EIA Screening Report prepared in relation to landscape filling on lands adjoining the Coonagh to Knocklisheen Distibutor Road Scheme

Prepared to inform Limerick City and County Council as to the requirement for an Environmental Impact Assessment Report

November 2019

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Contents

1 Introduction

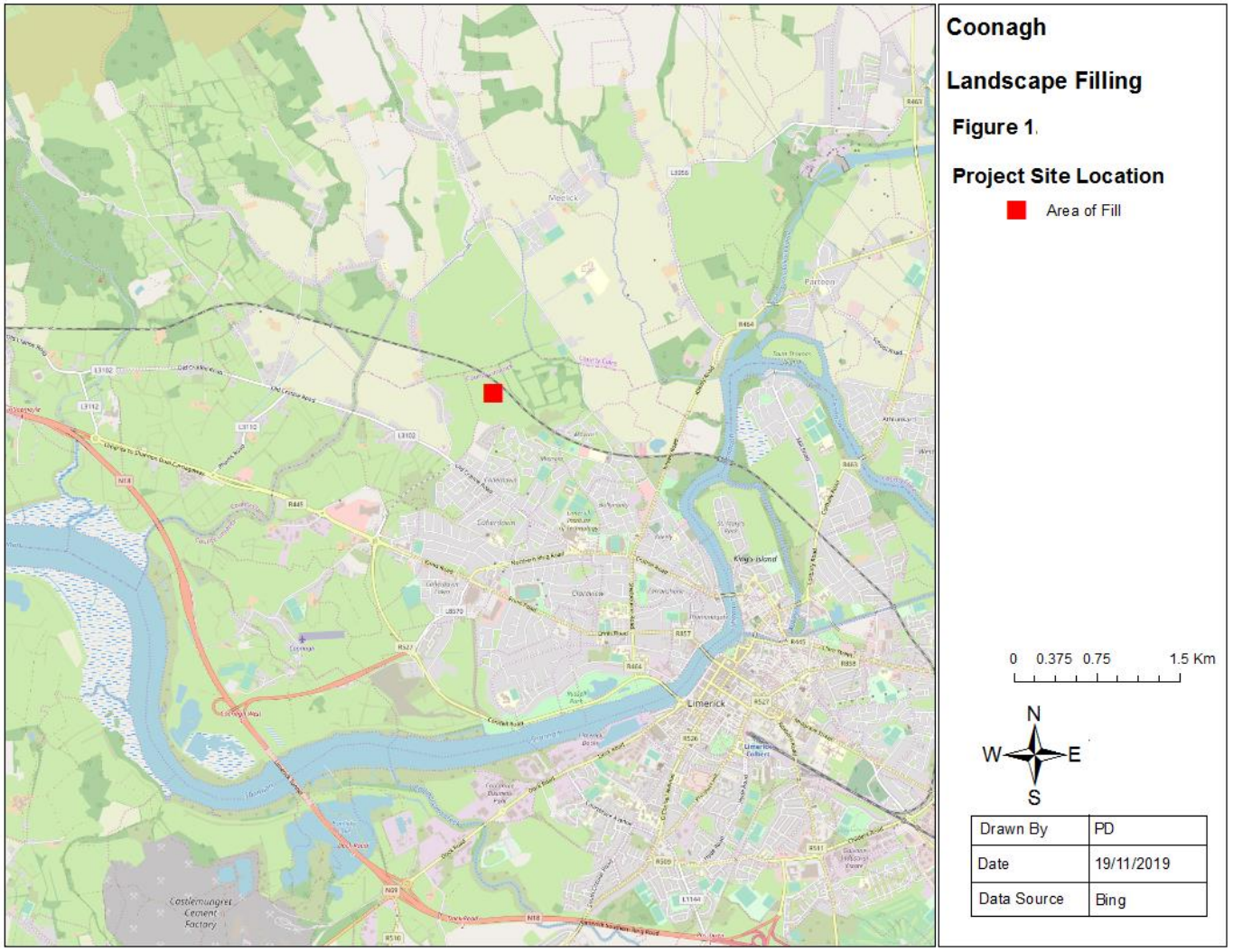
1.1 Project Background

Limerick City and County Council (LCCC) through the appointed Coonagh to Knockalisheen Distributor Road Scheme Designers MRG Consulting Engineers Limited – Roughan & O'Donovan Consulting Engineers JV have engaged specialists Minogue and Associates to prepare an Environmental Impact Assessment (EIA) screening report for the proposed landscape filling on lands in the townland of Ballygrennan, Limerick City, hereafter referred to as the proposed development. The lands adjoin the Coonagh to Knockalisheen Distributor Road (CKDR) Scheme which was granted planning approval in 2011.

Since the 2010 CPO process for the CKDR Scheme Limerick City & County Council have acquired additional lands bounding the CKDR Scheme at Ballygrennan. This Part 8 consent process relates to the reuse of uncontaminated inert soil and stone material excavated as part of the road project as landscape fill. The proposed finished ground levels of the proposed development will help to integrate the road embankment into the surrounding landscape at Ballygrennan. The landscape fill will be designated as a by-product of the road construction process with further use of the fill then proposed as part of the road construction works. The material will therefor comprise uncontaminated soil and stone excavated from one part of the road project and used as fill in another part of the same road project all within the confines of the same site. In this regard Limerick City & County Council are to apply to the Environmental Protection Agency under Article 27 of the European Communities (Waste Directive) Regulations 2011 for the reuse of the excavated soil and stone as landscape fill.

The layout of the CKDR Scheme and the proposed development lands to which this EIA screening refers is included with the Part 8 Application documents. Figure 1 shows the site location.

Figure 1 Site Location



This EIA screening report contains necessary information to enable the competent authority, in this case Limerick City and County Council, to undertake an EIA screening assessment and determine whether an EIA is required to support the proposed development. The findings of the EIA screening assessment are presented in this report and will inform the determination by the local authority in advance of the Part 8 planning consent process.

1.2 Legislative Background

EIA requirements derive from EU Directive 85/337/EEC (as amended by Directive 97/11/EC, Directive 2014/52/EU and S.I. 454 of 2011; S.I. 464 of 2011; S.I. 456 of 2011 and S.I. No 296 of 2018).) http://www.irishstatutebook.ie/eli/2018/si/296/made/en/pdf on the assessment of the effects of certain public and private projects on the environment. The purpose of this Environmental Impact Assessment

Screening Report is to determine whether this proposed development will require full Environmental Impact Assessment.

The Directive outlines in Article 4 (1) 21 Annex 1 projects that require mandatory EIA. Article 4 (2) outlines Annex 2 projects that require consideration for EIA further to a case by case examination or through thresholds and criteria established by Member States. Projects requiring mandatory EIA are listed in Schedule 5 of the Planning and Development Regulations 2001, as amended. Where developments are under the relevant EIA threshold, planning authorities are required under Article 103 of the 2001 Regulations, as amended, to request an EIS where it considers the proposed development is likely to have a significant effect on the environment. In these cases the significant effects of the project are assessed relative to the criteria contained in Schedule 7a of the regulations, principally:

- The projects characteristics
- Sensitivity of the project location, and
- Characterisation of potential impacts.

In addition, where the development would be located on or in an area, site etc. set out in Article 103(2), the planning authority shall decide whether the development would or would not be likely to have significant effects on the environment for such site, area or land etc. the implication being that if it decides that it would be likely to have significant effects on the environment, it can invoke its powers to request an EIS.

Article 103(2) sites comprise the following:
a) A European Site;
b) An area the subject of a notice under section 16(2) (b) of the Wildlife (Amendment) Act, 2000;
c) An areas designated as a Natural Heritage Area under section 18 of the Wildlife (Amendment) Act, 2000;
d) Land established or recognised as a nature reserve within the meaning of section 15 or 16 of the Wildlife Act, 1976, as amended by sections 26 and 27 of the Wildlife (Amendment) Act, 2000; or
e) Land designated as a refuge for flora or as a refuge for fauna under section 17 of the Wildlife Act, 1976, as amended by section 28 of the Wildlife (Amendment) Act, 2000.

The approved scheme falls under the EIA requirements of the Roads Act 1993 as amended by the Planning and Development Acts (2000-2011) and the Roads Act (2007) as well as regulations made under the Roads Acts, The European Communities (Environmental Impact Assessment) (Amendment) Regulations 1989-2001, and EC Directives 85/337/EC and 97/11/EC referenced above. A road within the 1993 act is defined to include:

(a) any street, lane, footpath, square, court, alley or passage,
(b) any bridge, viaduct, underpass, subway, tunnel, overpass, overbridge flyover, carriageway whether single or multiple, pavement or footway,
(c) any weighbridge or other facility for the weighting or inspection of vehicles, toll plaza or other facility for the collection of tolls, services area, emergency, telephone, first aid post, culvert, arch, gulley, railing, fence, wall, barrier, guardrail, margin, kerb, lay-by, hard shoulder, island, pedestrian refuge, median, central reserve.

1.2.1 Background to the project

The overall Coonagh to Knocklisheen Distributor Road Scheme which received An Bord Pleanála approval in 2011 is described as follows:

The proposed Coonagh to Knockalisheen Distributor Road scheme will provide a new high quality dual carriageway on the north western outskirts of Limerick City linking Coonagh Roundabout on the N18 with the Knockalisheen Road at a point close to the Limerick Clare county boundary. The total length of new dual carriageway will be approximately 2.6kms. The proposed scheme will also include the following elements from south to north commencing at Coonagh Roundabout:

- *Moyross Link Road: a two way carriageway of approximate length 600metres which will link the new distributor road with the Moyross area. The junction of the link road with the distributor road will be in the form of a roundabout.*
- *Ballygrennan Railway Bridge: new bridge to carry the distributor road across the existing rail line which runs to the north of the Moyross area.*
- *Knockalisheen Road Roundabout: new roundabout at the northern end of the route which will link the distributor road to the Knockalisheen Road.*

Further to the above, the CKDR scheme will also include significant improvement works to the Knockalisheen Road extending from its roundabout intersection with the proposed distributor road over a length of approximately 1.8kms southwards to its junction with the Long Pavement Road at Watch House Cross. These improvement works will primarily involve widening of the existing road to accommodate cycle paths and improved pedestrian facilities but will also include carriageway reconstruction and improvement of existing junctions. A significant element of these works will be the replacement of the bridge where the Knockalisheen Road crosses over the existing railway line at Ballynanty with a new bridge which will facilitate road widening and improved sight lines on its approaches.

An Advanced Works Contract was completed in 2018 which included for the first 300m section of the dual carriageway, a new roundabout at Tesco and the construction of an embankment for a further 650m of future dual carriageway. The Advanced Works Contract also included for site clearance along the route, drainage/ culvert installations, diversion of utilities and fencing/wall construction along the CPO boundary.

The remainder of the CKDR Scheme is to be completed under a single Main Contract and includes the following :

2.2km of new urban dual carriageway road with 2 x 7.0m carriageways, footways, cycleways, verges and embankment construction works.
0.6km of new urban single carriageway road with footways, cycleways and verges (Moyross Link Road).
2.0km of major improvements to an existing urban single carriageway road with footways, cycleways and verges (Knockalisheen Road).
1.0km of minor improvements to existing rural single carriageway roads (Cratloe Road).
2 road over railway bridges (New bridge at Ballygrennan and a re-constructed bridge at Ballynanty).
3 new roundabouts (Cratloe Road, Moyross Link Road and Knockalisheen Road Roundabouts).
2 Traffic Signal Controlled Junctions in conjunction with the upgrade of the Knockalisheen Road .

Associated works will include;

-provision of pedestrian/cyclist crossing facilities in accordance with DMURS;
-diversion of live services including foul sewers, watermains, gasmains and telecomms;
-new surface water sewer systems;
-site clearance and fencing;
-masonry and reinforced concrete retaining walls;
-reinforced earth retaining walls;
-culverts;
-road pavements;
-kerbing, footway/cycleway construction;
-traffic signs and road markings;
-road lighting.

1.2.2 Summary of objective of this EIA Screening.

The additional development (project) which is the focus of this EIA Screening report is being prepared in light of the following:

As outlined above, the Environmental Impact Assessment for the scheme was approved in 2011. Chapter 13 of the EIS (as it was then referred) provided the following relevant mitigation measures:

13.7 Mitigation Measures for Soils & Geology

The following mitigation measures will be put in place to allow for protection of soils, geology and hydrogeology:

(i) All suitable material excavated within the cut sections shall be used to the greatest possible degree as fill material on the development.

(ii) All unsuitable material excavated shall be disposed of in accordance with legislative requirement with due regard for the impact on the disposal site. Where possible this material will be utilised in landscaping of the development.

Unsuitable excavated material is to be used in the landscaping of the development.

The Compulsory Purchase Order Boundary as of 2010 does not contain sufficient lands to accommodate excavated fill material with the excavated material therefore to be disposed of off-site.

In the intervening period, LCCC have acquired further lands bounding the CKDR Scheme and would like to use these lands to accommodate excavated material as landscape fill which helps to integrate the road embankment into the surrounding landscape at Ballygrennan. Therefore, this additional land is outside the original extent of the EIS and the mitigation measure is proposed for amendment to use excavated inert soil and stone within the recently acquired lands.

1.3 Screening

According to European Commission Guidance (2017[1])

> "*Screening has to implement the Directive's overall aim, i.e. to determine if a Project listed in Annex II is likely to have significant effects on the environment and, therefore, be made subject to a requirement for Development Consent and an assessment, with regards to its effects on the environment. At the same time, Screening should ensure that an EIA is carried out only for those Projects for which it is thought that a significant impact on the environment is possible, thereby ensuring a more efficient use of both public and private resources. Hence, Screening has to strike the right balance between the above two objectives*."

As previously stated, this may be considered a sub-threshold EIA development, as EIA is not mandatory for amendments to approved road schemes, such as the Coonagh to Knocklisheen Distributor Road Scheme. The key issue for the competent/consent authority in the context of the possible need for EIA of sub-threshold is whether or not such development is likely to have significant effects on the environment. Consideration of significant effect should not be determined by reference to size only. The nature and location of a project must also be taken into account. This EIA Screening Report is therefore being undertaken to determine in light of the criteria listed in Schedule 7a of the Planning and Development Regulations whether or not this proposed development will require full EIA.

According to the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018):

> "*For all sub-threshold developments listed in Schedule 5 Part 2, where no EIAR is submitted or EIA determination requested, a screening determination is required to be undertaken by the competent authority unless, on preliminary examination it can be concluded that there is no real likelihood of significant effects on the environment. This is initiated by the competent authority following the receipt of a planning application or appeal*
>
> *A preliminary examination is undertaken, based on professional expertise and experience, and having regard to the 'Source – Pathway – Target' model, where appropriate. The examination should have regard to the criteria set out in Schedule 7 to the 2001 Regulations.*
>
> *Where, based on a preliminary examination of the information submitted with the application and any other supplementary information received, the competent authority concludes that, having considered the nature, size and location of the proposed development, there is no real likelihood of significant effects on the environment, this should be recorded with reasons for this conclusion stated, and no EIA required or formal determination made. The recording of the competent authority's view should be brief and concise, but adequate to inform the public. In many cases this considered view will be included in the planner's/inspector's report on the planning application and this may be cross-referenced in the competent authority's decision. Normally, this will be published at the time of the decision of the competent authority*."

[1] Environmental Impact Assessment of Projects Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU). European Commission 2017. Page 23.

1.3.1 Changes to the EIA Screening process.

The EIA Directive (2014/52/EU) has brought a number of changes to the EIA process with a strengthening of the Screening process as follows:

- Article 4 (4) of this Directive introduces a new Annex IIA to be used in the case of a request for a screening determination for Annex II projects. This is information to be provided by the developer on the projects listed in Annex II (see below):

1.3.2 Annex IIA: Information to be provided by the developer on the projects listed in Annex II.

1. A description of the project, including in particular:

(a) a description of the physical characteristics of the whole project and, where relevant, of demolition works (***Section 2 of this report***);

(b) a description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected (***Section 3 of this report***)

2. A description of the aspects of the environment likely to be significantly affected by the project (***Section 3 of this report***)

3. A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from:

(a) the expected residues and emissions and the production of waste, where relevant ***(Section 4 of this report)*** ;

(b) the use of natural resources, in particular soil, land, water and biodiversity (***Section 4 of this report***).

4. The criteria of Annex III shall be taken into account, where relevant, when compiling the information in accordance with points 1 to 3 (***Section 4 of this report***).

Article 4(4) specifies that the developer may provide a description of any features of the project and/or mitigation measures to avoid or prevent what might otherwise have been significant effects on the environment. It should be noted that this does NOT include compensation measures (**Mitigation measures are provided in Section 2.2.).**

1.3.3 Article 4(5) Determination of Screening

The competent authority shall make its determination, on the basis of information provided by the developer in accordance with paragraph 4 taking into account, where relevant, the results of preliminary verifications or assessments of the effects on the environment carried out pursuant to Union legislation other than this Directive.

The determination shall be made available to the public and:

(a) where it is decided that an environmental impact assessment is required, state the main reasons for requiring such assessment with reference to the relevant criteria listed in Annex III; or

(b) where it is decided that an environmental impact assessment is not required, state the main reasons for not requiring such assessment with reference to the relevant criteria listed in Annex III, and, where

proposed by the developer, state any features of the project and/or measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.

The EIA Screening prepared here will inform the competent authority, in this instance Limerick City and County Council on the EIA Screening Determination please see Section 5 of this Report for the EIA Screening Determination as proposed.

1.4 Approach to this EIS Screening

This EIS Screening report has been prepared and informed by the following guidance and guidelines:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Planning and Local Government, 2018;
- Environmental Impact Assessment of Projects Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU), European Commission, 2017.
- Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development, Department of Environment, Heritage and Local Government, 2003;
- Guidance on the Information to be contained in Environmental Impact Statements Environmental Protection Agency 2002, and
- Environmental Impact Assessment (Agriculture) Regulations 2011 Guide for Farmers, Department of Agriculture, Food and the Marine,2011)

A desktop study of environmental receptors within the project area was undertaken in addition to a site visit by Ruth Minogue MCIEEM on 10th October 2019 and a more detailed walkover by the project ecologist Pat Doherty MSc, MCIEEM on 5th November 2019. A review was also undertaken of relevant projects within the project area. The screening for Appropriate Assessment that was prepared as part of the current application has informed this EIA Screening report.

1.5 Statement of Authority

This report has been prepared by Ruth Minogue, MCIEEM. Ruth has been a practicing environmental consultant for 20 years and has specialised in the preparation of Environmental Impact Assessment and Strategic Environmental Assessment. Additional inputs were provided by Pat Doherty, MCIEEM, an ecologist with 17 years practical experience who has also prepared the Screening Statement in support of Appropriate Assessment, and Eilis Vaughan, who provided the Geographical Information Systems analysis and mapping outputs.

2 Description of the Proposed Development

2.1. Description of Proposed development

The lands are located to the south of the Limerick to Galway railway line and to the east of the CKDR Scheme in the townland of Ballygrennan, Limerick. The approved distributor road at this location will be constructed on a raised embankment with the road level rising from the proposed Moyross Link Road Roundabout to a high point on the new Ballygrennan bridge over the Limerick to Galway railway line. The proposed road levels alongside the project lands will vary from 3m up to 9m above existing ground level. It is proposed to infill the area between the approved distributor road embankment running down to meet existing ground level which will help to blend the distributor road into the landscape as you approach the road from the Moyross direction.

The overall landscape fill volume comprising of the excavated soil and stone is 26,000m3 within the original CPO boundary and 39,000m3 on lands outside the CPO. This is equivalent to c. 47,000 tonnes within the original CPO boundary and c. 72,000 tonnes outside the CPO.

2.1.2 Features of the proposed development

The approach to the road development will be as per the approved CKDR Scheme of 2010, and is not repeated here unless necessary. The features of the development in relation to the inert excavated soil and stone material for use in landscaping on land now owned by LCCC is as follows:

Duration of works.

Works on the project site would likely be on-going for the entire duration of the CKDR Scheme which is planned to be competed under one contract of approximate duration 30 months.

Approach to works.

Works would involve transporting inert spoil (soil and rocks) from throughout the CKDR Scheme site via truck or site dumper with this material then being placed as fill on the project site via tracked dozer or a number of excavators. The exact method would largely depend on the moisture content of the material to be placed (ie: dryer material being spread with a dozer and wet material being handled multiple times via excavator)

Location of works compound

Site management offices are likely to be remote from the project site.

Anticipated machinery and staff

1 Tracked Dozer and 2-4 Excavators.

Drainage

Drainage from the area of the project site would enter open drains which flow westwards and flow under the Crompaun River (Meelick Creek). This river was raised as part of the construction of the Coonagh Embankments which was a flood improvement scheme. The drains are mostly man made and are maintained further downstream from the project site by the OPW. The drains then enter the Shannon

through controlled sluices. The detail of the CKDR road scheme has been approved with the grassed side slopes of the road embankment draining to the open drains (the carriageway drainage is collected separately to attenuation areas). There will be a culvert under the new road which will collect the runoff from new open drains on the east side of the road at this location.

2.2. Environmental Protection Measures

In addition to the relevant mitigation measures provided in the consented road scheme as presented in Chapter 13 of the Environmental Impact Statement (now referred to Environmental Impact Assessment Report) land included in Appendix A of this report. The following will apply:

- Temporary berms or silt fencing will be placed on the perimeter of the project site where the site adjoins existing drainage channels with silt traps being installed at any points where water drains to a stream or open drain. A silt fence may be constructed by attaching a sheet of geotextile membrane to a stock fence and burying the bottom of it into the ground, thus allowing water to pass through but not the heavier fraction of the sediment. The silt fence should be shaped and installed so that it will catch runoff, without the water flowing underneath or around the edge. Also, the shape of the silt fence will depend on the gradient of the slope. The Silt Fence will be constructed according to CIRIA standards and the Environmental Operation Plan will provide for regular inspection of the fence by an Ecological Clerk of Works and Site Supervisor.

- The CKDR Road Scheme Contract Documents will include for the following:

  The Contractor will establish and implement, during the execution and completion of the Works, an Environmental Operating Plan consistent with and analogous to the NRA "Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan". All construction and operations shall be carried out in accordance with the Control of Water Pollution from Linear Construction Projects. Technical Guidance (C648) (CIRIA 2006), Control of Water Pollution from Linear Construction Projects, Site Guide (C649) (CIRIA 2006), and in accordance with Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (NRA, 2006).

2.3 Best Practice Construction Approach

As noted above the Contractor will establish and implement, during the execution and completion of the Works, an Environmental Operating Plan consistent with and analogous to the NRA "Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan".

All construction works, relating to the activities and construction sequence outlined in Section 2.1 above, will be undertaken in accordance with the following:

- Inland Fisheries Ireland's *Requirements for the Protection of Fisheries Habitat during Construction and Development Works.*
- CIRIA (Construction Industry Research and Information Association) Guidance Documents

        - Control of water pollution from construction sites (C532)
        - Control of water pollution from linear construction projects: Technical Guidance (C648)
        - Control of water pollution from linear construction projects: Site Guide (C649)
        - Environmental Good Practice on Site (C692)
    - TII Guidance Documents
        - Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes
        - Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads
        - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes.

All work completed to be in compliance with the Wildlife Acts, 1976 – 2012;

In areas where Annex II-listed species (e.g. Badgers) or Flora Protection Order species are known to occur the works shall be carried out under licence from the NPWS.

2.5 Earthworks

The CKDR Scheme earthworks operations will involve the excavation and transportation of excavated cut material along the route of the Scheme with some of the material then being used as fill on the project site. Earthworks on the project site will then comprise :

- Excavation and infilling carried out in small progressive stages;
- Excavated topsoil that will be used for completion of the project site will be stored suitably far away from surface water features and covered to avoid excessive sediment run-off or wind blow;
- Whilst no significant run-off of silt laden run-off is anticipated, given the proposed construction methodology, the site will be regularly monitored by construction staff for signs of run-off such as silt in surrounding vegetation and measures will be put in place to prevent this where necessary. This may include the provision of a solid containment berm (of soil) or alternatively the erection of a silt fence. A silt fence may be constructed by attaching a sheet of geotextile membrane to a stock fence and burying the bottom of it into the ground, thus allowing water to pass through but not the heavier fraction of the sediment;

- In all circumstances, excavation depths and volumes will be minimised and excavated material will be re-used where possible.

2.6 Fuel Use and Storage

The use of machinery at the site carries the potential for accidental hydrocarbon contamination of the area, by fuel spillages or oil leaks for example. The works will be carried out in accordance with the following measures to avoid such impacts:

- Mobile storage such as fuel bowsers will be bunded to 110% capacity to prevent spills. Tanks for bowsers and generators shall be double skinned.
- When not in use, all valves and fuel trigger guns from fuel storage containers will be locked.
- All plant refuelling will take place on site using mobile fuel bowsers. Only dedicated trained and competent personnel will carry out refuelling operations.
- Plant refuelling will take place as far as practicable from watercourses located. A spill kit and drip tray shall be on site at all times and available for all refuelling operations. Equipment shall not be left unattended during refuelling.
- All pipework from containers to pump nozzles will have anti siphon valves fitted.
- Strict procedures for plant inspection, maintenance and repairs shall be detailed in the contractor's method statements and machinery shall be checked for leaks before arrival on site.
- All site plant will be inspected at the beginning of each day prior to use.
- Defective plant shall not be used until the defect is satisfactorily fixed.
- All major repair and maintenance operations will take place off site.
- Care will be taken at all times to avoid contamination of the environment with contaminants other than hydrocarbons, such as uncured concrete or other chemicals.
- The plant refuelling procedures described above shall be detailed in the contractor's method statements.

2.7 Measures to Protect Water Quality & Surface Water Bodies

- Temporary berms or silt fencing to prevent the ingress of any surface water or dust emissions to watercourses during the construction phase, a temporary silt trap and impermeable barrier will be placed around the perimeter of the project site with silt traps being installed at any points where water drains to a stream or open drain.

- Suitable prevention measures will be put in place at all times to prevent the release of sediment to other drainage channels associated with construction areas and migration to adjacent watercourses.
- To reduce erosion and silt-laden runoff, the creation, where possible, of natural vegetation buffers between the construction footprint and the other drainage channels and divert runoff from exposed excavated areas will be undertaken.
- Disturbance to natural drainage features will be avoided during the construction and/or maintenance of proposed greenway.
- Excavated material will not be stored immediately adjacent to watercourses.
- Any refuelling or lubrication of machinery will not be undertaken within 50m of a watercourse.

2.8 Non-Native Invasive Species

The proposed works will involve the movement of soil on the site and will create disturbed ground that may, in the absence of undertaking biosecurity measures at construction stage, be subject to colonization with non-native and invasive species such as Japanese Knotweed and Butterfly Bush. In this regard, the following biosecurity measures to be undertaken:

- Any vegetation clearance or construction works to be undertaken in the vicinity of areas identified as supporting non-native species will be undertaken in accordance with the Transport Infrastructure Ireland (TII) (formerly the National Roads Authority (NRA)) guidance measures for the control and management of noxious weeds and non-native invasive species (see NRA, 2010). Sites of known infestation shall be clearly marked prior to works and avoided during construction. The importance of preventing the spread of these species will form part of a tool box talk to all personnel prior to construction commencing.
- Sites of known infestation shall be clearly marked prior to works and avoided during construction. The importance of preventing the spread of these species will form part of a tool box talk to all personnel prior to construction stage.
- All contractors should incorporate strict biosecurity protocols into their Construction Environmental Management Plans. These protocols to include the thorough cleaning and disinfection of all machinery prior to arrival and departure from the site, to prevent the spread of invasive species.

3 Receiving Environment

3.1 Introduction

Schedule 6 of the Planning and Development Regulations, 2001, as amended, outline the aspects of the environment likely to be significantly affected by a proposed development. These are:

- Human beings
- Fauna and flora
- Soil
- Water
- Air/climatic factors
- Landscape
- Cultural heritage, including the architectural and archaeological heritage and cultural heritage
- Material assets
- The inter-relationship between the above factors.

3.2 Human Beings- Population and Human Health

The proposed CKDR Scheme is located approximately 3.5km away from the city centre and directly north west of residential communities making up the north side of the city. The townland in the immediate area of the project is Ballygrennnan. The immediate area is predominantly urban development in nature with the wider area north of Ballygrennan dominated by the Limerick to Galway railway line and improved agricultural pasture.

The lands to the south comprise the Old Cratloe Road, with one off housing and student accommodation due south associated with the Thomond Village Student accommodation.

The townland is located within the Electoral District of Limerick Rural North, which had a population of 6,801 according to the 2016 Census data.

Health

Environmental noise

Environmental noise is from long term or permanent sources, like major transport routes and factories. Noise from these sources has a different effect on people and is managed in a different way. The Environmental Noise Directive was written into Irish law in 2006, through The Environmental Noise Regulations (Statutory Instrument No. 140 of 2006). This law relates to the assessment and management of environmental noise. They provide for a common approach intended to avoid, prevent or reduce the harmful effects, including annoyance, due to exposure to environmental noise. These regulations do not apply to nuisance noise which can be dealt with under the Environmental Protection Agency Act.

The WHO (2011) has identified noise from transport as the second most significant environmental cause of ill health in Western Europe, the first being air pollution from fine particulate matter (AIRS_PO3.1,

2018). Environmental noise exposure can lead to annoyance, stress reactions, sleep disturbance, poor mental health and wellbeing, impaired cognitive function in children, and negative effects on the cardiovascular and metabolic system.

Noise Action Plans are required under the Environmental Noise Directive (EU 2002/49/EC) transposed in to Irish law by SI 140 of 2006. The aim of the Directive and the Regulations is to provide for the implementation of an EC common approach to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. Environmental noise is unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic and noise in agglomerations over a specified size. Types of noise not included in the Regulations are noise that is caused by the exposed person, noise from domestic activities, noise created by neighbours, noise at workplaces or noise inside means of transport or due to military activities in military areas.

Interrelationships

There is little local information available in relation to health and population. However there are strong links between air quality, water quality, material assets and health. Air quality is dependent on a number of factors including the source of potential pollutants and weather conditions. The Air Framework Directive 96/62/EC (CEC, 1996) details how ambient air quality should be monitored assessed and managed. This Directive requires that member states divide their territory into zones for the assessment and management of air quality. Limerick is designated as a Large Town (Zone C) under the Air Quality Index for Health (EPA). The Air Quality Index of health[2] is based on hourly monitoring data from sites around Ireland and is based on measurements of five air pollutants all of which can harm health. The five pollutants are:

- Ozone gas
- Nitrogen dioxide gas
- Sulphur dioxide gas
- PM2.5 particles and
- PM10 particle

Limerick achieved 'good' air quality under this index when accessed on 4th December 2019.

3.3 Flora and Fauna

3.3.1 Screening for Appropriate Assessment

A screening for Appropriate Assessment under Article 6 of the EU Habitats Directive has also been prepared for this project proposal and should be read in conjunction with this EIA Screening report. The following European Sites are located within 15km of the project site:

[2]http://www.epa.ie/air/quality/

	Site Name	Distance To (m)	Direction To
SAC	002165	Lower River Shannon SAC	883.21
SAC	001013	Glenomra Wood SAC	9105.58
SAC	002316	Ratty River Cave SAC	11279.46
SAC	000030	Danes Hole, Poulnalecka SAC	11748.83
SAC	002279	Askeaton Fen Complex SAC	14004.91
SAC	002319	Kilkishen House SAC	14369.39
SPA	004077	River Shannon and River Fergus Estuaries	2099.25

The Natura 2000 sites listed above are also designated as proposed Natural Heritage Areas. Figures 2 to 4 present the Special Areas of Conservation, Special Protection Areas and proposed/Natural Heritage Areas within a 15km buffer of the project.

3.3.2 Summary of Habitats Present

The habitats present on the immediate site are as follows:

- Improved agricultural grassland (GA1)/Wet Grassland (GS4).

A summary of a habitats from the 2010 EIS is as follows and applies to the area immediately surrounding the development site:

Section 7.2.2 General Description of the Study Area

The majority of the route from Coonagh to Knockalisheen runs at the western fringe of sub-urban Limerick crossing low-lying land of neglected pasture (a mosaic of species-poor wet grassland and dry neutral grassland) with occasional scrubby hedgerows. North-east of the Limerick to Ennis rail line, the topography is more undulating as the route enters an area of smaller fields separated by tree-lines and dense hedgerows north of Castle Park Estate before joining the Knockalisheen Road.

The scheme also involves the upgrade of the Knockalisheen Road as far as Watchhouse Cross. This stretch of road is uniformly low-ling and is partially bordered to the east by Knockalisheen Marsh (a proposed Natural Heritage Area and part of the Lower River Shannon candidate Special Area of Conservation), while the wooded grounds of the derelict Castle Park Estate, a protected structure, fringe the western side of the road. A small block of wetland, also within the Lower River Shannon candidate Special Area of Conservation, occurs immediately north of Watchhouse Cross.

[page 7/4] Hedgerows and Treelines

In the section between Coonagh and the rail line (chainage 0 to1, 880), field boundaries are primarily low scrubby hedgerows (WL1) comprised of willow, hawthorn, and blackthorn with abundant briar. Elder and

ash are both occasional as small trees. The ground flora is typically poorly developed due to the dense nature of the hedgerow.

3.3.3 Invasive Species

A townland search on the National Biodiversity of Ireland database identified Japanese Knotweed (*Fallopia japonica*) (recorded in 2018) present within the townland of Ballygrennan. The table below presents the full record from the NBID search.

Table 1 Invasive Species within Ballygrennan Townland (National Biodiversity Ireland Database, accessed 15.10.2019)

Townland		Common and Latin Name	Records	Date	Source	
BALLYGRENNAN	bird	Greylag Goose (Anser anser)	8	31/12/2011	Bird Atlas 2007 - 2011	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

BALLYGRENNAN	flowering plant	Butterfly-bush (Buddleja davidii)	1	31/07/1980	Species Data from the National Vegetation Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
BALLYGRENNAN	flowering plant	Japanese Knotweed (Fallopia japonica)	2	13/02/2018	National Invasive Species Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
BALLYGRENNAN	flowering plant	Least Duckweed (Lemna minuta)	1	31/12/2010	BSBI tetrad data for Ireland	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
BALLYGRENNAN	mollusc	Budapest Slug (Tandonia budapestensis)	1	20/09/1977	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
BALLYGRENNAN	mollusc	Common Garden Snail (Cornu aspersum)	2	20/09/1977	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
BALLYGRENNAN	mollusc	Jenkins' Spire Snail (Potamopyrgus antipodarum)	2	31/12/1940	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >>

						Medium Impact Invasive Species
BALLYGRENNAN	mollusc	Keeled Slug (Tandonia sowerbyi)	2	31/12/1940	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
BALLYGRENNAN	mollusc	Wrinkled Snail (Candidula intersecta)	2	20/09/1977	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
BALLYGRENNAN	terrestrial mammal	Fallow Deer (Dama dama)	2	31/12/2008	Deer of Ireland Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts

Figure 2 Special Areas of Conservation 15km of Proposed Development

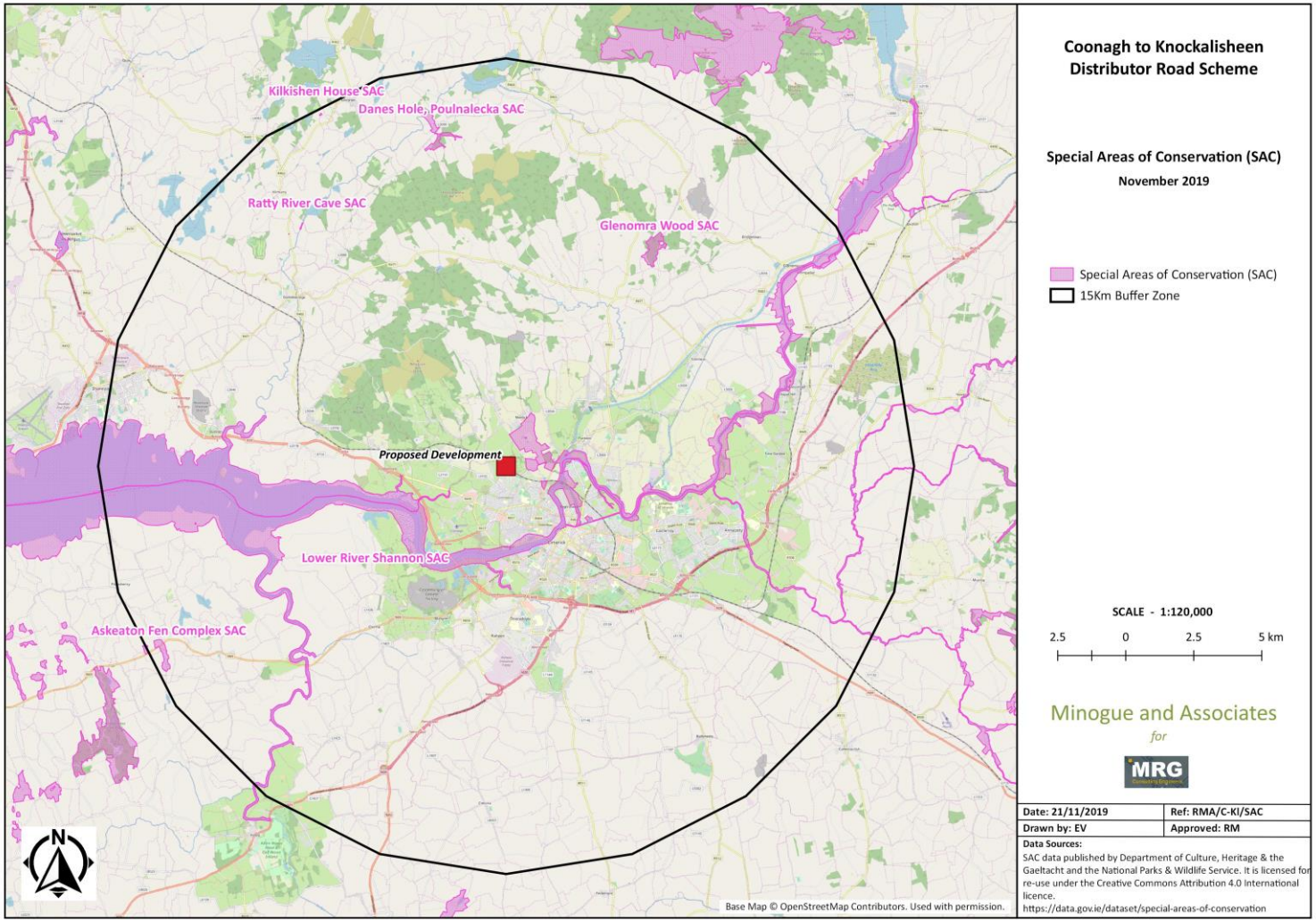


Figure 3 Special Protection Area 15km of Proposed Development

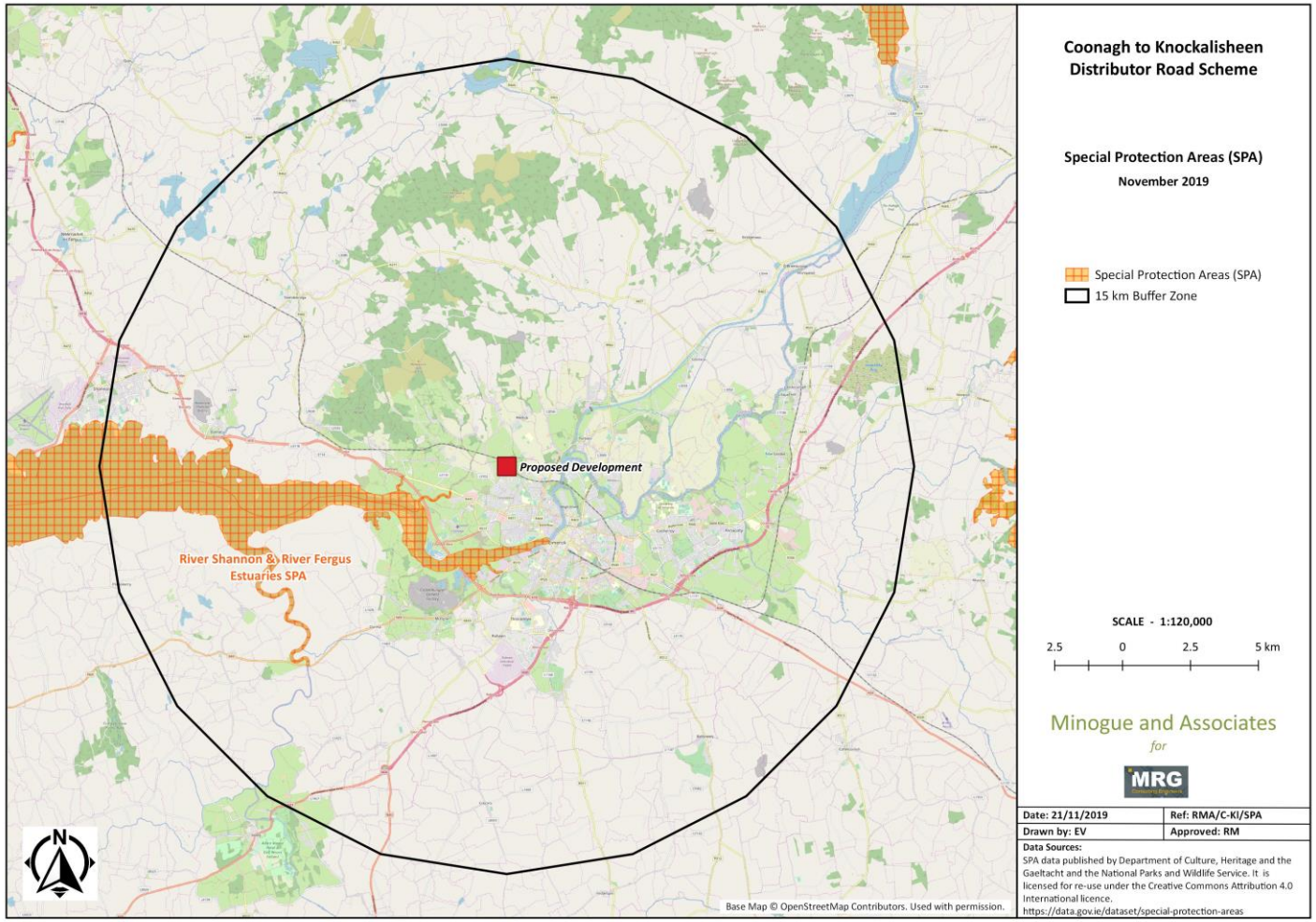
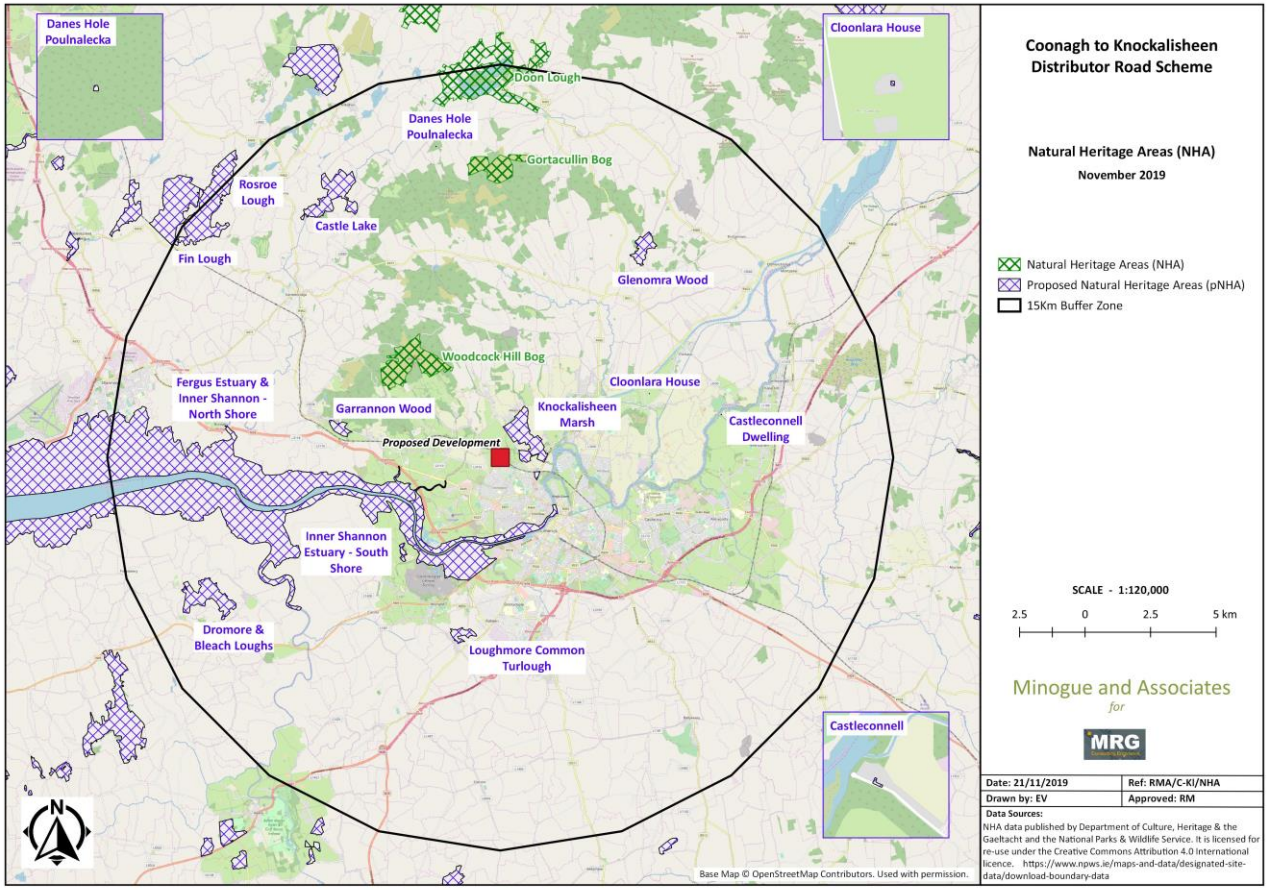


Figure 4 Natural Heritage Areas 15km of Proposed Development



3.4 Geology and Soil

Geology

The published 1:100,000 scale of Geological Survey of Ireland (GSI) map of the area (Sheet 17 Bedrock Geology Series for the Shannon Estuary (1999)) indicates that the proposed route is largely underlain by undifferentiated limestone of Carboniferous (Visean) Age.

Soil

Soils within the wider area are predominantly derived from marine sediments but the immediate project area is underlain by deep well drained mineral soil.

Figure 5 Bedrock Geology and Project

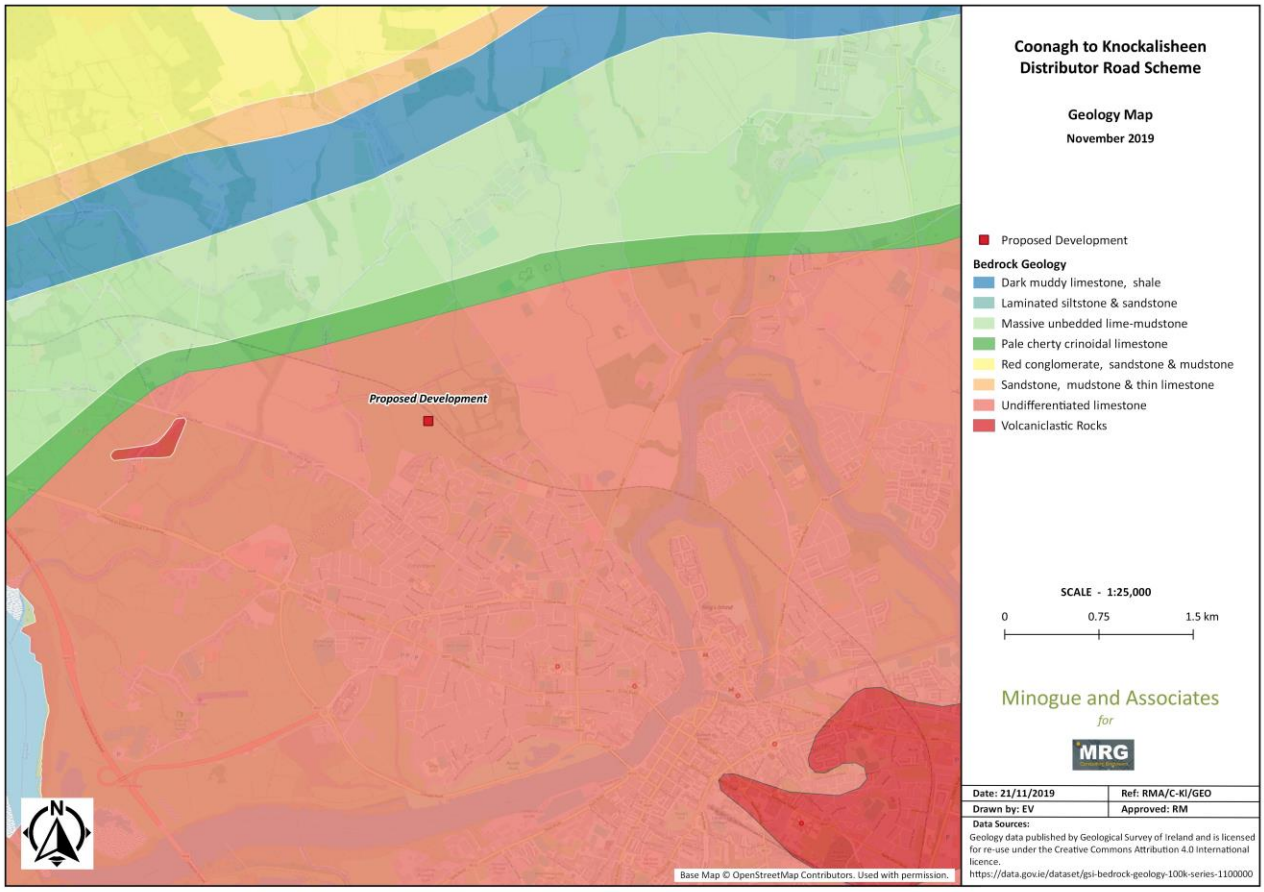
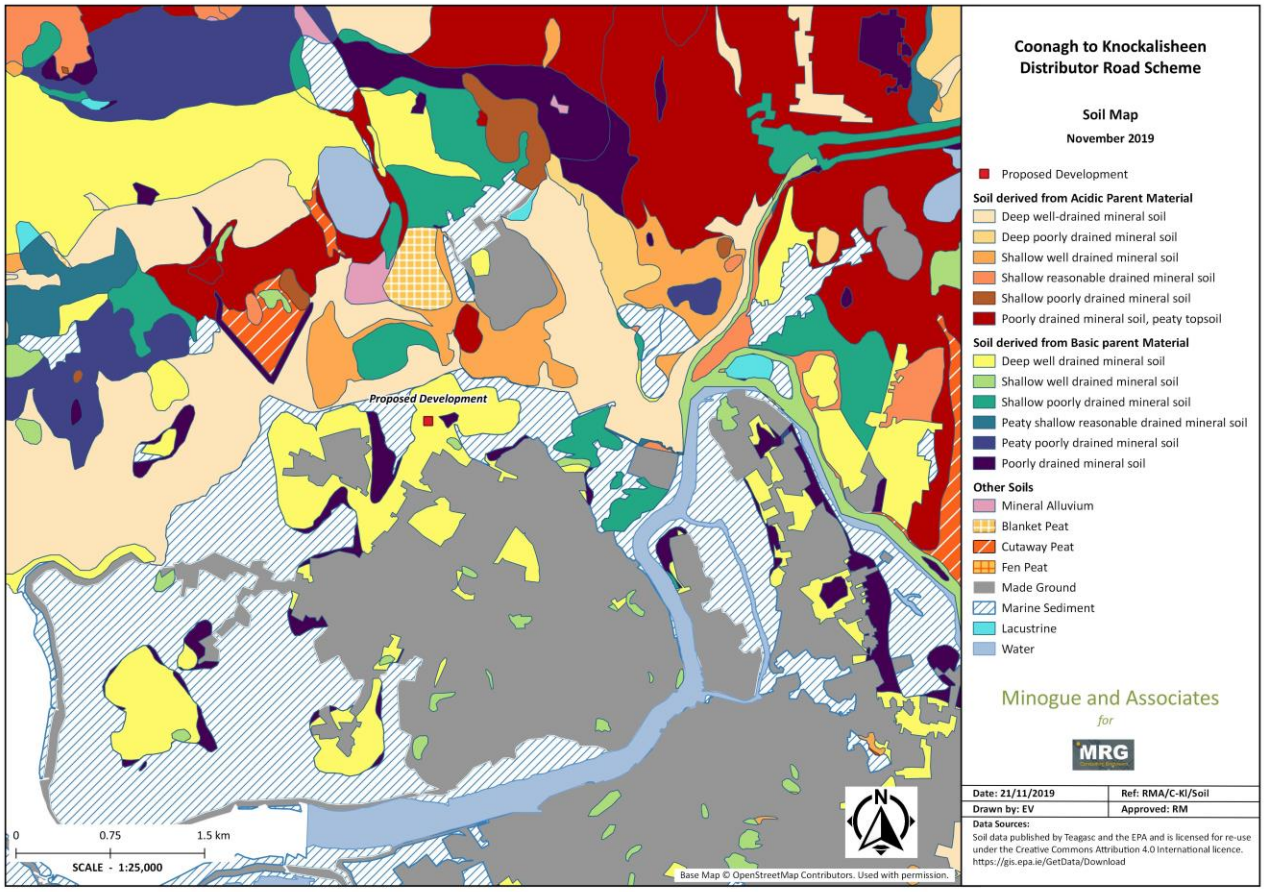


Figure 6 Soil map and project site



3.5 Water

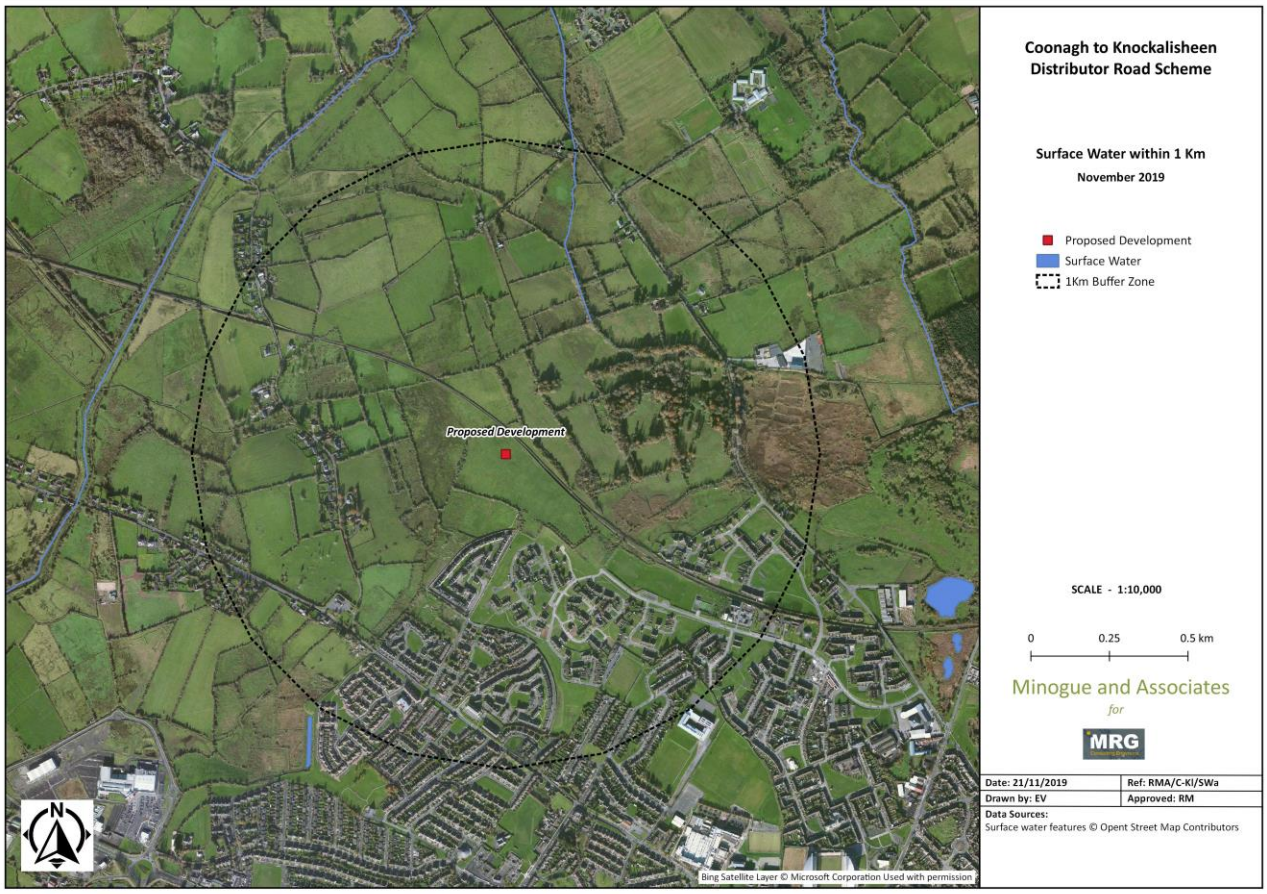
The Water Framework Directive (WFD) is a key initiative aimed at improving water quality throughout the EU. It applies to rivers, lakes, groundwater, estuarine and coastal waters. The Directive requires an integrated approach to managing water quality on a river basin basis; with the aim of maintaining and improving water quality. The catchments-based approach is now embedded in the WFD Programme for River Basin Management Plan for Ireland 2018 – 2021. A catchment is an area where water is collected by the natural landscape and flows from source through river, lakes and groundwater to the sea. The study area lands are situated within the Shannon Estuary North (code:27) and the sub catchment of Owenogarney (sc020)

3.5.1 Surface water

Surface water status is classified under the WFD from 'high' to 'bad' status. In measuring this status both ecological and chemical parameters are measured and the overall status is determined by the lower threshold achieved for both ecological and chemical parameters. The closest surface water feature is the Crumpaun (East) river, approximately 500m north of the project site. This river flows west before turning south to join the River Shannon further downstream. This river is classified as 'poor' quality under the 2013-2018 Water Framework

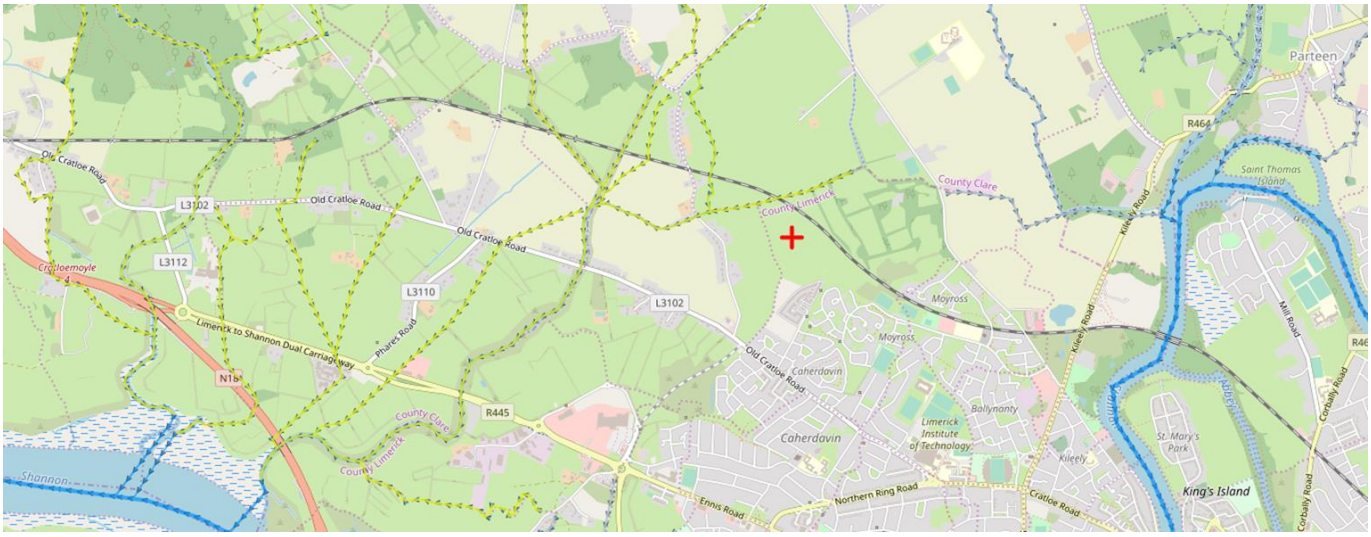
Directive cycle[3]. The figure below presents surface water quality featuresand Figure 9 shows surface water flow directions.

Figure 7 Surface Water Quality



[3] Data accessed on 19.11.2019 at EPA mapping tool: https://gis.epa.ie/EPAMaps/AAGeoTool

Figure 8 Flow Direction of surface water (source: EPA AA mapping)

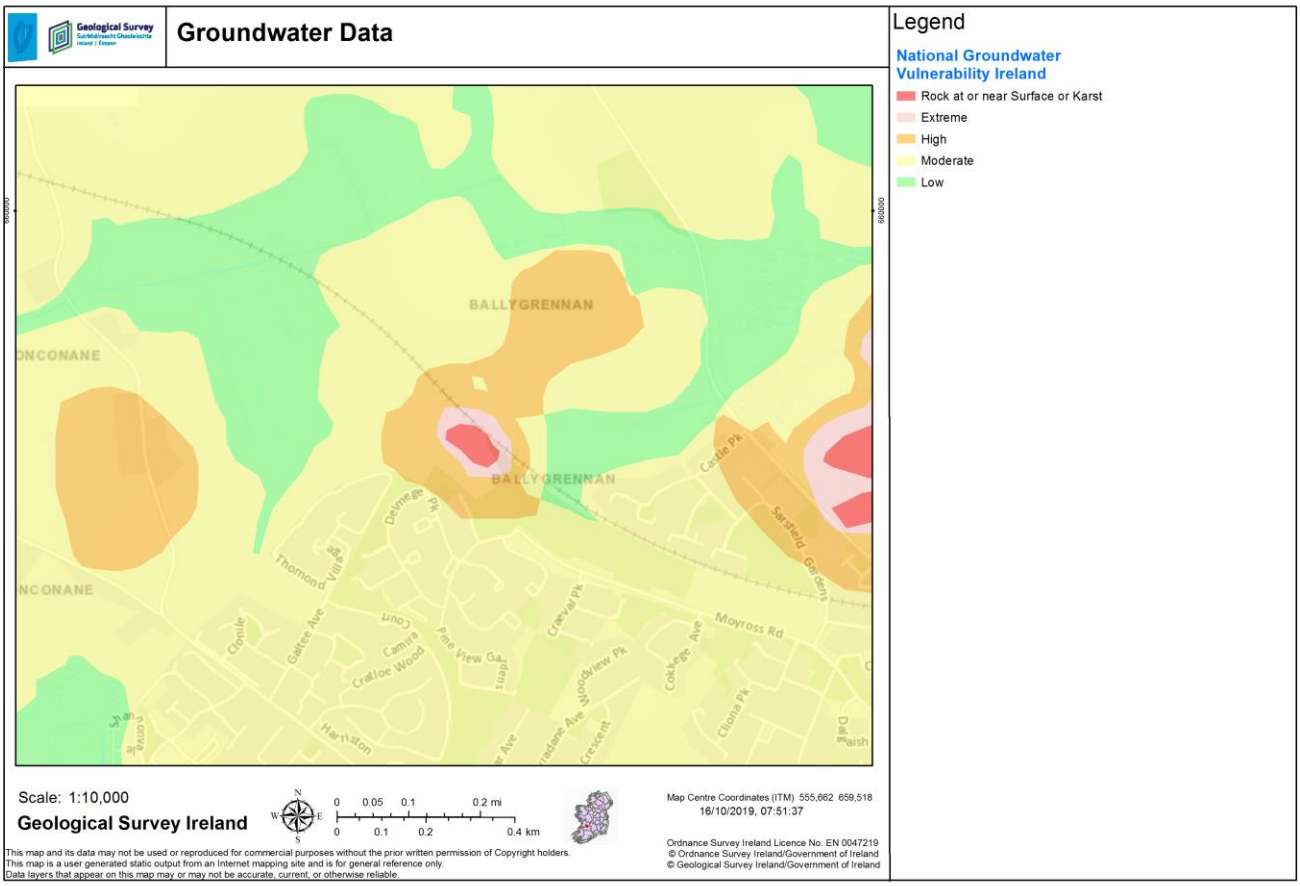


3.5.2 Groundwater

Groundwater is a further significant resource and refers to water stored underground in saturated rock, sand, gravel, and soil. Surface and groundwater functions are closely related and form part of the hydrological cycle. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD. Groundwater is important as a drinking water supply as well as the supply to surface waters. In addition, groundwater supplies surface waters. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil. The exposure to pollutants lasts much longer as groundwater moves at a slower pace through the aquifer. The quality of our drinking water supply, fisheries and terrestrial based habitats is intrinsically linked with groundwater quality. The Geological Survey of Ireland (GSI) aquifer categories are based on their vulnerability to pollution, i.e. the ease at which it can enter the subsurface layers. The classification of extreme or high vulnerability means that the groundwater in these areas is very vulnerable to contamination due to hydrogeological and soil factors.

The Geological Survey of Ireland's Groundwater Vulnerability Mapping shows the groundwater vulnerability for the study area within a catchment where groundwater vulnerability is considered moderate or low, with an area further east identified as high/extreme vulnerability, please see Figure 10. Groundwater overall is identified as being of good status according to the WFD classification.

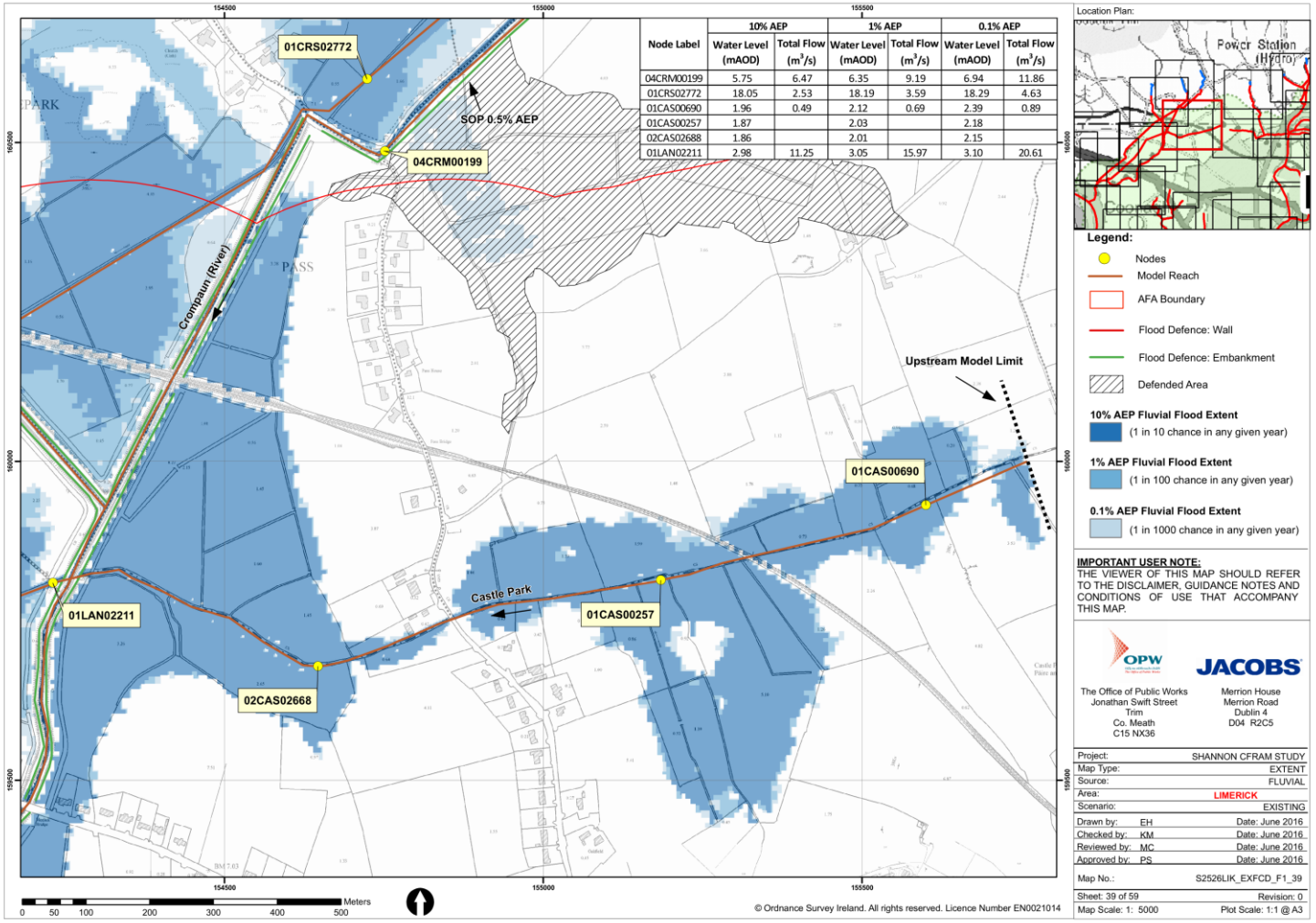
Figure 9 Groundwater Vulnerability



3.5.3 Flooding

The Planning System and Flood Risk Management, Guidelines for Planning Authorities, 2009, issued by the DoEHLG and undertaken in conjunction with the OPW, requires Planning Authorities to prepare a Strategic Flood Risk Assessment (SFRA). The primary purpose of the SFRA is to determine flood risk within a particular geographical area. It should be noted the SFRA is an ever-evolving document, which is to be reviewed and updated on a regular basis in the light of emerging information, flood data and an improved understanding of flood risk. Figure 10 below shows flood risk extents published by the OPW as part of the Shannon CFram Study. Fluvial flood risk is clearly associated with the open drainage watercourses described above to the west and northeast of the site which flow under the Crumpaun River. There are no records of flood events within the project study area. Existing ground levels on the project site vary from c. 4 to 7m OD Malin Head. The ground levels of the lands within the areas highlighted as being subject to a flood risk are generally below 2.5m OD Malin Head with modelling carried out by the OPW showing flood levels of c. 2.4m OD Malin Head in a 1 in 1000 chance in any given year flood event as indicated in Figure 10 below.

Figure 10 Flood Risk



Node Label	10% AEP		1% AEP		0.1% AEP	
	Water Level (mAOD)	Total Flow (m^3/s)	Water Level (mAOD)	Total Flow (m^3/s)	Water Level (mAOD)	Total Flow (m^3/s)
04CRM00199	5.75	6.47	6.35	9.19	6.94	11.86
01CRS02772	18.05	2.53	18.19	3.59	18.29	4.63
01CAS00690	1.96	0.49	2.12	0.69	2.39	0.89
01CAS00257	1.87		2.03		2.18	
02CAS02688	1.86		2.01		2.15	
01LAN02211	2.98	11.25	3.05	15.97	3.10	20.61

Legend:

- Nodes
- Model Reach
- AFA Boundary
- Flood Defence: Wall
- Flood Defence: Embankment
- Defended Area

10% AEP Fluvial Flood Extent
(1 in 10 chance in any given year)

1% AEP Fluvial Flood Extent
(1 in 100 chance in any given year)

0.1% AEP Fluvial Flood Extent
(1 in 1000 chance in any given year)

IMPORTANT USER NOTE:
THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

OPW
The Office of Public Works
Jonathan Swift Street
Trim
Co. Meath
C15 NX36

JACOBS
Merrion House
Merrion Road
Dublin 4
D04 R2C5

Project:	SHANNON CFRAM STUDY
Map Type:	EXTENT
Source:	FLUVIAL
Area:	LIMERICK
Scenario:	EXISTING
Drawn by: EH	Date: June 2016
Checked by: KM	Date: June 2016
Reviewed by: MC	Date: June 2016
Approved by: PS	Date: June 2016
Map No.:	S2526LIK_EXFCD_F1_39
Sheet: 39 of 59	Revision: 0
Map Scale: 1: 5000	Plot Scale: 1:1 @ A3

3.6 Air and Climatic Factors

All developments, agriculture, energy generation, industry and commercial activity and waste generation contribute emissions to air and greenhouse gas (GHG) emissions; however the emission of pollutants from vehicles is one of the main threats to air quality in Ireland and contributes significantly to the increase of greenhouse gases. The latest annual report on Air Quality in Ireland 2014 (EPA 2014) states that overall air quality in the country is good. Measured values of sulphur dioxide (SO2), nitrogen dioxide (NO2), carbon monoxide (CO), Ozone (O3), particulate matter (PM10 and PM2.5), heavy metals, benzene and polycyclic aromatic hydrocarbons (PAH) were all below limit and target values set out in the CAFE Directive and 4th Daughter Directive. However, when some of these parameters are compared to the tighter WHO Air Quality Guideline values, it highlights some potential issues. Ireland is above these guideline values with respect to PM10, PM2.5, ozone and PAH.

The primary sources of pollutants are traffic (source of nitrogen dioxide and particulate matter), and domestic solid fuel use (particulate matter). Longer term encouraging a modal shift from cars to walking and cycling will benefit local air quality and reduce greenhouse gas emissions from transport at a local scale.

Air Quality is also discussed in Section 3.2 in relation to Human Health

3.7 Landscape

The landscape in the project area is largely flat and low-lying and becomes more undulating north of the railway line. Chapter Eight of the EIS for the original road scheme describes the area as follows:

Although the Shannon River lies only 1-2 km away to the east, it has little physical presence within the study area. The Crompaun River (Meelick Creek) forms the western boundary of the study area and part of the county boundary between Clare and Limerick. The area is generally flat, low-lying and prone to flooding in places, with the patchwork field boundaries providing a network of drainage ditches with small hedgerows. Further west and north the land in Co Clare rises towards Woodcock Hill and Ballycarr South.

Field Boundaries and Vegetation

The field pattern is generally a function of the drainage system required due to the low-lying nature of the land so close to the Shannon estuary. Small hedgerows are generally associated with the ditches forming parallel channels along rectangular shaped fields. More tree cover is found in association with houses and gardens particularly in the north of the study area culminating in the high quality demesne landscape and woodlands associated with Castle Park House and Delmege Estate.

3.8 Cultural Heritage

The project area does not have any recorded cultural heritage features, the closest being an unclassified castle (LI005-010) northeast of the railway line.

3.9 Material Assets

The Old Cratloe Road and Meelick Road are the main roads relevant to the project area; whilst the Limerick – Galway Railway line runs north of the project area.

An amount of the inert soil and stone material excavated as part of the consented Coonagh to Knocklisheen Distributor Road Scheme amounting to c. 72,000m^3 tonnes is proposed to be used as fill in the landscaping of the road within the project site.

There are no proposals to provide toilets or water supply as part of the proposed project works.

3.10 Inter-relationship between parameters

The primary inter relationships identified for this project relate to water resources and biodiversity. As there are no surface water links from the site to the Lower River Shannon SAC and combined with the small and local scale of the amendments, no significant inter-relationship is identified.

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4 EIA Screening

4.1 Environmental Factors to be considered in the EIA Screening.

Schedule 6 of the Planning and Development Regulations, 2001, as amended, outline the aspects of the environment likely to be significantly affected by a proposed development. These are:

- Population and Human Health
- Biodiversity
- Land, Soils & Geology
- Water
- Air
- Climate
- Material Assets
- Cultural Heritage
- Landscape

The inter-actions between the above factors

This EIA Screening report will therefore assess the development for potential impacts on the above parameters and against the criteria provided in Schedule 7a of the Regulations.

The criteria contained in Schedule 7a can provide the basis for determining whether a proposed development may create significant impacts on the environment. The criteria are used to help in the screening process to determine whether a development is likely to have a significant effect on the environment. The criteria used in this EIA Screening Report are those listed in Annex III of the EIA Directive of 2014.

4.2 Impact Assessment

Having considered the above environmental factors, the aim of the next section is to address likely impacts on the environment by the implementation of the proposed development. Whether an EIA would be deemed relevant to the scale of the project and the environment will then be determined. The following sections presents the EIA Screening Report based on the criteria contained in Schedule 7a and are grouped under the following headings.

1. Characteristics of the Proposed Development - Table 4.1
2. Location of the Proposed Development - Table 4.2 and
3. Characteristics of Potential Impact Tables 4.3 and 4.4

The screening process assesses the most significant potential impacts in relation to the themes outlined below in Table 4.3. These are considered as follows:

The likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of this Annex, with regard to the impact of the project on the factors specified in Article 3(1), taking into account:
(a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);
(b) the nature of the impact;
(c) the transboundary nature of the impact;
(d) the intensity and complexity of the impact;

(e) the probability of the impact;
(f) the expected onset, duration, frequency and reversibility of the impact;
(g) the cumulation of the impact with the impact of other existing and/or approved projects;
(h) the possibility of effectively reducing the impact.

Having considered the above environmental factors, the aim of the next section is to address likely impacts on the environment by the implementation of the proposed development. A brief overview of the sensitivities and impacts will be highlighted. Whether an EIA would be deemed relevant to the scale of the project and the environment will then be determined. The following sections present the EIA Screening based on the criteria contained in Schedule 7a and are grouped under the following headings:

1. Characteristics of the Proposed Development - *Table 4.1*
2. Location of the Proposed Development - *Table 4.2* and
3. Characteristics of Potential Impact - *Tables 4.3* and *4.4*

Table 4.1 Characteristics of the Proposed Development

Screening Question	**Response**
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
(a) the size and design of the whole project	The project relates to the reuse of inert soil and stone material as part of the larger Coonagh to Knockalisheen Distributor Road scheme and relates to the reuse of the excavated fill of 26,000m3 within the CPO lands and 39,000m3 outside the CPO. This material will be reused as part of the overall scheme to fill and in line with the mitigation measures of the approved scheme. Of itself the project is not identified as giving rise to significant environmental effects.
(b) cumulation with other existing and/or approved projects;	The proposed development was considered in combination with other projects in the area that could result in cumulative effects on the environment. The EIA for the CKDR Scheme assessed the potential for in combination effects and the interaction between this amendment to the project and the larger project is identified as the principal in combination effect. Given that this amendment allows for the greater consistency with the mitigation measures in Section 13.7 of the approved scheme as follows: *13.7 Mitigation Measures for Soils & Geology* *The following mitigation measures will be put in place to allow for protection of soils, geology and hydrogeology:* *(i) All suitable material excavated within the cut sections shall be used to the greatest possible degree as fill material on the development.*

Screening Question	Response
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
	(ii) All unsuitable material excavated shall be disposed of in accordance with legislative requirement with due regard for the impact on the disposal site. Where possible this material will be utilised in landscaping of the development. *Unsuitable excavated material is to be used in the landscaping of the development.* The use of the excavated soil and stone as landscaping fill on the project site is predicted to achieve this mitigation measure and therefore any potential negative interactive effects are predicted to be slight and predominantly temporary in nature. Mitigation Measures are outlined in the consented scheme in addition to those identified in Section 2.2 of this EIA Screening report will provide effective management of the project and will eliminate the potential for interactive effects to result in likely significant effects on the environment.
(c) the use of natural resources, in particular land, soil, water and biodiversity;	Natural resources will be used in terms of the overall road construction and the reuse of inert material to fill and landscape the longer road scheme. Measures as presented in Chapter 13 of the EIA of the consented scheme will apply in relation to all environmental parameters as well as application of measures as outlined in Section 2 of this EIA Screening Report. The size and design of the whole project do not result in likely significant effects on the environment. Given the above approaches the project does not result in likely significant effects on the environment.
(d) the production of waste;	Yes, but not significant. The inert soil and stone material is not classified as waste and will be reused as part of the road scheme. Solid waste may be produced during construction but materials will be only ordered as required. Any wastes from the construction process will either be reused within the scheme or recycled/disposed of at an authorised waste facility. Likely significant effects on the environment are not identified.

Screening Question	Response
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
(e) pollution and nuisances;	The construction phase presents the greatest risk of pollution to water resources, and disturbance/damage to flora and fauna. Potential sources of water pollution to both surface and groundwater include fuel, lubricants, suspended solids and asphalt. Silt-laden surface runoff could arise during construction. The input of such runoff to the drainage ditches that flow under the Crumpaun River and ultimately to the River Shannon could still affect water quality within the wetland habitats present. The location of the compound away from receiving watercourses will significantly minimise the potential for the discharge of contaminated surface water runoff from this area to any surrounding watercourse. Potential pollution to water resources from operation include increased surface run off containing suspended solids associated with traffic is not identified as a risk associated with this project. However, best practice in design, construction and operation will be implemented and adherence to Environmental Construction Guidelines will be implemented. Additional measures have also been integrated in relation to the surface water quality, please see Section 2.3 Best Practice Construction Approach. In addition, noise disturbance during construction may impact on bird species associated with the hedgerows or wet grassland, again this project in and of itself is not identified as generating significant noise levels over and above those identified in the EIA for the road scheme. Given the above approach likely significant effects on the environment are not identified.
(f) the risk of major accidents and/or disasters which are relevant to the project concerned, including those	The risks of major accidents are not considered to be significant subject to best construction practices being followed through the construction phase. This will include proper site management, maintenance and operation of all

Screening Question	Response
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
caused by climate change, in accordance with scientific knowledge;	machinery and works associated with the construction phase, on site safety and training.
(g) the risks to human health (for example due to water contamination or air pollution).	As above, significant risks to human health are not identified for this proposal. The environmental protection measures, particularly for the construction phase are detailed in Section 2 and subject to full and proper implementation, potential risks associated with construction activity will not arise. Given the above approaches the project does not result in likely significant effects on the environment
Will the proposed development create a significant amount of nuisance during its construction or operation?	It is not anticipated that significant noise levels will arise during construction (they will be temporary and restricted to machinery) and operational noise is not identified as being significant. The project will reduce the requirement to dispose of inert material off site, thus reducing the noise associated with haulage trucks on local and regional roads with associated potential dust impacts. Given the above approaches the project does not result in likely significant effects on the environment

Conclusion: No significant effects likely to arise associated with the characteristics of the proposed development.

Rationale: The works associated with the project site are similar to that associated with the consented CKDR Scheme and allow for a fuller implementation of the mitigation measures outlined in the EIS for the CKDR Scheme relating to reuse of fill on the site.

Detailed measures as presented in Section 2, will ensure that subject to full implementation and adherence to same the project does not result in likely significant effects on the environment.

Table 4.2 Location of the Proposed Development

Screening Question	Response
The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to: (a) the existing and approved land use;	For the purposes of this Part 8 consent process, the proposed project relates to the earthworks on lands adjoining the CKDR Scheme, which were consented as part of the 2010 planning process. Due to additional lands now being available to LCCC, it is proposed to reuse this inert soil and stone material as part of landscaping works adjoin that the part of the road at Ballygrennan. Given the overall approach and measures as presented in Section 2 of this report, the project does not result in likely significant effects on the environment
(b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground	The works relate to using inert material both within the CPO corridor and outwith and the reuse of same as part of the larger approved, road scheme. The works do not result in likely significant effects on the environment.
(c) the absorption capacity of the natural environment, paying particular attention to the following areas: (i) wetlands, riparian areas, river mouths; (ii) coastal zones and the marine environment; (iii) mountain and forest areas; (iv) nature reserves and parks; (v) areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC;	The proposed development of itself is not predicted to result in changes to the patterns of surface water runoff that currently exist. Measures in the consented scheme, as well as works undertaken by the OPW in relation to flood management will contribute to alterations to surface water run off, once the scheme is constructed in line with the approval process. (i) the River Crumpaun is located to the west of the site with a series of drainage ditches also to the west of the site which drain the low-lying lands and flow under the River Crumpaun to the River Shannon. (ii) not applicable, given the scale, nature and remote distance of the project site from coastal zones. (iii) not applicable (iv) not applicable (v) The Screening Statement for Appropriate Assessment that accompanies this report has assessed the likely significant effects of the proposal on the conservation management objectives of European Sites within a 15km buffer of the route and determined a finding of no likely significant effects. Given the above approaches the project does not result in likely significant effects on the environment

Screening Question	Response
(vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure;	Whilst surface water quality within the wider area is variable, there are no direct or indirect effects identified for the project and potential risks to these surface waters. The greatest risk would relate to the construction phase and detailed measures in Section 2 will apply. Measures included in the overall scheme and as outlined above are not identified as generating additional pressure on the groundwater quality which is good within this area. Given the above approaches the project does not result in likely significant effects on the environment.
(vii) densely populated areas;	The route traverses the fringe of urban areas of Limerick. No negative effects are identified in relation to this criterion; positive effects relating to increased recreational use are identified.
(viii) landscapes and sites of historical, cultural or archaeological significance	No architectural conservation areas are listed within or adjoining this area and the archaeological record shows features some distance from the project site. The reuse of the inert material as landscaping for the overall scheme is positive in terms of reusing material on site, reduction in traffic associated with disposal and reduced local air quality and dust issues. Given the above approaches the project does not result in likely significant effects on the environment

Conclusion: No significant effects likely to arise associated with the location of the proposed development.

Rationale: Works relate to use of inert material within the original CPO lands and lands acquired by LCCC. Mitigation measures as presented in Section 2 will apply in addition to the wider mitigation measures for the CKDR Scheme. The works as proposed in this development are considered to result in minor to negligible impacts in terms of loss of wet grassland and positive effects associated with reduced traffic for disposal of this material. Landscaping will reinstate topsoil and regressing of the area upon completion.

The screening process assesses the most significant potential impacts in relation to the themes outlined below in Table 4.3 below. These are considered as follows:

Type and characteristics of the potential impact.

The likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of this Annex, with regard to the impact of the project on the factors specified in Article 3(1), taking into account:

(a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);

(b) the nature of the impact;

(c) the transboundary nature of the impact;

(d) the intensity and complexity of the impact;

(e) the probability of the impact;

(f) the expected onset, duration, frequency and reversibility of the impact;

(g) the cumulation of the impact with the impact of other existing and/or approved projects;

(h) the possibility of effectively reducing the impact.

Table 4.3- Characteristics of Potential Impacts on environmental parameters

Environmental Topic	Potential Impact
Human Beings	Potential temporary negative impacts to residents along Pass Road associated with construction works; as part of the overall scheme. In and of itself, the effects of this particular project element are identified as minor. The project does not result in likely significant effects on the environment
Flora and Fauna	Temporary impacts associated with construction and longer term operational impacts. Invasive species recorded at Ballygrennan so risk of spreading of same is a key issue. Biosecurity measures are provided for and presented in Section 2 of this screening report; subject to full adherence to same this impact is avoided. Potential water quality impacts The construction phase represents the greatest potential risk to water quality and flora and fauna, and measures applied in Section 2 will reduce this risk and provide good practice in construction. Given the approach outlined in Section 2, the project does not result in likely significant effects on the environment.
Soil and Geology	Permanent and minor negative impact related to works phase, particularly in relation to areas requiring excavation and fill works. An amount of the inert soil and stone material will be reused as part of the larger road scheme. The project does not result in likely significant effects on the environment.
Water	Potential exists for alterations to hydrology which may impact upon watercourses and other water based habitats such as the wet grassland although given the approach to Best Practice Construction it is considered sufficient safeguards are included in this approach. If not mitigated, surface water quality impacts arising from the construction stage could arise. Given the approach outlined in Section 2, the project does not result in likely significant effects on the environment
Air Quality and climate	Localised impacts arising from machinery such as excavators. Emissions during works phase will be minimized through best practice. Traffic emissions are not considered likely to be significantly increased and reuse within the overall project is positive in terms of reducing trips associated with disposal off site. The project does not result in likely significant effects on the environment.

Environmental Topic	Potential Impact
Noise and Vibration	Noise during the construction phase may result in nuisance however; noise and vibration during works phase will be minimized through best practice. Traffic noise and vibration are not considered likely to be significantly increased as a result. The project does not result in likely significant effects on the environment.
Cultural Heritage	None identified; The project does not result in likely significant effects on the environment.
Landscape	No significant alteration of landscape character in and of itself. The project does not result in likely significant effects on the environment.
Interrelationship between above parameters	The key interrelationship arises between water quality and habitats in particular. Given the approach outlined in Section 2, the project does not result in likely significant effects on the environment.

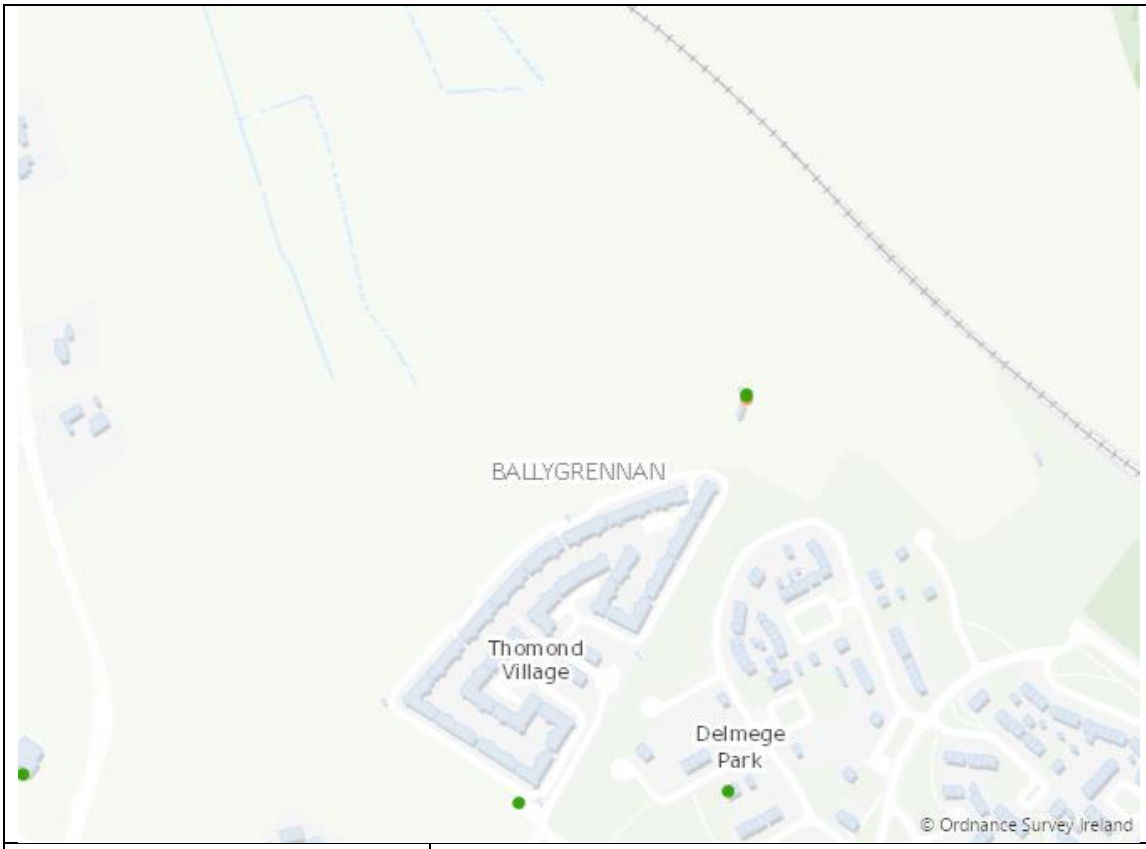
Conclusion: No significant effects likely to arise associated with the potential impacts on environmental parameters.

Rationale: As the preceding table shows, potential impacts relate primarily to temporary impacts at construction stage and the implementation of the Best Practice Construction measures will provide safeguards to avoid significant impacts at this stage; to avoid ingress of surface water or dust emissions over watercourses, temporary silt trap and impermeable barrier will be installed as appropriate.

Table 4.4 Characteristics of the potential impacts

Characteristics of potential impacts **The potential significant effects of proposed development in relation to criteria set out under Tables 3.3. and 3.2 above, and having regard in particular to:**	
(a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);	Minor and localized temporary impacts are identified primarily at construction stage only. The geographic area of the proposed works are confined to the immediate site area. Accordingly, there is no significant impact associated with the operational phase of the development
(b) the nature of the impact;	Impacts are identified as temporary as they relate to the construction stage and sufficient and detailed measures as shown in section 2.
(c) the transboundary nature of the impact;	Potential transfrontier impacts could arise in the event of pollution to surface waters associated with the project; dependant on significance, duration and magnitude of such an event.

(d) the intensity and complexity of the impact;	Whilst best practice guidelines and adherence to statutory requirements will address and mitigate for several environmental parameters during the design, construction and operation process; the principal potential impacts relate to water quality, and its subsequent impact on species dependent on water quality of the aquatic habitats therein. The proposed works will be carried out in line with environmentally sensitive construction methodologies therefore no significant impacts will arise
(e) the probability of the impact;	The design of the proposals, , best practice construction reduces and mitigates against significant effects arising, particularly in relation to the construction stage which is identified as giving rise to the greatest risk.
(f) the expected onset, duration, frequency and reversibility of the impact;	Subject to implementation and adherence to measures in Section 2, impacts identified for topics are not significant and will be temporary and reversible in nature, as they relate to construction phase only, anticipated to be approximately 30 months associated with the larger construction activities of the CKDR Scheme.
(g) the cumulation of the impact with the impact of other existing and/or approved projects;	Cumulative Effects with Existing and/or Approved Projects A search of the Myplan.ie on-line planning portal was completed on the 16th October 2019 to identify any existing or approved projects (i.e. within the last five years) in the vicinity of the proposed project or along the Crumpaun River upstream and downstream of the project site. The following rows (in italics) lists the projects that have been identified during this search and provides an assessment of the potential for the proposed project to combine with these other projects to result in cumulative significant effects to the environment. The figure also shows all applications since 2010.

	
REF: 19905. Knockalisheen ,Co. Clare	*to construct 1) Club House incorporating changing rooms and meeting room with Klargester biodisc sewage treatment plant and Ash Environmental Technologies with Wastewater Drip Distribution System in playing area; 2) Playing pitch with associated drainage works, alterations to the site levels; 3) A 30m x 45m Astroturf training pitch; 4) Car Parking to support playing pitches, site boundary fencing, provision of 2 no. vehicle entrances and all associated site work* *Decision: Further Information*
REF:17340, Pass Road, Co. Clare	*To construct a single storey extension to the rear of existing dwelling and associated site works* *Granted*
REF:16597, Pass Road, Co. Clare	*for the construction of a sun room and associated site works and RETENTION Permission for the existing brick facade on the front elevation at Cnoc an Doire.*
pe771315	*EXTENSION OF DURATION* *Description of Proposed Development Demolition of Country Club Bar and construction of a mixed use development consisting of 1 no. 2 storey block and 1 no. 3 storey block with the following overall accommodation; 120sqm of public bar*

	space and associated service accommodation; 1136sqm of commercial space with 800sqm (units 1-5 inclusive of Bank) for commercial retail and 336sqm (units 6-9) for commercial non-retail; 7 no. 2 bedroom duplex apartments and 5 no. single storey 2 bedroom apartments, external storage areas; associated car parking & deliveries areas; new entrance location; sewage treatment plant & all associated site works *Final Decision on Application CONDITIONAL* *Assessment: As of 16th October 2019, no development activity appears to have taken place at this location. Extension of duration normally lasts 5 years but may be extended to 2021 according to the Planning and Development (Amendment) Regulations 2017, which prescribe procedural matters relating to applications for further extensions of duration for qualifying housing developments.* *Given the distance from this proposed development and the project site it will not have the potential to combine with the proposed project to result in likely significant effects on the environment.*
REF:18948	*Description of Proposed Development a two storey extension to the side of the house consisting of utility, bathroom, living room at ground floor level and bedroom, bathroom, walk in closet at first floor level* *Final Decision on Application CONDITIONAL* *Old Cratloe Road , Limerick.* *Assessment: Due to the small scale of this project and its remote location from the project site it will not have the potential to combine with the proposed project to result in likely significant effects on the environment.*
REF: 18227	*Description of Proposed Development the construction of a single storey extension to the rear of the existing dwelling, conversion of attic space to habitable accommodation and the provision of rooflights to the front and rear elevations together with all associated incidental and site works* *Final Decision on Application CONDITIONAL* *Assessment: Due to the small scale of this project and its remote location from the project site it will not have the potential to combine with the proposed project to result in likely significant effects on the environment.*
The proposed works have been assessed cumulatively within this Environmental Impact Assessment (EIA) Screening Report and by DEC Ltd within the Appropriate Assessment Screening Report and concludes that potential cumulative effects are limited..The assessment outlined above has found that the proposal relating to the use of inert soil and stone material excavated as part of the Coonagh to Knockalisheen Distributor Road EIA consented in 2010 as landscape fill on the project site will not have the potential to combine with any other existing and/or approved projects to result in likely significant impacts on the environment	

(h) the possibility of effectively reducing the impact.	Measures are detailed in Section 2 and are derived from best practice guidelines in addition to the Mitigation Measures in the consented scheme of 2010 as listed in Chapter 13 of the EIA and conditions applied by An Bord Pleanala.

Conclusion: No significant effects likely to arise associated with the characteristics of the potential impacts.

Rationale: Minor, localised and temporary impacts are identified associated with this project which represents an amendment to the approved project which was subject to full EIA and Habitats Directive Assessment.

5 Conclusion

5.1 Screening Determination

The proposed development for the landscape filling of lands which are now under the ownership of LCCC and are alongside the CPO corridor for the Coonagh to Knockalisheen Distributor Road does not trigger the threshold for mandatory EIA/EIAR as set out in the Roads Act 1993 (as Amended) and/or in the Road Regulations of 1994 and has been assessed as a sub-threshold EIA development

Article 4(5) of the EIA Directive states:

> *The competent authority shall make its determination, on the basis of information provided by the developer in accordance with paragraph 4 taking into account, where relevant, the results of preliminary verifications or assessments of the effects on the environment carried out pursuant to Union legislation other than this Directive.*
>
> *The determination shall be made available to the public and:*
> *(a) where it is decided that an environmental impact assessment is required, state the main reasons for requiring such assessment with reference to the relevant criteria listed in Annex III; or*
> *(b) where it is decided that an environmental impact assessment is not required, state the main reasons for not requiring such assessment with reference to the relevant criteria listed in Annex III, and, where proposed by the developer, state any features of the project and/or measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.*

This EIS Screening Report has concluded that the effects of the proposed development are considered not to be of likely significance, due to the minor development footprint, the characteristics and sensitivities of the receiving environment and design and environmental protection measures.

The implementation of the environmental management practices (See Section 2.2) will also provide safeguards in relation to potential impacts identified in the preceding tables.

Given the scale and nature of the project and taking account of all available information, the overall probability of impacts on the receiving environment arising from the proposed development is considered to be low. No significant environmental impacts will occur once mitigation measures outlined in Section 2 of this Report are implemented. These mitigation measures are representative of standard industry environmental management that are implemented to minimise the impact of projects to the environment.

The information provided in this EIA Screening Report can be used by the competent authority Limerick City and County Council to conclude and determine that an EIA is not required for the proposed project as there will be no significant effects

The overall conclusion for this screening appraisal is that, having considered the appropriate criteria, Environmental Impact Assessment for the project is not required.

Annex 1: Mitigation Measures from EIS of approved scheme.