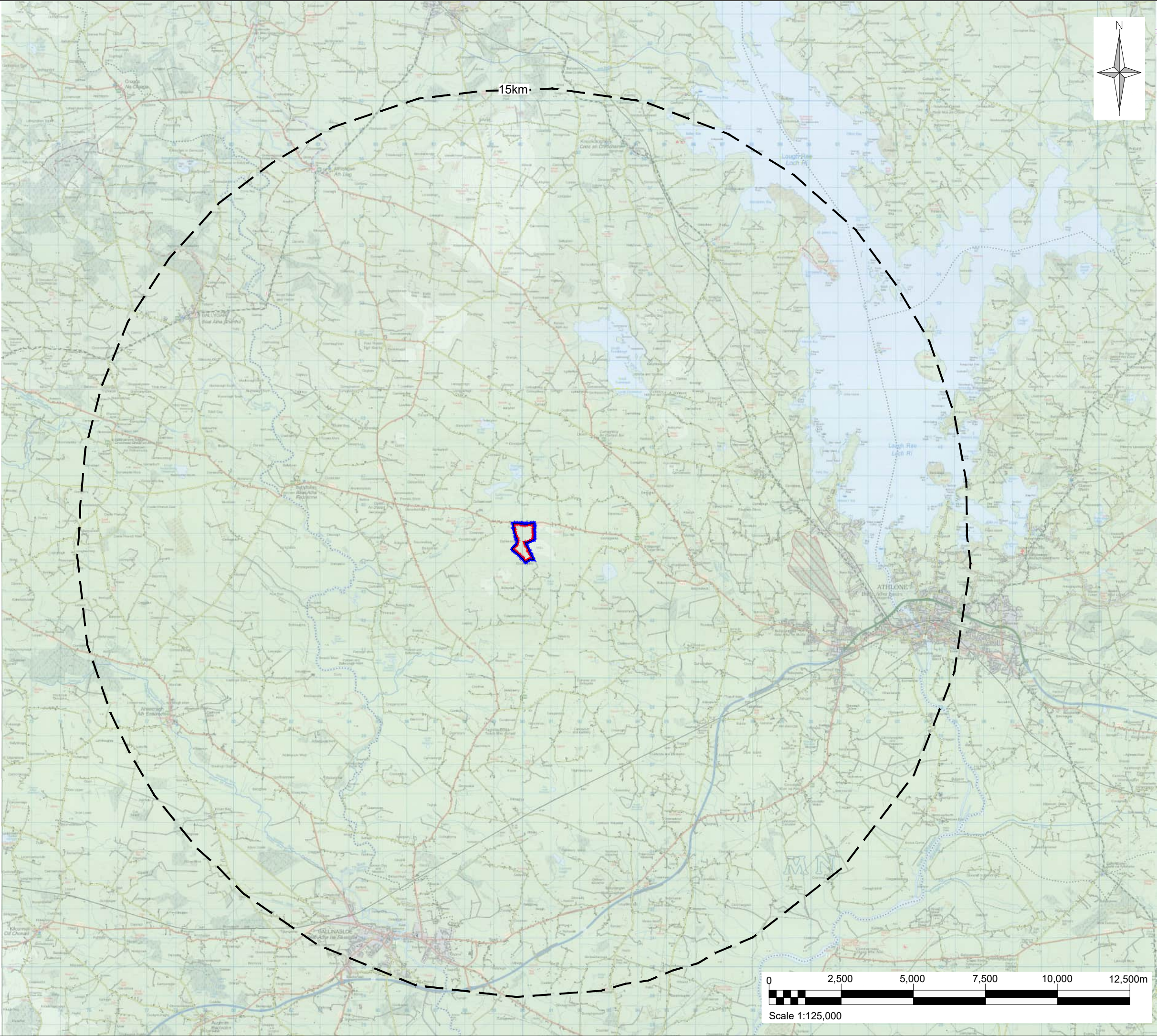
Figure WFD-4: Public Water Supply Zones

Figure WFD-5: Ecological Designations and Zone of Influence



04/11/2023

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Notes:

1. Based on 50,000 scale Discovery Series Tailte Eireann maps 40 & 47

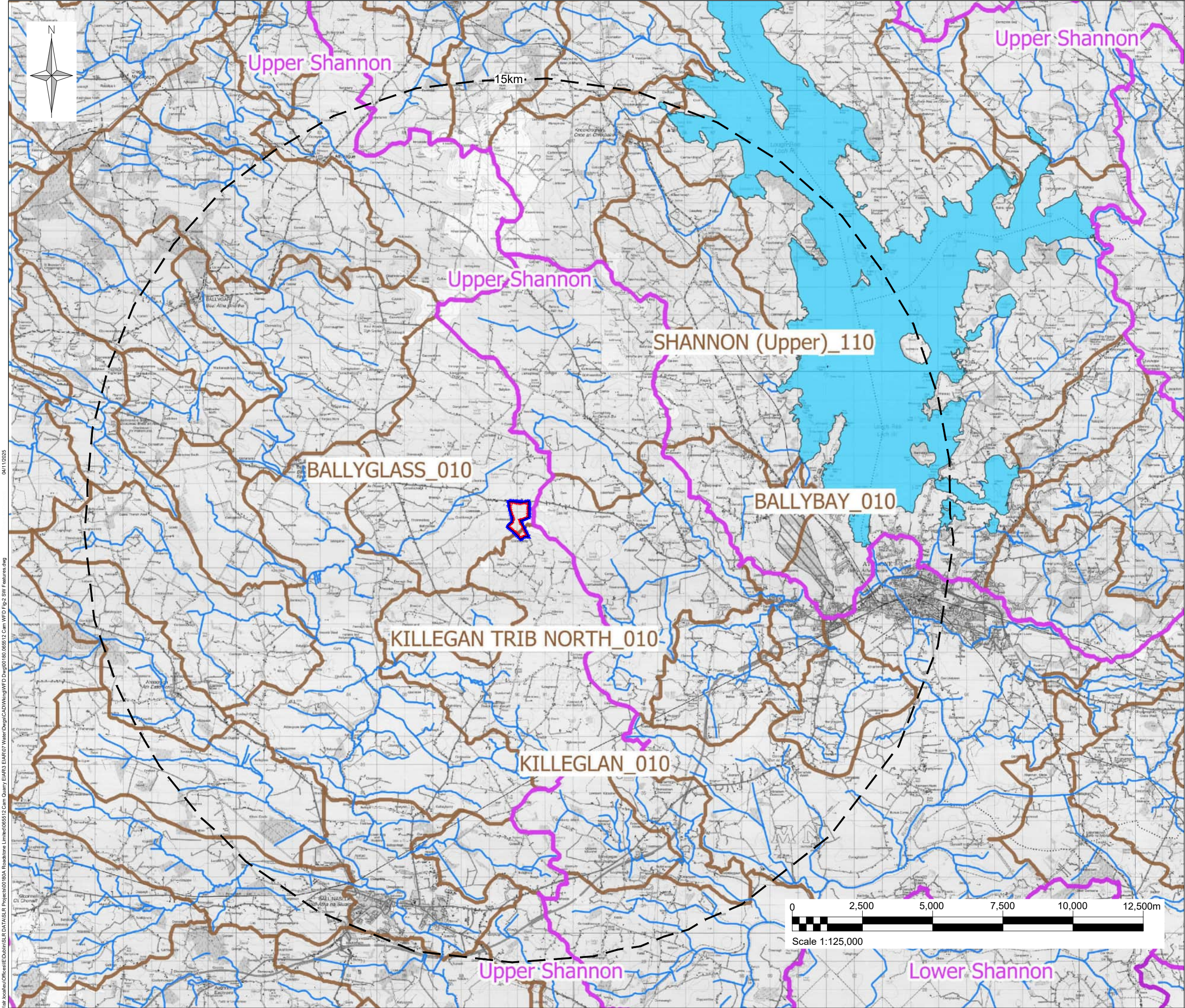
Legend:

Landholding (c. 66.3 hectares)

Planning Application Area (c. 66.3 hectares)

15km Off-Set from Site Boundary

Rev	Amendments	Date	By	Chk	Auth
SLR www.slrconsulting.com					
Client Roadstone Limited					
Project Continued Use of Existing Cam Quarry at Curry & Cloonacaltry townlands, Co. Roscommon					
Figure Title Site Location and Zone of Influence					
Water Framework Directive (WFD) Assessment					
Scale 1:125,000 @ A3		SLR Project No. 501.065512.00001			
Designed mcob	Drawn mcob	Checked pg	Authorised pg		
Date 03/25	Date 03/25	Date 10/25	Date 10/25		
Figure Number Figure WFD-1					Rev. 0



Notes:

1. Based on 50,000 scale Discovery Series Tailte Eireann maps 40 & 47

Legend:

Landholding (c. 66.3 hectares)

Planning Application Area (c. 66.3 hectares)

15km Off-Set from Site Boundary

WFD River Catchment

- Lower Shannon
- Upper Shannon
- WFD Lake Waterbodies
- Surface Watercourse
- WFD Sub-Catchment

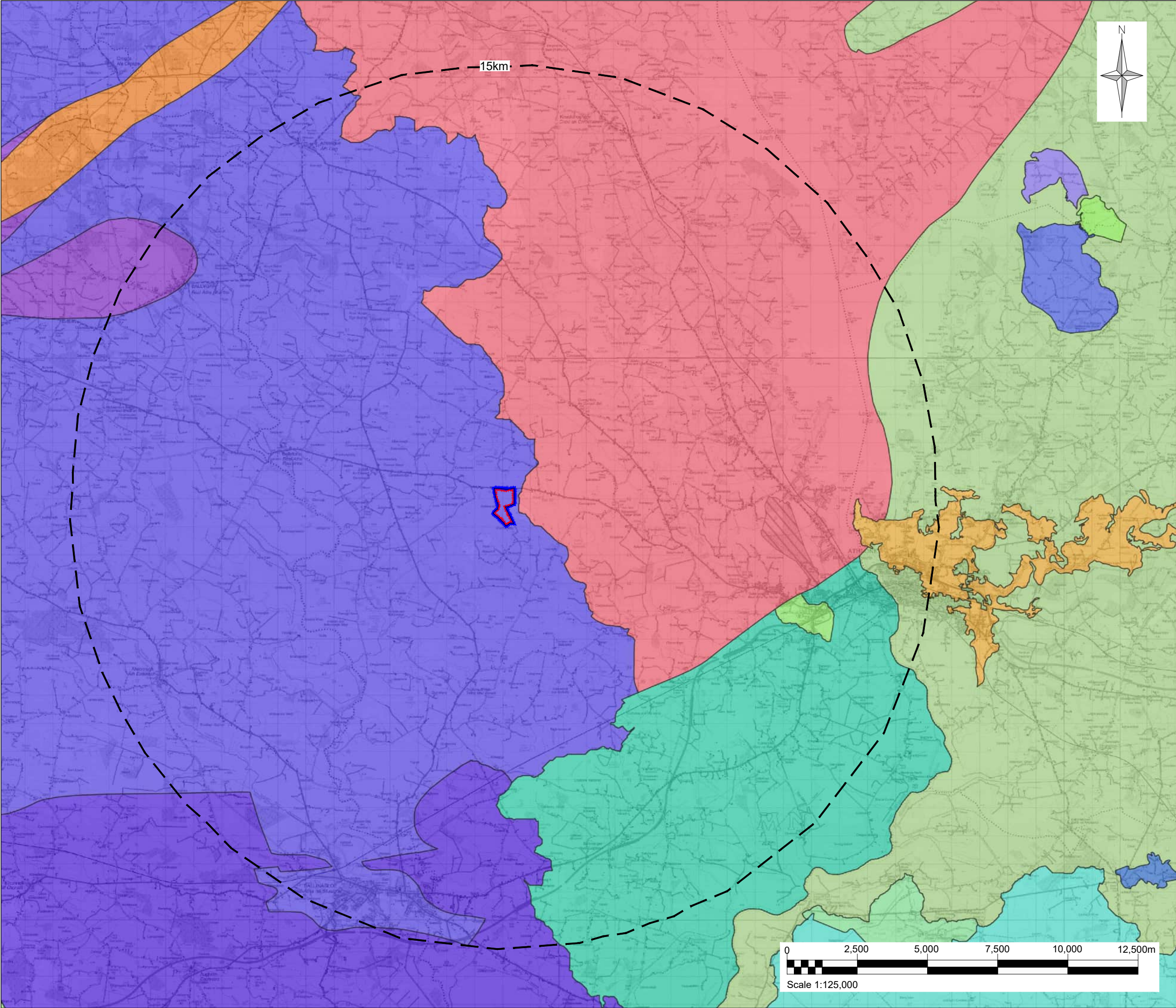
Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Client Roadstone Limited					
Project Continued Use of Existing Cam Quarry at Curry & Cloonacaltry townlands, Co. Roscommon					
Figure Title River Basins & Surface Water Features					
Water Framework Directive (WFD) Assessment					
Scale 1:125,000 @ A3		SLR Project No. 501.065512.00001			
Designed mcob	Drawn mcob	Checked pg	Authorised pg		
Date 03/25	Date 03/25	Date 10/25	Date 10/25		
Figure Number Figure WFD-2					Rev. 0

04/11/2023

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Notes:

1. Based on 50,000 scale Discovery Series Tailte Eireann maps 40 & 47

Legend:

Landholding (c. 66.3 hectares)

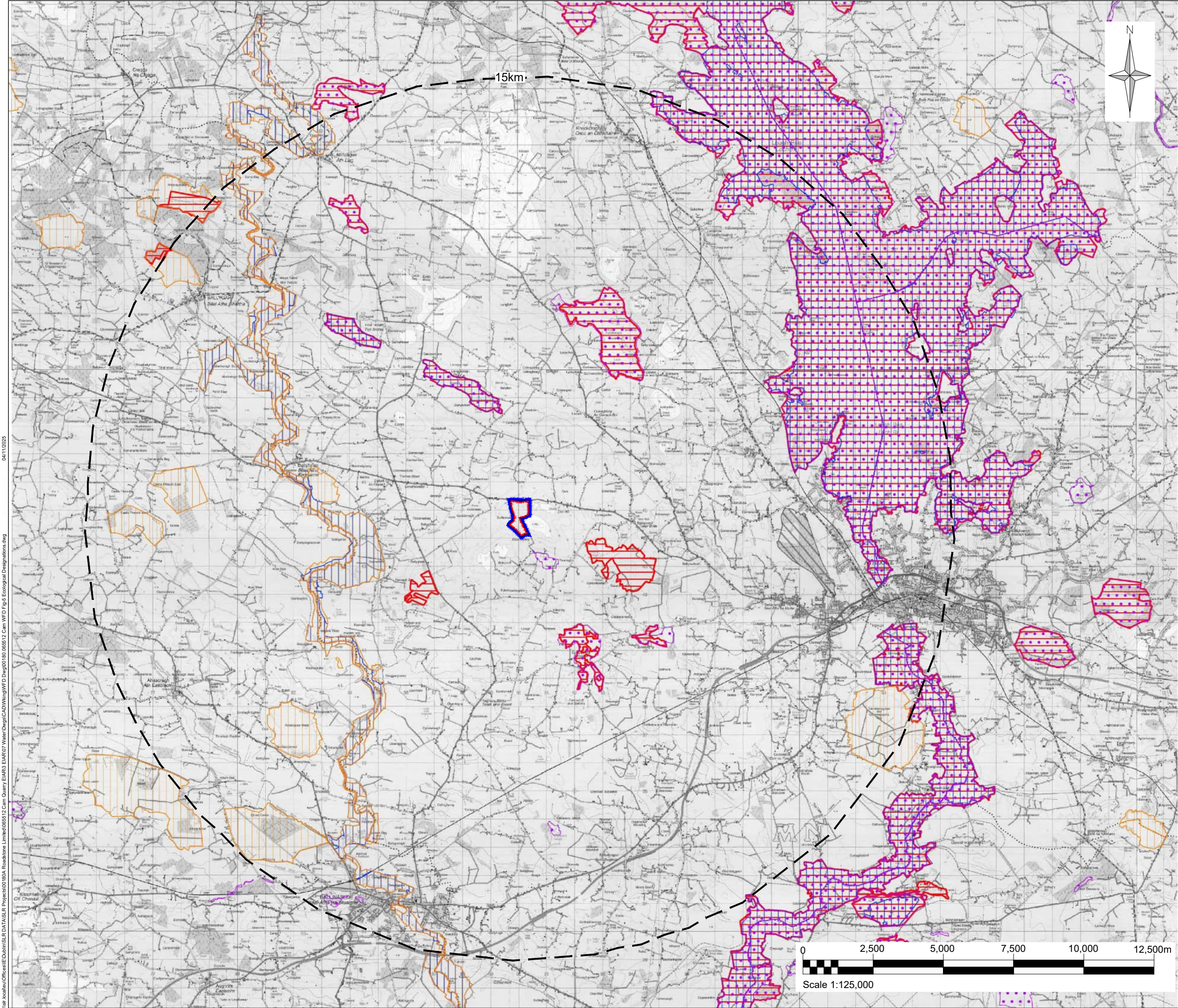
Planning Application Area (c. 66.3 hectares)

15km Off-Set from Site Boundary

Ground Water bodies

- Athlone Gravels
- Athlone West
- Aughrim
- Ballygar
- Boor Gravels
- Clara
- Ferbane
- Funshinagh
- Gageborough-Brosna Gravels Group 3
- GWDTE-Lough Ree Fen 10
- GWDTE-Lough Ree Fen 12
- GWDTE-Lough Ree Fen 9
- GWDTE-Rahasane Turlough
- Industrial Facility
- Inny
- Mount Mary
- Suck South

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Figure Title Groundwater Bodies					
Water Framework Directive (WFD) Assessment					
Scale 1:125,000 @ A3		SLR Project No. 501.065512.00001			
Designed mcob	Drawn mcob	Checked pg	Authorised pg		
Date 03/25	Date 03/25	Date 10/25	Date 10/25		
Figure Number Figure WFD-3					Rev. 0



Notes:
1. Based on 50,000 scale Discovery Series Tailte Eireann maps 40 & 47

Legend:

Landholding (c. 66.3 hectares)

Planning Application Area (c. 66.3 hectares)

15km Off-Set from Site Boundary

Natural Heritage Area (NHA)

Proposed Natural Heritage Area (pNHA)

Special Protected Area (SPA)

Special Area of Conservation (SAC)

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Figure Title Ecological Designations					
Water Framework Directive (WFD) Assessment					
Scale 1:125,000 @ A3		SLR Project No. 501.065512.00001			
Designed mcob	Drawn mcob	Checked pg	Authorised pg		
Date 03/25	Date 03/25	Date 10/25	Date 10/25		
Figure Number Figure WFD-5					Rev. 0

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Appendix A WFD Catchments, Watercourses and Groundwater Bodies in Study Area

**Water Framework Directive Assessment Cam, Co.
Roscommon**

Roadstone Ltd

SLR Project No.: 501.065512.00001

Study Area Catchments and Surface Water Bodies (within 15 km of the site)

WFD Catchment Hierarchy	WFD Catchment Name	Distance from Site
Catchments	Upper Shannon, Catchment ID. No. 26D	Site is within catchment
	Upper Shannon, Catchment ID. No. 26G	c. 300m east of the proposed development site
	Upper Shannon, Catchment ID. No. 26E	c. 9.4km north of proposed development site
Sub Catchments	Suck_SC_090	Site is within sub catchment
	Shannon[Upper]SC_100	c. 300m east of the proposed development site
	Shannon[Upper]_SC_090	c. 7.6km east of the proposed development site
	Suck_SC_070	c. 6.8km west of the proposed development site
	Suck_SC_060	c. 6km northwest of site
	Suck_SC_050	c. 9.4km northwest of site
	Knockcroghery_SC_010	c. 9.2km north of site
	Shannon[Lower]_SC_010	c. 13.7km southeast of site
	Shannon[Lower]_SC_020	c. 10.3km south of site
	Suck_SC_080	c. 12.2km southeast of site
River Sub Basins	BALLYGLASS_010	Site is within river sub basin
	CROSS (ROSCOMMON)_020	c. 300m east of the proposed development site
	CROSS (ROSCOMMON)_010	c.2km northeast of site
	KILLEGAN TRIB NORTH_010	c. 3.5km southwest of site
	KILLEGLAN_010	c. 600m south of site
	SUCK_130	c. 4.8km southwest of site
	BALLYDANGAN_010	c. 9.9km south of site
	SHANNON (Upper)_130	c. 13.7km south of site



WFD Catchment Hierarchy	WFD Catchment Name	Distance from Site
	Culliaghbeg_010	c. 14.1km south of site
	SUCK_140	c. 11.6km southwest of site
	AHASCRAUGH_040	c. 12km southwest of site
	AHASCRAUGH_030	c. 13.2km southwest of site
	SHIVEN (SOUTH)_040	c. 12.4km west of site
	SHIVEN (SOUTH)_050	c. 11.1km northwest of site
	SHIVEN (SOUTH)_060	c. 10km northwest of site
	SUCK_120	c. 5.9km northwest of site
	SUCK_110	c. 9.3km northwest of site
	SUCK_090	c. 7.9km north of site
	Knockcroghery_010	c. 8.7km north of site
	CARROWPHADEEN_010	c. 8.7km northeast of site
	LECARROW (LOUGH REE)_010	c. 10.7km northeast of site
	SHANNON (Upper)_110	c. 13.3km northeast of site
	BALLYBAY_010	c. 7km east of site
	CROSS (ROSCOMMON)_030	c. 9.2km southeast of site
	CROSS (ROSCOMMON)_040	c. 11.7km southeast of site
	MIHANBOY_010	c. 8.3km southeast of site
	SHANNON (Upper)_120	c. 9km southwest of site
	BALLYDANGAN_020	c. 10.5km southwest of site
	HIND_030	c. 13.9km north of site



WFD Catchment Hierarchy	WFD Catchment Name	Distance from Site
	HIND_020	c. 12.7km north of site
	ROCKSAVAGE_010	c. 13.4km northwest of site
Surface Water Bodies	BALLYGLASS_010	c. 1.1km northwest of site
	CROSS (ROSCOMMON)_010	c. 2.5km northeast of the site
	SUCK_120	c. 6.9km northwest of the site
	SUCK_130	c. 7.5km west of site
	Killaderry stream_010	c. 7.9km southwest of the site
	LUGHANAGH_010	c. 8.6km southwest of the site
	KILLEGAN TRIB NORTH_010	c. 4.1km south of site
	KILLEGLAN_010	c. 6.1km southwest of site
	CUILLEEN STREAM_010	c. 11.5km southwest of site
	SUCK_140	c. 11.6km southwest of site
	AHASCRAGH_040	c.13.6km southwest of site
	AHASCRAGH_030	c. 13.7km southwest of site
	DERRYMULLAN STREAM_020	c. 14.7km southwest of site
	Culliaghbeg_010	c. 14.5km south of site
	BALLYDANGAN_010	c. 10.4km southeast of the site
	BALLYDANGAN_020	c. 10.3km southeast of the site
	SHANNON (Upper)_120	c. 8.7km southeast of the site
	MIHANBOY_010	c. 7.9km southeast of the site
	CROSS (ROSCOMMON)_020	c. 4.5km east of site



WFD Catchment Hierarchy	WFD Catchment Name	Distance from Site
	CROSS (ROSCOMMON)_030	c. 9.3km southeast of the site
	CROSS (ROSCOMMON)_040	c. 12.1km southeast of the site
	SHANNON (Upper)_130	c. 14.5km south of the site
	SHANNON (Upper)_110	c. 12.7km east of the site
	BALLYBAY_010	c. 8.1km east of the site
	Lake Ree	c. 11.9km east of the site
	SHIVEN (SOUTH)_040	c. 12.6km west of the site
	SHIVEN (SOUTH)_050	c. 11.9km northwest of the site
	SHIVEN (SOUTH)_060	c. 9.3km northwest of the site
	SUCK_090	c. 11.1 northwest of the site
	ROCKSAVAGE_010	c. 14.9km northwest of the site
	Knockcroghery_010	c. 10.8km northeast of the site
	LECARROW (LOUGH REE)_010	c. 11.2km northwest of the site
	CARROWPHADEEN_010	c. 10.54km northwest of the site
Groundwater Bodies	Suck South	Site is within
	Funshinagh	c. 840m east of the site
	Aughrim	c.9.7km south of the site
	Athlone West	c. 9.8km south of the site
	Industrial Facility (P0110-01)	c. 10.6km southeast of the site
	Athlone Gravels	c. 12.7km west of the site
	Inny	c. 14km west of the site



WFD Catchment Hierarchy	WFD Catchment Name	Distance from Site
	Ballygar	c. 14km northwest of the site





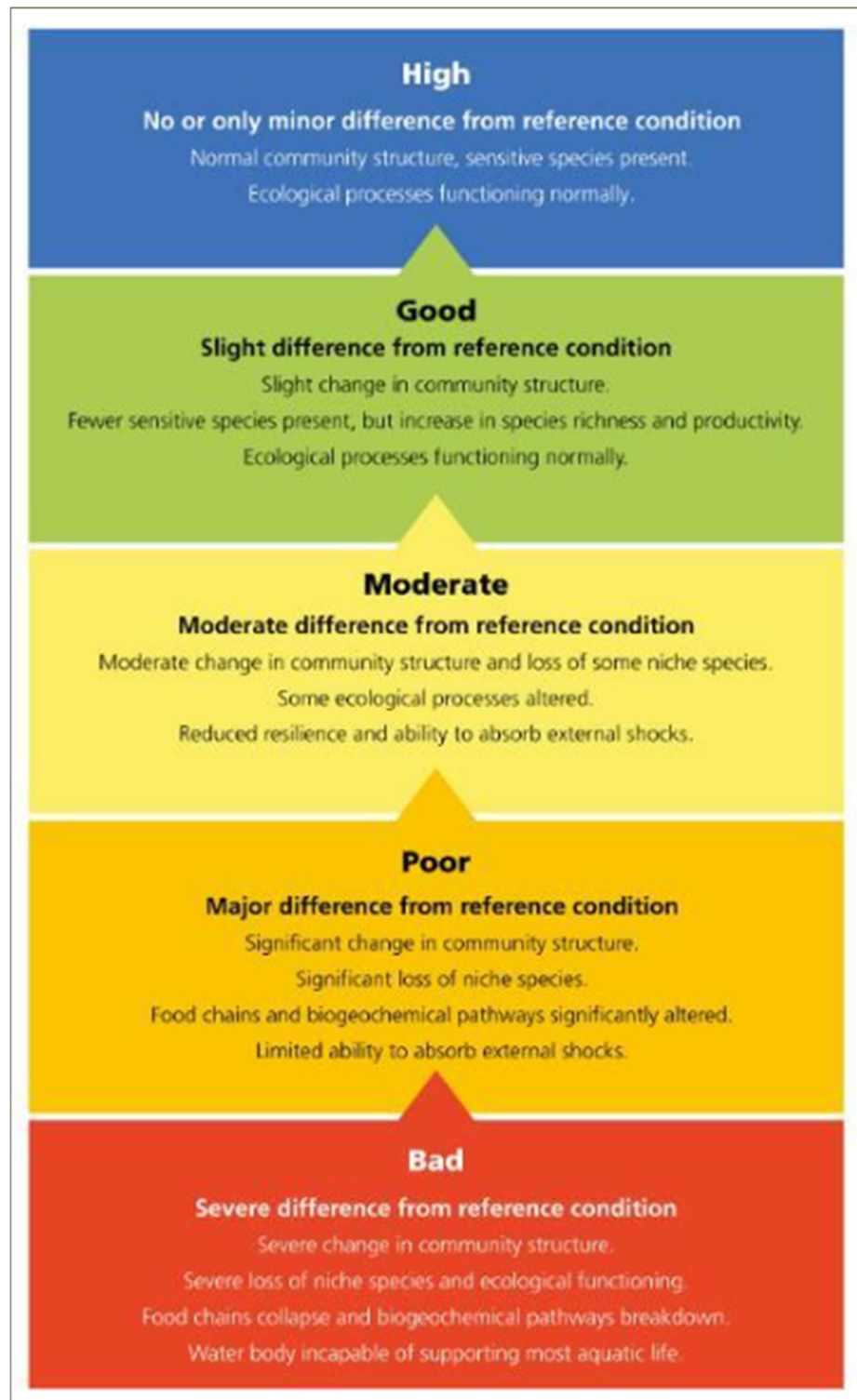
Appendix B Surface Waters Classification

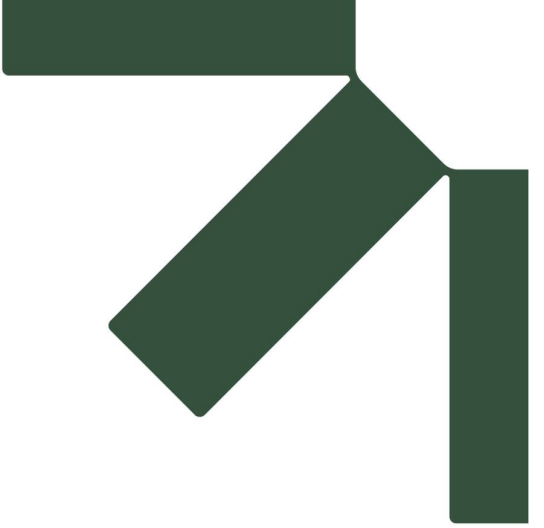
**Water Framework Directive Assessment Cam, Co.
Roscommon**

Roadstone Ltd

SLR Project No.: 501.065512.00001

WFD surface waters classification (Ecological Status).





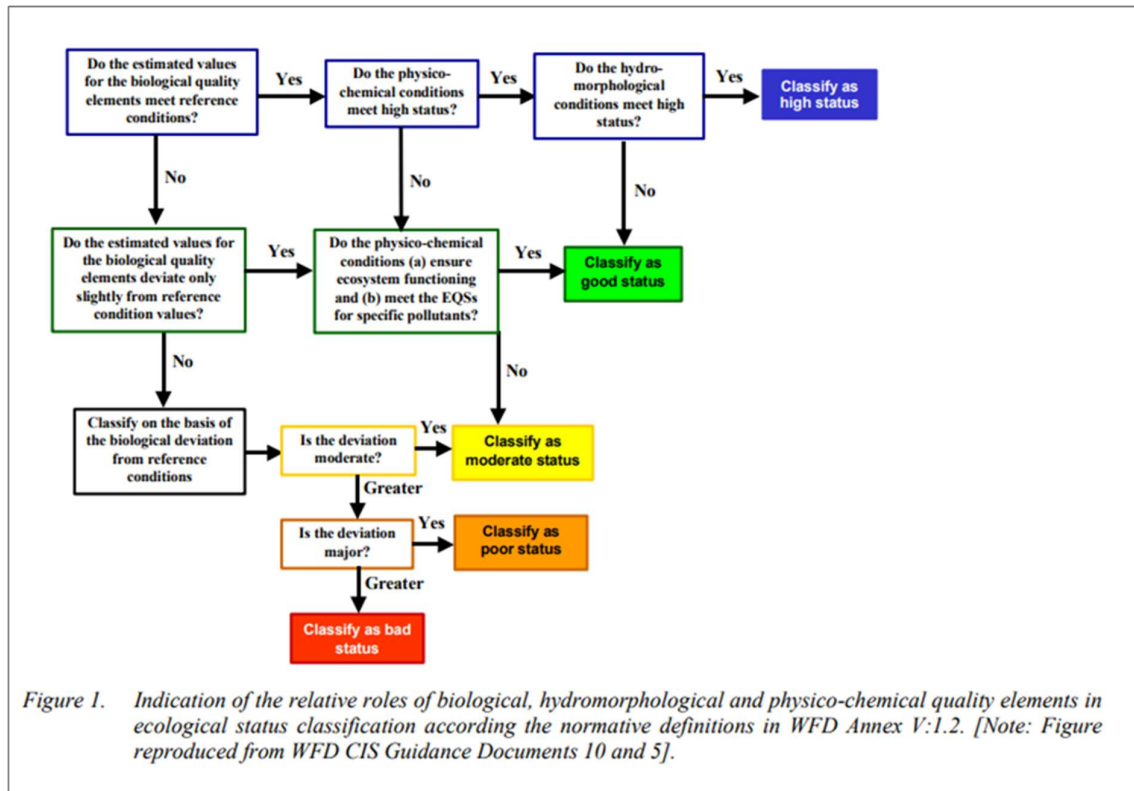
Appendix C Ecological Status Classification

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Approach to the classification of ecological status and ecological potential



Source: Common Implementation Strategy for the Water Framework Directive (2000/60/EC). Guidance document No. 13 Overall approach to the classification of ecological status and ecological potential





Appendix D WFD Stage 1 Screening for surface water bodies and WFD details

**Water Framework Directive Assessment Cam, Co.
Roscommon**

Roadstone Ltd

SLR Project No.: 501.065512.00001

WFD Stage 1 Screening for surface water bodies and WFD details.

Surface water body	Distance from Site	Ecological Status (2009 - 2015)	Ecological Status (2013 - 2018)	Ecological Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)	Catchment (ID)
Ballyglass River (BALLYGLASS_010)	Surface water is located c. 1.1km northwest of site	Unassigned	Good	Good	N/A	Under review	Upper Shannon (26D)
CROSS (ROSCOMMON)_010	c. 2.5km northeast of the site	Poor	Poor	Moderate	Morphological, Organic, Other Significant Impacts from Hydromorphology and Industry	At risk	Upper Shannon (26G)
SUCK_120	c. 6.9km northwest of the site	Moderate	Moderate	Moderate	Hydrological, Morphological from Hydromorphology	At risk	Upper Shannon (26D)
SUCK_130	c. 7.5km west of site	Good	Good	Good	N/A	Not at risk	Upper Shannon (26D)
Killaderry stream_010	c. 7.9km southwest of the site	Unassigned	Moderate	Moderate	N/A	Under review	Upper Shannon (26D)
LUGHANAGH_010	c. 8.6km southwest of the site	Unassigned	Good	Good	N/A	Under review	Upper Shannon (26D)
KILLEGAN TRIB NORTH_010	c. 4.1km south of site	Unassigned	Moderate	Good	N/A	Under review	Upper Shannon (26D)



Surface water body	Distance from Site	Ecological Status (2009 - 2015)	Ecological Status (2013 - 2018)	Ecological Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)	Catchment (ID)
KILLEGLAN_010	c. 6.1km southwest of site	Poor	Moderate	Good	N/A	Not at risk	Upper Shannon (26D)
CUILLEEN STREAM_010	c. 11.5km southwest of site	Poor	Moderate	Good	Sediments and Nutrients from Agriculture	At risk	Upper Shannon (26D)
SUCK_140	c. 11.6km southwest of site	Moderate	Moderate	Moderate	Hydrological, Morphological from Hydromorphology	At risk	Upper Shannon (26D)
AHASCRAGH_040	c.13.6km southwest of site	Good	Good	Good	N/A	Not at risk	Upper Shannon (26D)
AHASCRAGH_030	c. 13.7km southwest of site	Moderate	Poor	Poor	Sediment, Morphological, Nutrients, Organic from Hydromorphology, Agriculture and Urban Waste Water	At risk	Upper Shannon (26D)
DERRYMULLA N STREAM_020	c. 14.7km southwest of site	Moderate	Moderate	Moderate	Unknown Impact Type	At risk	Upper Shannon (26D)
Culliaghbeg_010	c. 14.5km south of site	Unassigned	Moderate	Moderate	N/A	Under review	Upper Shannon (26D)



Surface water body	Distance from Site	Ecological Status (2009 - 2015)	Ecological Status (2013 - 2018)	Ecological Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)	Catchment (ID)
BALLYDANGAN_010	c. 10.4km southeast of the site	Good	Good	Moderate	N/A	Under review	Upper Shannon (26G)
BALLYDANGAN_020	c. 10.3km southeast of the site	Poor	Poor	Poor	Morphological, Organic, Other Significant Impacts from Hydromorphology and Industry	At risk	Upper Shannon (26G)
SHANNON (Upper)_120	c. 8.7km southeast of the site	Poor	Poor	Poor	Hydrological, Morphological, Nutrients from Hydromorphology and Peat	At risk	Upper Shannon (26G)
MIHANBOY_010	c. 7.9km southeast of the site	Moderate	Moderate	Moderate	Morphological from Hydromorphology and Peat	At risk	Upper Shannon (26G)
CROSS (ROSCOMMON)_020	c. 4.5km east of site	Good	Good	Moderate	Sediment, Morphological, Nutrients, Organic from Hydromorphology	At risk	Upper Shannon (26G)
CROSS (ROSCOMMON)_030	c. 9.3km southeast of the site	Good	Moderate	Moderate	Sediment, Morphological, Nutrients, Organic from Hydromorphology,	At risk	Upper Shannon (26G)



Surface water body	Distance from Site	Ecological Status (2009 - 2015)	Ecological Status (2013 - 2018)	Ecological Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)	Catchment (ID)
					Agriculture and Urban Waste Water		
CROSS (ROSCOMMON)_040	c. 12.1km southeast of the site	Moderate	Moderate	Moderate	Hydrological, Morphological, Nutrients from Hydromorphology and Peat	At risk	Upper Shannon (26G)
SHANNON (Upper)_130	c. 14.5km south of the site	Unassigned	Poor	Moderate	N/A	Under review	Upper Shannon (26G)
SHANNON (Upper)_110	c. 12.7km east of the site	Unassigned	Poor	Poor	Morphological, Nutrients from Agriculture, Hydromorphology and Atmospheric	At risk	Upper Shannon (26E)
BALLYBAY_010	c. 8.1km east of the site	Unassigned	Poor	Moderate	N/A	Under review	Upper Shannon (26E)
Lake Ree	c. 11.9km east of the site	Moderate	Good	Good	N/A	Not at risk	Upper Shannon (26G)
SHIVEN (SOUTH)_040	c. 12.6km west of the site	Good	Good	Good	N/A	Not at risk	Upper Shannon (26D)



Surface water body	Distance from Site	Ecological Status (2009 - 2015)	Ecological Status (2013 - 2018)	Ecological Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)	Catchment (ID)
SHIVEN (SOUTH)_050	c. 11.9km northwest of the site	Good	Good	Good	Hydrological, Morphological from Hydromorphology	At risk	Upper Shannon (26D)
SHIVEN (SOUTH)_060	c. 9.3km northwest of the site	Unassigned	Good	Good	N/A	Not at risk	Upper Shannon (26D)
SUCK_090	c. 11.1 northwest of the site	Good	Moderate	Poor	Sediment, Morphological, Nutrients, Organic from Hydromorphology and Agriculture	At risk	Upper Shannon (26D)
ROCKSAVAGE_010	c. 14.9km northwest of the site	Moderate	Moderate	Moderate	Morphological, Nutrients, Organic from Hydromorphology and Agriculture	At risk	Upper Shannon (26E)
Knockcroghery_010	c. 10.8km northeast of the site	Unassigned	Good	Moderate	N/A	Not at risk	Upper Shannon (26E)
LECARROW (LOUGH REE)_010	c. 11.2km northwest of the site	Unassigned	Moderate	Moderate	N/A	Under review	Upper Shannon (26E)



Surface water body	Distance from Site	Ecological Status (2009 - 2015)	Ecological Status (2013 - 2018)	Ecological Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)	Catchment (ID)
CARROWPHAD EEN_010	c. 10.54km northwest of the site	Unassigned	Moderate	Moderate	N/A	Under review	Upper Shannon (26E)





Appendix E WFD Stage 1 Screening for groundwater bodies and WFD details

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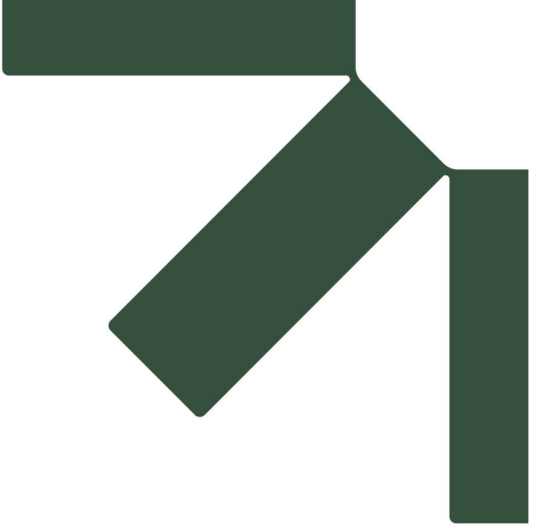
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SLR Project No.: 501.065512.00001

WFD Stage 1 Screening for groundwater bodies WFD Details.

Groundwater Body	Distance from Site	Overall Status (2010 - 2015)	Overall Status (2013 - 2018)	Overall Status (2016 - 2021)	WFD Second Cycle Pressures (2016 - 2021)	WFD Third Cycle Risk (2022 - 2027)
Suck South	Site is within GWB	Good	Good	Good	N/A	Not at risk
Funshinagh	c. 840m east of the site	Good	Good	Good	N/A	Not at risk
Aughrim	c.9.7km south of the site	Good	Good	Good	N/A	Not at risk
Athlone West	c. 9.8km south of the site	Good	Good	Good	N/A	Not at risk
Industrial Facility (P0110-01)	c. 10.6km southeast of the site	Good	Good	Good	N/A	Under review
Athlone Gravels	c. 12.7km west of the site	Good	Good	Good	N/A	Not at risk
Inny	c. 14km west of the site	Good	Good	Good	N/A	Not at risk
Ballygar	c. 14km northwest of the site	Good	Good	Good	N/A	Not at risk





Appendix F Designated Areas

**Water Framework Directive Assessment Cam, Co.
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SLR Project No.: 501.065512.00001

Designated Areas – including European Sites within the Zone of Influence of the Project.

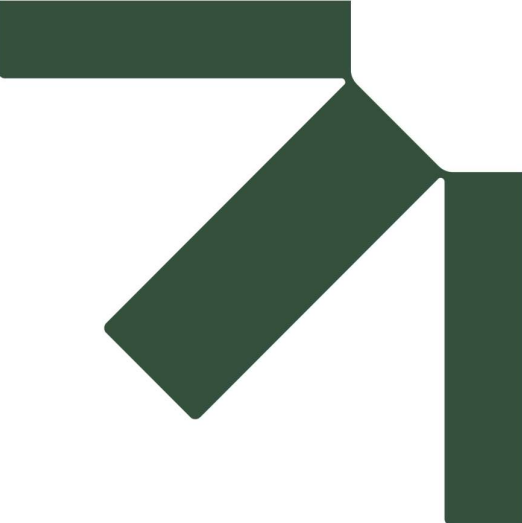
Designated Site	Site Code	Location at Closest Point to the Project Site ⁵	Zone of Influence
Feacle Lough pNHA	001634	c. 550m southeast of site	Proposed Development is within the 15 km Zone of Influence and has hydrogeological link to the Site.
Ballynamona Bog and Corkip Lough SAC	002339	c. 2km southeast of site	Proposed Development is within the 15 km Zone of Influence and has hydrogeological link to the Site.
Lough Croan Turlough SAC, SPA and pNHA	SAC/pNHA: 000610 SPA: 004139	c.3.1km north of the proposed application site	Proposed Development is within the 15 km Zone of Influence and has hydrogeological link to the Site.
Lough Funshinagh SAC and pNHA	000611	c. 5.3km northeast of site	Proposed Development is within the 15 km Zone of Influence.
Four Roads Turlough SPA, SAC and pNHA	SAC/pNHA: 001637 SPA: 004140	c. 7.15km northwest of site	Proposed Development is within the 15 km Zone of Influence.
Lough Ree SPA, SAC and pNHA	SAC/pNHA: 000440 SPA: 004064	c. 9.4km northeast of site	Proposed Development is within the 15 km Zone of Influence.
Castlesampson Esker SAC and pNHA	001625	c. 3.6km southeast of site	Proposed Development is within the 15 km Zone of Influence.
Killeglan Grassland SAC	002214	c. 3.6km southwest of site	Proposed Development is within the 15 km Zone of Influence.
River Suck Callows SPA and NHA	SPA: 004097 NHA: 000222	c. 4.6km southwest of site	Proposed Development is within the 15 km Zone of Influence and has hydrological link (downstream) to the Site.
Castle Ffrench East and West Bog NHA	East: 001244 West: 000280	c.11.4km west of site	Proposed Development is within the 15 km Zone of Influence.

⁵ When measured in a straight line over the shortest distance between the Site and European site



Designated Site	Site Code	Location at Closest Point to the Project Site5	Zone of Influence
Ballygar (Aghrane) Bog SAC and NHA	SAC : 002199 NHA: 000229	c. 14.1km northwest of site	Proposed Development is within the 15 km Zone of Influence.
Lisduff Turlough SAC and pNHA	000609	c. 10.8km northwest of site	Proposed Development is within the 15 km Zone of Influence.
Carrickynaghtan Bog NHA	001623	c. 14km southeast of site	Proposed Development is within the 15 km Zone of Influence.
River Shannon Callows SAC and pNHA / Middle Shannon Callows SPA	SAC/pNHA: 000216 SPA: 004096	c. 12.9km southeast of the site	Proposed Development is within the 15 km Zone of Influence and has hydrological link (downstream) to the Site.
Annaghbeg Bog NHA	002344	c. 9.65km southwest of site	Proposed Development is within the 15 km Zone of Influence.
Killure Bog NHA	001283	c. 13.9km southwest of site	Proposed Development is within the 15 km Zone of Influence.





Appendix G Drinking Water Protected Areas

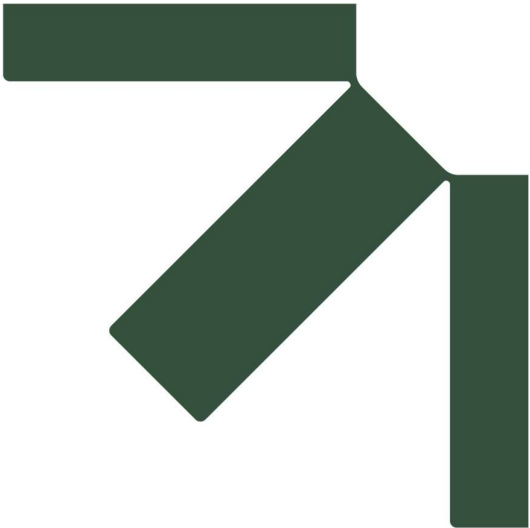
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Roscommon**

Roadstone Ltd

SLR Project No.: 501.065512.00001

Drinking Water Protected Area	Location at Closest Point to Project Site	Hydrological Connectivity to Site (i.e. same SW catchment, Aquifer or in PWS Zone of Contribution)
Killeglan PWS	Located directly south of southern boundary of Site	Within 15km potential zone of influence and is hydraulically linked to Site
Mount Talbot PWS	Located c. 7.75km northwest of Site	Within 15km potential zone of influence and is not hydraulically linked to Site
Roscommon Ballinagard RWSS	Located c. 13km north of Site	Within 15km potential zone of influence and is not hydraulically linked to Site
Knockcroghery Lecarrow PWS	Located c. 14.7km north of Site	Within 15km potential zone of influence and is not hydraulically linked to Site
Lowville No. 1 GWS	Located c. 14.5km southwest of Site	Within 15km potential zone of influence and is not hydraulically linked to Site





Appendix H Hydrogeological Report by OGE (Copy provided in EIAR Chapter 7 – Appendix J submitted with the planning application)

**Water Framework Directive Assessment Cam, Co.
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SLR Project No.: 501.065512.00001

