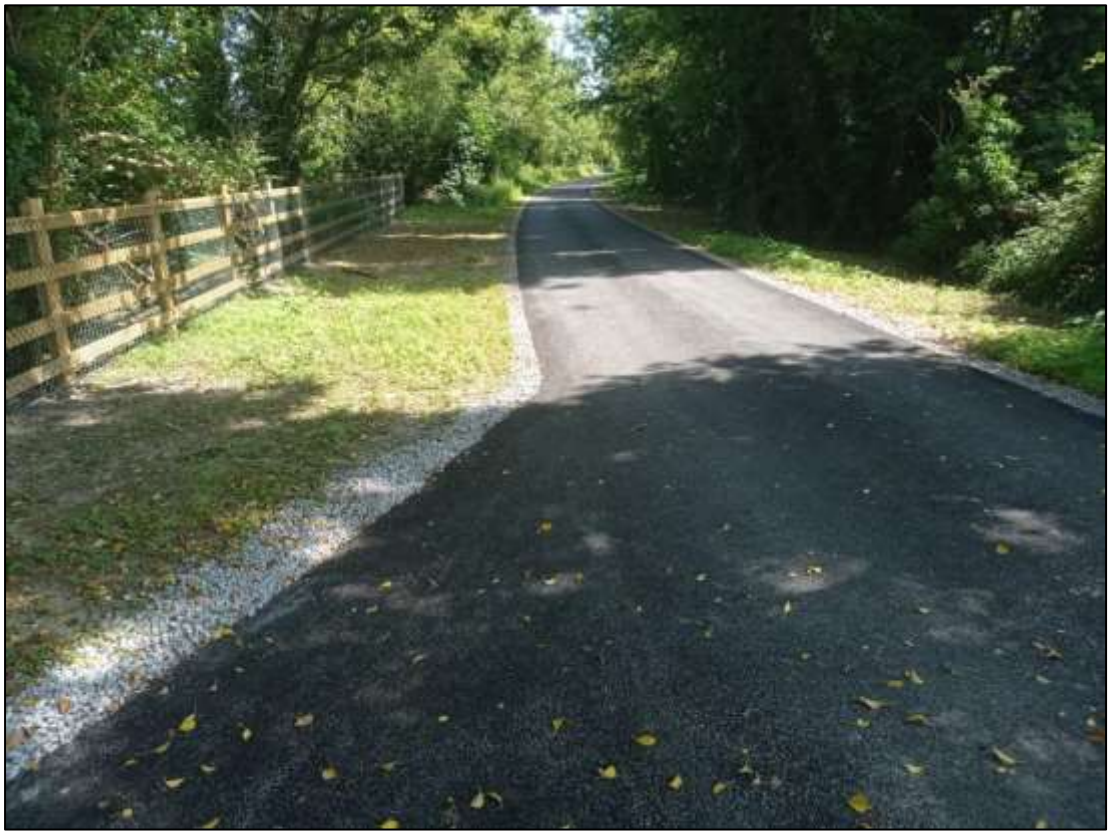
Ecological Appraisal of the Existing Site of ST08 Farm Overpass on the Limerick Greenway

Prepared by Rory Dalton for Fehily Timoney and Company, on behalf of the Limerick City and County Council.



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1. INTRODUCTION

1.1 Introduction

Rory Dalton Ecology was appointed by Fehily Timoney and Company on behalf of Limerick City and County Council to carry out an Ecological Appraisal of a site put forward for proposed works along the Limerick Greenway. The work consists of an overpass which is being put in place to cater for the movement of cattle and farm machinery within one of the more intensive farms which straddle the Greenway, as the mud and slurry typical of a cattle crossing would impede foot passage and would quickly become an unsightly element of the Greenway. An Appropriate Assessment Screening was also carried out on the same item to assess potential impacts on Natura 2000 sites within the area.

1.2 Description and Location of Sites

The cattle underpass is located in the townland of Islandboy West (Overpass 8), situated on the 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.

1.3 Proposed Works

A precast concrete overpass shall be installed to allow farm machinery and cattle to pass over the greenway. The greenway level will remain at existing level, the farm track shall be raised up on earth embankments on approach to the overpass. The proposed farm track shall have a permeable stone surfacing. Runoff from the proposed farm track shall be directed away from existing watercourses. In advance of the proposed earthworks the existing open field drain running through the area will be piped to make room for the embankments. See outline methodology below

1)Greenway to be closed, site to be secured
2)Works to be undertaken in dry weather, existing drain to be sandbagged.
3)450mm dia twin wall HPDE pipe and access chambers to be placed in existing drain for the full length of the works site.
4)The piping shall follow the route of the existing drain as closely as possible.
5)Precast concrete headwalls to be placed at all pipe ends. Headwalls to be placed on a granular foundation.
6)Pipe to be backfilled with granular pipe bedding, the precast headwall shall retain the backfill.
7)Once pipe has been backfilled, the drain shall be allowed to flow through the pipe.

8)Top soil under the existing embankments shall be stripped back to an appropriate formation level.
9)As the existing drainage will be enclosed, run off mitigation measures are considered not required.
10)The foundation areas for the precast overpass shall be excavated down to a suitable formation level. Expected 1-2m below existing ground level.
11)Granular fill shall be placed beneath the overpass.
12)The precast overpass shall be lifted into position in segments.
13)The precast wing wall shall be lifted into position, and completed with in-situ foundations.
14)Embankment shall be built up in layers to meet the overpass level.
15)Coping and safety barriers shall be installed.
16)Surfacing and finishes to be completed.

2. METHODOLOGY

2.1 Field Study

Ecological surveys were carried out between the 28 of June 2021. The site was visited and surveyed in detail utilising the methods laid out within this section of the report. Particulars of the surveys are outlined below.

Table 2-1: Baseline Field Assessment Details

Date	Weather	Surveyor
28th June 2021	**Temperature**: 20 - 21 degrees Celsius **Rain**: None **Cloud**: 1/8 **Wind**: F1 in the open, F0 in the woodland	Rory Dalton
29th June 2021	**Temperature**: 23 degrees Celsius **Rain**: None **Cloud**: 3/8 **Wind**: F1	Rory Dalton

2.1.1 Habitats

The habitats within the study area were identified and classified according to '*A Guide to Habitats in Ireland*' (Fossitt, 2000) during walkover surveys of the site. The dominant plant species present in each habitat type was recorded.

Habitats were appraised and evaluated according to their occurrence as protected habitats under Annex I of the EU Habitats Directive (92/43/EEC) and for their capacity to support rare, threatened and endangered species. The methodology used in this report to assess the ecological significance of habitats is based on NRA guidelines (2009).

2.1.2 Mammals

Mammal surveys were carried out on the proposed crossing. During these surveys the footprint of the crossing was surveyed for signs of mammal activity; this included a buffering distance of >50m from all proposed infrastructure. Any sightings, tracks or signs (including droppings, resting places, footprints etc) of mammals occurring within, or in the vicinity, of the site were sought and recorded. Of particular interest were burrows of the various mammal species.

Surveys were undertaken in accordance with the NRA's (2009b) '*Ecological Surveying Techniques for Protected Flora and Fauna During the Planning of National Road Schemes*' and the JNCC's (2004) '*Common Standards Monitoring Guidance for Mammals*'.

2.1.3 Bats

Evidence of bat roosts was searched for and information on all potential roosts were recorded according to roost identification guidelines in Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*., as well as 'Bat Survey Guidelines: Traditional Farm Buildings Scheme', Aughney, T., Kelleher, C. & Mullen, D. (2008). A roosting habitat suitability survey was carried out on any mature trees within the footprint of the proposed works. The foraging habitat suitability was also assessed.

2.1.4 Avifauna

Surveying was carried out within the breeding bird season, and as such a 20 minute vantage point survey was carried out at the site. Indications of nesting birds were sought including singing and calling (including warning calls), nest provisioning, and the carrying of faecal sacks. It was decided also to assess the footprint of each underpass for its nesting potential by identifying suitable trees, habitats and items such as stone walls etc.

2.1.5 Aquatic Surveys

Aquatic ecology surveys were carried out at the crossing point. These surveys included a fisheries habitat assessment for salmonids, lamprey and eel. An aquatic habitat assessment was conducted in line with the methodology given in the Environment Agency's '*River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003*' (EA, 2003). Habitats of use to the various life stages of salmonids are assessed based on the information provided in the book "Trout and Salmon. Ecology, Conservation and Rehabilitation." Crisp (2000). Lamprey ammocoete habitat quality as well as the suitability of adult spawning habitat is assessed based on the information provided in Maitland (2003) and Gardiner (2003). Each watercourse was assessed for its ecological significance, based on the National Roads Authority (NRA) Site Evaluation Scheme (NRA, 2009).

3. EXISTING ENVIRONMENT

3.1 Overpass 8

3.1.1 Habitats

This crossing is lying flat with the surrounding topography. Bordering the railway to the north is a hedgerow (WL1)(Local Importance Lower Value), while the ditch south of the borders is scrub (WS1)(Local Importance Lower Value). Improved agricultural grassland (GA1)(of little interest ecologically) exists to the north and south of the greenway. Both the greenway and farm roads are made of gravel (BL3).

3.1.2 Non-volant Mammals

No mammal burrows were found within the footprint of the underpass, nor were they found within 50m of the underpass. The hedgerows and scrub areas may be used by wood mouse, brown rat, shrew *spp,* bank vole, Irish stoat and hedgehog.

3.1.3 Bats

There is no potential for roosting bats. There is reasonable foraging for bats, and it is likely that the greenway is an important local feature for commuting bats, however, the area in general is quite open and the farming practice in the local area seems to be to keep the hedgerows and other border vegetation cut tight. With this in mind it is not likely that the area is heavily used by bats. The River Feale is approximately 600m away, it is highly productive in terms of insects and it is heavily used by bats (*pers. comm.*).

3.1.4 Birds

The hedgerow and scrub habitats would suit many species of passerine birds in terms of nesting, as it provides ample cover from predators and the elements. In terms of foraging, these habitats are also suitable.

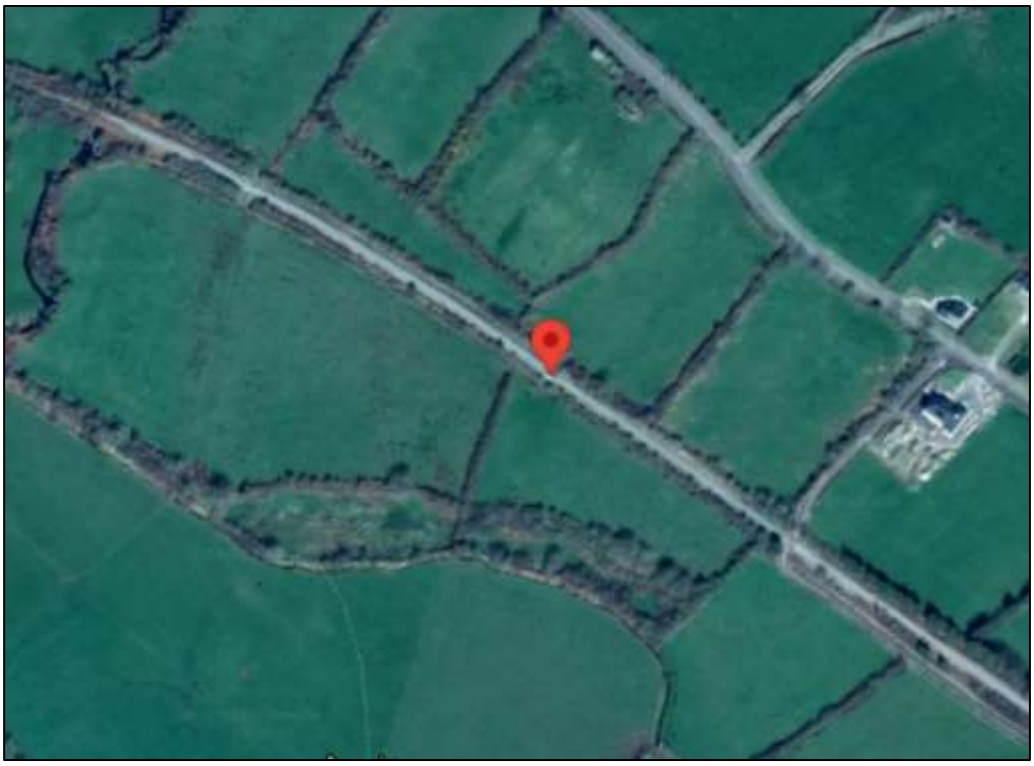
3.1.5 Aquatic Fauna

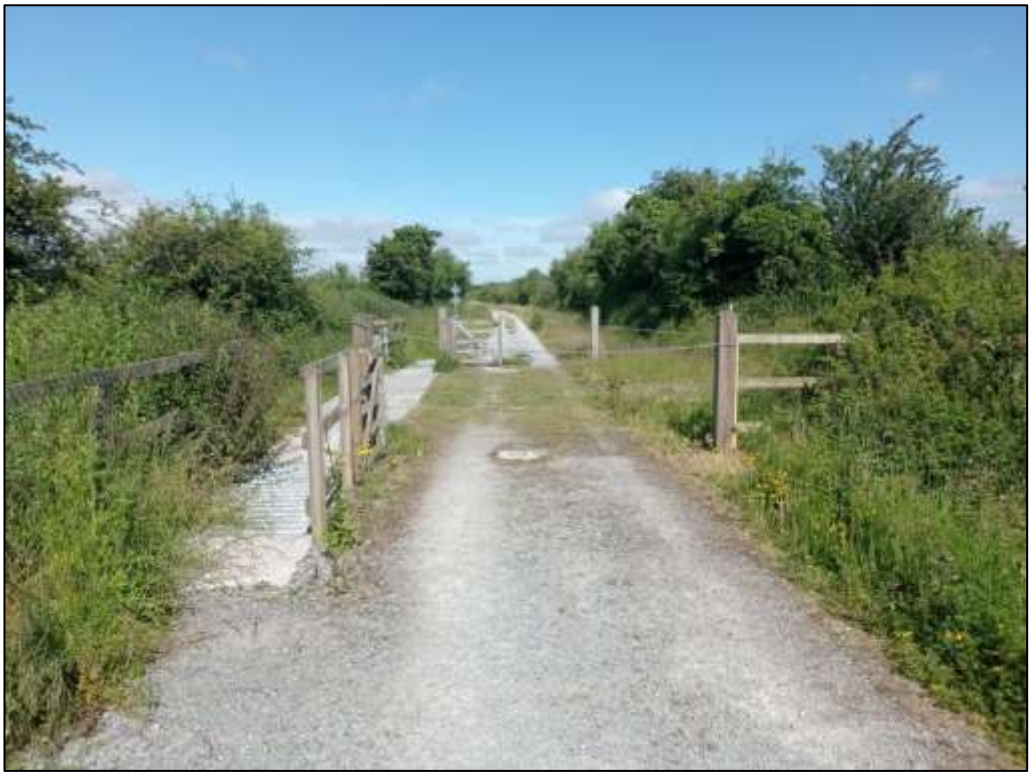
There is a drain with a small flow crossing the greenway 10m east of the existing farm crossing. It runs west north of the greenway until it turns south under the greenway and then runs west south of the greenway. The drain contains a very small flow, is likely to dry out during summer droughts, and is of no fisheries value (Local Importance Lower Value). This is discussed in detail in the Appropriate Assessment Screening. It is proposed to place a 450mm diameter twin wall HPDE pipe and access chambers to be placed in existing drain for the full length of the works site. Precast concrete headwalls to be placed at all pipe ends. Headwalls to be placed on a granular foundation. Pipe to be backfilled with granular pipe bedding, the precast headwall shall retain the backfill. Once pipe has been backfilled, the drain shall be allowed to flow through the pipe again. This building methodology ensures no impacts in terms of water quality.

3.1.6 Aerial Photograph and Image

ST08 Farm Crossing Nr : 1390 Google Maps 52.463576, -9.095883

ITM Coordinates: 509559, 628905





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