APPENDIX B

Description of the Proposed Development

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4. DESCRIPTION OF THE PROPOSED DEVELOPMENT

4.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) provides a description of the proposed West Clare Railway Greenway Section 1 (Kilrush to Kilkee) development, hereafter referred to as the "proposed development". The chapter details the preliminary design, land requirements, construction methodology and the operation requirements of the proposed development.

It should be noted that surveys, assessments and information that form the basis of this EIAR are based on the design of the project as described in this chapter, which has been developed to a stage that permits a fully informed Environmental Impact Assessment (EIA) to be undertaken by the competent authority.

4.2 Project Description

4.2.1 Project Overview

The premise of the proposed development is to, where possible, avail of the former West Clare Railway route alignment between Kilrush and Kilkee. The proposed development will create a continuous route between key settlements, providing a safe transport corridor for vulnerable road users which will be predominantly segregated from motorised traffic. It will also provide views across the wider landscape and information for users on both the natural and built heritage of the region along the way.

The proposed development is located in County Clare, commencing at the proposed Kilrush trailhead, travelling west through Moyasta towards Kilkee town, as shown in Figure 4-1. The proposed development is approximately 15.2km long and will mainly follow the route of the former West Clare Railway corridor where feasible. The proposed development will intersect a number of local roads along the route where crossings will be provided. A smaller trailhead / car park will be provided at Moyasta in addition to the Kilrush trailhead. There are adequate existing parking and tourist amenity facilities available in Kilkee, as assessed elsewhere in this EIAR.

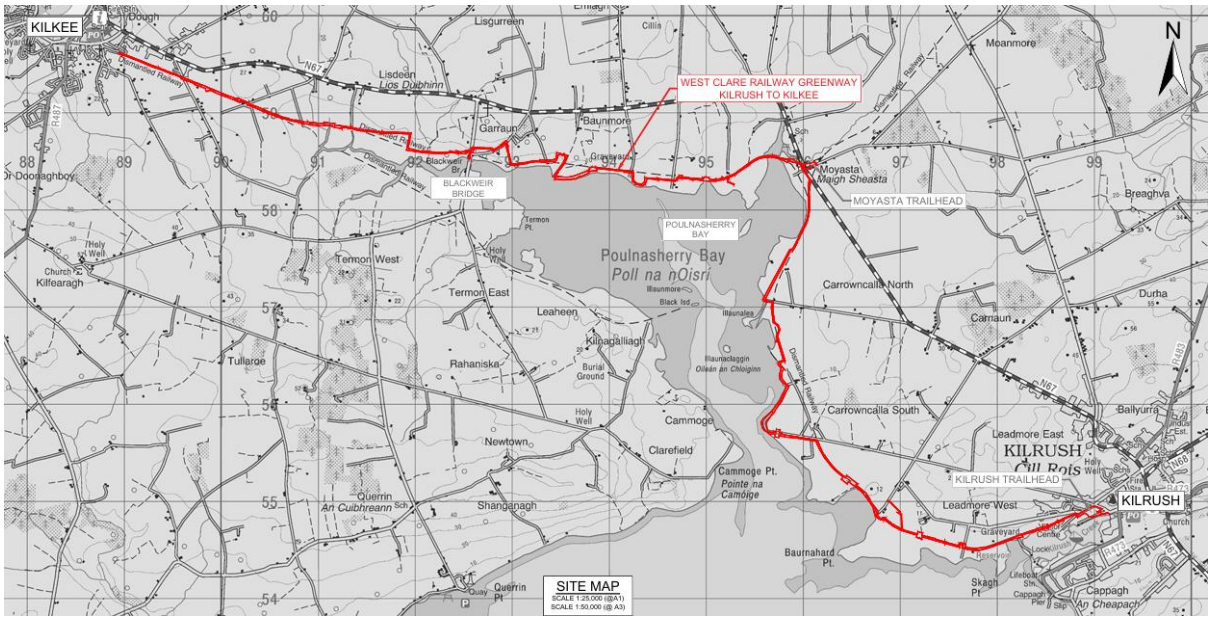

Figure 4-1 Proposed Development, Overall Plan (extract from Figure 1.1, Volume 3)

4.2.2 Detailed Description of the Proposed Development

The alignment of the proposed development including landscape mitigation is shown in the Proposed Greenway Layout Drawings in Figure 4.1 to Figure 4.46 contained in Volume 3 of this EIAR.

Figure 4-2 View east from Gurrane Road and Percy French Estate where the proposed development will continue onto the Former Railway Corridor

The proposed greenway scheme will commence at the eastern end of a residential estate off Gurrane Road cul de sac, which is accessed through the Percy French Estate (along the old railway line). From this starting point, Chainage (CH) 0, at the tie-in with Gurrane Road and Percy French Estate, the proposed greenway continues east continuing along the old railway corridor. Access barriers will be incorporated to restrict the use of the greenway to authorised

users only (i.e. pedestrians, cyclists, maintenance vehicles and possible occasional emergency service vehicles). From here, the route will predominantly follow the alignment of the former railway line through privately owned agricultural lands in an easterly direction as shown in Figure 4-2 above. At Gurrane Road, Clare County Council will implement double yellow lines to limit irregular parking activities that could inconvenience local residents. This EIAR has demonstrated that there is ample parking for the greenway available elsewhere in Kilkee for the small number of additional tourists expected to access the greenway from Kilkee. These existing parking facilities will be advertised on the project website, and include the East End Car Park, O'Connell Street Car Park and existing public parking on Chapel Street.

At CH 650 the greenway will meet and cross the L6048 Dough local road, running north of the former railway cottage as shown in Figure 4-3. The former railway cottage has been converted to a private residence, and the former railway corridor is currently in use as a shared access to the dwelling and agricultural field to the west. This access will continue to be shared with the greenway. Fencing will be provided to separate and screen the railway cottage from the shared greenway route, and signage will be installed to facilitate safe crossing of the L6048.

Figure 4-3 **View west from the L6048 where the proposed development will pass by the old railway cottage**

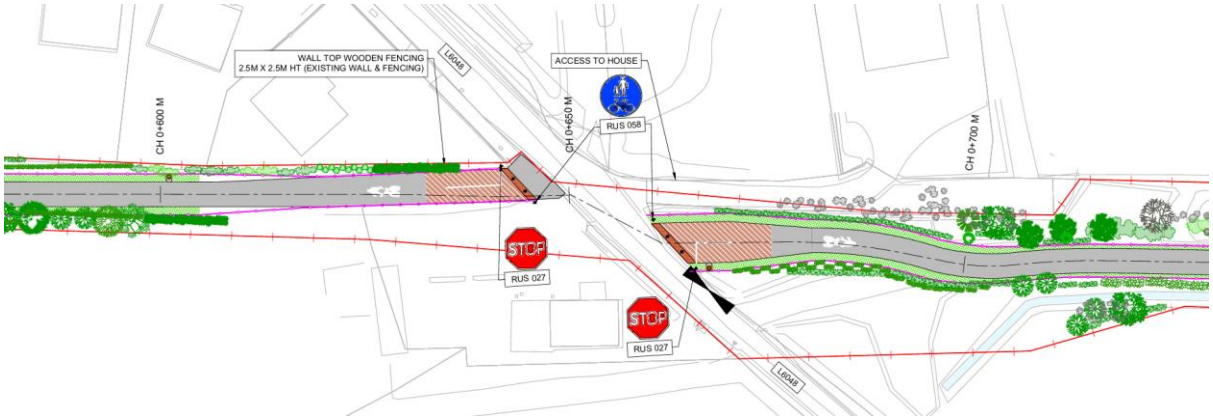

Figure 4-4 **Excerpt from Figure 4.3 in Volume 3 of the EIAR illustrating where the proposed development will cross the L6048 and continue east along the Former Railway Corridor**

To the east of the L6048 crossing, the greenway will be aligned to the south of an existing private residential driveway shown in Figure 4-4. There will be no impact on this existing access. The proposed development will instead route along the alignment of the former railway corridor, currently in use as an existing farm access. A new farm access gate will be provided south of the greenway. The greenway will continue eastwards from here, following through existing agricultural land along the former railway corridor as shown in Figure 4-5, diverting around a private dwelling at CH 1300 to meet and cross the L2018 Lisdeen local road at CH 1400 as seen in Figure 4-6 below. From there, it will continue east through the old railway cutting as shown in Figure 4-7. Local landowner accommodation works will be provided, as required.

Figure 4-5 **View east along railway line where the proposed development will pass an existing dwelling**

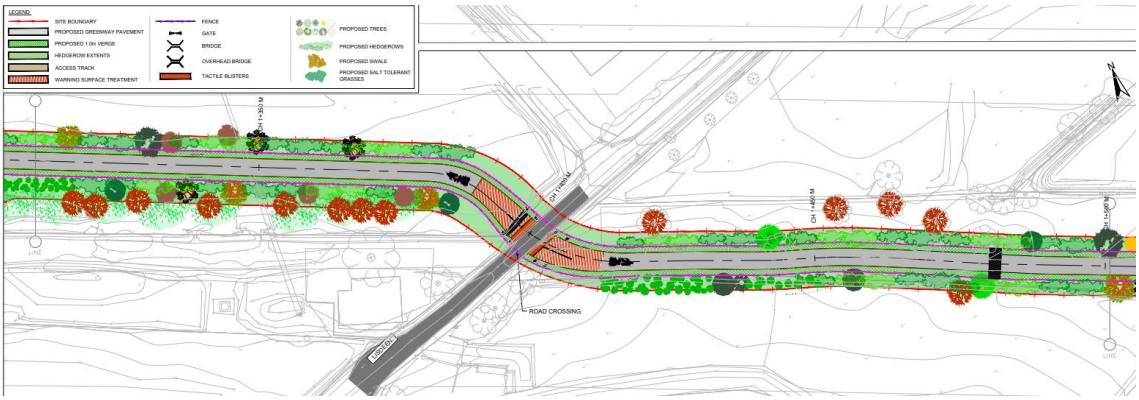

Figure 4-6 **Excerpt from Figure 4.5 in Volume 3 of the EIAR illustrating how the proposed development will divert around an existing dwelling and cross the L2018.**

Figure 4-7 **View of the greenway alignment due east after crossing the L2018 Lisdeen local road at CH1400**

The greenway will cross the access road to the Lisdeen Recycling Centre & Transfer Station at approx. CH 1980 and continue east, deviating slightly north from the original railway corridor to avoid a complex arrangement of agricultural access locations. There is a requirement for a new bridge structure just north of the Recycling centre at CH 2100. Further ahead at approx. CH 2250 the greenway crosses over a proposed bridge as seen in Figure 4-8 below, with an adjacent accommodation bridge to be provided for the landowner to the south. Both the landowner's access road and the greenway will deviate slightly north here to avoid crossing the wider section of the watercourse at this point.

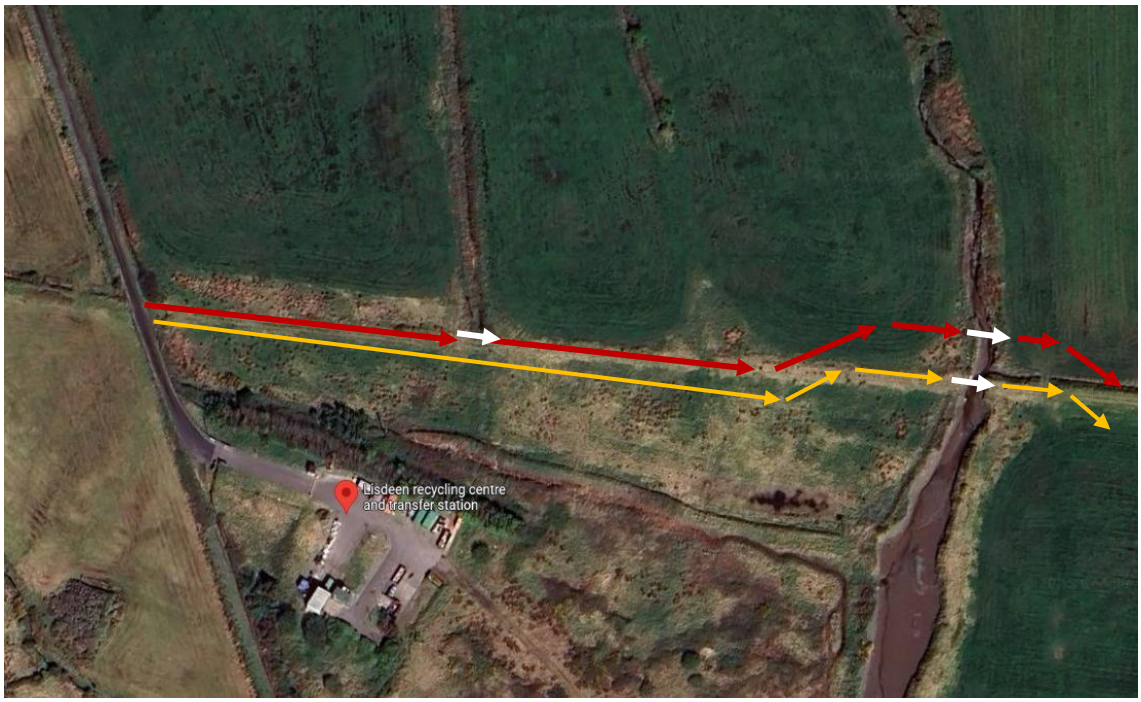

Figure 4-8 **Depicted are the proposed greenway route in red arrows, the proposed landowner's access road in yellow arrows, and the proposed bridges in white arrows, near Lisdeen Recycling Centre**

From CH 2600, the alignment will continue due east, diverting away from the railway corridor and following field boundaries for approximately 600m before following field boundaries to the south for approximately 160m and rejoining the former railway corridor at approx. CH 3560. This route will avoid impacts on agricultural lands and sections of the original railway which are currently in use by landowners.

In the vicinity of Blackweir Bridge, the original railway corridor to the east of the L2016 Garraun local road has since been converted to a private residence and the original railway corridor and platform incorporated into a private garden. The L20161 Garraun bounds the residential garden to the north, however where this local road meets the L2016 local road, the geometry forms a stagger with the railway alignment to the west. Given the designated speed limit of the L2061 Garraun, it would be inappropriate to encourage greenway users to perform this staggered movement, particularly children and mobility impaired users.

Figure 4-9 **View north along the L2016 Garraun where the original railway crossed the local road to the new proposed crossing shown in red.**

To overcome this, the greenway on approach to the L2016 Garraun local road from the west the proposed development will divert north and immediately east around the curtilage of an existing private dwelling, with a new road crossing point north of the existing crossroads. Between CH 3850 and CH 4100, the greenway will incorporate additional structural accommodation works to lower its level to minimise visual impact on the property to the north. Retaining structures will be masked by hedgerow landscape screening to ensure privacy to these residential properties.

Figure 4-10 **Alignment will divert north-eastwards which then crosses Lisgreen road**

Landscaping works will be undertaken on the L2016 Garraun between the residential accesses south of the railway corridor and the northern end of Blackweir Bridge to prevent the use of the wide hard verges for car parking, while maintaining sufficient road width to allow traffic to yield to oncoming traffic at the existing bridge.

East of the L2016, the greenway will follow the northern and eastern boundaries east and south respectively of an existing field planted with trees, before following east alongside the L20161 Garraun local road, along the northern side of the road inside the adjacent field boundary for approximately 160m before crossing the L20161 at CH 4350 and continuing due south along the east side of the existing field boundary and rejoining the former railway corridor again at CH 4580.

The greenway will cross a private local road at approx. CH 4925, as shown in Figure 4-11 below, where a road crossing will be provided and the greenway alignment will divert slightly north away from the original railway corridor (now subsumed as a residential property access) and an existing farm access track. The greenway will continue to follow the boundaries of the adjacent fields for approximately 800m to avoid impacting on farming operations before rejoining the old railway corridor.

Figure 4-11 **Depicted is the direction of the greenway near the residential dwelling in red arrows and existing farm access track marked in an orange arrow.**

The greenway continues eastwards across a farm access road at approx. CH 6200 with a local deviation following field boundaries before reaching and subsequently crossing the L6082 Moyasta local road at CH 6800. The greenway will bisect an existing field before diverting back onto the old railway corridor, continuing generally east to Moyasta. Approaching Moyasta, there is a complex section utilising the railway corridor adjacent to existing properties. It is proposed to lower the greenway levels through the section from CH 7350 to CH 7500 and to incorporate additional structural accommodation works. This may require retaining structures to support the greenway cutting. A footbridge will be provided to reduce severance for affected landowners as seen in figure below. The low point will be set to allow surface water to drain to the existing field drainage system at low tide.

Figure 4-12 **Proposed greenway route marked in red arrows and footbridge marked in orange arrow. Section that may require earth retaining measures marked in white arrow.**

On the approach to Moyasta, the greenway will utilise the existing railway causeway and bridge across Poulnasherry Bay shown in Figure 4-13 and Figure 4-14 at Chainage CH 7900 and will travel through the original railway yard to reach the village of Moyasta. Due to environmental designations and sensitive birdlife in the bay, screening will be installed along the railway embankment and over the bridge to prevent disturbance to birdlife by dogs or children. The screening on the approaches will comprise mesh fencing with dense landscaping to a height of approx.1.4m, while the existing parapets on the bridge will be raised to a height of 1.4m (1.1m solid and 0.3m perforated above).

Figure 4-13 **View north towards existing Railway Bridge ("Red Bridge") at Moyasta**

Figure 4-14 **Existing Railway Bridge at Moyasta looking west**

A small trailhead / car park is proposed in the village of Moyasta within an area of land adjacent to the old railway line and the N67. This is near the location of the (currently closed) West Clare Railway Heritage Museum and the intersection of the former Ennis to Kilrush and Kilkee spur lines. A zebra crossing will be provided across the N67, which will serve the trailhead and provide access from the greenway to the local school, along with appropriate warning signage and traffic calming on the approaches. Further detail on this trailhead is provided in Section 4.2.3.

Figure 4-15 Proposed Moyasta trailhead in blue

Figure 4-16 Existing tracks along the former railway line along which the proposed greenway will run on the approach to Moyasta village

Within Moyasta, the greenway will travel along the southwestern side of the N67 for approximately 215m, passing in front of Garrihy's Bar. Provision for access to the pub car park will be incorporated. Lighting in line with TII Standards will also be incorporated where the greenway crosses the N67 at the zebra crossing.

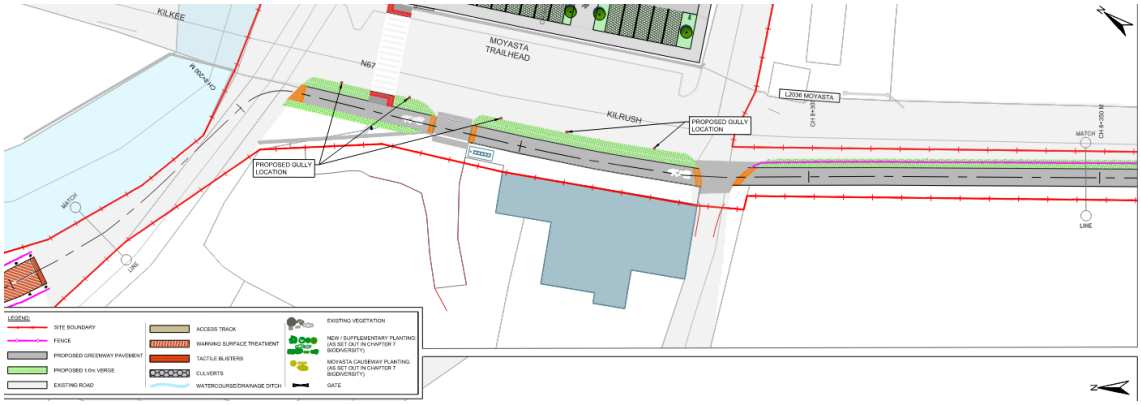

Figure 4-17 Proposed alignment along the N67 at Moyasta

From Moyasta, the greenway will rejoin the original railway corridor where the alignment formerly crossed the N67, heading south through fields for approximately 780m before crossing the former turf canal channel via a new bridge at Ch 9175, following adjacent to the western edge of the canal to the L6090 Carrowncalla via the existing bridge. The greenway will share the L6090 Carrowncalla for less than 60m before continuing southward, rejoining the original railway corridor, with one local diversion off the original corridor to avoid unsuitable ground. The alignment has been selected to avoid sensitive salt marsh, while minimising the impacts on local landowners.

Figure 4-18 Proposed bridge over canal marked in orange

Figure 4-19 **Approximate alignment of greenway adjacent to the Canal looking north from the L6090**

Figure 4-20 **Alignment of Greenway traveling over the existing bridge on the L6090 Carrowncalla**

The greenway deviates from the route of the former railway line from section CH 10050 to CH 10250 to avoid soft ground, rejoining the former railway corridor again for a short section thereafter.

On the approach to an agricultural holding, north of Carrowncalla South / Pella Road, the original railway corridor is in regular use by a local farmer for transporting stock, therefore the

greenway alignment diverts west along existing hedgerows and follows close to the coastline to avoid land severance insofar as possible. See the approximate route alignment illustrated on Figure 4-21 below.

Figure 4-21 **Proposed greenway route marked in red arrow, agricultural underpass marked in yellow arrow**

The greenway crosses the western end of the local Carrowncalla South Road at this location, following eastward adjacent to the Carrowncalla South / Pella Road within the agricultural field before meeting the original railway corridor and heading south once more at CH 11900. This section of the greenway adjacent to the Carrowncalla South Road will impact on regular stock crossing activities between the fields to the south and the farm buildings to the north. An agricultural underpass is proposed to allow for movement of stock beneath the Carrowncalla South Road and greenway at Ch 11490 between fields, as seen in Figure 4-22 below.

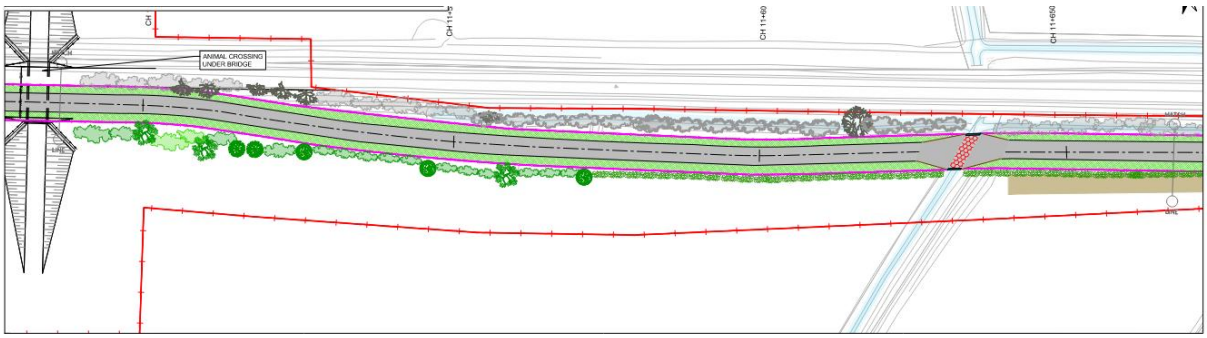

Figure 4-22 **Greenway running east adjacent to the Carrowncalla South road showing underpass**

Continuing south-eastwards on approach to Brews Bridge, a farm overpass will be provided at Ch 12400, where the old railway is in a cutting. A gated accommodation crossing will be retained across the greenway where it intersects the original farm access track to the southeast of the proposed overpass. From here the greenway will approach the existing car park at Brew's Bridge along the original railway corridor before crossing the car park towards, and around, the existing residential property at Cloonmore to rejoin the original railway corridor at approx. CH 10150. The greenway will incorporate the existing path through the car park, and will also include two gated farm crossings at the northwestern and southern locations of the car park.

Figure 4-23 **Approximate alignment in relation to Brew's Bridge with the farm overpass indicated in blue**

The original railway corridor from Ch 13000 is in use by local farmers and, as a result, various accommodation works are required for these farmers, including the provision of holding pens to manage livestock crossing the greenway. Along this section, the greenway continues southeast along the former railway corridor to CH 13820 where it diverts north and east of an existing dwelling (a former railway cottage) before crossing the local road at CH 13900 into the adjacent field to the east. Within this field the greenway weaves immediately south as per Figure 4-24 below. The greenway will continue along the original railway corridor from here, north of the existing Wastewater Treatment Plant, which is currently in use as the local access track to the marina lock gates to Ch 14475. The greenway will continue to share occasional access to the marina lock gates.

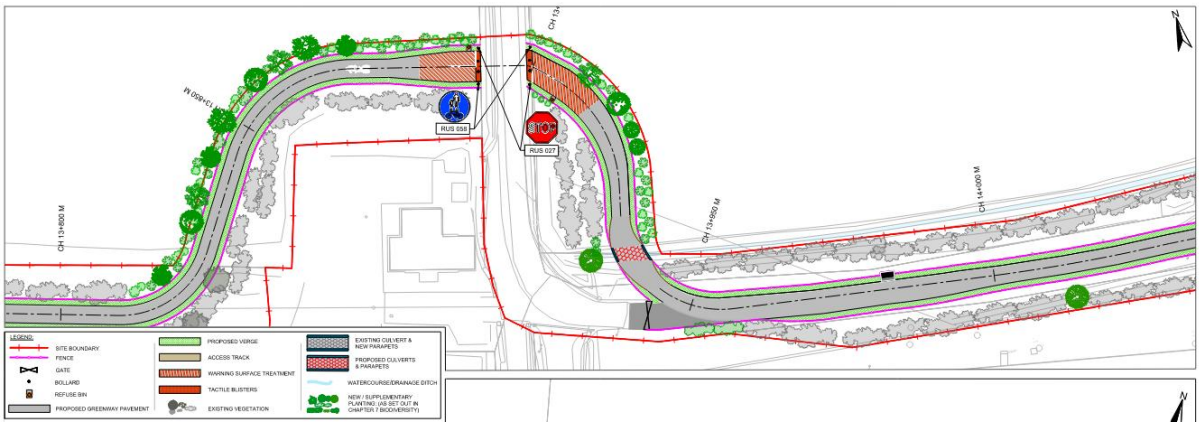

Figure 4-24 **Excerpt from Figure 4.42 in Volume 3 of the EIAR illustrating diversion around private dwelling and crossing of local road**

From here, the greenway will follow the original railway corridor to its terminus at Merchant's Quay. Screening and landscaping will be provided to the private dwellings located on Merchant's Quay that back onto the proposed greenway on the approach to Kilrush to provide sufficient privacy to the residents from the greenway users.

The greenway will cross Merchants Quay road at Ch 15171 via a zebra controlled crossing, to the proposed Kilrush trailhead. where parking and other ancillary facilities will be provided. The existing entrance to the trailhead from Kilrush town as shown in Figure 4-25 and Figure 4-26 will be retained as a link to the town centre.

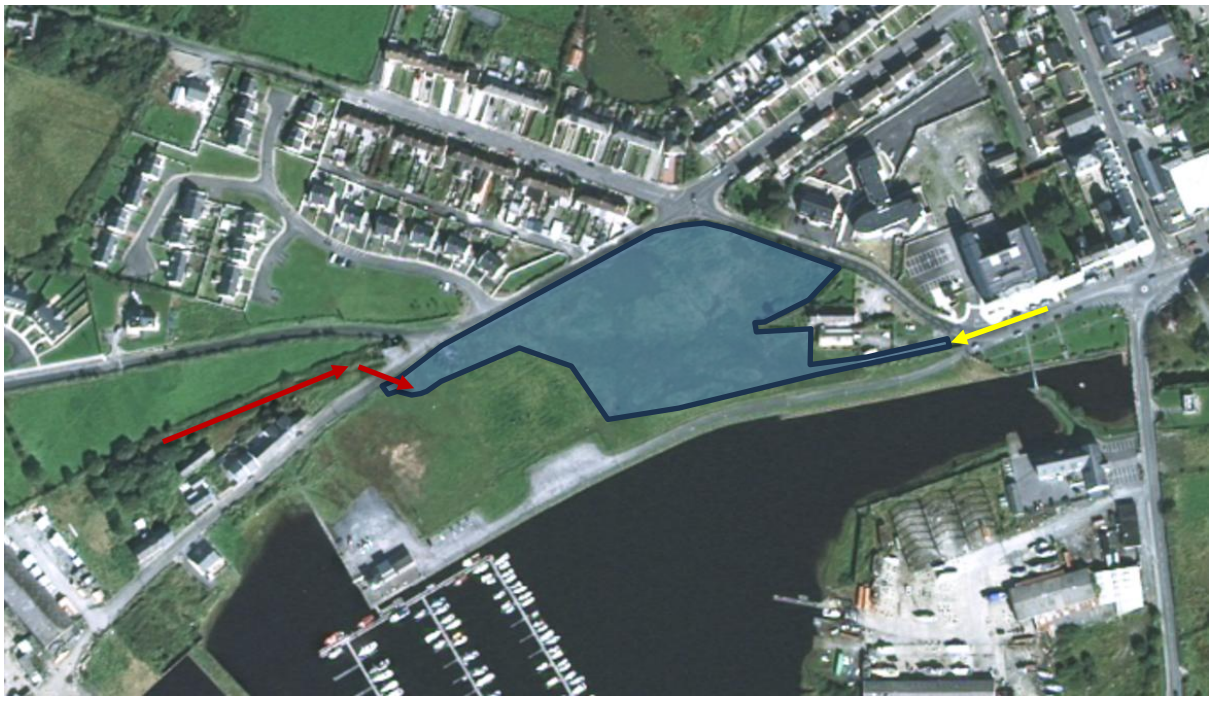

Figure 4-25 **Location of Kilrush trailhead marked in blue**

Figure 4-26 Pedestrian Entry to the proposed greenway trailhead in Kilrush, marked in yellow in Figure 4-25 above

4.2.3 Extent of the Proposed Development

The preliminary design of the proposed development has been developed in accordance with TII Publication Standards, and includes the following elements:

- The alignment of the proposed Greenway, including local links, local access routes, diversions and spurs;
- Associated site clearance and localised demolition works (i.e. walls and boundaries);
- Trailheads incorporating car parking and other facilities;
- Structures such as culverts, retaining structures, overbridges and underbridges;
- Drainage features;
- Fencing and boundary treatments;
- Landscaping;
- Environmental enhancement works;
- Accommodation Works;
- Local Road Crossings
- Priority controlled crossing and associated lighting upgrades; and
- Ancillary traffic management works including road markings and signage.

General Alignment

The main feature of the proposed development is the greenway mainline, which is approximately 15.2km in length. The cross section along much of the greenway includes a 3m wide asphalt surface, with 1m verges and boundary treatments on either side. Where there are local constraints such as existing railway bridges or embankments, the overall width may narrow to fit within the available space to avoid the need to demolish and rebuild the structures in question, which are generally in areas of high environmental sensitivity.

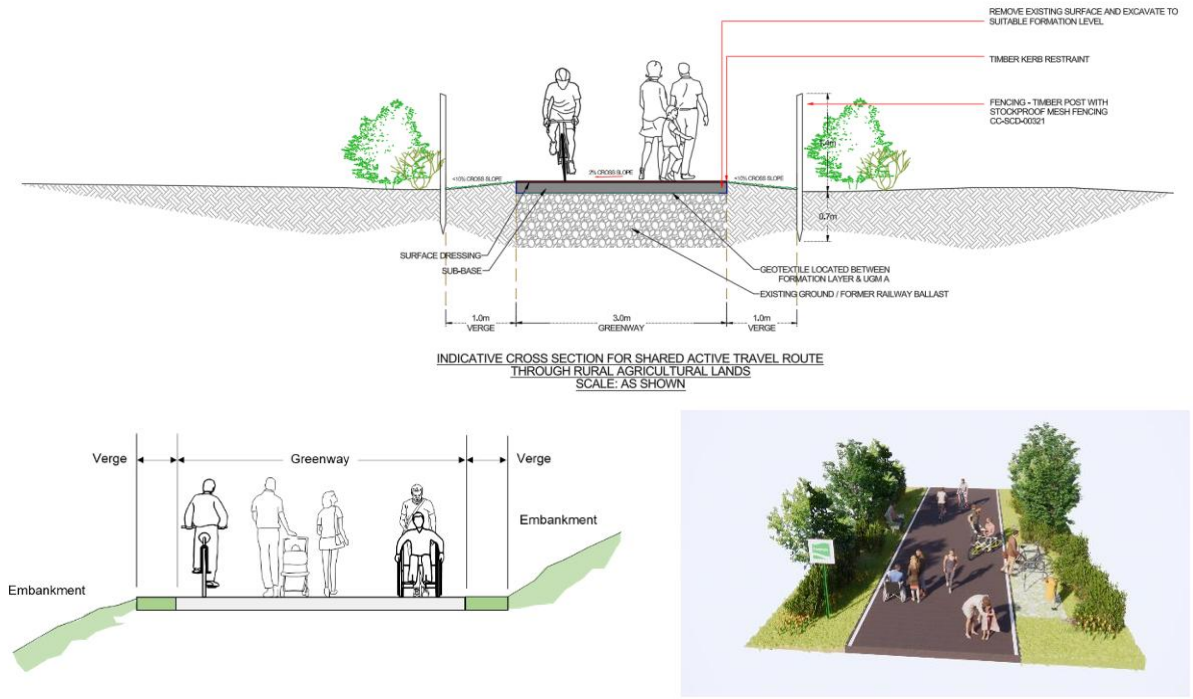

Figure 4-27 Typical Greenway Cross Section (Source: TII DN-GEO-03047 Rural Cycleway Design (Offline & Greenway) February 2025)

Trailheads

Trailheads have been proposed at Kilrush and in the village of Moyasta, located at former station houses. The trailheads will improve the accessibility of the greenway and will include ancillary facilities such as car parking, toilets, waste bins and picnic areas for users of the greenway. At Moyasta, a zebra controlled road crossing will be provided for safe movement between the greenway and the trailhead. Similarly at Kilrush, a controlled zebra crossing facility will be provided to ensure safe greenway user crossing movements across Merchant's Quay.

The development of the proposed trailheads follow the guidance outlined the Greenways and Cycle Routes Ancillary Infrastructure Guidelines (Department of Tourism, Transport and Sport).

Kilrush trailhead

The site is located at Merchants Quay, Kilrush and encompasses an area of 3.65ha. The site is currently vacant and is located in close proximity to the former Kilrush Station House and the Kilrush Creek Marina. The site was formerly used as a landfill and some of the material to be removed for construction may therefore be classified as contaminated. The location is immediately adjacent to Frances Street, which provides convenient access to Kilrush town centre less than 500m to the east. While it is not proposed to light the greenway itself, localised lighting will be provided at the trailhead at crossing facilities within. The lighting will comprise 8m high lighting columns with LED lanterns orientated to focus light within the trail head. Refer to Chapter 8 of this EIAR for limitations on lighting. The surrounding area features a mix of residential homes, commercial buildings, health centres and the Marina itself. Clare County Council is separately progressing a network of active travel routes around Kilrush, which will provide connection to other local amenities including the Vandeleur Gardens, Cappagh Pier and the (to be refurbished) Mars Cinema.

Figure 4-28 Proposed Kilrush trailhead

Moyasta Trailhead

The site is located at Moyasta along the east side of the N67 opposite Garrihy's Pub, and is just over 0.5ha in area. It is located adjacent to the former Moyasta Railway Junction, within the triangle of lands around which the former railway lines routed. The (currently closed) West Clare Railway Heritage Museum is located behind the trailhead along its eastern boundary. The field is currently in light agricultural use.

Figure 4-29 Proposed Moyasta trailhead

The location is well connected, with the N67 National Road and L2036 local road bounding the site, with a set-down area and bus stops directly outside. The village of Moyasta features a mix of residential homes, Garrihy's Pub with its own dedicated car parking and bike parking with associated pump facility, and heritage elements such as an existing railway line with a bogie to the north and a traditional hand water pump near the main road. Access between the greenway and the trailhead will be provided across the N67 via a zebra crossing with traffic calming measures provided on approach and lighting upgrades as necessary. This will also provide access to the local school from the greenway.

Kilkee Parking Facilities

Kilkee town has various designated parking areas, comprising both public car parks and designated on-street parking. A selection of these parking facilities available to the proposed development are presented in Figure 4-30 below and comprise a total 243 spaces, spread throughout the town. While the proposed works commence at the interface with Gurrane, the greenway is intended to continue through into the town centre as the primary origin or destination. Greenway users travelling by car to Kilkee will be directed to these existing parking facilities through wayfinding signage and information on the Clare County Council scheme website. Parking restrictions will be imposed in the immediate vicinity of the scheme works tie-in to prevent inconvenience to local residents. Clare County Council will monitor user behaviour and will implement additional enforcement, if required, to ensure parking for the greenway is contained in designated parking areas. See also Chapter 5 of this EIAR.

Figure 4-30 Existing Available Parking Facilities in Kilkee

Structures

The structures required of the scheme range in size and are described in Section 4.5.7 of this chapter.

Drainage

The drainage design has been undertaken to avoid the use of pipework where feasible. Drainage will generally be over the edge, outfalling to existing watercourses via field drains. Pipes, culverts and headwalls will be provided as required where the greenway crosses existing field drains and to connect the larger surfaced areas at the trailheads to the drainage network.

Permeable paving shall be incorporated into the parking bays within both trailheads.

Fencing and Accommodation Works

A significant proportion of the proposed development will run alongside or through private farmland and will therefore need to be adequately fenced on both sides. Timber post and stockproof mesh fencing (CC-SCD-0320) is proposed for these areas. Where possible, the route follows the line of existing field boundaries so existing fencing and hedgerows may already be present on one side and can be retained. Where new fencing is proposed, it will generally be masked by native hedgerow planting. Where the route follows the historical rail corridor, existing mature vegetation will be retained and maintained where possible. Additional stockproof fencing will be sensitively installed so as to allow the retention of the existing mature vegetation. Screening hedging that is essential to scheme mitigation will be planted on council-owned or acquired land. It is generally preferable that the fencing is on the greenway side, so the maintenance of the vegetation remains with the landowner, however this arrangement isn't always feasible – in particular where the screening is essential to the greenway. The necessary accommodation works have generally been agreed with landowners where the proposed development passes through individual parcels of land, affecting existing farming operations and are shown on the scheme drawings.

Landscaping & planting

Vegetation clearance to accommodate construction works will be minimised where possible along the proposed development. Existing hedgerows and treelines that form the boundaries of the railway corridor and field boundaries will be retained. New and supplementary planting will be implemented as required for screening and to replace lost habitat. Landscaping will use native species only and will be implemented as per the specifications identified in Chapter 8: Biodiversity. Two different planting specifications have been identified for the proposed development; one for the section along the Moyasta Causeway proposed to contribute to winter screening (once established), and a separate specification for new planting elsewhere along the greenway. Additional supplementary planting may be required to fill vegetation gaps at other locations to meet this specification.

Utilities

There are no known public utilities along the route of the proposed development that will need to be diverted. It is likely that there are various local private connections across or along the greenway, and these will be protected and retained in situ or diverted in consultation with the affected landowner(s) during construction. Where water and wastewater mains are located within local roads, these will be protected where they are intersected by the proposed development. All utility companies will be consulted as part of the detailed design to ensure that no services are unexpectedly encountered during construction.

Waste

Waste generation will be limited during construction due to the greenway generally following existing railway embankments or crossing greenfield land. It is intended that excavated soils will be reused within the scheme for landscaping insofar as possible. There is potential that contaminated land may be identified along the route of the old Railway Corridor and within the trailheads, due to various historic land uses. During construction, the contractor will be required to test and classify excavated materials and to collect and segregate the different waste types for recycling and / or removal to landfill as required. The Construction Environmental Management Plan (CEMP) will ensure that any contaminated land encountered during construction will be managed and disposed of in accordance with best practice.

4.2.4 Relationship with Other Existing/Planned Projects

The proposed development is one of four proposed sections of the West Clare Railway Greenway. This section is a standalone project providing connectivity between the two towns of Kilrush and Kilkee and is not reliant on any other sections of the greenway being developed. It may over time connect to other sections of the West Clare Railway Greenway if and when they are developed, however they will be subject to their own environmental assessment.

In-combination effects are assessed in Chapter 19 of this EIAR Interactions and Cumulative Effects, which identifies any likely in-combination effects that may occur in combination with other projects which are reasonably foreseeable.

4.3 Functional Requirements and Typical Details

4.3.1 Design Standards

The design of the greenway generally adheres to the requirements of TII standards for Rural Cycleway Design (offline & Greenway), DN-GEO-03047 (2025). This sets out design standards and factors that need to be considered when providing active travel facilities in rural areas, including design speeds, geometric alignment, junctions and crossings and construction details. Within this standard, the use of abandoned, disused, or redundant railway lines is recommended as a suitable route - particularly for inexperienced cyclists - on the basis that they generally meet the above principles due to their flat topography, direct alignment, and potential for local links to towns and villages along the route.

Additional standards apply where active travel facilities travel adjacent to national roads, such as DN-GEO-03030 [Design Phase Procedures for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes], DN-GEO-03031 [Rural Link Road Design], DN-GEO-03036 [Cross Sections and Head Room], DN-GEO-03060 [Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated and compact grade separated junctions)]. Additional interfacing requirements will arise with other design standards such as The Design Manual for Urban Roads and Streets [DMURS], Traffic Signs Manual, and the National Cycle Manual [described below].

The Cycle Design Manual was published by the National Transportation Authority in 2023 and replaces the former National Cycle Manual. Its main function is to improve the provision of cycle infrastructure in urban areas.

4.3.2 Greenway Width & Cross Section

The standard set out in TII Rural Cycleway Design (Offline and Greenway), DN-GEO-03047 (2025), for a shared two-way facility with up to 300 users per hour is for a shared 3m wide track to accommodate pedestrians and cyclists. Boundary hedges will be cut back, and grass

verges will be maintained so that vegetation doesn't impede the greenway. The TII standard suggests that this should widen to 5m in busier areas. It also suggests the provision of verges along the route, with varying width requirements depending on the boundary condition. Separate visibility requirements of the TII standard lead to requirements for additional width on curved sections of the greenway to provide for forward visibility for all users and dynamic intervisibility between cyclists. The design generally follows the standard, but there are areas where the width proposed is reduced to fit between existing constraints (e.g. across bridges) to avoid difficult and environmentally disruptive works, such as over the railway bridge and approach embankments at Moyasta.

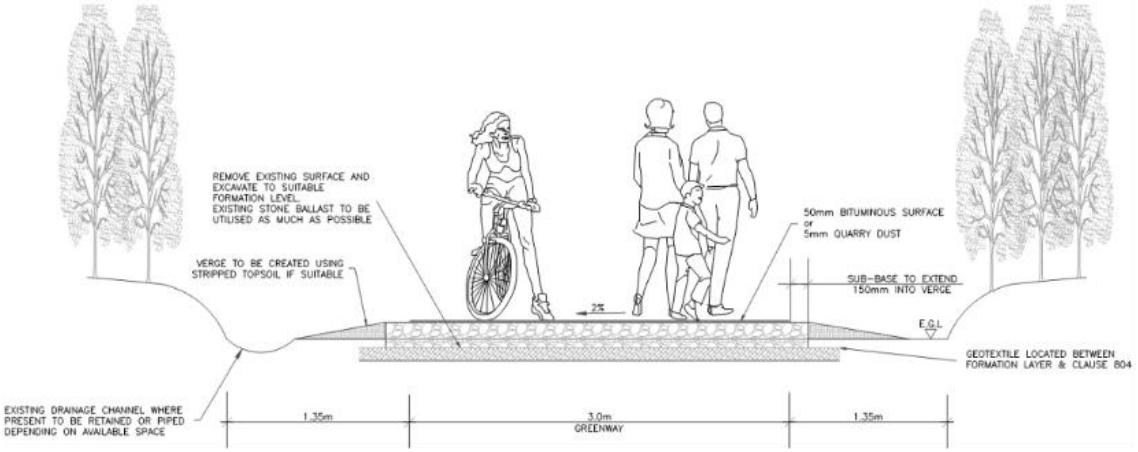

Figure 4-31 Typical Cross Section

Typical cross sections of the proposed development are included in Volume 3 of this EIAR.

As recommended by TII's Rural Cycleway Design (Offline & Greenway) guidance document, the greenway will have a machine laid closed pavement construction (i.e. asphalt) as the preferred surface treatment for greenways.

The proposed pavement will likely consist of the following:

- Surface Course, 20mm bituminous macadam
- 150mm Sub-base (crushed stone);
- 300mm Capping (larger crushed stone) (where necessary on soft ground)
- Geotextile layer (where necessary on soft ground).

Both the sub-base and surface course should be laid using a paver to ensure a good quality surface for a smooth high ride quality. This single layer of bound material will result in a good quality pavement for minimum cost.

Figure 4-32 Machine laid sub-base (Old Rail Trail between Athlone and Mullingar - 2015)

4.3.3 Access to the Greenway

Primary access to the greenway will be from Kilrush, Moyasta and Kilkee. Car parks will be provided at the trailheads at Kilrush and Moyasta for users travelling by car, and there is already extensive car parking provision in Kilkee. Section 4.2.3 describes the access to the greenway from Kilkee. Buses and coaches will also be accommodated at the trailheads. Local access to the greenway will be available via the various local roads which it will intersect, however, these locations are not suitable for parking, and therefore these accesses will generally only be used for local pedestrian and cyclist access, or by greenway users wishing to explore more of the hinterland, such as the Loop Head peninsula via Blackweir Bridge.

The greenway has been designed to provide Universal Access, with vertical gradients being the key constraint, not exceeding the 5% one step below desirable maximum. Consideration has been given to the needs of special users, including wheelchairs, baby-buggies (including double pushchairs), bike trailers, cargo-bikes and tricycles for people with disabilities as shown below. An opening width at access points of 1.5m is optimal for universal access, and has been adopted in the design. Kissing gates (chicanes) are not proposed as they are difficult for bicycles and wheelchairs to navigate.

It is not possible to physically exclude motorised bikes without impeding legitimate greenway users. Legal prohibition through declaration of a "cycleway" under the Road Traffic Regulations plus enforcement is the best arrangement of preventing anti-social use.

In addition, the strategic use and placement of signage and other street furniture will be used to restrict vehicular access but to allow easy and unimpeded access for all other greenway users. These forms of access control will be removeable to permit access for maintenance vehicles.

Figure 4-33 Disability Tricycle - 1.25m wide

Figure 4-34 Kissing Gate Obstacle (Great Southern Trail, Limerick)

Figure 4-35 Simple Bollard Access - Generous width (Essen, Germany)

Figure 4-36 Good Access Arrangement (Royal Canal Greenway, Longford)

There are a number of locations where the greenway passes beside or between properties, such as past former station or gate houses, or past more recent developments. At these locations the greenway access has been provided adjacent to the property access and boundary treatment has been developed in consideration of the property owners.

There are 2 main locations where privacy screening has been proposed at the request of landowners - that is at CH 0600 to CH 0650 and CH 15100 to CH 15130. The greenway level has been lowered by including a retaining structure at CH 3900 and CH 7400 to provide privacy to the dwellings directly to the north.

Figure 4-37 Greenway passing adjacent a property (GWG Mayo)

There may also be a number of locations where the existing railway is being used for farm access tracks. At these locations, a parallel but segregated access track and greenway has been proposed as required.

Figure 4-38 Greenway with a parallel farm access track (GST Limerick)

There are two locations where the greenway must accommodate occasional shared use. These are at Moyasta Bridge and approach embankments, where occasional access is required for access to the farm lands to the west, and at Kilrush, where occasional maintenance access to the Kilkee Marina lock gates is required. This infrequent usage is similar to maintenance vehicle activity along the greenway and can be accommodated without appreciably discommoding greenway users.

4.3.4 Road Crossings

There are a number of locations where the greenway intersects public and private roads. The interactions between users of the greenway and road traffic will be regulated by clear signage and road markings. At rural local road crossings, the greenway will follow the requirements of the design standards, as pictured for example below, to slow cyclists approaching the road and to prevent motor traffic access to the greenway. Pedestrians and cyclists crossing the road will give-way to road traffic. Road markings and signage will be provided so that traffic is aware of the greenway crossing and can drive with extra care. Adequate visibility splays will be provided at the crossings so that pedestrians and cyclists can see oncoming traffic. A typical road crossing layout is shown in Figure 4-39.

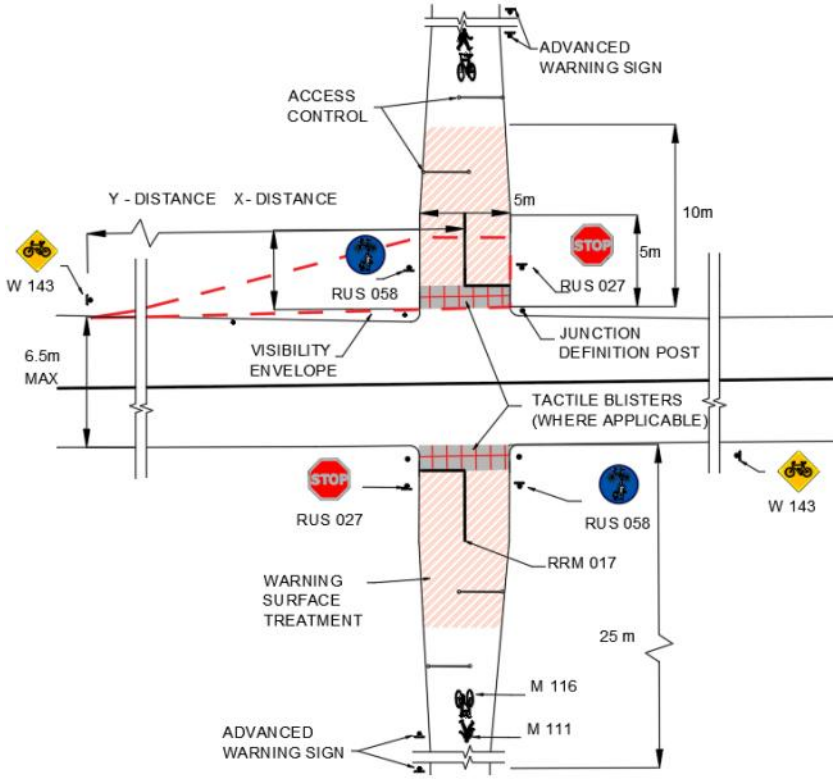

Figure 4-39 Typical rural road crossing

At busier road crossings located on national or regional roads and in or near town centres, a controlled crossing will be provided. Zebra controlled crossing facilities are proposed as part of the proposed development where required to access the trailheads, such as crossing the N67 at Moyasta and crossing Merchants Quay in Kilrush.

4.3.5 Signage and Information

Appropriate signage will be provided to bring users to and along the greenway route, and to inform users about the route and its environs. Regulatory and warning signs will be provided at access points to the greenway. Warning signs will be provided to require that dogs are maintained on a leash at all times, and that dog owners are required to pick up and dispose of dog excrement using the bins provided at every interface with the road network and within the trail heads. Educational signage will also be provided alerting dog owners to the environmental impacts that dog excrement may have.

Greenway hub facilities will be provided at the trailheads in Kilrush and Kilkee and will be incorporated in existing Council facilities at Kilkee.

Figure 4-40 Example of an Information Sign

Figure 4-41 Example of Greenway Hub (Clifden)

4.3.6 Ancillary Infrastructure

The Greenways and Cycle Routes Ancillary Infrastructure Guidelines, published by the Department of Transport, Tourism and Sport, outlines information on the installation and creation of ancillary infrastructure to bring a route to life and increase its attractiveness and enjoyment for users. The diagram below, from these guidelines, illustrates the elements and details along a typical route.

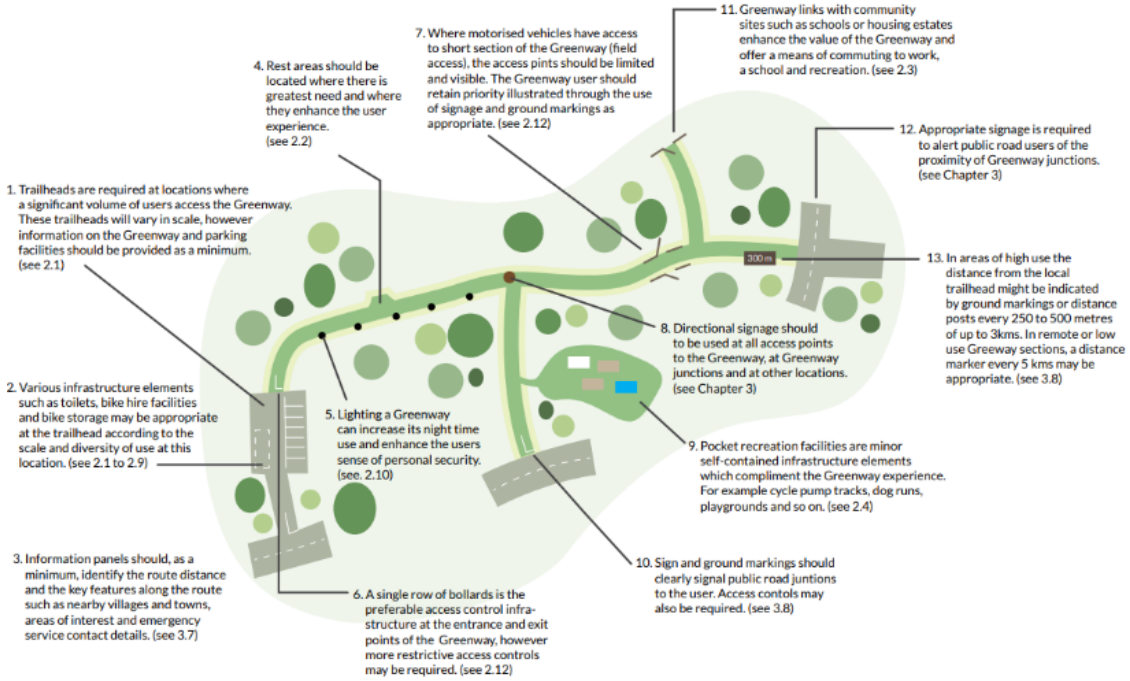

Figure 4-42 Ancillary Details along a typical route

The Visitor Amenity Best Practice Toolkit for Greenways and Blueways published by Fáilte Ireland (November 2023) provides an additional guide for designing visitor amenities at greenways, with examples of additional facilities that are suggested to improve the overall visitor experience.

The design of the ancillary facilities for the proposed development has been developed based on the anticipated level of usage and spacing between these stops. These elements include seating, waste collection, cycle parking, picnic tables, information tables and mapping, shelter, toilets, water points, bicycle repair, car parking etc.

Trailheads are proposed at Kilrush and Moyasta. The design of these trailheads will include toilet facilities, car and bike parking. Over time, it is anticipated that other amenities such as coffee shops and bike repair or hire may be developed by individual vendors in close proximity to these major trailheads – in all cases subject to planning requirements.

Rest areas will also be provided along the route in the form of small seating areas. These will also include direction signage and, where possible, litter bins, shelters, maps and potentially even play and outdoor gym infrastructure.

4.4 Receiving Environment

4.4.1 The West Clare Railway

The West Clare Railway opened on July 2nd 1887. It was a steam driven rail service between Ennis and Kilrush and the journey took about 3 hours. It was a very important service to the people who lived along its route. Charles Stewart Parnell was invited to lift the first sod in laying of the tracks and the silver spade he used is exhibited in the Clare County Museum. It continued to run quite successfully up until World War II, when the pressure of improving roads finally began to tell and in 1948, while the Irish National Railway (CIÉ) initially decided to close the line, it instead opted to replace the steam engines with diesel engines. In 1952, four new diesel engines were supplied, and in 1953, CIÉ bought three more. The last steam passenger train left Ennis on March 15th 1952. In 1955, the West Clare Railway was the only diesel run, narrow gauge railway in Britain and Ireland. However, it continued to run at a loss, and finally

all services were ceased in February 1961. The Ennis station house built around 1860 served as the terminus of the West Clare Railway. Many of the old railway bridges, piers, banks and other such works are still standing. Therefore, the West Clare Railway and its remaining infrastructure is considered in and of itself to be a cultural heritage feature.
Most of the tracks of the former West Clare railway line have been dismantled and removed. Where tracks still exist, they will have to be dismantled to facilitate the smooth-running surface of the greenway.

4.4.2 Existing Structures

The greenway will retain the bridges, culverts and pipe drains that it will pass over. The station houses along the former railway at Kilkee, Blackweir, Moyasta junction and Kilrush have been converted into residential homes, while the multiple keepers cottages at level crossings have either been converted into dwelling houses or abandoned. The two main bridges that remain and will be utilised for the greenway are in Moyasta village CH 7900 and at L6090 Carrowncalla road at CH 9775. Works to existing bridges will include maintenance works including re-painting, vegetation removal and graffiti removal, and additional works such as construction of parapets and fencing to bring the existing bridges up to a sufficient standard to accommodate the greenway.

The existing embankments along the former railway line will be utilised for the proposed greenway and all gates posts along the railway line will be retained. Inspections will be carried out to determine the structural integrity of existing structures, embankments and footings prior to construction.

Culverts & Pipe drains

There are 14 recorded existing box culverts traversing the railway in Section 1. These culverts are predominantly concrete culverts. There are also 5 existing pipe drains.

These culverts will be assessed to confirm their suitability for reuse, and any necessary repointing works will be undertaken in accordance with the restrictions imposed by this EIAR. It has not been possible to survey all of these structures during the preparation of the EIAR, however, they are situated in areas where the former railway line is still intact or across ditches where agricultural crossings are in active use, and are therefore understood to be in serviceable condition and not in need of any unusual interventions beyond routine maintenance.

4.4.3 Level Crossings / Farm Accommodation Crossings

It has been identified that there are approx. 50 existing level crossings along the line of the former railway. The design of the proposed development includes 66 level crossings along the route, including access to local roads and/or private access for agricultural or private use.

4.5 Construction Methodology

4.5.1 Main Construction Elements

The main activities likely to be adopted during the construction stage include:

Advance Works Contracts

Advance works contracts may be procured for the following elements, however it is considered more likely that the works will be procured as a single contract.

- Pre-contract site clearance, fencing contract, statutory undertakers, utilities and diversions and initial archaeological investigation.
- Accommodation works such as overpasses.

Main Construction Contract

The main construction contract will comprise any works above not undertaken as Advance Works and earthworks, structures, haul routes, pavements, landscaping & landscape planting, permanent fencing, signs, lighting and road markings, accommodation works and any services diversions.

The proposed development will be constructed in accordance with the TII Project Management Guidelines, and the detailed design will be developed in accordance with TII *Rural Cycleway Design (Offline and Greenway) (DN_GEO_03047*). A Construction Environmental Management Plan will also be drawn up and agreed with the Contractor before construction stage.

It is anticipated that construction compounds will be located at the two proposed trailhead locations. During the winter months, temporary lighting will likely be required during the construction phase.

4.5.2 Work Programme

Based on current projections and subject to the satisfactory completion of the statutory procedures and availability of finance, it is anticipated that construction work will commence in 2027. It is anticipated that the construction of the scheme will take between 16 and 24 months, and therefore it is anticipated it will be completed by 2029.

4.5.3 Works Staging

The anticipated works staging for construction are as follows:

- Mobilisation to Site and Compound set-up;
- Erection of temporary signage;
- Site clearance works (programmed to take account of timing restrictions outlined in Chapter 8 Biodiversity and summarised below);
- Landscaping planting and fencing on the bay side at sensitive bird areas (as identified in Chapter 8 Biodiversity);
- Erection of temporary stock-proof fencing;
- Earthworks and excavation;
- Temporary retaining structures installed as required;
- Any services and drainage features installation as necessary;
- Construction of retaining structures;
- Removal of temporary retaining structures;
- Capping and deposition of fill;
- Sub-base construction and compaction;
- Regrading and deposition of verges;
- Remaining Landscaping and planting;
- Any remaining stockproof fence installation;
- Surface course laying;
- Signage and road markings.

In accordance with Chapter 8 Biodiversity, timing restrictions will apply to certain construction activities and locations to avoid risks to nesting and wintering birds as summarised below:

- Vegetation clearance works will be programmed to take place outside the nesting bird season (March to August inclusive) – therefore can be undertaken in September and October. Vegetation clearance within sensitive bird areas (as identified in Chapter 8

Biodiversity) will be programmed to take place in September only to avoid the wintering bird season (October to March inclusive) and the nesting bird season (March to August inclusive).

- Construction works (subject to the above restrictions for vegetation clearance) across sensitive bird areas will be programmed to take place during the summer months (April to September inclusive), except for landscape planting which will be required to take place during winter months. If appropriate screening measures are in place, some works may be permitted within the winter period only under explicit approval by the Ecological Clerk of Works.

4.5.4 Working Hours

Normal working hours will be employed during the construction phase as follows:

Monday to Friday 07:00 to 19:00hrs

Saturday 08:00 to 16:30hrs

Sunday and Bank Holidays: not permitted.

Special works, such as for the erection of bridge beams or emergency works outside of the normal working hours will only be permitted with the approval of the local authority and subject to the restrictions of this EIAR and the approval of the Ecological Clerk of Works (ECoW).

4.5.5 Earthworks and Groundworks

Where sections of the original railway line are still in existence along the proposed alignment, the greenway will be constructed on top of the original railway earthworks. Where original railway sleepers are still in place, these will be removed in accordance with the appropriate waste management legislation. The initial footprint during construction will be approximately 7-10m wide to accommodate landscaping and planting, though the final greenway corridor will generally be 5m wide, fence to fence. Prior to any proposed reuse of sleepers, a representative sample will be tested for concentrations of creosote to inform the suitability for reuse.

Along the Original Railway Alignment

Where the proposed alignment is located along the route of the original railway, the embankments and ballast will be retained as a foundation where still in place. Crushed rock sub-base material will be imported for a 150mm thick pavement base layer to be constructed using a paving machine. A 20mm bitumen bound surfacing course will seal the pavement. Timber edging kerbs will form the greenway surface alignment and the 1m wide verges shall be graded to provide a 50mm level difference between the greenway surface level and the surrounding ground levels.

Along areas of Greenfield Land

Where the alignment deviates from the original railway corridor, the proposed greenway will traverse agricultural land and will generally follow 50mm above ground level (other than transitions onto and off the old alignment) with gentle grading provided for a smooth vertical profile. Over-the-edge drainage will be implemented.

Excavation will generally be limited to topsoil stripping typically to a depth of approximately 120mm only to ensure the greenway surface level is 50mm above the surrounding ground level and enable graded verges to be profiled either side using the excavated topsoil.

Along the existing road network

The proposed development also follows adjacent to the existing road network in Moyasta along the N67. In Moyasta, the proposed greenway will be developed as a shared pedestrian

and cycle path segregated from road traffic by a raised level, a 1.5m wide verge and kerb. Where the proposed greenway shares or crosses quiet or local roads, appropriate signage and road markings will be provided to inform the greenway users of the interface with the road network and to warn motorists of the potential presence of cyclists on the road. Roads where the greenway cross may be resurfaced by plane and inlay, where required to provide a safe and high quality crossing experience.

4.5.6 Boundaries and Verges

Existing boundaries such as hedgerows located adjacent to the proposed greenway will be retained and maintained as appropriate.

Along greenfield sections the proposed development will have the standard 1.4m high stockproof fence or as agreed with landowners so as not to impact on agricultural activities in the area and to ensure that the greenway users are corralled along the designated greenway route. At particular locations where the greenway is situated in proximity to existing dwelling houses, additional screening is provided to protect privacy. This arises for example at the eastern end of the route in Kilrush where the proposed greenway will pass to the rear of a group of houses and additional screening has been requested by these residents.

The Moyasta bridge is in a particularly sensitive location and will require additional screening measures due to the proximity of wintering birds. The screening across the bridge will comprise a solid panel to raise the existing parapets to 1.1m high, and a 300mm perforated panel to provide a 1.4m high screen in total. An indicative cross section of the greenway across Moyasta Bridge is shown in Figure 4.51 in Volume 3 of this EIAR. Along the causeway stockproof fencing to 1.4m high will be constructed with vegetation screening planted at the waterside.

Figure 4-43 Example of boundaries. (Location: the Waterford Greenway)

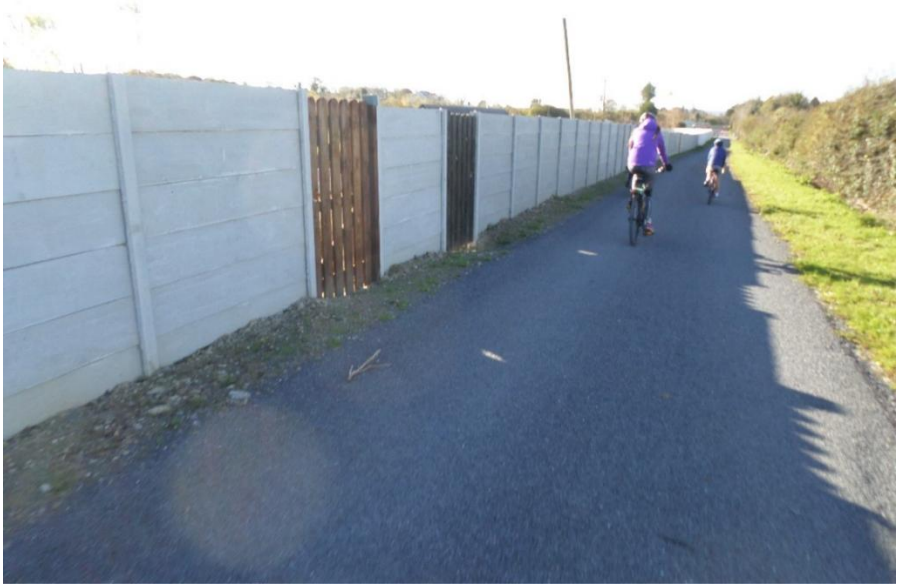

Figure 4-44 Example of screen boundaries at houses. (Location: the Waterford Greenway)

4.5.7 Landscaping & Planting

At locations identified as sensitive bird areas, vegetation planting will be the first works type carried out in order to give planted specimens the maximum time to become established and provide essential screening to wintering birds at these locations prior to operation. Verges will be allowed to revegetate naturally. Landscaping will be carried out in accordance with the planting specifications outlined in Chapter 8 Biodiversity.

4.5.8 Access Points Including Junctions and Crossings

Where the proposed greenway crosses existing roads, access will be managed for the safe operation of both the road network and the greenway. This arises at 14 locations along the route. Protective measures have been adopted to slow cyclists on the approach to these road crossings in line with TII standards as described in Section 4.3 above. These access points will also enable users of the greenway to deviate onto the road network to make side trips to points of interest and to undertake loops through the countryside adjoining the route. However, it is expected that such trips will be low, and principally by locals accessing the greenway.

The provision of frequent access points to greenway users will facilitate access to local amenities such as beaches, schools, food / beverage services located along the route and indeed aid the development of supporting services in towns and other locations, where appropriate along the route over time (subject to planning, etc). This will enable the economic benefits of the greenway to be distributed across the local area, as well as enhancing the quality of the experience for visitors.

Works to existing roads where the greenway crosses are minor in nature, generally comprising road markings and signage installation only, and localised traffic calming or resurfacing only where required. Road closures are not envisaged for the construction stage and works will be typical of regular road maintenance activities, administered by Clare County Council through the road opening licensing system.

One significant road crossing is proposed at Moyasta to install the zebra crossing across the N67. It is expected that this will require short term temporary traffic shuttles to be implemented to facilitate underground works and works along the sides of the N67. Such disruptive works may be time limited, subject to the requirements of Clare County Council.

Agricultural crossings will be provided to comply with TII DN-GEO-03047-04. In general, greenway users will have priority without risk of livestock inadvertently straying onto the greenway. Where the crossing is in use by the farmer, the gates will swing across the greenway to temporarily close the greenway route until the livestock has crossed. Disruption to greenway users will be temporary and short duration. Additional greenway priority measures may be implemented as part of the crossing systems if specific farm activities result in the gates being closed for greenway users for an extended period without any direct farm crossing activities occurring, whereby an adjacent bypass gate, as shown in Figure 4-45 below, may be incorporated. Consultations with landowners have been held throughout the preliminary design stage to refine the locations and designs of the agricultural crossings on a case-by-case basis.

Figure 4-46 Example of enhanced farm crossing (Location: The Waterford Greenway)

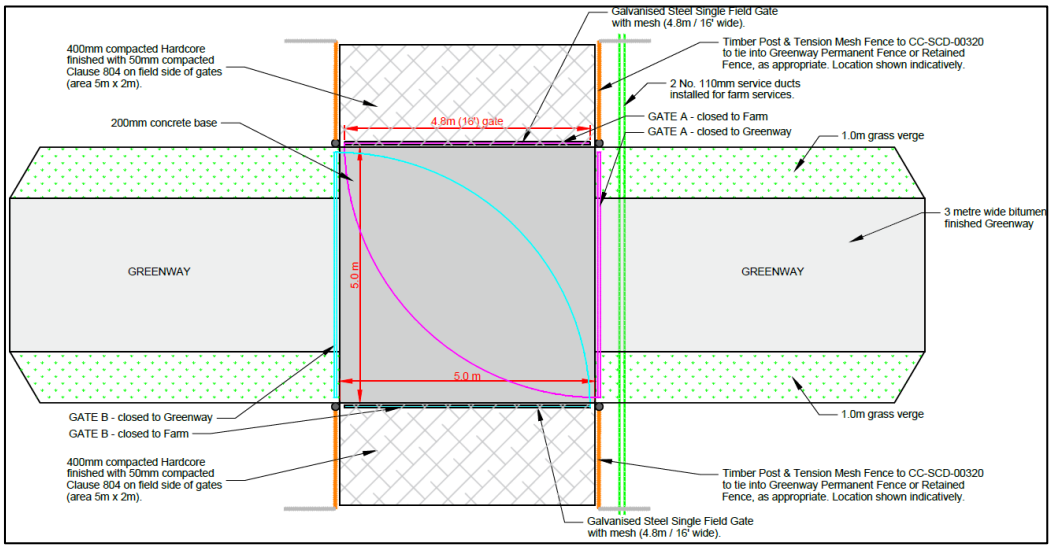

Figure 4-47 Standard Agricultural At Grade Crossing Plan Layout

4.5.9 Structures

4.5.9.1 Repair and Proposed Works to Existing Structures

Existing Bridges

The works to existing bridges will include minor maintenance works (removal of vegetation, repointing, etc.) and additional works such as construction of parapets and fencing to bring the existing bridges up to a sufficient standard to accommodate the greenway. Any railway infrastructure will be removed and a greenway surface laid as per the proposed drawings.

The surface of the Moyasta bridge (Ch 7890M) is covered in vegetation. This vegetation will need to be removed by handheld tools. No spraying shall be permitted. All such vegetation removal works shall take place from the bridge and no in-stream works will be permitted take place. Measures for screening are described in Chapter 8 of this EIAR.

Figure 4-48 Moyasta Bridge

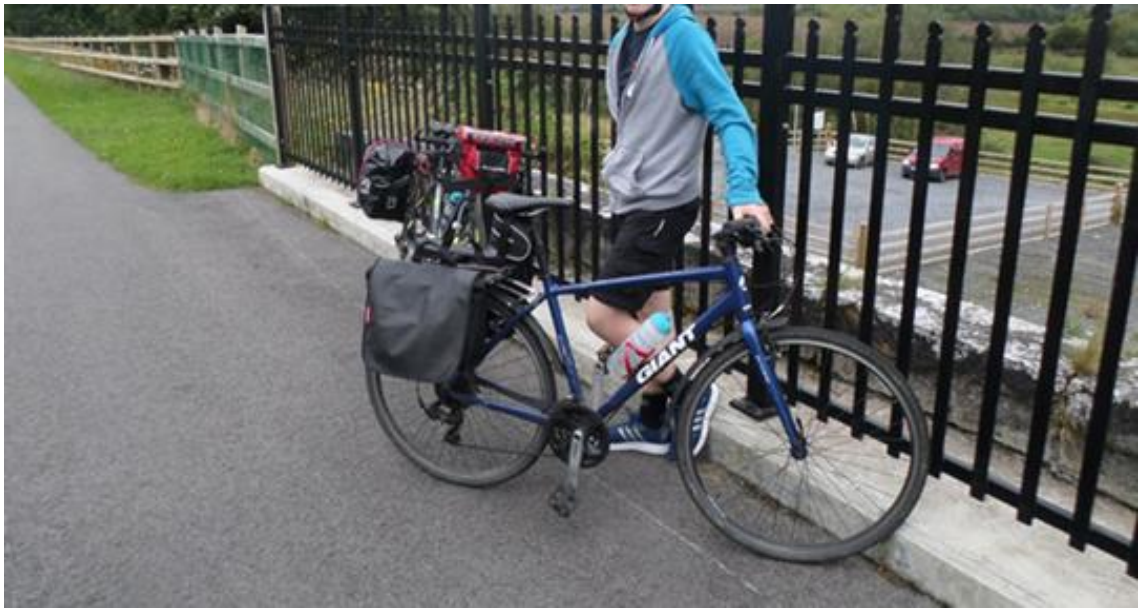

Figure 4-49 Example of a parapet/fencing (Location: Railway bridge on the Old Rail Trail between Athlone and Mullingar)

The existing Carrowncalla Bridge (Ch 9780M) will be reused for the greenway. The existing bridge crosses the former turf canal. In general, the Carrowncalla Bridge is clear of vegetation. Some localised clearance may be necessary through the centre its surface.

4.5.9.2 Proposed Structures

A total of 35 new structures are to be constructed on the greenway, including 8 No. clear span bridges, 25No. culverts (one of which is existing and needs to be made longer to accommodate the greenway) and 2No. lengths of retaining walls. The proposed structure descriptions, details and chainages are outlined below. Drawings of proposed bridge structures are included in Volume 3 of this EIAR.

River Bridge at Lisdeen, (Ch 2100)

A new bridge, 5.6m wide x 10m long, is proposed for the greenway at Lisdeen West in proximity to the Lisdeen recycling centre and transfer station, (Ch 2100). This replaces the former railway bridge, which is no longer standing.

Agricultural Vehicle Crossing River Bridge at Lisdeen, (Ch 2100)

A new bridge, 6.2m wide x 10m long, is proposed at Lisdeen West End in proximity to the Lisdeen recycling centre and transfer station (Ch 2100) for agricultural use. This was requested by the landowner to replace the earlier railway bridge which is no longer standing.

River Bridge at Lisdeen, (Ch 2265)

A new bridge, 5.6m wide x 16m long, is proposed for the greenway at Lisdeen West (Ch 2265). This replaces the former railway bridge, which is no longer standing.

Agricultural Vehicle Crossing River Bridge at Lisdeen, (Ch 2265)

A new bridge, 6.2m wide x 10m long, is proposed for agricultural use at Lisdeen West (Ch 2265M). This was requested by the landowner to replace the earlier railway bridge which is no longer standing.

Retaining walls at Garraun, (Ch 3850 to Ch 4100)

Retaining walls are required at Garraun, from Ch 3900 to Ch 4000 where the greenway is to be constructed in cutting to avoid impacting on adjacent landowners, and also to reconcile steep gradients within the fields.

Earth retaining measures at Moyasta, (Ch 7300 to Ch 7400)

Earth retaining measures will be required at Moyasta between Ch 7300 and Ch 7400, where the greenway is to be constructed in cutting to avoid impacting on adjacent landowners. The construction will incorporate drainage pipework to drain the retained section to a nearby field drain. A non-return valve will be required on the pipework.

Landowner Footbridge Bridge at Moyasta, (Ch 7390)

A landowner accommodation overpass (pedestrian only), 3.6m wide x 8m long is proposed at Ch7480 to mitigate severance for the adjacent landowner arising from the construction of the greenway in retained cutting.

Turf Canal Bridge at Carrowncalla North (Ch 9175)

A new bridge, 5.6m wide x 17m long, is proposed for the greenway at Carrowncalla North (Ch 9175). This bridge accommodates the greenway crossing the former turf canal.

Box Culvert Cattle Underpass at Carrowncalla South, (Ch 11575)

A new cattle underpass, 6.2m wide, 3m long, and 2.7m high is proposed at Carrowncalla South to avoid causing severance for the local dairy farmer. The greenway alignment will be raised above ground level at this location and the accommodation route will run beneath at existing ground level.

Agricultural Overpass at Carrowncalla South, (Ch 12400)

A new accommodation overpass, 3.4m wide x 10m long for agricultural crossing is proposed at Carrowncalla South (Ch 12400) at the request of the local landowner to minimise severance cause by the greenway.

Retaining walls at Kilrush, (Ch 14950 to Ch 15125)

Retaining walls are required at Kilrush, from Ch 14950 to Ch 15125 where the greenway is to be constructed in cutting to avoid impacting on adjacent landowners, and also to reconcile steep gradients within the fields.

Culverts, (Scheme wide)

Several new culverts, which vary in dimension depending on the surrounding ground levels, are proposed along the scheme to accommodate the greenway crossing various field drains and streams.

The general construction methodology for proposed bridges will involve:

1. Excavation of soil and installation of piles.
2. Construct reinforced concrete abutments.
3. Backfilling of soil around substructure.
4. Delivery and lifting into place the prefabricated concrete beams.
5. Casting of concrete deck and stitching.
6. Installation of pavement and finishes.

The general construction methodology for proposed box culverts will involve:

1. Excavate to foundation level and prepare formation.
2. Install precast concrete box culvert units.
3. Construct reinforced concrete wingwalls.
4. Backfilling of soil.
5. Installation of pavement and finishes.

The general construction methodology for proposed retaining walls will involve:

1. Excavate to foundation level and prepare formation.
2. Pour concrete foundation.
3. Install formwork and steel reinforcement.
4. Pour concrete retaining walls.
5. Remove formwork.
6. Backfilling of soil.
7. Installation of pavement and finishes.

4.6 Construction Compounds

Temporary construction compounds will be required for storing machinery, materials and for construction traffic for the duration of the construction phase. The location of these compounds are as follows:

- The proposed Kilrush Trailhead will be used as a construction compound for the Kilrush to Moyasta section.

- The proposed Moyasta Trailhead will be used as a construction compound for the Moyasta to Kilkee section.

In addition to the above, temporary construction zones for craneage will be required at the locations of proposed bridges. Temporary worker parking areas will be permitted at appropriate locations along the site where space permits.

4.6.1 Trailheads and Car Parking

Two new trailheads are proposed at Moyasta and Kilrush as set out in Section 4.2.3.

The general construction methodology for proposed trailheads will involve:

[The following works will be undertaken at the outset of the construction process to facilitate construction compounds]

- Site clearance and excavation of topsoil with import and spread of a gravel foundation 0.3m thick. The excavated topsoil will be used to form landscaped bunds around the perimeter.
- Installation of drainage ditches and specified planting.

[The following works will be undertaken towards the end of the construction process in conjunction with the decommissioning of the construction compounds]

- Installation of permeable paving system to proposed parking bays
- Foundation, sub-base and surfacing of the car park internal roads.
- Provision of public lighting within the car park in accordance with the requirements of Chapter 8.
- Planting of screening landscaping including trees and shrubs.

4.6.2 Construction Traffic

Refer to Chapter 5.

4.6.3 Waste Management

It is an objective to minimise, reuse and recycle waste where possible during site clearance and construction works of the proposed development.

Waste Minimisation

To prevent and minimise the generation of waste, the Contractor will be required to ensure that raw materials are ordered so that the timing of delivery, the quantity delivered, and the storage is conducive to the good site practices and does not create unnecessary waste.

Reuse

Where possible, re-use of clean, non-hazardous excavated material as fill will be considered along the route of the proposed development.

Waste Disposal

Waste material that is not suitable for reuse on site will be disposed of in accordance with the waste management legislation and waste management hierarchy of reduce, reuse, recycle. Waste that cannot be recycled will be treated or disposed at an appropriate licensed facility.

For the proposed development, this specifically relates to the disposal of railway wooden sleepers that may contain creosote. Creosote is a wood preservative that was used historically on railway sleepers and contains a number of toxic chemical compounds, some of which are carcinogenic. The existing wooden sleepers that form part of the railway track are

considered to be environmentally safe while in-situ, however, if there are required to be removed they are required to be treated as hazardous waste if reused for certain developments and are required to be dealt with in accordance with the appropriate waste management legislation.

Prior to any demolition, excavation or construction a Construction Environmental Management Plan (CEMP) will be produced by the successful contractor and agreed with the local authority.

4.6.4 Resources to be Used in Construction

The most significant resources to be used during the construction stage of the project are outlined in Table 4-1.

Table 4-1 Resources to be used during construction

Element	Resources
Land and Property	Generally, the land type comprises existing embankment which once formed part of the abandoned railway, or agricultural land. In addition, the route will cross streams and watercourses, overgrown areas and local roads. The total land take is in the order of 27.3 hectares.
Earthworks	58.4% of the route will utilise the existing abandoned railway corridor and will seek to utilise its existing embankments and cuttings where practicable. Some cut and fill will be required along the remaining length of the route where gradients are challenging, and on the approaches to structures. The quantities of cut and fill are 9,500m^3 and 27,500m^3 respectively.
Pavements	There is a requirement for 50,500m^2 of bituminous material for the surfacing of the greenway of 20mm thickness and car park circulation roads up to 100mm thickness, comprising a total 1,560m^3.
Structures	The proposed development will comprise the construction of culverts, and bridge structures, the import of in situ and precast concrete, steel and elements for retained earth structures.
Demolition	General site clearance is required at the site. No property demolition is proposed for the proposed development.

4.7 Environmental Management Plans

4.7.1 Construction and Environmental Management Plan (CEMP)

Prior to any demolition, excavation or construction a Construction Environmental Management Plan (CEMP) will be produced by the successful contractor for the proposed development. The CEMP will set out the Contractor's overall management and administration of the construction project. An Outline Construction Environmental Management Plan has also been prepared as part of this EIAR, see Appendix 4.1. The CEMP will be developed by the Contractor during the pre-construction phase to ensure commitments included in the statutory approvals are adhered to, and that it integrates the requirements of the Environmental Operating Plan (EOP). The Contractor will be required to include details under the following headings:

- Details of working hours and days.
- Details of emergency plan - in the event of fire, chemical spillage, cement spillage, collapse of structures or failure of equipment or road traffic incident within an area of traffic management. The plan must include contact names and telephone numbers for: Local Authority (all sections/departments); Ambulance; Gardaí and Fire Services.
- Details of chemical/fuel storage areas (including location and bunding to contain runoff of spillages and leakages).

- Details and locations of construction plant storage, temporary offices and WC facilities.
- Traffic management plan (to be developed in conjunction with the Local Authority – Roads Section) including details of routing of network traffic; temporary road closures; temporary signal strategy; routing of construction traffic; programme of vehicular arrivals; on-site parking for vehicles and workers; road cleaning; other traffic management requirements.
- Truck wheel wash details (including measures to reduce and treat runoff).
- Dust management to prevent nuisance (demolition & construction).
- Site run-off management.
- Noise and vibration management to prevent nuisance (demolition & construction).
- Management of environmental screening and monitoring
- Measures for complying with the direction of the Ecological Clerk of Works
- Measures for securing the site from animal ingress
- Landscape management.
- Management of contaminated land and assessment of risk for same by suitably qualified, trained and licenced personnel.
- Management of stockpiles.
- Project procedures & method statements for:
    - Site clearance, site investigations, excavations;
    - Diversion of services;
    - Excavation and/or blasting (through peat, soils & bedrock);
    - Piling;
    - Temporary hoarding & lighting;
    - Storage and Treatment of peat and soft soils;
    - Disposal of surplus geological material (peat, soils, rock etc.);
    - Earthworks material improvement; and
    - Protection of watercourses from contamination and silting during construction.
- Site Compounds.
- Temporary construction zones.
- Environmental constraints and commitments.
- Monitoring, inspection and auditing of the Contractor's compliance with environmental commitments.
- Training for site staff regarding environmental constraints.

The production of the CEMP will also detail areas of concern with regard to Health and Safety. Adoption of good management practices on site during the construction phase will contribute to reducing environmental impacts.

4.7.2 Environmental Operating Plan (EOP)

The Environmental Operating Plan (EOP) is defined as a document that outlines procedures for the delivery of environmental mitigation measures and for addressing general day-to-day environmental issues that can arise during the construction phase of a construction project.

Before any works commence on site, the Contractor will be required to prepare an Environmental Operating Plan (EOP) in accordance with the TII/NRA *Guidelines for the Creation and Maintenance of an Environmental Operating Plan*. The EOP will set out the

Contractor's approach to managing environmental issues associated with the construction of the road and provide a documented account to the implementation of the environmental commitments set out in the EIAR and measures stipulated in the planning conditions. Details within the plan will include:

- All Environmental commitments and mitigation measures included as part of the planning approval process and any requirements of statutory bodies such as the National Parks and Wildlife Services as well as a method documenting compliance with the measures.
- A list of all applicable environmental legislation requirements and a method of documenting compliance with these requirements; and
- Outline methods by which construction work will be managed to avoid, reduce or remedy potential adverse impacts on the environment.

To oversee the implementation of the EOP, the Contractor will be required to appoint a person to ensure that the mitigation measures included in the EIAR, the EOP and the statutory approvals are executed in the construction of the works and to ensure that those mitigation measures employed are functioning properly throughout the duration of the construction phase.

An Outline Environmental Operating Plan has been included in Appendix 4.2 of this EIAR and will be further developed by the Contractor. The EOP will not give rise to any reduction of mitigation measures or measures to protect the environment.

Environmental Construction Guidelines

The TII/NRA Environmental and Construction Guidelines provide guidance with regard to environmental best practice methods to be employed in construction on National Road Schemes. The following construction guidelines will be adhered to by the contractor:

- Guidelines for the Treatment of Badgers prior to the Construction of a National Road Schemes, 2005 (Reissued Sept 2025).
- Guidelines for the Treatment of Bats during the Construction of National Road Schemes, 2005 (Reissued Sept 2025).
- Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes, 2005 (Reissued Sept 2025).
- Guidelines for the Testing and Mitigation of the Wetland Archaeological Heritage for National Road Schemes, 2005.
- Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post-Construction of National Road Schemes, 2006 (Reissued Sept 2025).
- Air Quality Assessment of Proposed National Roads – Standard, December 2022.
- The Management of Invasive Alien Plant Species on National Roads – Standard, December 2020
- The Management of Invasive Alien Plant Species on National Roads – Technical Guidance, December 2020
- Guidelines for the Treatment of Noise and Vibration in National Road Schemes, 2004 (Reissued Sept 2025).
- Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes, 2006 (Reissued Sept 2025).
- Guidelines for the Management of Waste from National Road Construction Projects, Dec 2017; and
- Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan, 2007 (Reissued Sept 2025).

This is a non-exhaustive list and relevant guidance current at the time of construction will be followed. It is proposed to employ these guidelines, as and where relevant, on this project.

4.8 Operational Arrangements

Clare County Council, as the Local Authority, will be responsible for the operation and maintenance of the proposed greenway once construction has been completed.

4.8.1 Maintenance of the Proposed Development

The proposed greenway will be managed in accordance with standards set out in the 'Strategy for the Future Development of National and Regional Greenways' produced by the Department of Tourism, Transport and Sport. The Strategy includes guidelines on encouraging users to follow certain etiquette for using greenway in a way as to maximise the safety of its users. This includes general upkeep, such as maintenance to lighting, vegetation, fencing and drainage. This estimate does not account for significant asset renewal to replace end-of-life materials and facilities. Clare County Council will also provide management of litter facilities, toilet facilities, periodic monitoring for littering and general maintenance of trailheads as required. To promote responsible outdoor recreation, users will also be encouraged to follow the seven principles of 'Leave No Trace' through provision of appropriate signage along the greenway route. Further detail on signage requirements is included in Chapter 8. An Outline Maintenance and Management Plan is included in the appendices in Volume 4 of this EIAR.

4.8.2 Rural Cycleway Monitoring & Evaluation

Data collection Methods

It is anticipated that pedestrian and cycle counters will be installed at various intervals along the length of the scheme to monitor usage.

Illegal parking

During the operation phase, it is envisaged that most of the greenway users (the majority of which will be local) will arrive to the greenway by cycling or walking. Sufficient car parking is available at the proposed two trailheads and in Kilkee for those that need to drive to access the greenway. Additional landscaping measures have been included in the proposed development to prevent any unauthorised parking – in particular just north of Blackweir Bridge, where the existing roadway is excessively wide and irregular uncontrolled parking might otherwise occur. The operation of the greenway will be monitored to address any illegal or irregular parking that arises, in which case the local authority may consider additional measures to restrict parking on the local roads at the greenway access points.

4.8.3 Accidents and Emergencies

The proposed development will provide measures in an event of accidents and emergencies. The following measures are proposed:

- **Marker posts** will be erected at frequent intervals to inform people of their location when in need.
- **"Mile" Posts** will be provided along the greenway to inform people of their location at intervals of every kilometre.
- **Accessibility** – the proposed greenway will be accessible to emergency vehicles for emergencies along the route. This will be managed through removable security measures such as gates and bollards.

4.8.4 Decommissioning of the Proposed Development

The proposed greenway development will preserve the railway line as a transport corridor into the future by maintaining and preserving the lands from unauthorised development. The proposed route deviates extensively from the old railway line, and there is therefore no prospect of the railway being brought back into use in future (other than perhaps local sections in the vicinity of Moyasta as a heritage feature. As such, there is no requirement to consider the decommissioning of the greenway.