Appropriate Assessment Screening for the Limerick Greenway Hub @ Newcastle West Services Building

Prepared by Rory Dalton for Limerick City and County Council

Table of Contents

Rev	Author(s)	Checked	Details	Date
01	RD	MJMCN	Issue to Client	11/07/2023

1. Executive Summary

This document comprises the Appropriate Assessment Screening Report to provide information to the competent authority to complete their own screening for Appropriate Assessment for the proposed Limerick Greenway Hub @ Newcastle West Services Building. It has been concluded that the proposed project will not have likely significant effects on any Natura 2000 (European) site, either alone or in combination with other plans or projects.

2. Introduction

Rory Dalton (Independent Ecologist) was appointed to prepare a report for LCCC to inform the Screening for Appropriate Assessment of the proposed Limerick Greenway Hub @ Newcastle West Services Building.

The function of this Appropriate Assessment Screening Report is to provide information that will facilitate the competent authority in completing a Stage 1 Screening Assessment of the proposed project's potential to result in likely significant effects to the Conservation Objectives of Natura 2000 Sites.

2.1 Appropriate Assessment Process

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) provides legal protection for habitats and species of European importance.

The Directive requires that where a plan or project is likely to have a significant effect on a European Site, while not directly connected with or necessary to the nature conservation management of the site, it will be subject to 'Appropriate Assessment' to identify any implications for the European site in view of the site's Conservation Objectives. Specifically, Article 6(3) of the Habitats Directive states:

" 6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

The provisions of Article 6(3) do not apply where the proposed plan or project is '*connected with or necessary to the management of the site*'. In this case, the proposed development is not directly connected with or necessary to the management of any European site(s) and as such an assessment

as to whether the project would be likely to have significant effects on European Sites must be carried out.

Article 6(3) of the Habitats Directive is implemented by the provisions of sections 177U and 177V of the Planning and Development Act, 2000 (as amended). Article 177U requires that before consent is given, the competent authority must carry out a screening for appropriate assessment to assess, in view of best scientific knowledge, if the development, individually or in combination with another plan or project is likely to have a significant effect on the European site. If it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site, an appropriate assessment of its implications for the Site(s) in view of the Site's conservation objectives is required to be carried out. Section 42, paragraph 13 of the S.I. No. 293/2021 - European Union (Birds and Natural Habitats) (Amendment) Regulations 2021, has also introduced a mandatory requirement for the public authority to undertake consultation with the public prior to the Appropriate Assessment determination being made, and that the public authority shall have regard to any submissions or observations received during the public consultation.

2.2 Methodology

Documents associated with the proposed project and relevant ecology databases were consulted as part of this assessment, with a site walkover also undertaken. Furthermore, the following guidelines were used in the completion of this assessment;

- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – European Commission Methodical Guidance on the provisions of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (European Commission 2021).
- Integrated Biodiversity Impact Assessment – Streamlining AA, SEA and EIA Processes: Practitioner's Manual (EPA 2013).
- *European Commission, (2019). Commission notice 'Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC'.* (2019/C 33/01). OJ C 33, 25.1.2019.
- Office of the Planning Regulator Practice Note PN01 Appropriate Assessment Screening for Development Management (March 2021).
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG 2010).

The Screening Stage of Appropriate Assessment is used to identify whether the Plan, either alone or in combination with other plans or projects, is likely to have a significant effect on a Natura 2000 site. This report follows European Commission (2021) guidance which recommends that screening should follow a four step process as outlined below:

1. Determine whether the plan is directly connected with or necessary to the management of the site. If it is, then no further assessment is necessary.
2. Describe the plan and other plans and projects that, 'in combination', have the potential to have significant effects on a European site.
3. Identify the potential effects on the European site.
4. Assess the significance of any effects on the European site.

3. Brief Description of the Sites and Proposed works

3.1 Site Description and Location

The proposed development is located on the outskirts of Newcastle West just off Station Road adjacent to the Newcastle West Recycling Centre. This location will provide greenway users starting their journey at Newcastle West with the choice of travelling east towards Ardagh (3.8Km) and Rathkeale (12.6km) or west towards Templeglantine (13.2km) and Abbeyfeale (22.3km). The development is to be situated at ITM 528009 634687, on the confluence of the eastbound and westbound lines from Newcastle West Station on the Great Southern Railway's Limerick to Tralee line. The former train station was once an important stop alongthe Great Southern Railway's Limerick to Tralee line, which is also known as the 'North Kerry Line'. In 1880 the line from Limerick to Barnagh and onto Tralee opened providing a link for the transport of both passengers and goods. The North Kerry Line ceased to carry passengers in 1963, however the line continued to carry goods traffic until 1977. The tracks of the Limerick to Tralee line were finally removed in 1988. The line has since become a Greenway providing amenity to locals.

3.2 Site Visit

A site visit was carried out on the 29/9/2020, and the existing environment was studied in relation to the proposed works put forward by Limerick County Council. A multidisciplinary site walkover was carried out during which ecological elements such as habitats, mammals, breeding bird suitability, bat suitability, invasive species and ecological/hydrological connectivity/pathways to Natura 2000 sites were assessed. An updated survey using the same methods was carried out in July 2022 following the completion of a new design proposal.

Date	Weather
29th September 2020	**Temperature**: 15 degrees Celsius **Rain**: None **Cloud**: 6/8 **Wind**: F3
6th July 2022	**Temperature**: 19 degrees Celsius **Rain**: None **Cloud**: 0/8 **Wind**: F0

3.3 Proposed Works

Part VIII planning permission was previously approved for the Limerick Greenway Hub @ Newcastle West Car Park (Planning reference 228019).

The Limerick Greenway has proved to be an extremely popular recreational amenity with a footfall of close to 600,000 in its first year of operation and close to 700,000 in its second year. Due to the increased popularity of the greenway in its first 2 years of operation it was decided to increase the scope of the proposed development at Station Road to include a Greenway Hub services building. The building will include bike hire, coffee dock, toilets, store and services.
Works to include all site development works for the building including utilities, landscaping and public realm around the building.

The proposed Limerick Greenway Hub @ Newcastle West now includes

- Provision of a public plaza.
- Provision of a pedestrian and cycle crossing connecting to the Bishop's Court trail.
- Provision of a 243m² building, providing bike hire and toilet facilities.
- Provision of ancillary public amenity features such as benches, bike stands, bike repair station, bins, drinking water fountain, route maps and signage.
- Provision of additional architectural planting and trees.
- Provision of 73nr. Standard Car Parking Spaces.
- Provision of 5nr. Disability Spaces.
- Provision of 1nr. Universal Access Space for Electrical Vehicle Charging.
- Provision of 3nr. Spaces for Electric Vehicle Charging.
- Provision of 2nr. Coach and Mini-Bus Spaces.

To maximise the potential of the site, a public realm architect was engaged to advise on the new hub layout. This layout not only provides a practical car parking facility,but an attractive amenity that will act as a greenway trailhead for users and local residents in Newcastlewest. Based on the ecological survey completed the design has been shaped around the existing habitat, the area at the back of the site consisting of blackthorn dominated scrub land and dry meadows and grassy verges will be protected and preserved in its current state. It is planned also that the hedgerows on the west and east of the site will be protected and preserved. The internal car park layout has been designed to achieve a good balance between providing sufficient public amenity space for the large number of visitors expected, while also providing greenspaces and several pockets earmarked for planting.

The existing site is steeply sloped and the gradient will be moderated during the construction of the proposed greenway hub to ensure that the achieved gradient is suitable for all users. All surfacing, kerbs and access points will be designed for universal accessibility. To make the Greenway Hub attractive to local residents or greenway users without cars, a welcoming entrance plaza is proposed adjacent to Station Road with the car parking facilities located behind. The plaza will consist of paved and landscaped areas complete with a green totem, directional signage, water fountains, benches and bins. Further paved and landscaped green areas will be provided within the site and adjacent to the existing greenway route with bike parking, bike maintenance station and a services building providing bike hire and toilet facilities. The plaza at the north side of the site will also be furnished with directional signage, water fountains, benches, tables and bins making the car park an attractive outdoor recreational destination in its own right.

To provide safe access to both the proposed Greenway Hub and the existing civic amenity centre west of the site a shared entrance has been proposed. Within the greenway hub a one-way entrance/exit system is proposed. A central island will divide traffic lanes within the car park at the rear of the site where parking for vulnerable road users is to be provided. The width of the central island has been increased to provide additional space for greenway users. Wide walkways and a two-way cycle track are to be provided down the eastern edge of the site connecting the greenway and recreational areas to the rear of the site. Changes in road surfacing material are frequent within the proposed greenway hub encouraging lower vehicle speeds and highlighting areas where pedestrians and vulnerable road users may cross. The car parking areas are to be lined with trees, bushes and other landscaping elements to tie-in with the rear of the site and the plaza, providing a consistent aesthetic throughout the site. An existing signalised pedestrian crossing is located 60m west of the proposed Greenway Hub. The pedestrian crossing services the existing school on the south side of Station Road. Following consultation with the School it has been decided to extinguish this crossing point. In its place a new 6.0m signalised and raised toucan crossing will be provided connecting the school to the greenway hub and car park. The raised table at the crossing and build out in the kerbing will act as a traffic calming feature and give greenway users wishing to continue on to the town centre via the Bishops Court trail section a safe, raised crossing point. Pavement build outs, bollards, road marking and road signage will be provided to slow down motorists on approach to the crossing point. Chicane gates will also be provided on approach to the crossing and plaza to slow down cyclists, further reducing the likelihood of a collision between greenway users and vehicular traffic along Station Road. Bollards and planting will be used in strategic locations to remove desire lines and funnel greenway users, school children and local residents to the wide crossing points. A non-signalised raised courtesy crossing will also be provided across the amenity centre access road as part of the development.

The path of the existing greenway will be realigned along the back of the site. This will be done as a first stage so that greenway users can be diverted onto this new realigned section of greenway which construction works on the southern end of the site continue. Site clearance will be undertaken in the areas outside of those identified for retention. The footprint of the realigned greenway will be excavated down to a suitable formation level, granular capping and sub-base will be laid and compacted before the greenway is finished with an asphalt surface. Ducting will be installed crossing the greenway to allow for utility services.

The existing fibre optic cable and other services on the site will be located by an appropriated trained LUGS operative. Trail pitting will be required to confirm the location of services. Existing services will be protected in place. Where required existing access chambers will be extended to tie in with the proposed final ground level. In addition to the protection and reinstatement of existing services on site ducting and access chambers shall be installed to facilitate the following new services

- Drinking Water
- Communications
- Electricity for Public Lighting & Traffic Signals
- Electricity for Electric Vehicle Charging
- Electricity for the Building and Ancillary Infrastructure
- Piping for future sewer (to be connected to existing sewer main running along the south side of the site

The existing site is quite steep at the southern end, earthworks will be completed to achieve a shallower gradient more suitable for users of all abilities. The existing topsoil will be removed down to a competent formation level. This top soil will be saved and reused during the landscaping stage of the project. Once the formation level has been established, suitable granular capping material will be placed and compacted in accordance with TII specification for road works. Once completed the sub-base will be installed. The sub-base will be graded to ensure a consistent cross fall for appropriate drainage.

The proposed boundary treatment aims to retain the existing established hedging and fencing. This will be supplemented with additional planting and fencing. At the south end of the site, existing footpath and stone wall will be replaced by a welcoming plaza surfaced with select limestone paving. Paving will be installed on an appropriate sub-base and will be set in compacted bedding sand. Select planting will be distributed throughout the greenway hub to maximize the green space and will be placed in the areas highlighted. Planting will include a diverse mixture of species in line with the Pollinator Friendly Planting Code.

The main car park area will be paved with asphalt, this will be made, laid and rolled in accordance with TII specification series 900. In the areas highlighted select limestone road pavers will be user to provide raised areas with contrasting surface colour and texture to act as traffic calming. The limestone road paving will be set in bedding sand and laid on top of well compacted granular sub-base.

Ancillary works will include provision of public lighting, installation of benches, bike stands, bike repair station, solar powered compactor bins, CCTV, road markings and signage.

The proposed services building, to be constructed at the north of the site, will include bike hire, coffee dock, toilets, store and services. Works to include all site development works for the building including utilities, landscaping and public realm around the building.

The design intent is to realise a simple contemporary building. Anticipating the overall site strategy, it is intended that the building will respond appropriately to its context and function in terms of form, scale, colour and expression. The intention is to propose a high-quality palette of materials which resemble the Irish vernacular and at the same time are durable and easy to maintain. The proposed materials palette will include glazing, fibre cement panels (corrugated and flush). The green tone of the fibre cement panels is proposed to represent the narrative of the buildings purpose on the Greenway. It is intended to be a landmark building and a point of arrival for the locals and tourists using the Greenway.

The material selection and architectural design of the Greenway Hub Building, aims to achieve a unified contemporary look with ties to an old Ireland and its use of corrugated metal sheets from farm buildings and storage sheds. The building is positioned in such a way to allow the public aspects of the design to face both the Greenway route and car parking; whilst all ancillary spaces and services face to the rear.

Selected materials

- Selected Paint Finish.
- Selected Corrugated Fibre Cement Cladding to Architect’s Detail and Specification.
- Selected Flush Fibre Cement Cladding to Architect’s Detail and Specification.
- Selected Corrugated Fibre Cement Roof Panels.
- Selected Galvanised Steel Façade Profile to Architect’s Detail.
- Selected Aluminium Windows and Door System.

4. Natura 2000 Sites and the Potential for Significant Effects

4.1 Natura 2000 sites within the zone of influence

The following is a table outlining Natura 2000 sites in the vicinity of the project.

Table 4.1 Nature 2000 Sites within the zone of influence

Natura Site	Distance	Conservation Interests	Reason for Inclusion in the current Screening
Stack's to Mullaghareirk (004161)	Proposed works would be, at the closest point, 4.67km from this SPA	(A082) Hen Harrier	Proposed works 15km of protected area
Lower River Shannon SAC (002165)	Proposed works would be, at the closest point, 8.14km from this site	[1110] Sandbanks [1130] Estuaries [1140] Tidal Mudflats and Sandflats [1150] Coastal Lagoons* [1160] Large Shallow Inlets and Bays [1170] Reefs [1220] Perennial Vegetation of Stony Banks [1230] Vegetated Sea Cliffs [1310] Salicornia Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [3260] Floating River Vegetation [6410] Molinia Meadows [91E0] Alluvial Forests* [1029] Freshwater Pearl Mussel (Margaritifera margaritifera) [1095] Sea Lamprey (Petromyzon marinus) [1096] Brook Lamprey (Lampetra planeri) [1099] River Lamprey (Lampetra fluviatilis) [1106] Atlantic Salmon (Salmo salar) [1349] Bottle-nosed Dolphin (Tursiops truncatus)	Proposed works 15km of protected area

Natura Site	Distance	Conservation Interests	Reason for Inclusion in the current Screening
		[1355] Otter (Lutra lutra)	
Askeaton Fen Complex SAC (0002279)	Proposed works would be 13.57km from this SAC	[7210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7230] Alkaline fens	Proposed works 15km of protected area

4.2 Sources, Pathways and Receptors

Having regard to the examples of elements of the plan or project to be considered during screening set out in the guidance document 'Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC', (European Commission, 2021), the likely impacts are set out relative to the project or plan under consideration including:

- size (e.g. in relation to direct land-take);
- overall affected area including the area affected by indirect impacts (e.g. noise, turbidity, vibrations);
- physical changes in the environment (e.g. modification of riverbeds or morphology of other water bodies, changes in the density of forest cover);
- changes in the intensity of an existing pressure (e.g. increase in noise, pollution or traffic);
- resource requirements (e.g. water abstraction, mineral extraction);
- emissions (e.g. nitrogen deposition) and waste (and whether they are disposed of on land, water or in the air);
- transportation requirements (e.g. access roads);
- duration of construction, operation, decommissioning, etc.;
- temporal aspects (timing of the different stages of a plan or project);
- distance from Natura 2000 sites and in particular from their designating features;
- cumulative impacts with other projects and plans.

The source-pathway-receptor connectivity between these impacts and European sites is set out for the proposed development in table 4.2.1 and 4.2.2. The European Sites proximate to the site are identified in table 4.3 below.

The European Sites identified within the Zone of Influence are Lower River Shannon SAC (002165), Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) and the Askeaton Fen Complex SAC (0002279). Tables 4.2.1 and 4.2.2 demonstrates that there is no S-P-R connectivity to any European Site.

Table 4.2.1 Source Pathway Receptor Analysis.

Source		Pathway	Receptor	S-P-R connectivity
Size (Land take)	The footprint of the proposed hard stand is approximately 3000 m^2. The site is Council owned and there exists a number of habitats of varying degrees of importance ecologically as discussed in detail in the Ecology Report	There will be no land take requirement from any European site. The lands affected by the project are sub-optimal to support the conservation interests of any nearby European site.	None	No S-P-R connectivity to any European site.
Overall affected area	There is minimal potential for disturbance to habitats beyond the works footprint of the project given that the site significantly isolated from all Natura 2000 Sites and given the contained nature of the works.	There will be no land take requirement from any European site. The lands affected by the project are sub-optimal to support the conservation interests of any nearby European site.	None	No S-P-R connectivity to any European site.
Physical changes to the environment	The footprint of the proposed site will be changed from bramble dominated scrub and hawthorn hedgerow to car park hard stand and a hub building.	There will be no land take requirement from any European site. There will be no physical change to any European site. The lands affected by the project are sub-optimal to support the conservation interests of any nearby European site.	None	No S-P-R connectivity to any European site.
Changes in the intensity of an existing pressure	Disturbance to noise varies between species and is dependent on the volume and nature of the noise source in the context of the existing environment. The construction of the car park and building is proposed within a peri- urban setting and as such the temporary increase in vehicular movements and activity on site will not be a significant change from background conditions. The proposal is not set to increase nutrients which would exacerbate pollution of the aquatic environment. The lack of direct hydrological connectivity, the flat drainage ditches and high drainage capacity of the surrounding soils ensure that, no oil will be incident on the Lower River Shannon SAC 30+km downstream	There will be no changes in intensity of an existing pressure to any Natura 2000 site.	N/A	No S-P-R connectivity to any European site.

Source		Pathway	Receptor	S-P-R connectivity
	As such there is no potential for impacts due to change in intensity of any existing pressure on any European site.			
Resource Requirements	There will be no resources required from any European Sites.	None	None	No S-P-R connectivity to any European site.
Emissions & Wastes	<u>Dust</u> In accordance with the Institute of Air Quality Management's 'Guidance on the Assessment of dust from demolition and construction' (Holman et al., 2014) the dust emission magnitude of a construction/earthworks project of this scale is defined as small (which would therefore ha a 50m zone of impact) and the risk of dust impacts are defined as negligible in the context of the sensitivity local environment i.e. there are no feature of high sensitivity i.e. European Sites, or medium sensitivity i.e. dust sensitive species within 50m of the proposed works. As such there is no potential for impacts from dust on any European site. <u>Surface Water Runoff</u> Construction of the car park and building will require shallow excavation for foundation construction. There will be no interaction with the groundwater table and as such no requirement for dewatering the excavation. Concrete will be utilised during construction, and sediment with the potential to become mobile will be present during excavations. The lack of direct hydrological connectivity, the flat drainage ditches and high drainage capacity of the surrounding soils ensure that concrete or mobile	None	None	No S-P-R connectivity to any European site.

Source		Pathway	Receptor	S-P-R connectivity
	sediment will not enter any watercourse which could lead to the Lower River Shannon SAC 30+km downstream.			
Transportation requirements	Access and deliveries to the proposed site will be accommodated by existing access points to the road network and a newly constructed access point.	None	None	No S-P-R connectivity to any European site.
Duration of construction/ operation/ decommissioning	Construction will occur in stages, with the total project time amounting approximately 1 year Decommissioning – this site is a permanent site for long-term operation.	N/A	N/A	No S-P-R connectivity to any European site.
Temporal aspects	The proposed construction works can be carried out at any time of year, however, site clearance will be carried out outside of the bird breeding season. There are no aspects of the nearby European sites that are more sensitive during a particular time of year.	None	N/A	No S-P-R connectivity to any European site.
Distance to Natura 2000 sites	The proposed project is not located within or adjacent to any European Site.	N/A	N/A	No S-P-R connectivity to any European site.
Cumulative effects	No potential impacts on any European sites have been determined. As such there is no potential for cumulative effects.	N/A	N/A	No S-P-R connectivity to any European site.

Source		Pathway	Receptor	S-P-R connectivity
Operational Phase	Disruption to the hydrology of a catchment can arise from creating new hard-stands. Hydrocarbons from vehicles. Physical disturbance can arise from noise associated with habitation.	The nature of the works will not present any significant alterations to the hydrology of the catchment. Surface water from the car park will flow into the drainage ditch network, which is completely/almost completely flat and has significant holding capacity. From here some of it will flow very slowly and much of it will percolate to groundwater from where it will be drained very slowly. This process will have a modulating effect on the storm water received which will absorb/cancel out the change in permeability of the footprint.	None	No S-P-R connectivity to any European site.

Table 4.2.2 Pollution-specific Source Pathway Receptor Analysis

Source	Pathway	Receptor
Construction Phase		
Earthworks and construction works can cause the input of silt / fine sediment /cementitious material to a watercourse and pose the risk of introducing hydrocarbons should an incident arise	During the course of the works silt and sediment will be produced onsite. In general, during construction works, surface water runoff has the potential to carry silt and sediment into the watercourses, particularly during times of heavy precipitation. However, the land surrounding the project is almost completely flat, if not completely flat. Any features within the footprint of the project which might be considered drainage ditches are dry the vast majority of the time and effectively function as swales. Even during times of heavy rain if the swales/drainage ditches were to fill, there would be little or no visible flow as the water within the drainage ditch percolates to the ground, encouraged by the flat topography of the surrounds. As such, the vast majority of the drainage from the site of the project is via soakage (percolation, through the ground) to the groundwater body from where it is slowly drained by the stream to the north east. The site of the proposed works is 450m from the stream to the north east. This distance of groundwater percolation and low velocity drainage ditch flow will filter out any particles from the leaving the footprint of the project. Additionally, this distance of groundwater percolation and low velocity drainage ditch flow will allow any concrete to complete its chemical transformation thereby becoming inert sediment and not posing any chemical threat to the aquatic environment. Additionally, from the north east stream to the Lower River Shannon SAC is over 35km distance along the river channel, before which it has been joined by tens of rivers and hundreds of streams within a main channel which is a low lying depositing watercourse with a catchment size of 481 square kilometres. Within the section of the SAC into which the streams draining the project eventually flow, the SAC is coastal/estuarine in nature. Most of the estuarine habitats for	No connectivity to any receptor within Natura sites

Source	Pathway	Receptor
	which the SAC is designated require sediment for their structure and function, and so are not at risk from sediment. Similarly, the species that inhabit the estuarine habitats are adapted to the sediment levels present and so are not at risk from sediment influx.	
Physical disturbance can arise from noise associated with construction; mainly by machinery and to a lesser degree power tools and hammering	Due to the scale of the works, noise disturbance from machinery and power tools during the development is not likely to be significantly elevated above normal levels of the agricultural surroundings and the town of Newcastle West. Also due to the distance from the site of the proposed works to the surrounding SPAs and SACs, with the closest being Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA, 4.5kms away, no significant pathway for disturbance exists.	No connectivity to any receptor within Natura sites
Operational Phase		
Disruption to the hydrology of a catchment can arise from creating new hard-stands	The nature of the works will not present any significant alterations to the hydrology of the catchment. Surface water from the car park will flow into the drainage ditch network, which is completely/almost completely flat and has significant holding capacity. From here some of it will flow very slowly and much of it will percolate to groundwater from where it will be drained very slowly. This process will have a modulating effect on the storm water received which will absorb/cancel out the change in permeability of the footprint.	No connectivity to any receptor within Natura sites
Hydrocarbons from vehicles	The surface water from the car park will travel, the vast majority of the time, into groundwater percolation, from where it may be drained eventually by the Daar stream. During times of heavy prolonged rainfall, it may travel via 600m of flat vegetated drainage ditch to the Daar stream.	No connectivity to any receptor within Natura sites
Physical disturbance can arise from noise associated with habitation	During the operational phase of the developments the amount of noise pollution will not be increase, there will be no increase in traffic volume or disturbance.	No connectivity to any receptor within Natura sites

4.3 Conservation Interests and Likely Significant Effects

The following table assesses the potential for likely significant effects to each Qualifying interest of each Natura 2000 site within 15km of the study area, and thereby determines the need for mitigation and further analysis through Stage 2 NIS. Table 4.3

Natura 2000 Site	Conservation Interest	Assessment of Likely Significant Effects	Likely Significant Effects
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)	[A082]Hen Harrier (Circus cyaneus)	No likely significant effects are envisaged for this species. Potential nesting or foraging habitat does not exist within or adjacent to the footprint of the proposed works. No disturbance is envisaged due to a distance of almost 5km to the SPA	No
Lower River Shannon SAC (002165)	[1110] Sandbanks	No likely significant effects are envisaged for these habitats. These habitats do not exist within the footprint of the works. The closest possible hydrological connection to these habitats is estimated at approximately 30km via 450m distance of groundwater soakage to the Daar Stream and then the River Deel until it reaches the SAC at the Shannon Estuary north of Askeaton - given the scale of the project, and the lack of direct hydrological connection, it is concluded that these habitat will not be effected.	No
	[1130] Estuaries		No
	[1140] Tidal Mudflats and Sandflats		No
	[1150] Coastal Lagoons*		No
	[1160] Large Shallow Inlets and Bays		No
	[1170] Reefs		No
	[1220] Perennial Vegetation of Stony Banks		No
	[1230] Vegetated Sea Cliffs		No
	[1310] Salicornia Mud		No
	[1330] Atlantic Salt Meadows		No
	[1410] Mediterranean Salt Meadows		No
	[6410] Molinia Meadows		No
	[3260] Floating River Vegetation	The conservation objectives supporting document: "*Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (habitat code 3260)*" shows that the closest known extensive floating river vegetation community of note within the SAC is on the Maigue, which is in a different catchment and therefore not hydrologically connected. Pockets of the habitat subtype "Bryophyte-rich streams and rivers" may exist in the catchment, however the lack of direct hydrological connection ensures no likely significant effects through the filtering process of groundwater percolation and low velocity drainage ditch flow through ~600m of flat and heavily vegetated drainage ditches.	No

Natura 2000 Site	Conservation Interest	Assessment of Likely Significant Effects	Likely Significant Effects
	[91E0] Alluvial Forests*	No likely significant effects are envisaged for this habitat as it does not exist within the works area, nor does the works area drain a water table upon which this habitat depends	No
	[1029] Freshwater Pearl Mussel (Margaritifera margaritifera)	Does not exist within the catchment of the works	No
	[1095] Sea Lamprey (Petromyzon marinus)	The main potential impact to these species from a project such as this involving earthworks is the silting of the spawning gravels. The closest watercourse is approximately 450m via percolation and 600m via flat vegetated drainage ditch which would only have an observable flow during prolonged heavy rain. It is therefore considered that there is no direct hydrological connection to a watercourse. This will ensure the stream is not contaminated with silt from the works and as a result, no likely significant effects are envisaged for these species.	No
	[1096] Brook Lamprey (Lampetra planeri)		No
	[1099] River Lamprey (Lampetra fluviatilis)		No
	[1106] Atlantic Salmon (Salmo salar)		No
	[1349] Bottle-nosed Dolphin (Tursiops truncatus)	Does not exist within the catchment of the works	No
	[1355] Otter (Lutra lutra)	No mammal burrows found within the footprint of the proposed works during the site visit. The closest watercourse is approximately 450m away (the Daar Stream)	No
Askeaton Fen Complex SAC (0002279)	[7211] Cladium Fens	No likely significant effects are envisaged for this habitat. This habitat does not exist within the footprint of the works, nor is the Site hydrologically connected to these habitats.	No
	[7230] Alkaline Fens		No

4.4 Cumulative Effects

As no pathways to any Natura 2000 sites were identified, there is no potential for cumulative effects between the proposed project and any other plans or projects. The proposed structure will form part of the Limerick Greenway. The greenway has already been constructed. A search of nearby planning applications for the period of the 10 years preceding the 8th August 2022 was completed using the Limerick County Council Planning enquiry online map viewer. There are a number of applications within 100m, and they are typical of an urban/peri-urban environment such as extensions to houses screening walls etc. The closest applications relate to a commercial building and its associated car park; this has already been build and is in operational phase. All these proposals are subject to the same flat topography which promotes groundwaterpercolation rather than overland flow. No large scale projects are planned for the immediate location. As such, no cumulative effects are envisaged

5. Conclusion

It is concluded beyond reasonable scientific doubt that there are not likely to be significant effects from the proposed development on the three Natura sites identified for consideration (or any other European site), either alone or in combination with other plans or projects.

6. Figures

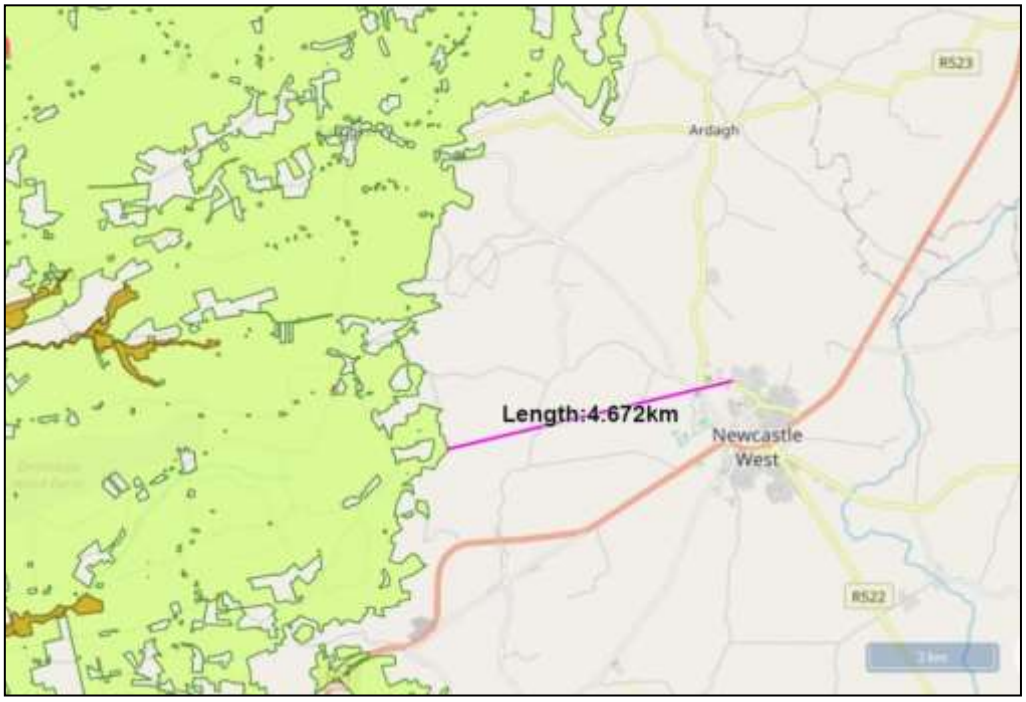

Figure 1: Distance from proposed site and the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)

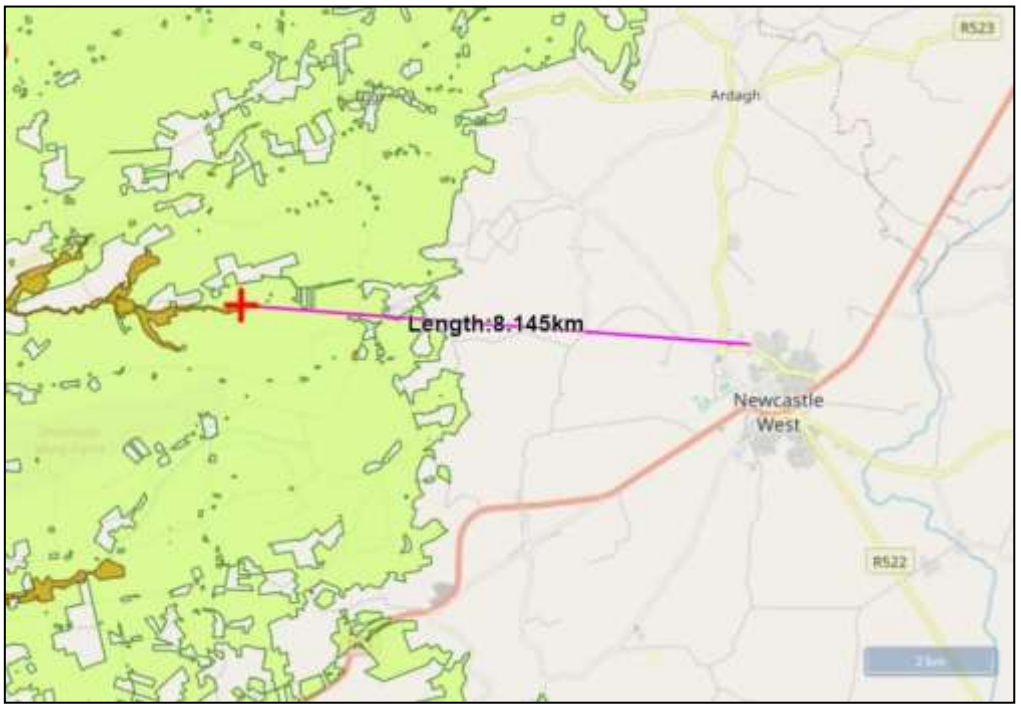

Figure 2: The direct distance between the study site and the Lower River Shannon SAC. There was no hydrological connectivity between the study site and this part of the SAC as they were in separate catchments. Additionally this section of the SAC is 130m higher in altitude than the study site.

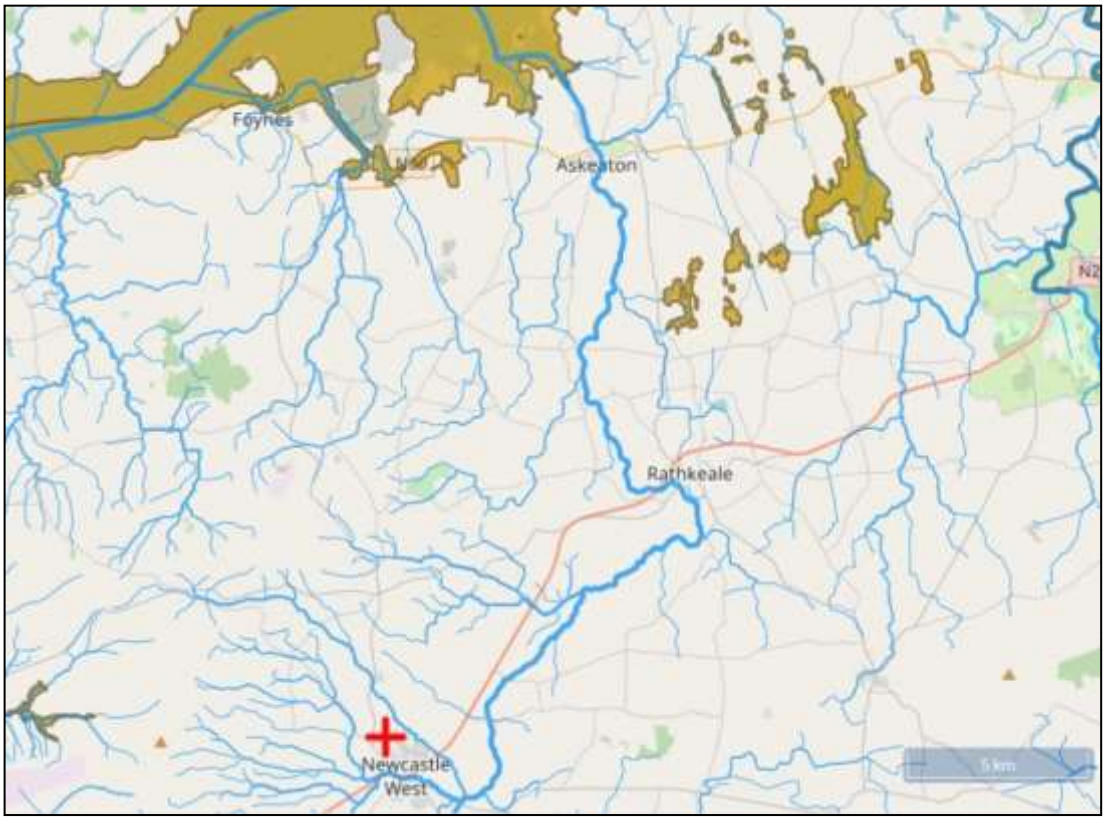

Figure 3: This map illustrates the weak hydrological connectivity between the site (depicted by the red cross) and the Lower River Shannon SAC north of Askeaton. The connectivity is via 600m distance of groundwater soakage to the Daar Stream and then via the River Deel; a distance of approximately 30km.

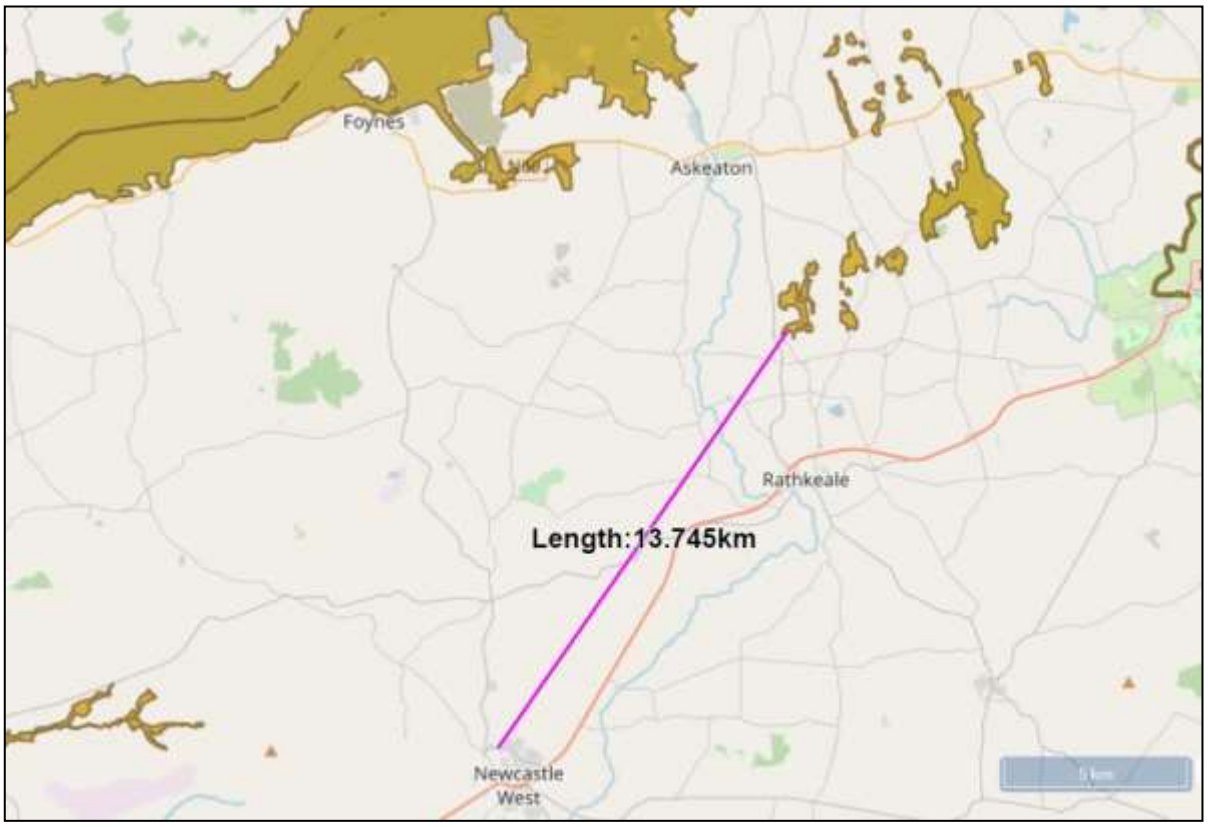

Figure 4: Distance from the proposed site and the Askeaton Fen Complex SAC

7.Bibliography

Department of Environment, Heritage & Local Government (DoEHLG). 2010. Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities. DoEHLG, Dublin.

European Commission. 2021. Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – European Commission Methodical Guidance on the provisions of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC. European Commission DG Environment, Oxford UK.

Environmental Protection Agency (EPA). 2013. Integrated Biodiversity Impact Assessment – Streamlining AA, SEA and EIA Processes: Practitioner's Manual. EPA STRIVE Programme 2007–2013; Report Series No. 106. EPA, Wexford.

Fossitt Julie A. "A Guide To Habitats In Ireland" October 2000

NPWS (2012) Lower River Shannon SAC (site code 2165) Conservation objectives supporting documentWater courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (habitat code 3260)

NPWS (2013) Site Synopsis: Lower River Shannon SAC (site code 2165) National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

NPWS (2014) Site Synopsis:Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2014)Conservation Objectives:Askeaton Fen Complex SAC (0002279) National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2014) Site Synopsis: Askeaton Fen Complex SAC
(0002279) National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015)Conservation Objectives: Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority.