



**Comhairle Contae
Dhún na nGall**
Donegal County Council

Donegal County Council

**Roads and Transportation
Directorate**

Constraints Report

Lifford to Castlefin Greenway

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Lifford to Castlefin Greenway

Constraints Report

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1 EXECUTIVE SUMMARY

This report considers the need for, the benefits of, and the challenges in delivering a greenway between Lifford and Castlefin in County Donegal. There are presently limited pedestrian and cyclist facilities connecting the two towns and provision of a greenway would deliver a traffic-free safe segregated travel and recreation route for users of all abilities.

This report sets out the project background and the European, national and local policy guidelines which frame the scheme and the development of Greenway Schemes. It also sets out the overall aims and objectives of the NWGN scheme and route specific aims.

The report identifies a Study Area and describes the Constraints and Areas of Interest within the Study Area that will inform the selection of suitable options.

The Public Consultation Process (of which this report forms a part) that will be undertaken in advance of the Preferred Route Selection is outlined.

The DMRB design standards will be applied in the development of solution in conjunction with the National Cycle Manual, DMURS and all appropriate guidance documents related to pedestrian and cyclist facilities. The proposed works will be low maintenance, durable and cost effective. The detailed design stage will further refine the project to ensure value for money and provide safe transport links for vulnerable road users.

The design of the project will ensure that any construction works undertaken are in a sensitive manner, while maintaining the ecological diversity and ensure that any resultant works will not have a negative impact on the surrounding environment and ecology including any sites protected under the EU Habitats Directive.

The chainage references contained in this report are for the purpose of constraint identification only.

2 INTRODUCTION

In December 2016 Derry and Strabane District Council, Donegal County Council, the Department for Infrastructure (NI) and Sustrans (the UK-based cycling and walking charity), were awarded funding from the EU's INTERREG programme, administered by the Special EU Programmes Body (SEUPB), to construct 46.5kms of cross-border greenway. Match-funding has been provided by the Department for Infrastructure in Northern Ireland and the Department of Transport, Tourism and Sport in Ireland.

These routes link Derry to Buncrana via Bridgend; Muff to Derry via Culmore; and Lifford to Strabane. Once completed, this will result in a planned greenway network of in excess of 100km in the North West, of which much will be classified as high quality greenway.

The following core specific objectives are to be met by the scheme as a whole:

- To develop a cross border network of greenways that link people with places locally,
- To construct 46.5kms of greenway and cycling/walking routes
- Encourage a minimum of 500 people to cycle or walk to school, work or college
- Encourage more people to walk and cycle as part of their daily routine (non commute)
- A reduction in CO2 emissions of 30% metric tons per annum by 2030. (Figures from EPA)
- Widespread behavioral and attitudinal change in all targeted beneficiaries.
- Investment in the wider economic and social infrastructure in the Cross-Border region.
- Adoption and compliance with policies including Active Travel etc.
- Improve safety for vulnerable road users and reduce their interaction with vehicular traffic

The purpose of this project is to develop an extension to the Lifford – Strabane Greenway, linking the population centre of Castlefin, thereby supporting the achievement of the NWGN objectives. This report will outline the constraints encountered and make recommendations for the provision of an appropriate way forward.

2.1 LOCATION

The location of the proposed project is from the urban environs of the N15 in Lifford (Specifically at the tie in or termination point of the Lifford Greenway) and the Urban environs of the N15 in Castlefin in the Municipal District of Stranorlar in County Donegal. The constraints area covers the N15 and surrounding environs between the town centres of Lifford and Castlefin. The area comprises mostly of a rural setting with dispersed rural housing, businesses and agriculture land use. The urban sections under consideration in this project comprise mostly of town or terraced houses with mixed business and retail units that are located in close proximity to existing pedestrian facilities or the N15.

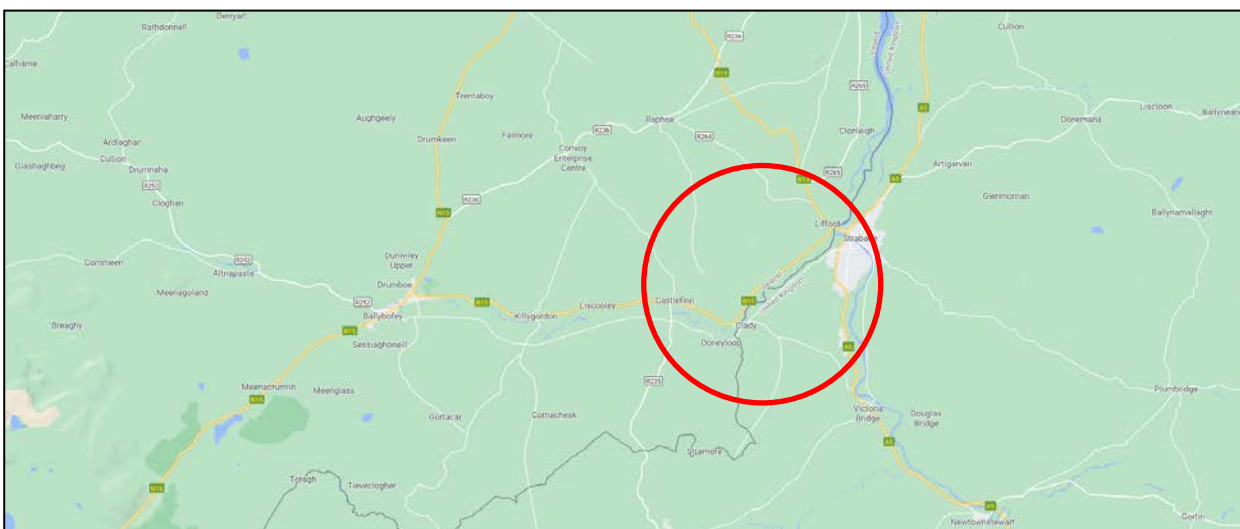


Figure 2.1 - Location Map

2.2 POLICIES AND GUIDELINES

The following sections describe a non-exhaustive list of European, National, Regional and Local Policy Documents and Guidelines which contain clear policy objectives to promote and develop sustainable transport and cycling initiatives as well as recreational and tourism related objectives, which directly support the development of Greenway projects such as the route covered by this report.

‘Europe 2020 – A Strategy for Smart, Sustainable and Inclusive Growth’ puts forward three mutually reinforcing priorities for smart, sustainable and inclusive growth. Sustainable transport strategy is set out under the “sustainable growth” priority, through flagship Initiative: “Resource efficient Europe”, which supports a shift towards a resource efficient and low carbon economy.

European Cyclists’ Federation’s EU Cycling Strategy: Recommendations for Delivering Green Growth and an Effective Mobility in 2030” is the result of a systematic review of all EU policies related to cycling. The central objectives of the plan are as follows:

- Should be an equal partner in the mobility system
- Grow cycle use in the EU by 50% at an average in 2019/2020-2030
- Cut rates of cyclists killed and seriously injured by half (in km cycled) in 2019/2020- 2030
- Raise EU investment in cycling to €3bn in 2021-27; and €6bn from 2028-34.

Project Ireland 2040 National Planning Framework and National Development Plan 2018-2027

Project Ireland 2040 is the Irish Governments overarching policy initiative for the long-term planning of the State. It is informed by the Programme for a Partnership Government 2016, which recognises that economic and social progress go hand in hand and is made up of the “National Planning Framework to 2040” and the “National Development Plan 2018-2027”.

National Planning Framework to 2040

This is the Government’s high-level strategic plan for shaping the future growth and development of the country out to the year 2040. It seeks to achieve ten strategic outcomes including the following which are relevant to the North West Greenway Project:

- *National Strategic Outcome 3: Strengthened Rural Economies and Communities* including an objective to “Invest in Greenways, blueways and peatways as part of a nationally coordinated strategy”
- *National Strategic Outcome 4: Sustainable Mobility* including an objective to “Develop a comprehensive network of safe cycling routes in metropolitan areas to address travel needs and to provide similar facilities in towns and villages where appropriate.”
- *National Strategic Outcome 7: Enhanced Amenities and Heritage* including an objective to “Invest in and enable access to recreational facilities, including trails networks, designed and delivered with a strong emphasis on conservation”
- *National Strategic Outcome 8: Transition to a Low-Carbon and Climate-Resilient Society* including developing metropolitan cycling and walking networks and Greenways.

A key policy priority for the Northern and Western Region includes “building on the progress made in developing an integrated network of Greenways, blueways and peatways that will support the diversification of rural and regional economies and promote more sustainable forms of travel and activity based recreation”

The importance of Greenway development to support Rural Job Creation is highlighted noting that “the development of Greenways, blueways and peatways offer a unique alternative means for tourists and visitors to access and enjoy rural Ireland. The development of a strategic national network of these trails is a priority and will support the development of rural communities and job creation in the rural economy”

National Policy Objective #46 includes the enhancement of “transport connectivity between Ireland and Northern Ireland, to include cross-border road and rail, cycling and walking routes, as well as blueways, Greenways and peatways.”

National Development Plan 2018 – 2027

The National Development Plan 2018–2027 is the most recent in the series of Government Capital plans adopted since 1988 and identifies the strategic priorities for public capital investment for all sectors to meet the strategic outcomes of the National Planning Framework.

It includes as a “Priority Investment Action” the facilitation of Cross Border Sustainable Transport with the North West Greenway Network listed as a specific action.

Investment in activity-based tourism, including Greenways, is identified as be a priority over the period of the National Development Plan and the publication of a Government Greenways Strategy is identified as a priority and targeted for Q1/Q2 of 2018.

Investment in sustainable travel measures, including comprehensive Cycling and Walking Networks for metropolitan areas, and expanded Greenways is also identified as a priority in delivering a transition to a Low-Carbon society.

Dept. for Transport, Tourism and Sport’s: “Strategy for the Future Development of Greenways”

Developed following an extensive national consultation process this Strategy outlines the Irish Government’s objective to assist in the strategic development of Greenways to an appropriate standard in order to deliver a quality experience for Greenway users. It highlights the benefits (based on experience to date in the Rep of Ireland) that can arise from the further development of Greenways as:

- A tourism product with significant potential to attract overseas visitors
- For local communities in terms of economic benefits
- As an amenity for physical activity and a contributor to health and wellbeing.

Smarter Travel - A Sustainable Transport Future

A New Transport Policy for Ireland 2009-2020- The NWGN project supports:

- Action 15 of the plan by striving to create a strong cycling culture in the NW;
- Action 17 exploring opportunities to make a former railway line available for walking and cycling trails.

National Cycle Policy Framework 2009

Ireland’s first National Cycle Policy Framework was launched in April 2009. It outlines 19 specific objectives, and details the 109 individual but integrated actions, aimed at ensuring that a cycling culture is developed in Ireland to the extent that, by 2020, 10% of all journeys will be by bike. The NGWN supports the overall aims and objectives of the plan and in particular (but not limited to):

- Objective 3: Provide designated rural cycle networks especially for visitors and recreational cycling.

Regional Planning Guidelines (2010-2022)

The Guidelines acknowledge that current cycling infrastructure in border regions is currently limited but outlines an aim to encourage greater shift to cycling/ walking by the promotions of the strategies outlined in the Smarter Travel Policy and the National Cycling Policy Framework as referenced above.

The NWGN will support specific cycling and walking Policy INFP13 of the Guidelines which seeks to “Promote and support cycling and walking within the Region, particularly within urban centres” while the Guidelines recommend that Local Authorities should also consider the use of “off road” routes for both walking and cycling such as disused railway lines, canals and bridle paths to improve access to rural tourist attractions.

People, Place and Policy – Growing Tourism to 2025 (March 2015)

This Government Tourism Policy Statement sets out the Government’s primary objective in maximising the services export revenue of the sector. The policy highlights the importance of high-quality facilities for activity-based tourism in the marketing of Ireland as a holiday destination. It notes the Government’s support for development and improvement of facilities for visitor activities including Greenways.

Fáilte Ireland Strategy for Development of Irish Cycle Tourism 2007

Fáilte Ireland (FI) produced its Strategy for the Development of Irish Cycle Tourism in 2007. It observed that cycle tourism had declined in Ireland since 2000. The FI Strategy also referenced a research project conducted by the research company MORI in 2005 which found, among other things, that:

- Cycling on Irish roads is not perceived to be safe – cyclists face dangerous bends, fast cars, intimidating HGVs, more traffic and higher speeds;
- There are very few, if any, traffic-free routes to cater for touring cyclists wanting to leave the cities to discover the countryside or for families who wish to participate in cycling.

The purpose of the FI strategy was to determine how best to renew the popularity of cycling in Ireland, how to encourage visitors to come to cycle in Ireland, and how to ensure that cycle tourism can generate visitor spend in rural areas. It proposed an approximately 3,000km long cycle network running from Donegal along the West, South and South-east coasts and continuing along the East coast as far as the Northern Ireland border.

The Strategy identified the following needs for cycle tourists:

- Safe places to cycle and consideration from other road users;
- Attractive routes with good scenery;
- Well-connected and signposted routes and destinations avoiding long detours;
- Opportunities to visit local attractions and specific places of interest;
- Food, accommodation and refreshments available at intervals, which reflect comfortable distances for stopping off / overnight stops.

Fáilte Ireland Cycling and Activities Research, 2013

In May 2013 Fáilte Ireland commissioned cycling research in order to, among other things; inform the route selection process of the route. Just over 15,000 people surveyed in Germany, France, Great Britain and Ireland.

Respondents to this market research identified traffic free cycling and safety of the cycle route as the most important attributes of a tourism cycle route after a beautiful landscape and scenery.

This research indicates that directness of route is not a critical factor in the provision of a satisfactory leisure cycle route. On the contrary, picturesque landscapes and traffic free routes with good connections to towns and villages are rated highly.

Realising our Rural Potential – Action Plan for Rural Development (2017)

A Government Strategy aimed at delivering change for people living and working in Rural Ireland with key objectives including increasing the number of visitors to rural Ireland by 12% and supporting the creation of 135,000 new jobs in rural Ireland by 2020.

Specific key objectives and actions of the Strategy supported by the NWGN include:

- Develop and promote Activity Tourism in rural areas through the development of blueways, Greenways and other recreational opportunities.

- Develop cross-Border tourism initiatives to support the tourism potential of the Border region, building on projects such as the Ulster Canal Greenway from Smithboro (Co. Monaghan) to Middletown (Co. Armagh), the Carlingford Lough Greenway, and historic literary trails.

Donegal County Council Development Plan 2018 – 2024:

Chapter 5 – Infrastructure, Section 5.1, Transportation:

- Transportation Policy T-P-11: It is a policy of the Council to facilitate the appropriate development of affordable, multi-modal transport solutions that offer communities and future generations real transport choices such as park and ride; pedestrian and cycling; bus and taxi services; and ancillary infrastructure.
- T-P-24: It is a policy of the Council to protect established/historic railway corridors throughout the County primarily for strategic infrastructure provision (such as road projects) and secondly for recreational development. Along these corridors other uses shall not be considered. Where these corridors have already been compromised by development, adjacent lands which could provide opportunities to bypass such an impediment and reconnect these routes for amenity purposes (walking/cycling) shall be protected for this purpose. However, in all instances, the over-riding objective shall be the provision of strategic infrastructure.
- T-P-34: It is a policy of the Council to encourage and facilitate joined up long distance walking and cycling routes for recreation and as alternatives to the car, particularly in rural areas, between settlements. Adequate car parking facilities shall be provided, where required, in association with any such developments.
- T-P-35: It is a policy of the Council to support and facilitate the maintenance, enhancement and expansion of the National Cycle Network.

Chapter 9 – Tourism:

Section 9.1 – Other Tourism Products and Attractions (pg 138):

“The Council will ... continue to protect the routes of such potential Greenways through the policies of this plan and will actively work with all stakeholders to facilitate the development of Greenways and walking and cycling routes throughout the County.” and “... the Council recognise that Donegal effectively sits within a wider cross border tourism region and will work with local authorities and tourism agencies in Northern Ireland to exploit these natural cross border synergies in order to unlock the region's full tourism potential.”

It also notes that “Protecting the routes and visual settings of potential Greenways and other recreational walkways and cycling routes.” is a Key Planning Challenge.

Section 9.1.2, Objectives:

- TOU-O-9: To support the development of new, and protect the functionality of existing, Greenways, walking and cycling routes as key components of an overall green tourism infrastructure and as standalone tourism products in their own right.

Action Plan for Jobs: North East/North West 2015 – 2017 notes the following action:

- Identify and develop Greenway / blueway networks in the Region (Ref Page 95, Pt 108)

The Donegal Local Economic & Community Plan 2016 – 2022:

Volume 1 identifies ‘To develop Donegal as a Connect Place’ as a priority goal. Volume 2 sets out the Action Areas of the Plan and notes the following actions:

- Section 1.9.1: To develop an integrated North West Greenway

- Section 1.9.3: To identify a programme of walkways, cycleways and Greenways within towns and their hinterland, to enhance town centre connectivity, support regeneration of town centres and improve health and recreation opportunities.
- Section 2.4.5: To develop an integrated North West Greenway (Walking, Trails, Cycling) as a key tourism project on a cross-border basis.
- Section 4.4.16: To maximise health and wellbeing outcomes for communities in the proposed development of the North West Greenway and other initiatives involving outdoor spaces.

In addition to the policies and guidelines listed above, there are numerous Northern Ireland / UK policy documents that the project adheres to that are not covered in this report.

2.3 REQUIREMENT FOR THE SCHEME

This existing road network has no widely available facilities for vulnerable road users to travel safely with adequate and appropriate separation from vehicular traffic. Any facilities that do exist are confined to the urban environs of Lifford and Castlefin.

Transportation Policy T-P-11 of the County Development Plan outlines that the appropriate development of affordable, multi-modal transport solutions that offer communities and future generations real transport choices such as park and ride; pedestrian and cycling; bus and taxi services; and ancillary infrastructure should be provided.

As the Lifford to Strabane Greenway is completed, this project forms a natural extension of same to provide a broader scope for recreational and commuter use in this region of the County.

A review of RSA's Collision-Statistics identifies three minor injury accidents in 2006, 2010 and 2011 involving pedestrians being in collision with a vehicle. There is one serious injury collision involving a pedestrian in 2012. These are depicted in Figure 2.4.1. Overall collision statistics are depicted in Figure 2.4.2 and table 2.4.1.

There is however there is anecdotal evidence to suggest that there have been further accidents on this stretch of road in addition to numerous near misses. In addition, many collisions (minor / no injury) involving pedestrians and cyclists remain unreported to Gardai.

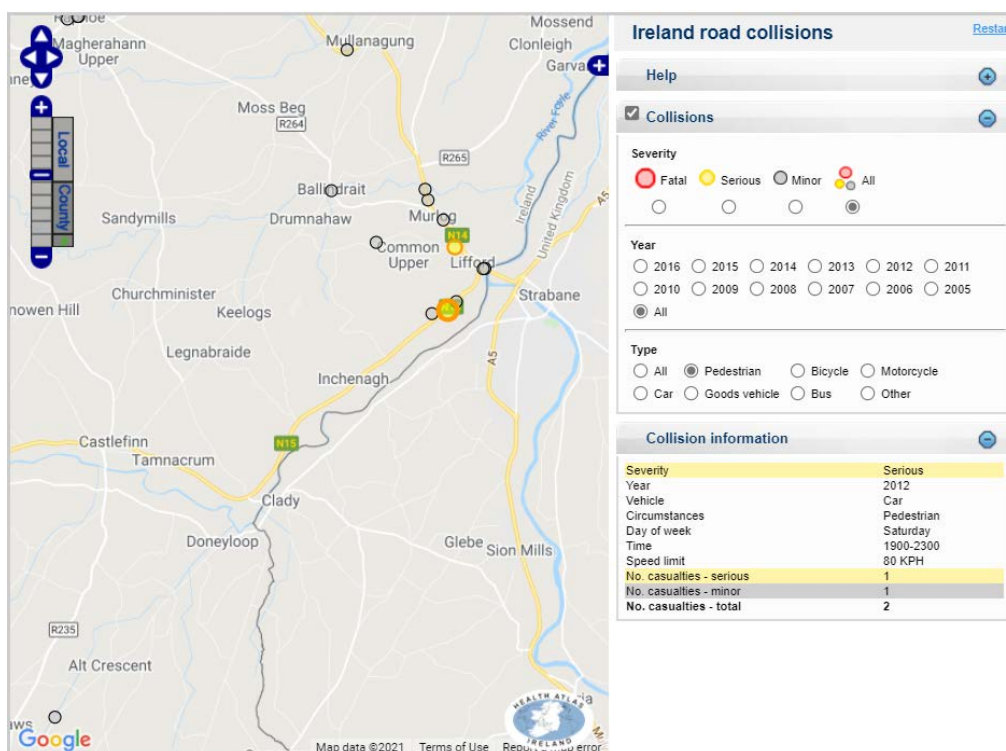


Figure 2.4.1 – Verified RSA Collision Statistics for Pedestrians between 2005 & 2016

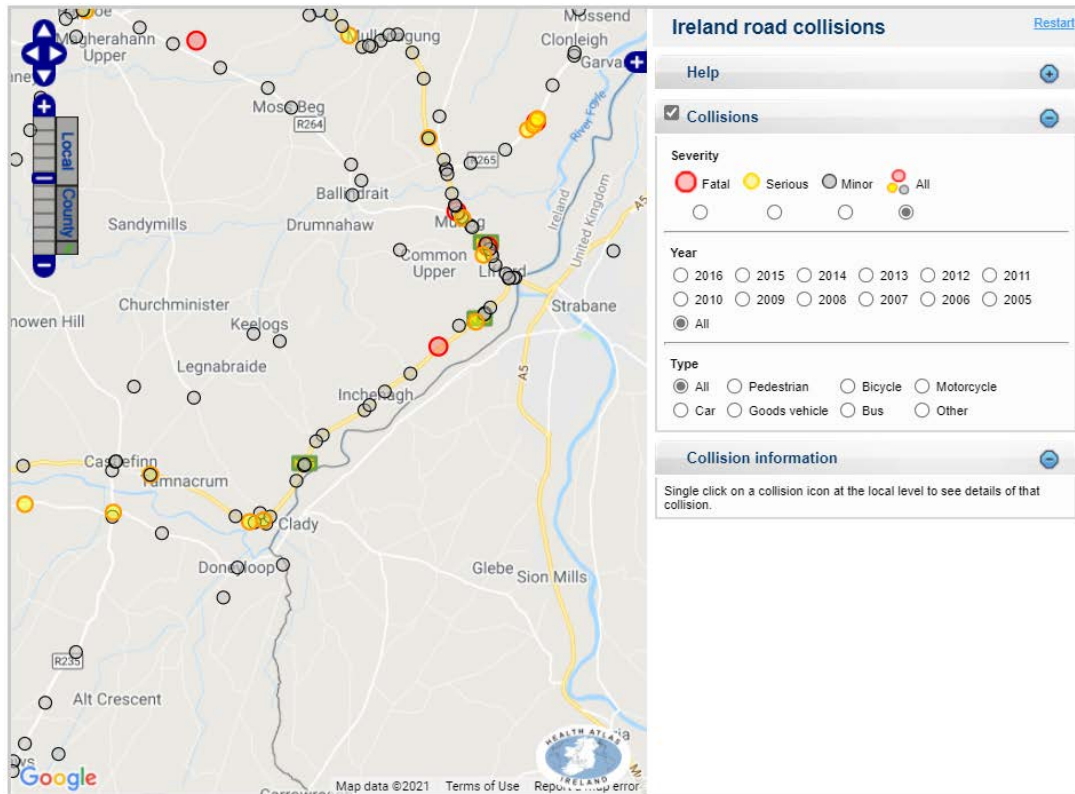


Figure 2.4.2 – Verified RSA Collision Statistics for all road users between 2005 & 2016

Year	Fatal	Serious	Minor
2005			2
2006		1	2
2007			1
2008			6
2009	1		
2010		1	4
2011			5
2012		1	2
2013			1
2014			1
2015		1	1
2016			

Table 2.4.1 – Verified RSA Collision Statistics for all road users between 2005 & 2016

The verified collision data is show in context on drawings CS-1628-01 to CS-1628-05.

3 CONSTRAINTS

This report identifies the rural constraints within constraints area. This in general allows for:

- Minimum 1.0m separation for rural cycle facilities (2.0m minimum in the case of a roadside facility)
- 3.0m two-way cycle facility (Low volume i.e. <1500 users per day)
- Minimum of 1.0m setback to any vertical hazard to impede or obstruct the users of the greenway.

This report also identifies the urban constraints within 3m of the road edge. This in general allows for:

- 3.0m two-way urban cycle facility (Low volume i.e. <1500 users per day)

The following section outlines constraints associated with the subject site and which will inform the outcome of the various route options. These constraints are classified into two subsections and are listed below:

- **Primary Constraints**
- **Utility Constraints**

3.1 Primary Constraints

3.1.1 Designated Sites and Protected Areas

A desktop study was carried out to collate information on the ecology of the receiving environment. Information on species listed on Annexes II and V to the Habitats Directive, the Wildlife Act, the Flora (Protection) Order, Annex I to the Birds Directive and the Third Schedule to the Habitats Regulations were sourced from the statutory consultee, the NPWS. The NPWS online interactive map-viewer provided information relating to designated sites of conservation importance within the Zone of Influence of the scheme.

For this review the likely zone of impact for the construction and operation of the route options is the entire land and surface water area within 5km of the proposed development. The 'likely zone of impact' of a plan or project is the geographic extent over which significant ecological effects are likely to occur. In the case of plans, this zone should extend to a distance of 15 km in all directions from the boundary of the plan area. In the case of projects, however, the guidance recognises that the likely zone of impact must be established on a case-by-case basis, with reference to the following key variables:

- The nature, size and location of the project;
- The sensitivities of the ecological receptors
- The potential for cumulative effects.

For example, in the case of a project that could affect a watercourse, it may be necessary to include the entire upstream and/or downstream catchment in order to capture all European sites with water-dependent Qualifying Interests.

Having regard to the location and the nature and size of the proposed development, and the potential for cumulative effects, it is considered that its likely ecological effects are:

Pollution of surface waters in the event of accidental input of sediment or construction material.

Therefore, having had regard to the above variables, the likely zone of impact was defined as:

The entire land and surface water area within 5 km of the proposed development.

It was determined that one European site, River Finn SAC is present within the likely zone of impact. This is depicted in Figure 3.1.1. Prior to submitting a planning application, an Appropriate Assessment Screening of the final route option

shall be undertaken to determine whether or not the proposed development, either individually or in combination with other plans or projects, is likely to have a significant effect on areas designated as being of European or National importance for nature conservation.

The River Finn SAC is shown in context on Drawing Numbers CS-1628-01 to CS-1628-05.



Figure 3.1.1 – Natura 2000 Sites adjacent to Proposal (River Finn SAC)

3.1.2 Invasive Species

Roads and watercourses can act as corridors for invasive species. Of particular concern are plant and animal species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended (S.I. 477 of 2011). A walkover survey has been completed of the site extents and Japanese knotweed has been observed which is shown on drawing number CS-1628-02. DCC conducts a four-year treatment programme for sightings of invasive species, the GIS which records these reported locations confirm the walkover results. In addition, there are numerous outcrops of giant hogweed throughout the project. An environmental assessment will be carried out to ascertain further outcrops.

3.1.3 Local Terrain and Topography

The terrain is typically good low-lying agricultural land, with mixed uses. The N15 national primary road traverses through the constraint area. The general topography north of the N15 rises steeply in places with unsuitable gradients in some locations, whereas the terrain south of the N15 is flatter but is low-lying and is prone to occasional flooding from the river Finn in some areas. The N15 road is an already developed corridor with wide verges along most of the route between the towns. There are long stretches of the N15 verge which have suitable gradients to accommodate a greenway. It is considered the local terrain and topography in general is suited for this project.

3.1.4 Environmental Impact (Noise and Visual)

The proposed route is rural in nature with two urban tie-ins at both termination points. There are multiple residential developments, businesses, schools and agricultural properties adjacent to the proposals. Due to the nature and scale of the proposed development and the expected or targeted traffic thereon, (i.e. pedestrians and cyclists) it is considered that there are no receptors that will be significantly impacted by noise or vibration effects during the operational phase. Construction phase noise and vibration controls will be put in place at detailed design stage in accordance with current legislation and best practice.

3.1.5 Archaeology & Cultural Heritage

The National Monuments Service GIS viewer shows one recorded monument within the constraints area. This is the Battlefield of Clady, 1689 and the deployments are depicted in Figure 3.1.5 and the extents of the Battlefield are shown on Drawing Number CS-1628-04.

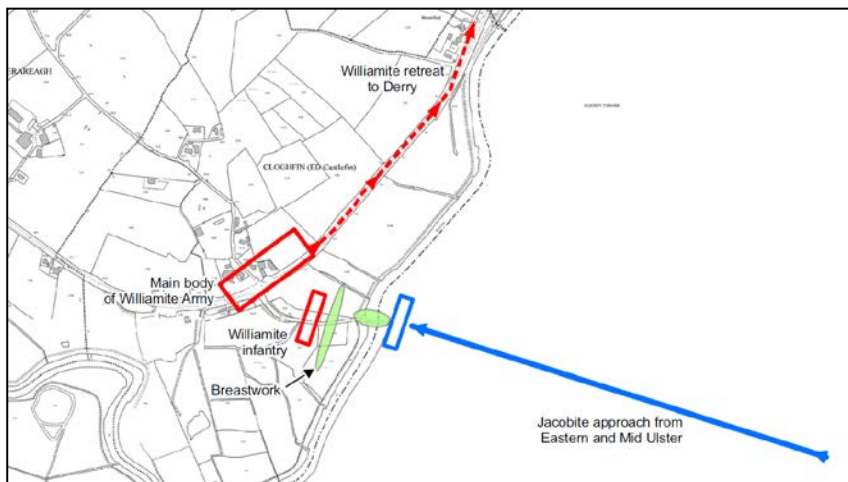


Figure 3.1.5 – Deployment of Battle of Clady, 1689

The archaeological potential of the Clady battlefield is high outside the constraints area and it is likely that future archaeological work would add to the knowledge of events on the day of the battle despite the monument having no protected status. There are a number of recorded monuments on the fringes of the constraints area and these are shown on Drawing Numbers CS-1628-01 to CS-1628-05. Consideration will be required on how best to avoid any areas with archaeological potential.

3.1.6 Flood Risks

Floods are a natural and inevitable part of life in Ireland. They are usually caused by a combination of events including overflowing river banks, coastal storms or blocked or overloaded drainage ditches. Numerous severe floods have occurred throughout the country in the last decade.

The Office of Public Works (OPW) is coordinating Ireland's whole of Government approach to flood risk management across three strategic and policy areas and the GIS information for the Finn catchment shows that some encroachment occurs into the constraints area to the north of the N15 but significant areas of encroachment is evident to the south of the N15. River flooding is referred to as fluvial flooding and is broken up into 3 sections for the purposes of this report:

- High Probability flood events have approximately a 1-in-a-10 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 10%.
- Medium Probability flood events have approximately a 1-in-a-100 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 1%.
- Low Probability flood events have an indicative 1-in-a-1000 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 0.1%.

A lower probability means the flood event will have a higher impact on the surrounding area. The high probability flood events for the River Finn catchment are depicted in Figure 3.1.6 and all flood events are shown in context in Drawing Numbers CS-1628-01 to CS-1628-05.

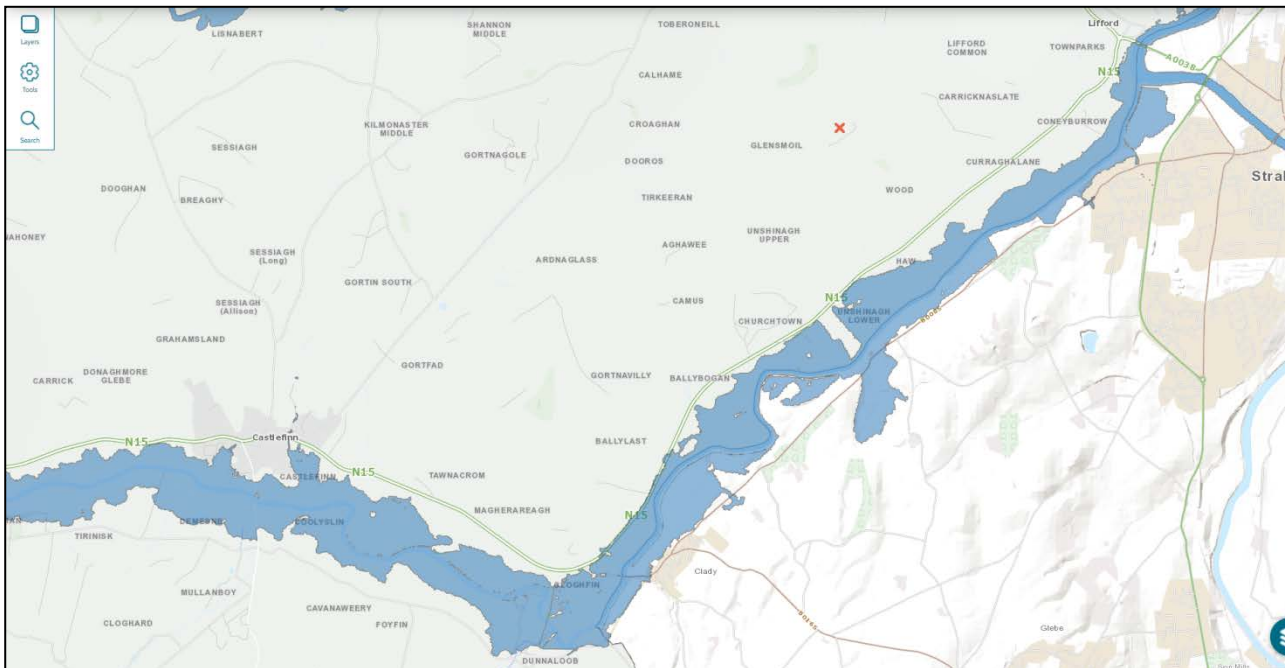


Figure 3.1.6 – High probability flood event for River Finn catchment (1 in 10 chance)

3.1.7 Road Network and Junctions

Throughout the constraints area there are a number of roads of varying classifications including National and Local (both primary and tertiary). For the purposes of this report, larger clusters of residential, agricultural and business buildings accessing the N15 at a common location are being treated as a junction due to the type and size of vehicles being used and the number of trips observed to be undertaken on them. These trips are not verified counts, but observations taken in the field when conducting onsite scoping.

It is not proposed to alter any roads or junctions as part of this project however some minor works may be required to realign / square up some junctions to allow the proposed greenway to traverse the junctions in a safe and appropriate manner. In the case of a quiet side road being selected as an appropriate “offline” solution to the greenway location, the surfacing of that side road will be reviewed at the appropriate stage in the design process.

The road network includes the following road numbers: N15, LT61443, LT61444, L-6164-2, L-61741, L-6184-1, L-23345, L-23343 (leading to Urney Road), L-2264-1, L-62245, L-62241, L-2444-1 and the L-62249. The road network and location of junctions (and associated junction ID’s) are depicted on Drawing Numbers CS-1628-01 to CS-1628-05.

In addition, there are TII proposals to advance the Ten-T network in the region. While not expressly part of the Ten-T network, the N15 accommodates a crossing and linkage from the proposed N14 preferred corridor to the A5 link in Northern Ireland. These proposals include a variation to the County Development Plan 2018 – 2024 in respect of the Preferred Route Corridors. The variation to the County Development Plan was approved at Plenary Council meeting in May 2021. Interaction between the existing N15 development and preferred N14 / A5 route corridor is illustrated in Figure 3.1.7.



Figure 3.1.7 – Interaction between Existing N15 and N14 / A5 Preferred Corridor (Ten-T)

Within the constraints area, there are a total of 49 No. agricultural entrances, 132 No. domestic entrances and 17 No. business entrances with access onto the N15. These are shown in context on Drawing Numbers CS-1628-01 to CS-1628-05. They are also listed in Table 3.1.7 and broken down into which side of the road they access the N15 (both directly and indirectly).

Access Type	LHS of Road (South of N15)	RHS of Road (North of N15)	Totals
Domestic	47	85*	132
Agricultural	32	17*	49
Business	12	5*	17
Totals	91	107*	198

Table 3.1.7 – Number and location of accesses to N15

* Includes offline sections to the north of N15

3.1.8 Safety Barriers

There is one safety barrier within the constraints area running adjacent to the Churchtown burial ground. In context, the location of the barrier is Ch 3570 to Ch 3750 LHS on Drawing CS-1628-02. TII Design Standard DN-REQ-03034 gives requirements for roadside Safety Barriers and where the Designer considers that a particular hazard warrants the provision of a barrier. Safety barriers may be required at some locations where the greenway is in close proximity to existing roads to ensure safety of greenway users. This is inclusive of pedestrian and cyclist guardrails.

3.1.9 Structures and Culverts

Throughout the project, there are numerous tributaries of the River Finn of varying sizes crossing the the constraints area. They cross the National Road by way of bridges or culverts.

There is one bridge on the route and that is the Ballybarron Bridge (DL-N15-001.20). This is shown in drawing CS-1628-03. The remaining culverts vary in size depending on the capacity requirements of each catchment. It is not envisaged to make any changes to any watercourses or culverts as part of the project. The exception being to tie in any proposed drainage into existing watercourses or headwalls.

In the event extensions or replacement culverts are required, an application under Section 50 of the Arterial Drainage Act, 1945 will be submitted to the OPW in respect of each individual alteration to the arterial drainage network.

3.1.10 Groundwater Vulnerability

Groundwater is most at risk where the subsoils are absent or thin and in areas of karstic limestone, where surface streams sink underground at swallow holes. Groundwater vulnerability maps are based on the type and thicknesses of subsoils (sands, gravels, glacial tills (or boulder clays), peat, lake and alluvial silts and clays) and the presence of karst features.

Groundwater that readily and quickly receives water (and contaminants) from the land surface is considered to be more vulnerable than groundwater that receives water (and contaminants) more slowly and consequently in lower quantities. Groundwater vulnerability is illustrated in Figure 3.1.9.

The Groundwater Vulnerability map along with the Aquifer maps and Source Protection Area maps are merged to produce Groundwater Protection Zones. Each zone enables an assessment of the risk to groundwater, independent of any particular hazard or contaminant type. The Groundwater Protection Zones form one of two components of Groundwater Protection Schemes.

A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater. Use of a scheme will help to ensure that within the planning and licensing processes due regard is taken of the need to maintain the beneficial use of groundwater.

Rock near surface or karst (X) Extreme (E) High (H)

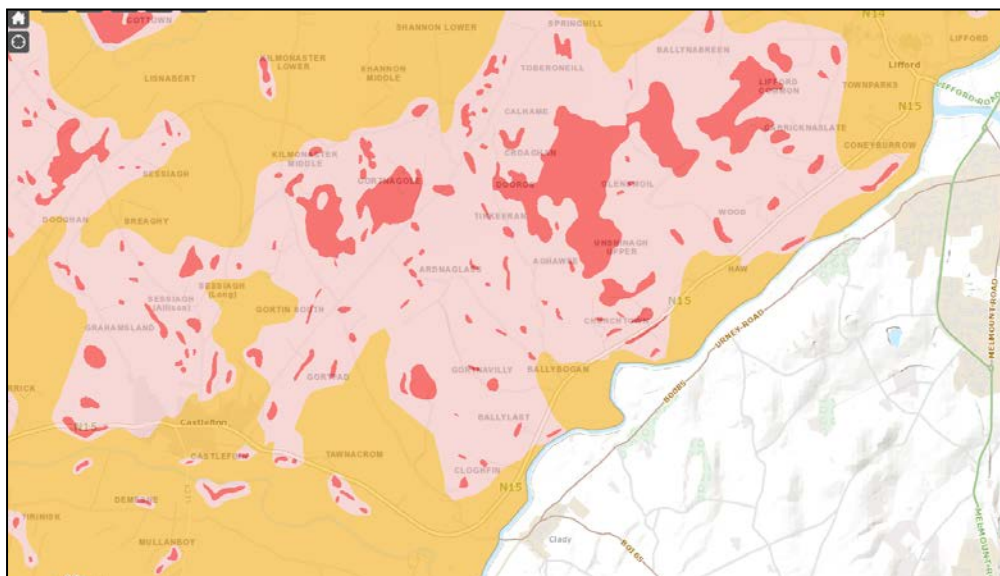


Figure 3.1.9 – Groundwater vulnerability map

The County Donegal Groundwater Protection Scheme indicates that the constraints area is located in “Permeability Region 2: Central-Eastern Area”. This is a reasonably discrete permeability region extending from the Rathmelton/Kilmacrennan area down to the south of the county (south of Castlefin), and as far east as Muff. The central part of this region is underlain by Precambrian Marbles.

Despite having a relatively low permeability in a national context, these rocks have a noticeably higher permeability than the surrounding quartzites, gneisses and schists. The subsoil mainly comprises (metamorphic) till, although there

are alluvial deposits along the base of the east-west trending valleys (Permeability Region 6). The vegetation on the till generally reflects its higher drainage capacity, which is also suggested by the land use; a high proportion of tillage and larger field sizes than other parts of the county.

These areas of till have a characteristically lower artificial drainage density. The natural drainage pattern over this area is noticeable sparser than much of Donegal, although this may be a combination of the free-draining tills over the slightly more permeable marble bedrock. The overall impression of good drainage in the till is supported by the subsoil samples; 54 of the 59 samples are described as 'SILT', 'SAND' or 'GRAVEL'.

Wells and springs located in or immediately adjacent to the constraints area are shown on Drawing Numbers CS-1628-01 to CS-1628-05. The groundwater vulnerability within the constraints area will be taken into consideration during the early stages of the project

3.1.11 Built Environment

The built environment between Lifford and Castlefin is typical of that found in Ireland. It can be separated into the urban and the rural context.

Urban: Typically town houses or terraced houses with minimal setback from the road edge. In most cases the building façade is located at the back of the existing footpath or there are small gardens with masonry walls as a boundary treatment. Businesses are located in a similar fashion to maximize visibility to passing trade.

Rural: Typically detached single dwellings located a significant distance away from the road edge (this distance varies depending on when construction took place – setback distances have changed in the legislation over the years).

All existing infrastructure and planning applications that have been granted or are pending will be included in the Options analysis during the to the public consultation process.

3.1.12 Boundary Restrictions

The constraints area was defined by assessing significant or major boundary types in the overall area of interest. The river Finn is a natural boundary to the south of the existing N15. To the north of the existing N15, there are significant residential developments, steep topography and large mature wooded areas. For this reason, the constraints boundary was defined as being 20 metres to the north of the existing N15 down to the river Finn. The width constraints contained in the study area vary depending on the urban or rural context. The types of primary width constraints are outlined in Table 3.1.12. Where the constraints area is primarily rural in nature, the boundary constraints can be described as agricultural fences and walls, field gates, hedgerows and tree lines of varying maturity.

Urban / Rural Fringe Width Constraint	Rural Context Width Constraint
Existing N15 Road	Existing N15 Road
Existing junctions	Existing junctions
Boundary walls / Pillars	Boundary walls / Fences / Pillars
Residential or Commercial Buildings	Residential / Agricultural Buildings
Public Lighting Poles	Schools
Signs	Culvert Headwalls / Bridge Parapets
Schools	Significant embankment heights

Table 3.1.12 – Typical types of Boundary Restrictions

Significant locations of boundary constraint are shown and labeled in context in Drawing Numbers CS-1628-01 to CS-1628-10. They are also itemized in Table 3.1.12a. This report was compiled primarily through desktop studies in conjunction with drive through and walkover surveys. It is envisaged that any inadvertent omissions will be dealt with as the design and statutory process evolves in conjunction with Public Consultation.

Reference	Urban or Rural Fringe	Rural	Description	Location
WR-01	Y	N	Boundary walls	Ch 0 to Ch 170 LHS
WR-02	Y	N	Boundary walls	Ch 60 to Ch 140 RHS
WR-03	Y	N	Lifford National School Walls, Railings etc.	Ch 255 to Ch 305 RHS
WR-04	Y	N	Boundary walls for both domestic & commercial (Dalys) premises	Ch 220 to Ch 540 LHS
WR-05	Y	N	Boundary walls & Building façade	Ch 400 to Ch 500 RHS
WR-06	Y	N	Boundary walls & Building façade	Ch 630 to Ch 660 RHS
WR-07	Y	N	Boundary walls	Ch 670 to Ch 740 RHS
WR-08	Y	N	Boundary walls	Ch 950 to Ch 1025 RHS
WR-09	Y	N	Flower bed & Monument	Ch 1090 RHS
WR-10	Y	Y	Agricultural fencing & boundary walls	Ch 810 to Ch 1710 LHS
WR-11	N	Y	Agricultural fencing & boundary walls	Ch 1760 to Ch 2030 LHS
WR-12	N	Y	Agricultural fencing & boundary walls	Ch 2050 to Ch 2250 LHS
WR-13	N	Y	Boundary walls & Tree outcrops	Ch 2675 to Ch 2775 LHS
WR-14	N	Y	Agricultural boundary & steep embankment	Ch 2900 to Ch 3170 LHS
WR-15	N	Y	Large tree plantation / boundary	Ch 3025 to Ch 3100 RHS
WR-16	N	Y	Safety barrier, Steep embankment & boundary fence	Ch 3520 to Ch 3770 LHS
WR-17	N	Y	Boundary wall & House façade	Ch 4625 to Ch 4680 RHS
WR-18	N	Y	National School Premises, walls, railing etc.	Ch 4625 to Ch 4810 LHS
WR-19	N	Y	Boundary wall & House façade	Ch 4750 to Ch 4780 RHS
WR-20	N	Y	Boundary pillar & agricultural boundary	Ch 5440 to Ch 5470 RHS
WR-21	N	Y	Boundary walls & Ornate bollards	Ch 6130 to Ch 6360 RHS
WR-22	N	Y	Domestic, Agricultural & Business boundaries	Ch 6225 to Ch 7270 LHS
WR-23	N	Y	Domestic and Agricultural boundaries. Agricultural shed	Ch 7320 to Ch 7575 RHS
WR-24	Y	Y	Domestic boundaries	Ch 7850 to Ch 7960 RHS
WR-25	Y	Y	Domestic and Agricultural boundaries. Agricultural shed	Ch 7820 to Ch 7960 RHS
WR-26	Y	N	Tree outcrops & fencing	Ch 8900 to Ch 9055 LHS
WR-27	Y	Y	Informal on street parking	Ch 1530 to Ch 1575 RHS

Table 3.1.12a – Boundary or Width Restrictions, Type & Location

3.1.13 Land Ownership

There are numerous landowners along the extents of the project, and they number approximately 160 between the urban and rural areas. The rural areas contain primarily agricultural land with dispersed detached housing, rural businesses and Ballylast National School. In the urban area, terraced and town houses with small garden frontage with dispersed businesses are encountered.

3.1.14 Churchtown Landfill Restoration Project

The Council utilised innovative use of bio-technologies as part of the restoration of the landfill facility at Churchtown. The project incorporated the use of willow crop in combination with Integrated Constructed Wetlands. The outcome has been a highly successful, sustainable and cost-effective solution to restoring landfills, in terms of both capital

investment and maintenance costs. The works have been fully commissioned, and a Waste Licence review is required by the EPA to regularise the discharge to the River Finn.

3.2 Utility Constraints

The area under consideration in this report is primarily rural in nature, it does include two significant urban fringes at both ends of the project, namely, Lifford and Castlefin. This gives rise to the potential interaction with numerous Utility providers.

3.2.1 ESB

There are extensive ESB networks running both laterally and longitudinally throughout the proposed constraints area. They take the form of both high and low voltage and comprise of overhead networks and underground services. It is envisaged that the progression of the project may involve some minimal relocation of services. There are no known high voltage networks in the area, however all relevant utility bodies will be contacted during detailed design stage for input and consultation for potential conflicts and permanent and temporary diversions required. Details of known Utility Providers are show on Drawing Numbers CS-1628-06 to CS-1628-10.

3.2.2 Public Lighting

There is public lighting at both urban ends of the proposed constraints area. They are varied in terms of design, usage and construction. It is envisaged that the progression of the project may involve some minimal relocation of services. All relevant utility bodies will be contacted during detailed design stage for input and consultation for potential permanent and temporary diversions required. Details of known Utility Providers are show on Drawing Numbers CS-1628-06 to CS-1628-10.

3.2.3 eir

There are extensive eir networks running both laterally and longitudinally throughout the proposed constraints area. They take the form of overhead networks and underground services. It is envisaged that the progression of the project may involve some minimal relocation of services. No details are available at present for these networks; however, all relevant utility bodies will be contacted during detailed design stage for input and consultation for potential conflicts and permanent and temporary diversions required.

3.2.4 Irish Water

There are extensive Irish Water networks running both laterally and longitudinally throughout the proposed constraints area. They take the form of Watermains and Public Sewers. It is envisaged that the progression of the project will avoid relocation of these services. All relevant utility bodies will be contacted during detailed design stage for input and consultation for potential conflicts and permanent and temporary diversions required. Details of known Utility Providers are show on Drawing Numbers CS-1628-06 to CS-1628-10.

4 CONCLUSION AND RECOMMENDATION

One of the core objectives of the project is to encourage modal shift. For the delivery of this modal shift objective, it is deemed essential that the solution is adjacent to or in the immediate vicinity of as many potential users as possible with low impact on environmental constraints and their sensitive receptors.

To the north of the N15 development, there is extensive development with varied setback distance from the road edge. The topography behind the houses to the north is steep and undulating with mixed woodland areas. Given the level of development and unsuitable topography to the north of the existing N15 developed corridor this option is not considered viable.

The recommendation therefore is to develop three route options as follows:

- Northern verge of existing developed of N15 corridor

- Southern verge of existing developed of N15 corridor
- Agricultural lands to the south of the existing developed of N15 corridor

These options shall be informed by landowner consultations, detailed surveys, environmental assessments and geotechnical investigations as the scheme is taken through the design and statutory processes.