

APPROPRIATE ASSESSMENT SCREENING

of Carlow Exchange at

Potato Market,

Carlow

Version 1.0

5th March 2021

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1 INTRODUCTION

1.1 BACKGROUND

Lisa Dowling MCIEEM was commissioned by Carlow County Council to prepare a Stage 1 Appropriate Assessment Screening Report for a Part VIII development, namely the development of Carlow Exchange at Tully's Yard, Potato Market, Carlow.

An Appropriate Assessment Screening Report is required due to the proposed site being located c.400m east of the River Barrow which is designated a Special Area of Conservation (SAC), the River Barrow and River Nore SAC (Site code: 002162) and as such is part of the Natura 2000 network of sites. The EU Habitats Directive requires that any proposed development which potentially may impact either directly or indirectly on a Natura 2000 site be subjected to Stage 1 Screening.

Lisa Dowling has over fifteen years environmental consultancy experience, specialising in the areas of Ecological Impact Assessment and Geographic Information Systems. She obtained an honours degree in Applied Ecology in 1995 from University College Cork; a masters degree in Environmental Resource Management in 1997 from University College Dublin; and a Certificate in Biological Recording and Species Identification from University of Birmingham in 2005. She is a full member of the professional body, the Chartered Institute of Ecology and Environmental Management (CIEEM) since 2006 and is nominated vice-county recorder of the Botanical Society of Britain and Ireland (BSBI) for County Carlow.

1.2 LEGISLATIVE CONTEXT

The Habitats Directive (*Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora*) provides legal protection for habitats and species of European importance. The main aim of this Directive is “*to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies*”. In order to meet the aims of the Directive, actions must be designed “*to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest*” (Habitats Directive).

Under the Habitats Directive, Special Areas of Conservation (SAC) or candidate Special Areas of Conservation (cSAC) have been selected as important examples of habitat types listed in Annex I, and the habitats of certain species listed in Annex II of the Habitats Directive. SACs (including cSACs) together with Special Protection Areas (SPAs) (including proposed SPAs) make up a network of European sites called the Natura 2000 network. SPAs are designated under the *Council Directive on the Conservation of Wild Birds (79/409/EEC)*, otherwise known as the “Birds Directive”.

Appropriate Assessment is required under the Habitats Directive for any plan or project likely to have a significant effect on a Natura 2000 site. Article 6, paragraphs 3 and 4 of the Directive state:

“6(3) - Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 site) but likely to have 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.

6(4)- If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

1.3 STAGES OF APPROPRIATE ASSESSMENT

This Stage 1 Appropriate Assessment Screening Report has been prepared in accordance with:

- “Assessment of Plans and Projects Significantly affecting Natura 2000 sites – Methodological Guidance on the Provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC” (EC, 2001).
- “Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities” (DEHLG, 2010).
- Rulings of the Justice of the European Union (CJEU) cases relating to Appropriate Assessment, particularly C-323/17 “People Over Wind, Peter Sweetman v Coillte Teoranta”, C-258/11 “Peter Sweetman and Others v An Bord Pleanála” and C-521/12 “T.C. Briels and Others v Minister van Infrastructuur en Milieu”.

Articles 6(3) and 6(4) of the Habitats Directive lay down a step-by-step procedure to be followed with respect to proposed plans or projects that may impact on Natura 2000 sites. This procedure comprises four principal stages which are presented in Appendix 1. For the purposes of this document, we are only concerned with the first stage, Stage 1 Screening. Screening is undertaken to determine the necessity for a more detailed Stage 2 Appropriate Assessment where potential impacts are deemed to be of significance. This Stage 1 Screening Report will comprise the following four steps:

- Description of the project and local site characteristics;
- Identification of Natura 2000 sites potentially affected, and compilation of information on their qualifying interests and conservation objectives;
- Assessment of likely effects – direct, indirect and cumulative; and
- Screening statement with conclusions.

2 DESCRIPTION OF THE PROJECT

2.1 PROPOSED WORKS

The project entails the development of Carlow Exchange, a new civic space (336.6m²) at the old Tully's Yard, Potato Market, Carlow which is located within the urban centre of Carlow. This covered outdoor space will allow for outdoor events or performances and provide a venue for Carlow Farmers' Market. The development will include the following:

- Installation of a raised roof structure (Kalzip aluminium standing seam roof cladding & fascia) which will be supported a steel portal frame with 19 No. steel columns.
- Retention of existing rubble walls.
- New vehicular/pedestrian access with steel gates in south-western corner of site.
- Existing gateway to be retained on eastern boundary, and new galvanized steel gates to be installed.
- Existing unconsolidated surface to be tarmacadamed.
- 3 No. proposed road gullies with silt traps which will discharge to the combined sewer network.
- All associated site works.

See Site Layout (A3-02) contained in Appendix 2 for further details. All works will be undertaken in accordance with standard construction best practice.

2.2 LOCAL SITE CHARACTERISTICS

The proposed site is located within an existing walled yard, known as Tully's Yard. Detail Retail Outlet is located north of Tully's Yard, while Cockpit Lane is located to the west and Haddens carpark to the south. A site visit was undertaken on 5th February 2021. Habitats within the site were classified in accordance with the Heritage Council's "*A Guide to Habitats in Ireland*" (Fossitt, 2000) and "*Best Practice Guidance for Habitat Survey and Mapping*" (Smith *et al.*, 2011). Old rubble stone walls ('Stone walls and other stonework' (BL1)) up to c. 3m in height formed the southern, western and part of the eastern site boundaries. These stonewalls had limited vegetation cover, which included maidenhair spleenwort *Asplenium trichomanes* and ivy-leaved toadflax *Cymbalaria muralis*. A newer blockwork wall ('Buildings and artificial surfaces' (BL3)) forms the Yard boundary adjacent to Detail. The existing surface within the proposed site comprised unconsolidated gravel, which is classified as 'Spoil and Bare Ground' (ED2). Limited vegetation such as grasses and common herbs were noted towards the site boundaries, but the site is largely unvegetated. Existing access to the yard is through a large steel gate on the eastern side (See Photoplates in Appendix 3).

The closest watercourse is the Burren River located c. 80m south of the proposed site at its closest point (See Figure 1). The Burren River flows into the River Barrow c.520m downstream of the site.

River waterbody WFD status for the period 2013-2018 was 'moderate' for the River Burren (Burren_060) representing an improvement for the river which had 'poor' status for the period

2010-2015. The River Barrow (Barrow_160) had ‘moderate’ status consistently over both the 2010-2015 and 2013-2018 periods (EPA, 2021).

3 NATURA 2000 SITES

This section identifies any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson *et al.*, 2006). DEHLG guidance also recommends that in the case of Natura sites with water dependent habitats or species, it may be necessary to consider the full extent of the upstream and/or downstream catchment where a project or plan may impact on water quality or quantity (DEHLG, 2010).

Each Natura 2000 site within 15km or downstream of the proposed site are briefly summarised below. Where there is no potential pathway for impacts from the development, such Natura sites may be objectively excluded from the Screening process. Natura sites with a potential pathway with the development are considered in subsequent sections.

3.1 IDENTIFICATION OF NATURA SITES

River Barrow and River Nore SAC (002162)

This large SAC is located c. 400m west of the proposed site where it includes the River Barrow. This Natura site and its conservation objectives will be considered further in subsequent sections.

Slaney River Valley SAC (000781)

This site comprises the freshwater stretches of the River Slaney from its upper reaches in the Wicklow Mountains to the estuary at Ferrycarrig and Wexford Harbour. A number of tributaries of the Slaney are included within the SAC designation. The River Slaney main channel is located c.10.4km east of the proposed site. This Natura site is not hydrologically connected with the proposed site, thus there is no pathway for potential impacts. This site may be excluded from the Screening process at this stage.

Overview

Natura 2000 sites identified as within the potential zone of influence of the project are limited to the River Barrow and River Nore SAC. All other Natura 2000 sites can be excluded from the screening process due to the localised nature of the project, absence of an impact pathway and the distance between the project and other Natura 2000 sites.

3.2 RIVER BARROW AND RIVER NORE SAC

This large SAC comprises the freshwater stretches of the Barrow and Nore river catchments, from the Slieve Bloom Mountains where both rivers rise, through their confluence north of New Ross, all the way to Creadun Head in Co. Waterford. The site passes through eight counties in total: Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Many tributaries of both rivers are included within the SAC designation and include the Lerr, Fushoge, Madlin, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers which are tributaries of the River Barrow.

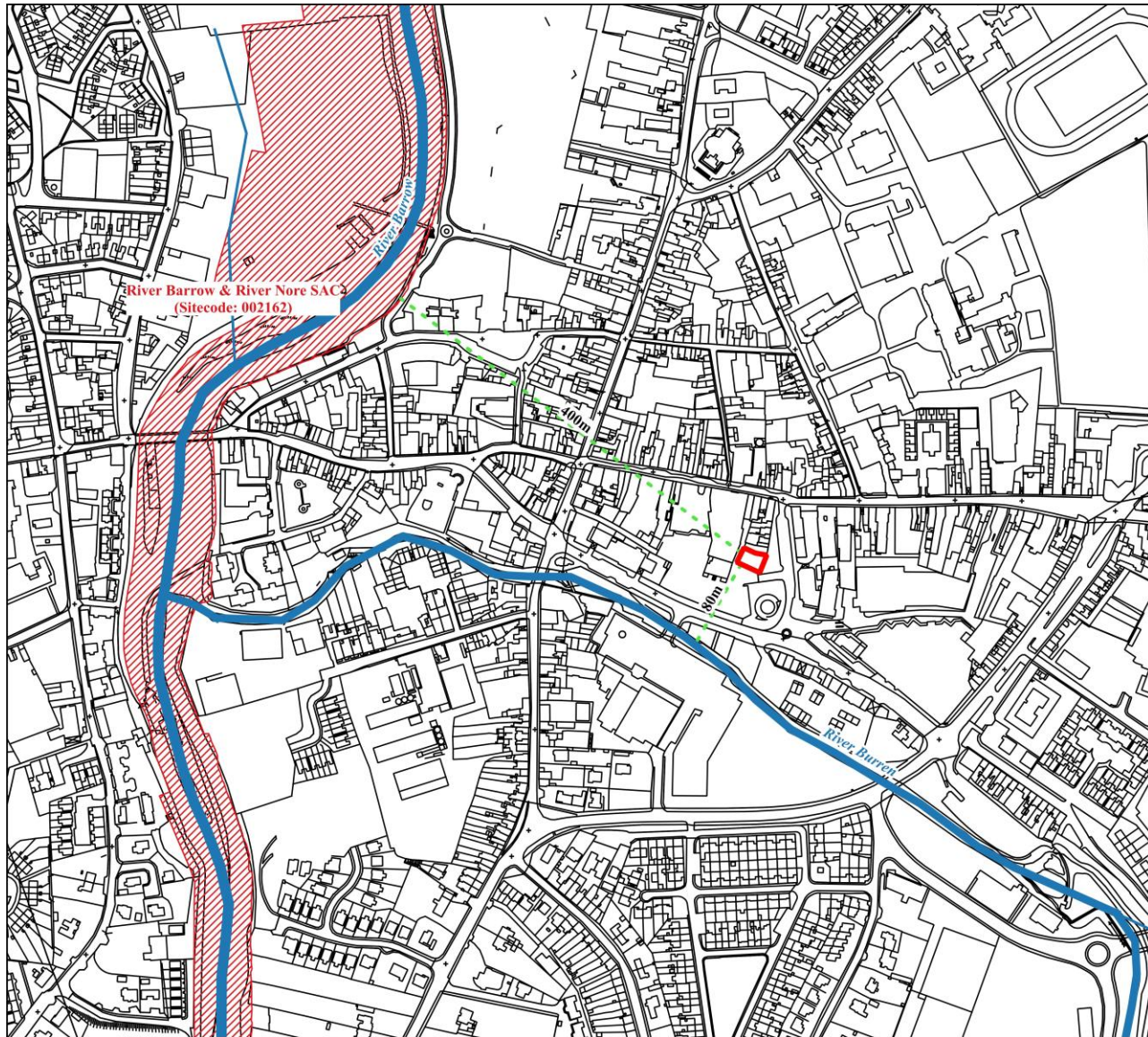


Figure 1. Proposed Site & Nearby Natura Sites

Carlow Exchange,
Potato Market,
Carlow

Drawn By: LD
Data Sources: Ordnance Survey Ireland;
NPWS & EPA data
Date: 05/03/21
Scale: 1:5000

- Proposed Site Boundary
- Special Area of Conservation

This Natura site is of considerable conservation importance for the occurrence of good examples of habitats, and populations of plant and animal species, that are listed in Annexes I and II of the Habitats Directive respectively. Good examples of the priority habitat, alluvial wet woodlands, are found along short stretches of both the tidal and freshwater reaches of the site. The site also supports a total of seventeen Red Data Book plant species and five Red Data Book vertebrate species. Furthermore, the SAC site is of ornithological importance for the number of bird species, which are listed in Annex I of the Birds Directive that it supports.

The site is very important for the presence of a number of EU Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. m. durrovensis*). This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, *M. m. durrovensis* (only occurs in R. Nore) and one of only a handful of spawning grounds in the country for Twaite Shad.

The main threats to this Natura site include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species (NPWS, 2016).

3.2.1 Qualifying Interests

The River Barrow and River Nore SAC is selected for 12 No. habitat types (two of which are priority habitats) listed in Annex I of the Habitats Directive, and 10 No. animal species and 1 No. plant species listed in Annex II of the same Directive. These qualifying interests are presented in Table 3.1.

Table 3.1 Qualifying Interests of River Barrow and River Nore SAC

Code	Qualifying Interest	Code	Qualifying Interest
1016	Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>)	1330	Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)
1029	Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	1355	Otter (<i>Lutra lutra</i>)
1092	White-clawed crayfish (<i>Austropotamobius pallipes</i>)	1410	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)
1095	Sea lamprey (<i>Petromyzon marinus</i>)	1421	Killarney fern (<i>Trichomanes speciosum</i>)
1096	Brook lamprey (<i>Lampetra planeri</i>)	1990	Nore freshwater pearl mussel (<i>Margaritifera durrovensis</i>). Hard water form.
1099	River lamprey (<i>Lampetra fluviatilis</i>)	3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation
1103	Twaite shad (<i>Alosa fallax</i>)	4030	European dry heaths
1106	Atlantic salmon (<i>Salmo salar</i>) (only in	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine

	fresh water)		levels
1130	Estuaries	7220*	Petrifying springs with tufa formation (<i>Cratoneurion</i>)
1140	Mudflats and sandflats not covered by seawater at low tide	91A0	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in British Isles
1310	<i>Salicornia</i> and other annuals colonizing mud and sand	91E0*	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)
1170	Reefs		

*Indicates a priority habitat on Annex I of Habitats Directive.

From NPWS (2011)

3.3 CONSERVATION OBJECTIVES

A site-specific conservation objective (Natura sites) aims to define favourable conservation condition for a particular habitat or species at that site.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable (NPWS, 2011).

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis (NPWS, 2011).

The National Parks and Wildlife Service (NPWS) site-specific objectives for the River Barrow and River Nore SAC detail specific parameters by which each qualifying species and habitat may be measured and stipulate specific targets to be achieved in order to ‘restore the favourable conservation condition’ of the species or habitat within the Natura 2000 site. See www.npws.ie for further details.

4 IMPACT ASSESSMENT

4.1 SCREENING MATRIX

<i>Assessment Criteria</i>	
<p>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</p> <p>The proposed site is c. 400m distance from the River Barrow & River Nore SAC with no hydrological connection. No direct or indirect impacts are anticipated on the Natura 2000 site.</p>	
<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</p>	
<p>Land-take, size and scale;</p>	<p>The proposed development is not located within or adjacent to any Natura site, and will therefore not result in any reduction in area of the Natura 2000 network. The development is of minor scale in terms of site footprint and construction works required.</p>
<p>Distance from the Natura 2000 site or key features of the site;</p>	<p>The proposed development is c.400m distance from the River Barrow and River Nore SAC. The development will not directly impact on the Natura site.</p>
<p>Resource requirements (water abstraction etc.);</p>	<p>No additional resources required as part of proposed works.</p>
<p>Emissions (disposal to land, water or air);</p>	<p>The development will involve minimal site clearance and excavation works within an existing walled yard in Carlow town centre. The River Burren is c.80m south of the proposed site. The proposal will involve installation of 3 No. gullies with silt traps which will connect to the local combined sewer network. No indirect effects on the Natura site downstream are expected to arise from emissions from the project during either construction or operational phases.</p>
<p>Excavation and Transportation requirements;</p>	<p>Minimal excavation works will be undertaken to accommodate 19 No. supporting columns within an existing yard surrounded by stonewalls. The existing unconsolidated surface will be resurfaced with tarmacadam. All construction wastes will be removed off-site and taken to an approved waste disposal facility. The proposed site is c. 80m distance from the nearest watercourse, the Burren River. A relatively level carpark and retail units separate the proposed site and the watercourse. No indirect effects on the water quality of the River Burren or the River Barrow downstream are anticipated due to the development works. There are no concerns in relation to transportation requirements associated with the proposed development and the Natura 2000 site in question.</p>

Duration of construction, operation, decommissioning, etc.;	Duration of construction (estimated at c. 3 months) will not affect level of impact in consideration that no potential indirect impacts are anticipated on the SAC downstream during the construction phase.
Other.	None.
Describe any likely changes to the site arising as a result of:	
Reduction of habitat area;	The proposed development is c. 400m east of the Natura site, therefore, no reduction of habitat area within the SAC will occur.
Disturbance to key species;	Disturbance to qualifying species otter is not expected as the proposed works are located within the urban centre of Carlow, c. 80m and c.400m distance from the River Burren and River Barrow riparian corridors respectively. Any wildlife likely to occur along the Burren or Barrow Rivers within this urban environment will have become habituated to noise disturbance. No adverse effects on key species pertaining to disturbance are therefore anticipated.
Habitat or species fragmentation;	No habitat or species fragmentation is predicted.
Reduction in species density;	No reduction in species density will occur within the SAC due to the proposed development.
Changes in key indicators of conservation value (water quality etc.);	No changes in key indicators of conservation value, including water quality, are predicted.
Climate change.	Not applicable.
Describe any likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure of the site;	The proposed development will not interfere with the key relationships that define the structure of the Natura site.
Interference with key relationships that define the function of the site.	The proposed development will not interfere with the key relationships that define the function of the Natura site.
Provide indicators of significance as a result of the identification of effects set out above in terms of:	
Loss;	Not applicable.
Fragmentation;	Not applicable.
Disruption;	Not applicable.

Disturbance;	Not applicable.
Change to key elements of the sites (e.g. water quality etc.).	Not applicable.
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	
<p>As discussed above, it can be objectively concluded that the proposed development will have no effects on the nearby River Barrow and River Nore SAC either alone or in combination with other projects. Potential effects of the proposed development on qualifying interests of the SAC are summarised in Table 4.1.</p>	

4.2 FINDING OF NO SIGNIFICANT EFFECTS MATRIX

Name of project or plan	Carlow Exchange, Potato Market, Carlow.
Name and location of Natura 2000 site	River Barrow and River Nore SAC, c. 400m west of proposed site where it includes the River Barrow.
Description of the project or plan	The proposed project entails the development of a new civic space at the existing walled Tully's Yard at Potato Market, Carlow. Works proposed will be undertaken within a site of c. 336.6m ² and will involve resurfacing works, installation of a raised roof structure supported by a steel portal frame with 19 No. steel columns, installation of 3 no. gullies with silt traps and construction of a new pedestrian access.
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No
Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?	<p>In accordance with the EC guidance document on conducting Appropriate Assessment (EC, 2001), other projects or plans in the area must be considered in combination with the project to determine the potential for having any significant cumulative effects on the Natura 2000 sites within the zone of influence of the project. Carlow County Council planning website was consulted with respect to granted or proposed developments within 500m of the proposed development within the last five years which may have cumulative effects with the proposal. The following developments were granted or are pending permission:</p> <ul style="list-style-type: none"> - 16163 - the construction of a rock ramp fish pass in front of the existing weir which will involve the lowering of a section of the existing weir at Hanover Weir, on the Burren River adjacent to Paupish Lane in Carlow Town, Co. Carlow. - 16308 – Completion of internal fit out of existing partially

	<p>finished dental surgery.</p> <ul style="list-style-type: none"> - 17339 - Construction of a proposed single/two storey extension to side of existing community centre. - 1773 - Demolition of existing bedsit and partial demolition of existing lean-to extension to rear of existing terraced house and construction of a new single storey extension to rear of same. - 18152 – Change of use from off-licence to shop and all associated site works. - 18190 - Development works on a protected structure (Verona House), to include demolition of existing structures and extensions to the rear of the property, alterations to the interior and construction of a new 2 storey extension to the rear. - 18299 - Front porch extension and ancillary services. - 19339 - change of use at first floor level from existing commercial use to student accommodation. - 2038 - for alterations to existing ladder access to bell tower of St. Mary's Church of Ireland, Carlow (being a protected structure CT49). <p>Since no direct or indirect impacts are anticipated to arise from the proposal alone on the Natura 2000 network, the potential for in-combination indirect effects arising from the project and any granted or pending projects on the nearby SAC is therefore considered unlikely.</p>
	<p><i>The assessment of significance of effects</i></p>
<p>Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 sites</p>	<p>No negative direct or indirect effects either alone or cumulatively are anticipated from any aspect of the proposal on the River Barrow and River SAC nearby.</p>
<p>Explain why these effects are not considered significant.</p>	<p>Emissions arising during the construction phase are expected to be very minimal in view of minor excavation works required. The potential for contaminated runoff is very limited and any such runoff will be diverted to Mortarstown WWTP via the local combined sewer network.</p>
<p>List of agencies consulted: provide contact name and telephone or e-mail address.</p>	<p>Not undertaken</p>
<p>Response to consultation.</p>	<p>Not applicable</p>
	<p><i>Data collected to carry out the assessment</i></p>
<p>Who carried out this assessment?</p>	<p>Lisa Dowling BSc (Hons.) MSc (Ag.) MCIEEM</p>

Sources of data	<p>Ordnance survey historical mapping.</p> <p>Ordnance survey aerial photography.</p> <p>NPWS site synopsis, objectives, data forms.</p> <p>NPWS conservation designation mapping.</p> <p>River Waterbody WFD Status data.</p> <p>National Biodiversity Data Centre database.</p> <p>Carlow County Council planning database.</p> <p>See Bibliography for data sources.</p>
Level of assessment completed	<p>Desktop assessment and walkover survey of site.</p>
Where can the full results of the assessment be accessed and viewed?	<p>Full results of this assessment are contained within this AA Screening Report. This Report will be available at Carlow County Council offices as part of Part VIII planning.</p>

5 SCREENING STATEMENT

In order to determine the potential impacts, if any, of the proposed Carlow Exchange at Potato Market, Carlow on the River Barrow and River Nore SAC, Appropriate Assessment Screening was undertaken. In view of best scientific knowledge, and in consideration of the conservation objectives of the Natura site, the proposed development will not, in the absence of any mitigation, result in any likely significant effects on the River Barrow and River Nore SAC (Natura 2000 site), either during construction or operational phases, either alone or in combination with other projects or plans. It is concluded that as no adverse impacts are foreseen on any Natura site, this project may be excluded from the Appropriate Assessment process. There is no necessity to undertake a Stage 2 Appropriate Assessment.

Table 4.1 Predicted Impacts on Qualifying Interests of River Barrow & River Nore SAC

Qualifying Interest [Code]	Conservation Objectives: Targets	Distance from project site	Does the project have the potential to interact with this Qualifying Interest	Likelihood of Impact
Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>) [1016]	Lives in permanently wet, usually calcareous, swamps, fens and marshes. Targets include no decline in distribution/densities, preferred habitat quality and moisture levels.	Known site Borris Bridge.	No	None
Freshwater pearl mussel (<i>Margaritifera margaritifera</i>) [1029]	<u>The status of <i>M. Margarifera</i> as a qualifying species for the SAC is currently under review.</u>	Present in sub-catchments (Mountain, Ballymurphy, Aughavaud) in lower Barrow catchment.	No	None
White-clawed crayfish (<i>Austropotamobius pallipes</i>) [1092]	Targets include Q3-4 at all EPA sampled sites, no decline in habitat heterogeneity and no instances of disease.	Present almost throughout SAC.	No	None
Sea lamprey (<i>Petromyzon marinus</i>) [1095]	Targets include channel accessibility from estuary and no decline in spawning beds (clean gravels).	Potentially in R. Barrow south of confluence with Fushoge c.3.3km d/s of site.	No	None
Brook lamprey (<i>Lampetra planeri</i>) [1096]		Brook/River lamprey known from Barrow channel.	No	None
River lamprey (<i>Lampetra fluviatilis</i>) [1099]				
Twaite shad (<i>Alosa fallax</i>) [1103]	Known to spawn in the upper tidal limit of the River Barrow downstream of St Mullins, Co. Carlow. Targets include 75% of main channel accessible from estuary, no decline in extent & distribution of spawning habitats and maintenance of stable gravel substrate with very little fine material.	>50km downstream	No	None

Atlantic salmon (<i>Salmo salar</i>) (only in fresh water) [1106]	Targets include no decline in number and distribution of spawning redds due to anthropogenic causes, accessibility of channel from estuary, and at least Q4 at all sites sampled by EPA.	Salmon were recorded throughout the R. Burren during a survey undertaken by the IFI in 2015. Good densities of salmon fry were recorded within the lower reaches of the Burren which indicates good spawning potential (Delanty <i>et al.</i> , 2017).	No	None
Otter (<i>Lutra lutra</i>) [1355]	Targets include no significant decline in distribution, no decline in distribution of habitat (terrestrial, freshwater & marine) and no decline in fish biomass availability.	Disturbance impacts on otter not predicted given the busy urban environment in which the proposed site is located and that the site is c. 80m and c.400m distance from the Burren and Barrow riparian corridors respectively.	No	None
Killarney fern (<i>Trichomanes speciosum</i>) [1421]	Targets include no loss of suitable habitat (e.g. shaded rock crevices, caves or gullies) in or near to known colonies, no loss of woodland canopy at or near to known locations and maintenance of suitable hydrological conditions.	Terrestrial QI located downstream of Graiguenamanagh. No pathway for impacts. >50m downstream.	No	None
Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	Targets for these habitats would not be influenced by the project as these qualifying habitats are a considerable distance downstream of the site (>50km) and dominated by maritime influences.		No	None
Nore freshwater pearl mussel (<i>Margaritifera durrovensis</i>). Hard water form. [1990]	Targets include restoration of water quality, restoration of substratum quality (at most trace filamentous algae; also, stable cobble & gravel substrate), restoration of appropriate hydrological regimes, and maintenance of sufficient juvenile salmonid hosts.	Not hydrologically linked to proposed site as only present in Nore catchment.	No	None

Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]	Targets include maintenance of appropriate hydrological regimes, maintenance of sufficiently low concentration of suspended solids, and maintenance of sufficiently low nutrient levels in the water column.	Distribution within SAC unknown but occurs within R. Barrow downstream of the site.	No	None
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Targets include maintenance in current distribution, appropriate hydrological regimes, sward height and species composition.	Unknown but occurs in R. Barrow downstream of the site.	No	None
European dry heaths [4030]				
Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220*]				
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in British Isles [91A0]	Targets for these habitats would not be impacted by the project as these qualifying interests are chiefly terrestrial in nature and are not hydrologically linked to the proposed site.	Not hydrologically linked to site.	No	None
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0*]				

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APPENDICES

APPENDIX 1

PRINCIPAL STAGES OF THE APPROPRIATE ASSESSMENT PROCEDURE

Stage One: Screening – the process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate Assessment – the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage Three: Assessment of Alternative Solutions – the process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain – an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

From “*Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance on the Provisions of Articles 6 (3) and (4) of the Habitats Directive 92/43/EEC*” (EC, 2001).

APPENDIX 2
SITE LAYOUT (A3-02)

APPENDIX 3: PHOTOPLATES



Photoplate 1. Eastern boundary of proposed site (Tully's Yard).



Photoplate 2. Southern boundary of proposed site (Tully's Yard).



Photoplate 3. Proposed site looking west.