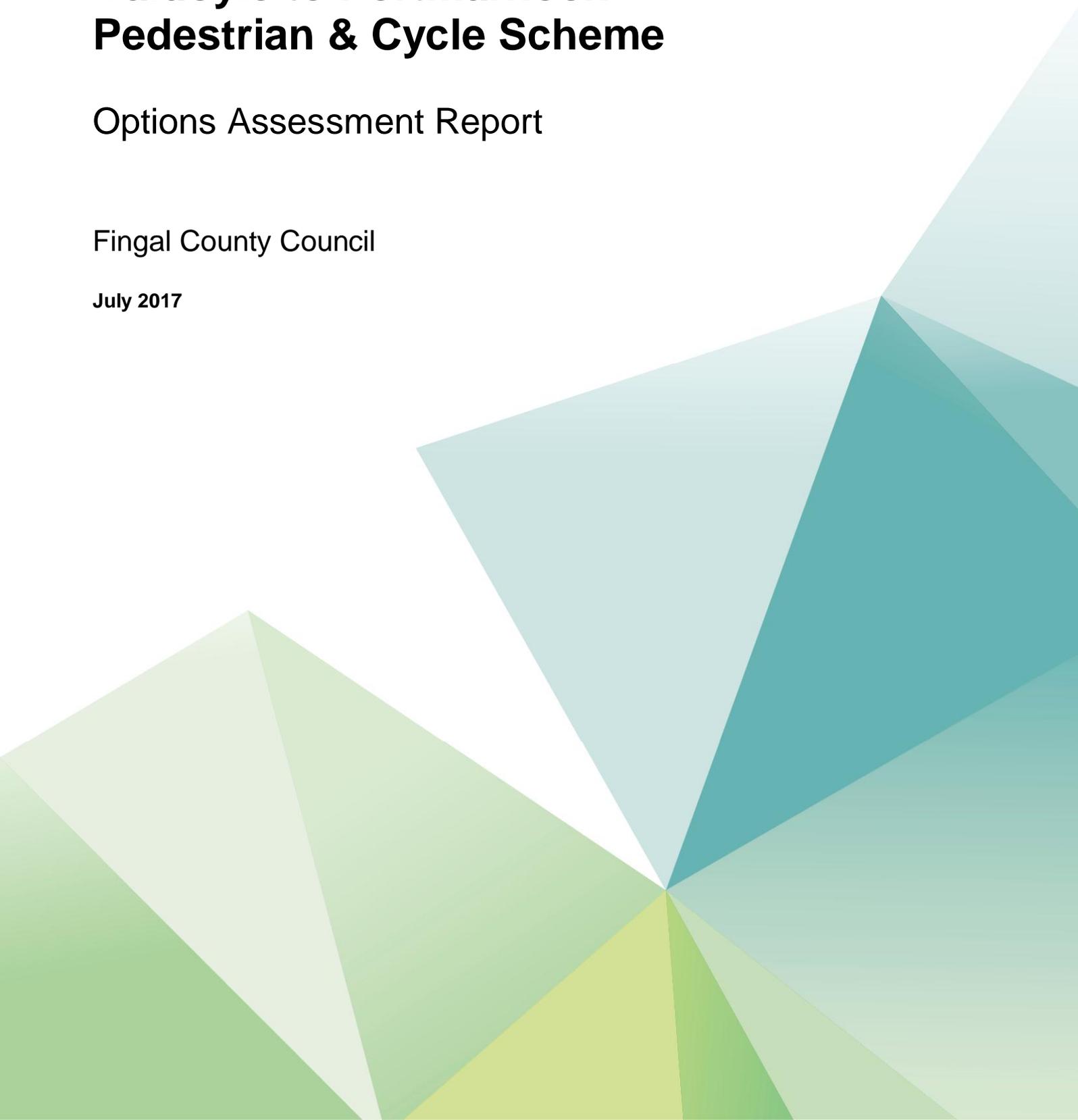


# **Baldoyle to Portmarnock Pedestrian & Cycle Scheme**

## **Options Assessment Report**

Fingal County Council

**July 2017**



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# Notice

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## Client Signoff

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# Options Assessment Report



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# 1. Introduction

## Background

- 1.1. Fingal County proposes to develop a comprehensive cycle and pedestrian route with a view to providing connecting facilities between the towns of Baldoyle and Portmarnock. This scheme will form part of the mitigation measures for the development of the Baldoyle-Stapolin and Portmarnock South Local Area Plans (LAPs).
- 1.2. The above-mentioned LAPs both require mitigation measures to avoid damage to the adjacent Baldoyle Bay, which is a Special Area of Conservation (SAC), Special Protection Area (SPA) and proposed Natural Heritage Area. SACs and SPAs are designated Natura 2000 sites under both Irish and European law. In order to avoid pedestrian and cycle traffic generated by the new developments as part of the LAPs impacting on these protected areas, a walking and cycling route is required between Baldoyle and Portmarnock. This will be located away from the shoreline and of sufficient quality to attract users to it and away from the sensitive habitat areas.
- 1.3. As development has begun within the LAP lands and the population of the area will soon begin to increase significantly, this walking and cycling route is required as soon as possible to avoid damaging Baldoyle Bay.
- 1.4. To achieve this objective, Atkins have been engaged by Fingal County Council to develop route options, to undertake preliminary design work on the preferred route option and to manage and coordinate all aspects of an application to An Bord Pleanála to seek approval for the implementation of the scheme. It is then intended to develop the detailed design of the project and progress it through construction.
- 1.5. In addition to the above, it is intended that the Baldoyle to Portmarnock Walking and Cycling Scheme will form part of, and link to, a larger cycle network that will ultimately connect with similar facilities, including:
  - The proposed Sutton to Malahide Cycling and Pedestrian route, currently being developed, which will interface directly at either end of this scheme
  - A proposed cycle and pedestrian route which will run adjacent to the railway viaduct from Malahide to Donabate, and
  - The existing Sutton to Sandycove (S2S) cycle route running alongside the coast through Clontarf towards the city centre.
- 1.6. In this regard, the proposed Baldoyle to Portmarnock Walking and Cycling Scheme will comprehensively address a significant shortfall in the existing and proposed local / regional network for cyclists and walkers while also removing non-vehicular traffic from the SAC and SPA areas.

## Aims & Objectives

- 1.7. The main aims and objectives of this Options Assessment Report are listed below:
  - To consider the context of the scheme in terms of Local, Regional and National Planning Policy.
  - To identify significant engineering and environmental constraints.
  - To set out the route options considered and to summarise their feasibility and relative ranking in terms of economy, integration, accessibility, safety and environment.
  - To appraise the findings of the route options study and make a recommendation in relation to a preferred route.

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## Methodology

1.8. The following items have been undertaken in order to complete this Options Assessment Report:

- A detailed desktop study was carried out including a review of national, regional and local planning policy information, a review of engineering constraints and a review of environmental constraints.
- Topographical surveys, utility information and traffic information were collected.
- Site inspections were carried out to ensure information was up to date and correct.
- All known significant constraints were collated and mapped.
- Three possible route options were developed having due regard to the identified constraints.
- Route options were appraised in a comparative manner, resulting in the recommendation of a preferred route.

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## 2. Scheme Context

### Planning Policy

- 2.1. The following National, Regional and Local planning policy has been considered as part of this study, and has been summarised below.

### National Transport Policy

#### Smarter Travel and National Cycle Policy Framework

- 2.2. In February 2009, the Smarter Travel Policy document for achieving a sustainable transport system for Ireland was published, this document outlines a number of policies to encourage a modal shift away from private car use and promoting public transport, walking and cycling.
- 2.3. In April 2009, Ireland's first National Cycle Policy Framework (NCPF) was issued; the vision of the policy is:

*"All cities, towns, villages and rural areas will be bicycle friendly. Cycling will be a normal way to get about, especially for short trips".*

- 2.4. The aim of this framework is to encourage a culture of cycling to the extent that by 2020, some 10% of all trips will be completed by bicycle.

### Regional Cycling Policy

#### Strategy for the Development of Irish Cycle Tourism, 2007

- 2.5. This document highlights the need for renewing the popularity of cycling in Ireland and how tourism generated through this sector can increase visitor spending in rural and urban areas. Guidance is also given on the types of roads suitable for a national cycle network along with the provision for facilities which support and encourage cycling as a mode.

#### Regional Planning Guidelines for the Greater Dublin Area: 2010-2022

- 2.6. This document provides the development strategy for the Dublin and Mid-East regions over the plan period. It emphasizes the role of the capital city in future economic growth of the region and the need to ensure it is an attractive, vibrant location for industry, commerce, recreation and tourism. Development in the GDA (Greater Dublin Area) shall be directly related to investment in high quality public transport and focused on achieving a compact urban form.
- 2.7. The strategy considers that a minimum of 10% of all trips should be by bicycle by 2020. It emphasizes the integration of cycle routes and infrastructure into new development and communities as key component of the delivery of greener transport travel patterns. Programmes to support this objective and create a culture of cycling should be pursued as well as promoting the tourism benefits of improved cycle networks within the GDA.

#### Transport Strategy for the Greater Dublin Area, 2016 – 2035

- 2.8. This document was published by the National Transport Authority in 2016 with its purpose being:

*"...to contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods."*

- 2.9. The plan provides the transport strategy for the Greater Dublin area to 2035. It highlights the need to integrate land use and transport planning in achieving a consolidated urban area supported by non-private vehicle movement. The environment for pedestrians and cyclists needs to be improved to encourage a much greater proportion of trips to be made on foot, by bicycle or public transport. Dublin is to become a recognized walking and cycling city-region with a street environment that is attractive, safe and pedestrian/cyclist orientated in design.

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### **Greater Dublin Area Cycle Network Plan**

- 2.10. The Greater Dublin Area Cycle Network Plan was published by the NTA in 2013 and sets out the proposed cycle network in the Greater Dublin Area. The extents of the proposed Baldoyle to Portmarnock route are identified as both a Primary/Secondary Route (P1) and a Greenway (N5). This results in the proposed route needing to cater for both commuter and leisure users with a design that can accommodate both in a satisfactory manner.

### **County Policy**

- 2.11. In terms of provision for pedestrians and cyclists, the route corridor has been planned to align with aspirations set out within the Fingal County Development Plan 2017-2023., as well as the Baldoyle – Stapolin and Portmarnock South Local Area Plans.
- 2.12. Whilst being designed to connect with a larger cycling network, it is important for the corridor to link the key Baldoyle, Portmarnock and the future LAP lands along it in an individual manner.
- 2.13. In this regard, it is hoped that cycling and walking mode share will be increased for shorter journeys also, particularly between Baldoyle and Portmarnock.

### **Fingal County Development Plan, 2017 – 2023**

- 2.14. The core strategy of the plan is to consolidate the majority of the County's future growth in the urban centres of the Metropolitan Area. Both Baldoyle and Portmarnock are identified as consolidation areas.
- 2.15. The Development Plan sets out to promote and facilitate movement within and to the County through the integration of land use with a sustainable transport system. Priority is given to public transport, walking and cycling. There is a dedicated section in Chapter 7 of the Development Plan that deals with Cycling and Walking. The emphasis in the Development Plan is on the promotion and facilitation of sustainable forms of transport, of which cycling is a key component. The Strategic Vision specifically includes for the promotion of walking and cycling in the following statement:

*“Promote active and healthy lifestyles through increased opportunities for walking, cycling and active sport and recreation”.*

- 2.16. Cycling and walking are promoted in the Development Plan as a significant form of leisure and are noted as a key attractor for tourism in the area. Section 5 - Rural Fingal, includes the following relevant objectives:
- 2.17. Objective RF113 - Promote informal recreation, particularly walking, through the development and expansion of a network of safe walking trails within towns and villages and their environs. Such routes can link with existing way marked trails, Slí na Sláinte walks and of the Green Infrastructure Network and other local resources, such as existing or new rights of way.
- 2.18. Objective RF114 - Support the provision of proposed long-distance walking trails that provide access to scenic uplands, riverine and coastal features, subject to Screening for Appropriate Assessment.
- 2.19. Section 7 deals with Transportation with Fingal and sets out a policy of:
- “Promote and facilitate movement, to, from and within the County of Fingal, by integrating land use with a high quality, sustainable transport system that prioritises walking, cycling and public transport.”*
- 2.20. The following objectives set out Fingal County Council's commitment to promoting sustainable walking and cycling modes.
- 2.21. Objective MT13 – Promote walking and cycling as efficient, healthy and environmentally-friendly modes of transport by securing the development of a network of direct comfortable, convenient and safe cycle routes and footpaths, particularly in urban areas.

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- 2.22. Objective MT15 – The Council will work in cooperation with the NTA and adjoining Local Authorities to implement the Greater Dublin Area Cycle Network Plan subject to detailed engineering design and mitigation measures presented in the SEA and Natura Impact Statement accompanying the NTA plan.
- 2.23. The Development Plan also includes a section regarding Green Infrastructure. This incorporates the objectives to provide safe, attractive and sustainable routes, while ensuring the environment is protected. A number of relevant objectives are listed below:
- 2.24. Objective GI07 – Ensure green infrastructure protection and provision promotes pedestrian access, cycling and public transport in preference to the car, as appropriate.
- 2.25. Objective GI08 – Integrate the provision of green infrastructure with infrastructure provision and replacement, including walking and cycling routes, as appropriate, while protecting biodiversity and other landscape resources.
- 2.26. Objective GI30 – Develop a Cycle/Pedestrian Network Strategy for Fingal that encompasses the Fingal Way and other proposed routes which will be screened for Appropriate Assessment and Strategic Environmental Assessment.

### **Fingal County Council Coastal Walks**

- 2.27. Fingal has 88km of coastline from Sutton to Balbriggan and the following sections of coastal walkway are currently open to the public:
- Howth through Sutton to Baldoyle
  - Portmarnock to Malahide
  - Malahide to Swords
- 2.28. In addition, the development of this scheme will serve to facilitate the aspiration to realise significant portions of the Fingal Coastal Way which is a long-standing aim of the Fingal County Development Plans.
- 2.29. This is described under Objective ED65, which specifically states that the section of the route between Baldoyle and Portmarnock is prioritised:

*“Promote and facilitate the development of the Fingal Coastal Way from north of Balbriggan to Howth taking full account of the need to protect the natural and cultural heritage of the coast and the need to avoid significant adverse impacts on European sites and species protected by law and ensure the integration of the Fingal Coastal Way with other strategic trails within Dublin City and adjoining counties. Prioritise the section between Baldoyle and Portmarnock where the current road design is particularly hostile to pedestrians and cyclists”.*

### **Local Area Plans**

- 2.30. Fingal County Council have adopted Local Area Plans (LAPs) for Baldoyle – Stapolin and Portmarnock South. These two areas cover the entirety of the proposed scheme.
- 2.31. A Green Route, which will form part of the Fingal Coastal Way, is indicated on the mapping and included in the objectives for both of these LAPs.
- 2.32. The Baldoyle – Stapolin and Portmarnock South LAPs aim to develop an extensive network of walking and cycling infrastructure within the LAP lands. They require walking and cycling routes to be incorporated in the design of the new housing schemes and parklands being developed throughout the LAP areas. These routes will link with the surrounding areas of Baldoyle, Clongriffin and Portmarnock to encourage a modal shift from cars to walking and cycling.

### **Baldoyle – Stapolin LAP**

- 2.33. Some of the relevant objectives included as part of this LAP are as follows:

- 
- 2.34. Objective GI13 – Provide appropriately designed and located combined pedestrian and cycle routes of no wider than 3m through Racecourse Park, and minimise access points to avoid disturbance to protected habitats and species within Baldoyle Bay and Racecourse Park.
  - 2.35. Objective TM4 – Facilitate enhanced patronage and efficient utilisation of public transport and promote walking and cycling through a range of means, including cycle routes, a bus link to Clongriffin – Belmayne and public transport interchange.
  - 2.36. Objective TM22 – Provide as part of the Fingal Coastal Way, an agreed and appropriately designed combined pedestrian and cycle route, of no wider than 3m, through the eastern edge of Racecourse Park, minimising access points and signage to avoid disturbance and ensuring the integrity of the protected habitats and species within Baldoyle Bay and Racecourse Park.
  - 2.37. Objective TM23 – Work in association with Dublin City Council to secure, with the agreement of Iarnród Éireann or other relevant 3<sup>rd</sup> parties, a pedestrian and cycle link under the railway line via the existing arched bridge underpass in the north-western corner of Racecourse Park.

#### **Portmarnock South LAP**

- 2.38. Some of the relevant objectives included as part of this LAP are as follows:
- 2.39. Objective GI32 – Promote connections between open spaces and amenity areas including greenways within and beyond the LAP area.
- 2.40. Objective GI33 – Promote and develop a combined greenway of no more than 3 metres in width for walking and cycling along the eastern edge of the plan lands and access the potential to connect with amenity lands in the adjoining Racecourse Park to the south and further amenities along the coastal corridor, in consultation with the Council's Biodiversity Officer. The coastal walkway shall be designed and sited to reflect and where appropriate integrate with its coastal setting subject to Appropriate Assessment and detailed design assessment.
- 2.41. Objective TM3 – Promote the development of a pedestrian and cycle network of routes that incorporate existing natural features on the lands, connects with local amenities, parks, retail/community facilities and public transport facilities throughout the plan area and that is coherent, direct, safe and convenient.
- 2.42. Objective TM9 – Provide a clear, safe and legible network of cycling and pedestrian routes within the LAP lands that will link key destinations, including local shops, services, schools, Portmarnock train station and other important local destinations and amenities and which will also provide linkages to the GDA cycle network.
- 2.43. Objective TM10 – Provide, as part of the Fingal Coastal Way, an agreed and appropriately designed combined pedestrian and cycle route, of no wider than 3 metres, along the eastern edge of the plan land with linkages to the GDA cycle network, minimising access points and signage to avoid disturbance and ensuring the integrity of the protected habitats and species within Baldoyle Bay and the ecological buffer zone within the plan lands.
- 2.44. Objective TI8 – Prioritise and seek the early completion of the Fingal Coastal Way within the plan area in cooperation with landowners, the local community and relevant environmental and funding bodies.

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## 3. Constraints

### General

- 3.1. A project constraint can be described as any physical, technical, legal, environmental, topographical or other consideration that may potentially affect, limit, restrict or confine the alignment, widths or other aspects of the project within the study area.
- 3.2. For the purpose of this assessment, the constraints process is considered in two strands as stated below:
- Factors that could comprise potential obstacles in the identification of route options and alignments, which might be best avoided where possible
  - Considerations which will assist in defining the final nature of the project
- 3.3. The Constraints Study is the main information gathering phase of the assessment process and information gathered at this time provides a baseline that can be further developed as the project progresses. In order to achieve a full understanding of the study area, a comprehensive body of data has been collated, some of which will only become relevant at later stages in the process but all of which is important in building up a picture of the study area. This will ultimately contribute to making an informed decision on how the proposed scheme will develop.
- 3.4. The findings of the Constraints Study have been summarised on Constraint Maps shown on drawings 515836\_HTR\_SK\_0101 and 0102, which have been included within Appendix A of this report.

### Engineering Constraints

- 3.5. Consideration of the engineering constraints commenced with a detailed desktop study that considered, but was not limited to, mapping, collision data, public utilities, significant traffic junctions, with constrictions, land-use, town centres and points of interest. Following this desktop study, a number of site inspections were carried out by Atkins. These were carried out on foot, allowing a thorough consideration of the challenges faced by vulnerable road users throughout the scheme extents.
- 3.6. A wide variety of data and information sources were used in identifying the engineering constraints including:
- Data and information obtained through consultations with Fingal County Council
  - Information obtained from public utility companies
  - Mapping data provided by Ordnance Survey Ireland under licence agreement
  - Topographical survey data
  - Road Safety Authority collision data
  - Route character information and road user behaviour collected as part observations recorded during site inspections
- 3.7. The major constraints identified through the above process are listed below:
1. The route requires pedestrians and cyclists to cross existing heavily trafficked roads at three locations, i.e. the beginning of the scheme at Red Arches Road, at Moyne Road, and at the Coast Road at the end of the scheme. The absence of safe crossing facilities at these locations is a major constraint that requires mitigation measures.

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2. Land availability and the proposed development boundaries of the Baldoyle – Stapolin and Portmarnock South LAPs is a major constraint.
  3. There are a number of existing properties that will need to be avoided by the route, including an existing DAA Non-Directional Beacon (NDB) station.
  4. The route will need to cross the Mayne River, with the location of this crossing representing another major constraint.
  5. There is an existing pumping station located at the junction of Coast Road and Moyne Road, which results in a pinch point along the route.
  6. There is a pumping station proposed at the northern end of the scheme to service the LAP lands. The location of this along with a proposed rising main running adjacent to the Portmarnock South LAP boundary, represent major constraints for the alignment of the proposed pedestrian and cyclist route.
  7. The Coast Road (R106) between Baldoyle and Portmarnock consists of a narrow carriageway that is typically rural in character with a poor horizontal alignment. However, traffic speeds are consistently high, creating a dangerous and hostile environment for pedestrians and cyclists.

## Environmental Constraints

### Methodology

- 3.8. As part of the constraints assessment, environmental constraints were assessed using the methodology described in the following paragraphs.
- 3.9. To allow for the examination of environmental constraints, data collection focused on determining what constraints exist that could significantly influence the design, location or progress of the project. These data will also inform later stages of the assessment.
- 3.10. The constraints process was largely a desktop study supplemented by a site walkover and/or targeted field survey work of the proposed study area by a number of discipline specialists., most notably by general environmental scientists, ecologists and landscape architects. The project archaeologist having also worked on the Fingal Coastal Architecture Heritage Project (John Cronin & Associates, 2010) has extensive experience and knowledge of the study area. It should be noted, however, that the findings of these site visits, together with preliminary desktop research, represents a preliminary survey of the site area to inform the design process.
- 3.11. The choice of environmental disciplines to be considered was informed by the EPA Advice Notes on Current Practice (in the preparation of Environmental Impact Statements) (EPA, 2003) and Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2002), as well as planning documents published by Fingal County Council (e.g. development plan, local area plans and heritage/biodiversity plans). Furthermore, discipline specific guidance, such as e.g. Guidelines for Preliminary Ecology Assessment (CIEEM, April 2013) was also considered, as appropriate.
- 3.12. A wide variety of data and information sources were then used in the consideration of environmental constraints. In general, these included but were not limited to:
  - Electronic sources of spatial data, e.g. EPA's environmental mapping system ENVision, the GIS databases of the National Monument Service and the National Parks and Wildlife Service, National Biological Data Centre, OSI mapping, Geological survey of Ireland online data etc
  - Documents published by Fingal County Council, including specialist reports such as Fingal Coastal Architecture Heritage Project (John Cronin & Associates, 2010) and a range of ecology reports commissioned by Fingal County Council on the study area

- Planning policy documents, development plans, local area plans, landscape characterisation etc. as published by Fingal County Council
- Other relevant papers and reports (including peer review ecological papers) and electronic or web based data obtained from various agencies
- Direct consultation with Fingal County Council
- Outcome of preliminary consultation undertaken by Fingal County Council with, e.g. National Parks & Wildlife Service

### **Constraints Due to Human Beings**

- 3.13. The proposed route runs along the coastal fringe from north of Baldoyle to south of Portmarnock. It generally travels through rural stretches of undeveloped land.
- 3.14. The proposed route will not add to operational sources of noise or air pollution from e.g. vehicular traffic but will assist in promoting more sustainable transport with associated reductions in such emissions.
- 3.15. Environmental disciplines such as noise, air, etc. will be assessed further as the project proceeds as these do not significantly inform the design above and beyond constraints informed by proximity of the route to residential properties etc.
- 3.16. There is no commercial development currently along the route. Residential properties are currently scheduled for development in the Baldoyle – Stapolin and Portmarnock South LAPs.

### **Ecological Constraints**

- 3.17. An ecological desktop study of the proposed pedestrian/cycle scheme was undertaken to collate background ecological knowledge on the site and its surrounds in addition to identifying the ecological features of the site and the surrounding study area. The materials sourced and reviewed as part of the desktop process included, but are not limited to the following:
- Baldoyle to Portmarnock Coastal Path and Cycleway. Assessment of potential impacts on birds, 2017.
  - Portmarnock South Local Area Plan, 2013
  - Baldoyle – Stapolin Local Area Plan, 2013
  - Sutton to Malahide R106 Corridor Cycle Route
  - Fingal Biodiversity Plan
  - Impact Assessment completed for proposed coastal walkway at Caves Marsh, Malahide
  - Ecological Reports received from Fingal County Council
  - Fingal Heritage Plan, 2011 – 2017
  - Summer and winter bird survey of lands surrounding the Broadmeadow Swords Estuary, 2009
  - NPWS site synopses for those Natura 2000 sites fringing and in proximity to the proposed pedestrian/cycle route
  - NPWS Conservation Objectives Reports for Natura 2000 sites
- 3.18. As part of the development of the overall Sutton – Malahide – Swords pedestrian and cyclist route, meetings were held between Atkins' principal ecologist, Dr. Paul O'Donoghue and representative of Fingal County Council, particularly the Heritage Officer, Mr. Gerry Clabby and

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the Biodiversity Officer, Mr. Hans Visser. Discussions with NPWS were held as part of a previous study of the overall Sutton – Malahide – Swords cycle route, prepared by Atkins. Further discussions since that study have been held between NPWS and Fingal County Council.

- 3.19. A number of site surveys were undertaken in addition to the desktop review. These site walkover surveys mapped all habitats within the footprint and bordering the proposed pedestrian/cyclist route while also recording evidence and the potential for other taxa such as mammals, amphibians and invertebrates.
- 3.20. The principal constraints associated with the route were determined through a combination of the consultation, desktop research and site walkover surveys described above. These constraints include the proximity of the proposed pedestrian/cycle scheme to the Baldoye Bay SPA/SAC, which is a Natura 2000<sup>1</sup> site.
- 3.21. Conservation interests of this site include coastal habitats and international and nationally important population of birds. Key constraints to these sites from the proposed development include habitat loss and disturbance, both direct and indirect to the Conservation Objectives<sup>2</sup> of this Natura 2000 site.
- 3.22. In some parts of the proposed route it may be necessary to cross or impinge directly on a section of the adjoining Natura 2000 site while in other areas, the potential for increased activity associated with the route may result in increased indirect disturbance levels to the nearby Natura 2000 site.

#### **Landscape and Visual Constraints**

- 3.23. A desktop study was undertaken to identify the landscape and visual constraints within the study area. The material sources consulted as part of the desktop study are as follows:
- Fingal County Council Development Plan and accompanying maps
  - Consideration of the Department of the Environment and Local Government's Draft Landscape and Landscape Assessment Guidelines
- 3.24. The proposed study area passes through three landscape character types: coastal, estuary and low lying agricultural as defined by Fingal County Council Landscape Character Assessment.
- 3.25. According to the Green Infrastructure Maps within the Fingal County Council Development Plan, the entire study area is generally defined as **Highly Sensitive Landscape**. The development plan goes on to say:

*“Particular parts of these areas have a low capacity to absorb new development...The setting and character of coastal areas are particularly sensitive and could easily be damaged by inappropriate development”.*

- 3.26. In addition to being Highly Sensitive Landscape, the entire study area is identified on the Green Infrastructure Maps as to Preserve Views.
- 3.27. The area of the study area between Red Arches Road and Moyne Road is designated as High Amenity while the area to the north of Moyne Road is designated as Open Space. The development plan states that:

*“High Amenity zoning (HA) has been applied to areas of the County of high landscape value. These are areas which consist of landscapes of special character in which inappropriate development would contribute to a significant diminution of landscape value in the County.*

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<sup>1</sup> The Natura 2000 network is comprised of both Special Areas of Conservation and Special Protection Areas for birds; these sites are designated for the protection of biodiversity across the European Union. SACs are designated under the EU Habitats Directive (92/43/EEC) as transcribed into Irish law by the European Communities (Birds and Natural Habitats) Regulations, 2011, while SPAs are designated under the EU Birds Directive (79/4089/EEC and as amended 2009/14/EC).

<sup>2</sup> Habitats and species for which the Natura 2000 sites has been designated

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3.28. A review of the local planning context demonstrates the requirement for the proposal to retain landscape character within the study area. Therefore, the landscape objective of route design will, as a minimum, require the maintenance of the existing character of the landscape types through which it passes and as stated in the development plan:

*“Ensure development reflects and, where possible, reinforces the distinctiveness and sense of place of the landscape character types...”*

#### **Archaeology, Architectural and Cultural Heritage Constraints**

3.29. A desktop study was undertaken to identify the architecture, archaeology and cultural heritage within the study area. The material sources consulted as part of the desktop study are as follows:

- The *Record of Monuments and Places (RMP)* of Co. Dublin, as published by the Archaeological Survey of Ireland, was the principal source for identify archaeological constraints (National Monuments Service official website: [www.archaeology.ie](http://www.archaeology.ie)).
- The National Inventory of Architectural Heritage (NIAH) for the Fingal area, as published by the National Monuments Service ([www.buildingsofireland.ie](http://www.buildingsofireland.ie)).
- Record of Protected Structures (RPS) and Architectural Conservation Areas (ACA) in Fingal County Council Development Plan.
- Aalen F.H.A. and Whelan K. (eds.) (1992) *Dublin City and County: From Prehistory to Present. Studies in Honour of J.H. Andrews*, Dublin, Geography Publications.
- Joyce, P.W. (1868), *The Origin and History of Irish Names of Places*, Dublin, The Education Company of Ireland Ltd.
- Thom, A. (1844), *Thom's Irish Almanac and Official Directory*, Dublin.

3.30. The archaeological and architectural heritage constraints located within approximately 500m of the proposed study area were assessed. There is a total of 12 Record of Monuments & Places (RMP) sites located within approximately 500m of the route of the scheme. These sites span a long period of settlement in this area from the early Prehistoric period up until the post-medieval. These are indicated on the accompanying constraints maps.

3.31. There are no National Inventory of Architectural Heritage (NIAH) sites located within approximately 500m of the route of the scheme.

3.32. All of these constraints should be avoided by the finalised route. Where this is not possible, mitigation measures may be required.

#### **Geology and Soils**

3.33. The ground conditions have been assessed based on a desk study exercise and a walkover survey along the route of the scheme to identify areas of constraint from a geotechnical point of view.

3.34. The desktop study included a review of the local geological maps available in house and the maps available from Geological Survey of Ireland (GSI) webpage ([www.gsi.ie](http://www.gsi.ie)) using the online mapping tool. The geology of the area typically includes:

- Made Ground
- Marine/Estuarine deposits
- Alluvium
- Glacial/Lodgement Till
- Limestone Bedrock

- 
- 3.35. The main constraints identified along the route are the areas of Made Ground, Alluvial or Marine/Estuarine deposits.
- 3.36. Made ground can be very localised and it would not be practical to note each area in this report. Instead, larger areas have been specifically noted below. Made ground may include hard material that is difficult to excavate (e.g. boulders, reinforced concrete), soft material and potentially contaminated material.
- 3.37. Alluvial or Marine/estuarine deposits comprise soft and compressible ground. Where soft ground is encountered along the route, the material either needs to be replaced or piling systems need to be adopted to transfer loads down through the soft materials to more solid substrata.
- 3.38. The following specific constraint areas have been highlighted in relation to geotechnical matters:
- **Baldoyle Former Race Course** – Made Ground is evident at this location.
  - **Mayne River Area to Baldoyle** – Marine/estuarine deposits are shown approximately 100m west of the road with their boundary being roughly parallel to the road. These deposits are, according to the GSI online mapping tool, overlain by wind-blown sand but their thickness or exact boundaries are not known. Marshy ground is also shown on old maps in the area with sand deposits.
  - **Moyne Road/Mayne River Area** – Marine/estuarine deposits are indicated from the south edge of the Moyne Road on both sides of the Mayne River.
  - **Mayne River Bridge to Portmarnock Bridge** – The marine/estuarine deposits extend on the south side of the existing road up to the east of the future pumping station. These deposits are then recorded beneath the road and on its coast side with another area on the inland side of the road around the DAA facility.

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## 4. Stakeholder Consultation

### General Public

- 4.1. Extensive stakeholder consultations were carried out as part of the constraints study carried out for the Sutton – Malahide – Swords Pedestrian & Cycle Route, which was carried out by Atkins in 2013.
- 4.2. The current Baldoyle to Portmarnock scheme under consideration as part of this report, was included in this overall route. As part of the previous study, a public consultation process was carried out during the summer of 2013. Submissions received as part of that process were considered and revisited as part of the constraints study described in Chapter 3.

### Fingal County Council – Conservation & Heritage

- 4.3. A number of meetings were held with Fingal County Council’s heritage officer (Mr. Gerry Clabby) and biodiversity officer (Mr. Hans. Visser) to discuss environmental constraints in general, with particular emphasis on potential impacts to Natura 2000 sites. Through these consultations, a large volume of reports and local knowledge was provided to assist with assessment across environmental disciplines. The main issues raised were:

- Path width, integration into and protection of the existing landscape
- Other plans and projects (including ongoing projects) that will need to be considered when assessing cumulative impacts
- Ongoing Fingal County Council projects (such as one to develop a uniform approach to signage etc.)
- The potential for negative impact on designated sites and associated habitats and species
- The potential for disturbance of bird species using coastal SPAs

### National Parks and Wildlife Service

- 4.4. As part of consultations on the previously completed study carried out for the overall Sutton – Malahdie – Swords cycle route, Atkins met with and presented various options to NPWS. Further discussions with National Parks and Wildlife Service have been undertaken by Fingal County Council directly. These discussions have primarily focussed on the impact of the proposed scheme on the Baldoyle Bay Natura 2000 site.

### Utility and Service Companies

- 4.5. Utility companies and service providers were contacted to ascertain whether any development within the study area would have an impact on any of their existing infrastructure. This consultation was largely required to understand the engineering impacts of any particular route option upon existing services.
- 4.6. Individual service providers responded as follows:

**Table 4-1 Summary of Utility Companies' Infrastructure**

Service Provider	Response Received	Services Present	Comments
Virgin Media	Yes	Yes	Fibre cables present
Aurora Telecom	Yes	No	
Bord Gais Distribution	Yes	No	
Bord Gais Transmission	Yes	No	

<b>Service Provider</b>	<b>Response Received</b>	<b>Services Present</b>	<b>Comments</b>
BT	Yes	No	
ESB Networks	Yes	Yes	
Smart Telecom	No	Unknown	
E-net	Yes	No	
Eir	Yes	Yes	
euNetworks	Yes	No	
Final County Council Drainage Department	Yes	Yes	
Irish Water	No	Yes	Future pumping station and rising mains

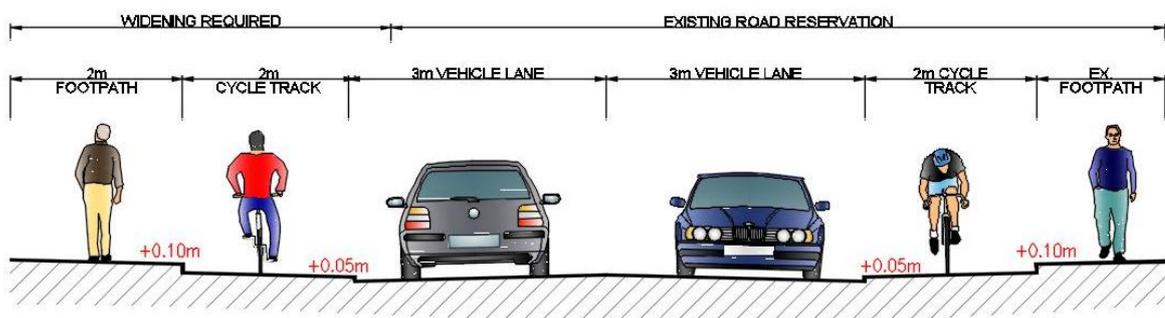
## 5. Route Options

### General

- 5.1. Having collated the available data and analysed the identified constraints, four possible options have been identified for comparative assessment.
- 5.2. In most cases, the constraints have been avoided, where possible, and comments from external parties have been considered in developing these options.
- 5.3. The options have been developed in accordance with the National Cycle Manual, published by the National Transport Authority. Each option has been designed to provide the highest level of service possible for cyclists. In tandem with this, the safety and attractiveness of the route for pedestrians has also been catered for in each case.
- 5.4. The route options are described in the following sections, travelling in the direction of Portmarnock from Baldoyle.

### Route Option 1 – Upgrade Coast Road

- 5.5. Route Option 1 is indicatively shown on drawing 5158369/HTR/SK/0103, included in Appendix B. It consists of upgrading the existing Coast Road (R106) between its roundabout junction with Red Arches Road, near Baldoyle to its roundabout junction with Strand Road, near Portmarnock. In order to meet the scheme objectives, considerable widening of the road is required to provide 2m wide cycle tracks and an additional footpath. A typical section is shown in the figure below.

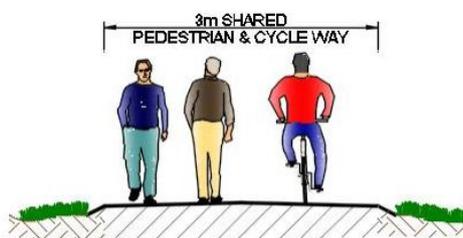


**Figure 5-1** Route Option 1 Typical Cross Section

- 5.6. Widening of between five and six metres would be required to provide an adequate cross section to accommodate cyclists and pedestrians. This would be taken from the western side of the road, avoiding residential properties there and Baldoyle Bay. However, some land take would be required from properties to the northern end of the scheme, including the DAA station.
- 5.7. This option would have serious impacts on the adjacent SAC and would require major engineering works, including significant earthworks, particularly to the north of the Moyne Road junction, where considerable embankment regrading would be required.
- 5.8. It is not feasible to widen the existing Coast Road in the vicinity of its junction with Moyne Road, due to the location of the pumping station in this area, coupled with the Mayne River. As a result, cyclists would be required to share the road space with vehicles through this section and pedestrian priority would not be possible.
- 5.9. This option would present difficulties in terms of its tie-ins with the overall Sutton to Malahide cycle route due to it being on-road and would require a number of junctions to be redesigned.

## Route Option 2 – Off Road Shared Facility

- 5.10. Route Option 2 is indicatively shown on drawing 5158369/HTR/SK/0104, included in Appendix B. It consists of providing an off-road, 3m wide shared pedestrian and cycle route through lands ceded to Fingal County Council as part of the Baldoyle – Stapolin and Portmarnock South LAPs. A typical cross section is shown in the figure below.

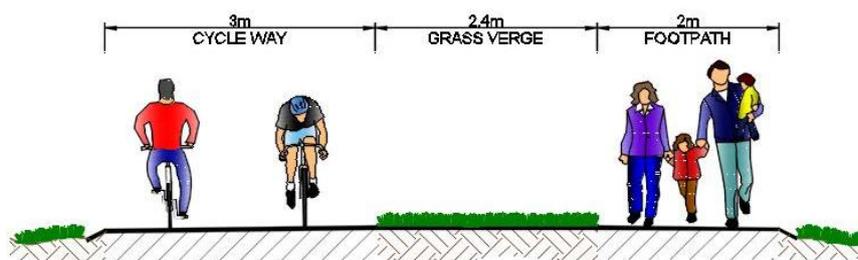


**Figure 5-2** Route Option 2 Typical Cross Section

- 5.11. This route option would require a new 3m wide bridge over the Mayne River, adjacent to the existing road bridge. A constant width of 3m can be provided throughout the scheme, including at the pinch point located at the pumping station at the Moyne Road junction.
- 5.12. A short section of this route passes through an element of the SAC, however, it is generally separated from the SAC & SPA by a grassed area and the Coast Road.
- 5.13. This option would interface directly with the overall Sutton to Malahide cycle route with controlled crossings proposed at either end of the scheme. The existing junction between Coast Road and Moyne Road would also be upgraded to a signalised junction with a toucan crossing allowing a direct, safe crossing point for pedestrians and cyclists.

## Route Option 3 - Off Road Segregated Facility

- 5.14. Route Option 3 is as Route Option 2, but with a wider cross section for the majority of the scheme. It is shown on drawing number 5158369/HTR/SK/0105. This option allows for a segregated 3m wide cycle way and 2m wide footpath, separated by a 2.4m wide grass verge. A typical cross section is shown in the figure below.

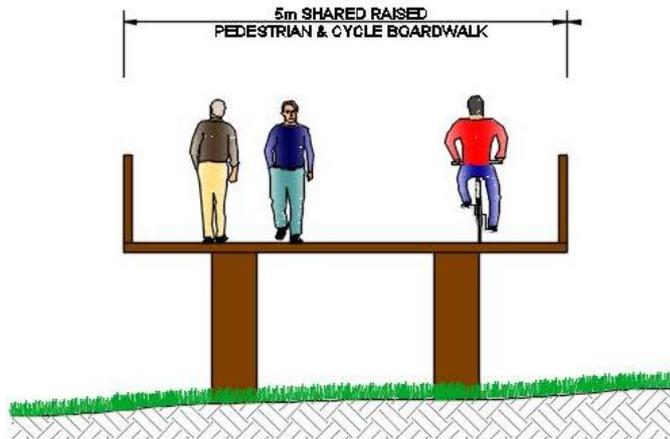


**Figure 5-3** Route Option 3 Typical Cross Section

- 5.15. This option would be required to narrow into a shared pedestrian and cyclist route in the vicinity of the pinch point at the Moyne Road junction. It is proposed to taper the 7.4m wide cross-section to approximately 4 – 4.5m wide over the proposed new bridge at the Mayne River and through the pinch point at the pumping station. The tapers will be over a long enough length and well signed to ensure that sudden conflicts between pedestrians and cyclists are avoided.
- 5.16. A short section of this route passes through an element of the SAC, however, it is generally separated from the SAC & SPA by a grassed area and the Coast Road.
- 5.17. As per Route Option 2, controlled crossings are proposed at either end of the scheme and the existing Coast Road junction with Moyne Road will be signalised.

## Route Option 4 – Shared Boardwalk Facility

- 5.18. Route Option 4 is similar to Route Option 3, but consists of a 5m wide raised boardwalk that would be shared between pedestrians and cyclists through the SAC area. It is shown on drawing number 5158369/HTR/SK/0106. This option aims to minimise the impact of the route on the surrounding vegetation within the SAC by limiting earthworks and the overall footprint of the scheme. A typical cross section is shown in the figure below.



**Figure 5-4** Route Option 4 Typical Cross Section Through SAC

- 5.19. A short section of this route passes through an element of the SAC, where it will be on a raised boardwalk. However, it is generally separated from the SAC & SPA by a grassed area and the Coast Road. The boardwalk would need to be raised above the surrounding ground level in order to allow sunlight to shine on the vegetation beneath it.
- 5.20. This option would be required to narrow into a shared pedestrian and cyclist route in the vicinity of the pinch point at the Moyne Road junction. It is proposed to taper the 5m wide cross-section to approximately 4 – 4.5m wide over the proposed new bridge at the Moyne River and through the pinch point at the pumping station.
- 5.21. The tapers will be over a long enough length and well signed to ensure that sudden conflicts between pedestrians and cyclists are avoided. The taper areas on approach to the boardwalk section would be constructed at ground level and would ramp up to the raised boardwalk over a comfortable distance.
- 5.22. As per Route Options 2 and 3, controlled crossings are proposed at either end of the scheme and the existing Coast Road junction with Moyne Road will be signalised.

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## 6. Options Assessment

### Methodology

- 6.1. The Route Options Assessment was carried out under the following headings:
- Economy
  - Safety
  - Environment
  - Accessibility & Social Inclusion
  - Integration
  - Physical Activity
- 6.2. As all of the proposed options include increased cycling and pedestrian measures, the Physical Activity criterion has been excluded as all of the routes will improve and encourage physical activity in the area.
- 6.3. Accessibility & Social Inclusion has also been excluded from the assessment as all of the routes are in close proximity to each other and serve the same catchment areas, resulting in little to no difference between them in terms of this criteria.
- 6.4. Each route option was assessed under the above criteria and ranked in a comparative manner. A three-colour coding system was established to summarise the performance of the individual options under each of the appraisal criteria. The colour coding used is shown in the table below.

**Table 6-1 Colour Coding Used for Option Appraisal**

Colour	Description
Green	Route Option has some advantages compared to others
Yellow	Route Option is largely neutral compared to others
Red	Route Option has some disadvantages compared to others

### Options Assessment by Criterion

- 6.5. A description of each criterion and the relative ranking of each route for that criterion is outlined in the following sections.
- Economy**
- 6.6. This criterion includes for the capital cost to construct each option. This includes pavements, lighting, earthworks, drainage and all associated works. It also assessed the benefits of each scheme in terms of journey times and quality of service. Quality of Service has been based on the evaluation set out in the National Cycle Manual.
- 6.7. This criterion has been broken into the following sub-criteria for analysis:
- Capital Cost
  - Journey Times
  - Quality of Service
- 6.8. Each route has been assessed under each sub-criterion and an overall ranking assigned based on its performance. The assessment is summarised in the table below.

**Table 6-2 Economy Assessment**

Sub-Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
Capital Cost	<ul style="list-style-type: none"> <li>Significant engineering works required for road widening – high capital cost</li> </ul>	<ul style="list-style-type: none"> <li>3m wide surface does not require large scale engineering works resulting in lower costs</li> <li>Some costs associated with works to provide new bridge over Mayne River</li> </ul>	<ul style="list-style-type: none"> <li>7.4m wide surface requires slightly larger scale works than Route Option 2 but costs not significantly greater</li> <li>Some costs associated with works to provide new bridge over Mayne River</li> </ul>	<ul style="list-style-type: none"> <li>Boardwalk construction requires higher capital cost and longer construction time</li> <li>Some costs associated with works to provide new bridge over Mayne River</li> </ul>
Journey Times	<ul style="list-style-type: none"> <li>Interaction between cyclists and vehicles at pinch point will result in delays for both</li> <li>Lack of pedestrian crossings will result in delays for pedestrians</li> </ul>	<ul style="list-style-type: none"> <li>Some conflicts on shared surface between pedestrians and cyclists could lead to lower cycling speeds and longer journey times</li> <li>Some delays may be experienced by cyclists at Toucan crossings but pedestrian delay may be reduced</li> </ul>	<ul style="list-style-type: none"> <li>Majority of route is segregated for pedestrian and cyclists allowing quicker journey times for both</li> <li>Some delays may be experienced by cyclists at Toucan crossings but pedestrian delay may be reduced</li> </ul>	<ul style="list-style-type: none"> <li>Some conflicts on shared surface between pedestrians and cyclists could lead to lower cycling speeds and longer journey times</li> <li>Some delays may be experienced by cyclists at Toucan crossings but pedestrian delay may be reduced</li> </ul>
Quality of Service	<ul style="list-style-type: none"> <li>On road cycle lane with conflicts at pinch points allows QoS of approximately Level C</li> <li>Pedestrians adjacent to roadway with uncontrolled crossings</li> </ul>	<ul style="list-style-type: none"> <li>Shared cycle and pedestrian route allows QoS of approximately Level B due to conflicts between both modes</li> <li>Shared route may result in reduced level of service for pedestrians also</li> </ul>	<ul style="list-style-type: none"> <li>Segregated cycle and pedestrian route allows QoS of approximately Level A</li> <li>Conflicts between modes is minimised allowing greater service level</li> </ul>	<ul style="list-style-type: none"> <li>Shared cycle and pedestrian route allows QoS of approximately Level C due to conflicts between both modes and boardwalk surface quality</li> <li>Shared route may result in reduced level of service for pedestrians also</li> </ul>
<b>Economy Rank</b>				

**Safety**

- 6.9. This criterion has been designed to assess the relative safety of each route option. This includes conflicts between modes, conflicts between pedestrians and cyclists as well as between vehicles and other road users.
- 6.10. It also takes account of the safety of road crossings for vulnerable road users and the safety of all road users at junctions. The assessment is therefore broken down into the following sub-criteria:
- Conflicts between road users
  - Road crossings for vulnerable users

- Junction safety

6.11. Each route is assessed under each sub-criterion and an overall ranking assigned based on its performance. The assessment is summarised in the table below.

**Table 6-3 Safety Assessment**

Sub-Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
Conflicts between road users	<ul style="list-style-type: none"> <li>• Some conflicts between vehicles and cyclists possible as route is on-road</li> <li>• Pinch point at Moyne Road requires cyclists to move into vehicle lane</li> <li>• Vehicle speeds on Coast Road are high</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal conflicts between vehicles and vulnerable road users</li> <li>• Shared space for pedestrians and cyclists will lead to frequent conflicts between both</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal conflicts between vehicles and vulnerable road users</li> <li>• Segregated cycle way and footpath for majority of the route minimises conflicts between cyclists and pedestrians</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal conflicts between vehicles and vulnerable road users</li> <li>• Additional shared space for pedestrians and cyclists will lead to further conflicts between both</li> </ul>
Road crossings for vulnerable road users	<ul style="list-style-type: none"> <li>• Route is on-road, generally resulting in uncontrolled crossing points for pedestrians</li> </ul>	<ul style="list-style-type: none"> <li>• Controlled crossing points proposed at all locations</li> </ul>	<ul style="list-style-type: none"> <li>• Controlled crossing points proposed at all locations</li> </ul>	<ul style="list-style-type: none"> <li>• Controlled crossing points proposed at all locations</li> </ul>
Junction Safety	<ul style="list-style-type: none"> <li>• Vulnerable road users will approach junctions from the public road links, leaving them more exposed.</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed upgrades to Coast Road/Moyne Road junction to introduce traffic signals and increase safety</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed upgrades to Coast Road/Moyne Road junction to introduce traffic signals and increase safety</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed upgrades to Coast Road/Moyne Road junction to introduce traffic signals and increase safety</li> </ul>
<b>Safety Rank</b>				

### Environment

6.12. This criterion assesses the effects of each route on the surrounding environment. The assessment is based on the key environmental concerns for this area, and are set out below:

- Impact on Baldoyle Bay SPA/SAC
- Impact on visual and landscape

6.13. All of the environmental constraints previously listed were considered in developing the route options. However, the above two criteria represent the key impacts on the area and have the widest variance between routes. Each route is assessed under each sub-criterion and an overall ranking assigned based on its performance. The assessment is summarised in the table below.

**Table 6-4 Environment Assessment**

Sub-Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
Impact on Baldoyle Bay SPA/SAC	<ul style="list-style-type: none"> <li>• Widening of road has significant impacts on the adjacent SAC</li> <li>• Use of Coast Road for</li> </ul>	<ul style="list-style-type: none"> <li>• Impact of shared pedestrian/cycle route is minimised by generally being removed from</li> </ul>	<ul style="list-style-type: none"> <li>• Impact of segregated pedestrian/cycle route is minimised by generally being</li> </ul>	<ul style="list-style-type: none"> <li>• Impact of shared pedestrian/cycle route is minimised by generally being removed from</li> </ul>

Sub-Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
	<p>pedestrians and cyclists does not guide them away from SPA/SAC</p> <ul style="list-style-type: none"> <li>Construction of the road widening within the SAC will be problematic</li> </ul>	<p>the coastal areas.</p> <ul style="list-style-type: none"> <li>The route crosses a section of the Baldoyle Bay SPA/SAC where it comes inland but impacts can be mitigated</li> <li>Location of route will guide pedestrians and cyclists from LAP lands away from sensitive coastal landscape and SPA/SAC</li> </ul>	<p>removed from the coastal areas.</p> <ul style="list-style-type: none"> <li>Larger cross-section than Route Option 2 has minimal impact and can be mitigated against</li> <li>Route crosses a section of the Baldoyle Bay SPA/SAC where it comes inland but impacts can be mitigated</li> <li>Route will guide pedestrians and cyclists from LAP lands away from sensitive coastal landscape and SPA/SAC</li> </ul>	<p>the coastal areas.</p> <ul style="list-style-type: none"> <li>Route crosses a section of the Baldoyle Bay SPA/SAC where it comes inland but impacts can be mitigated</li> <li>Route will guide pedestrians and cyclists from LAP lands away from sensitive coastal landscape and SPA/SAC</li> <li>Raised boardwalk construction minimises overall footprint of scheme during operation but will generate more significant impacts during construction</li> <li>Regular ongoing maintenance would be required for the boardwalk section which would require machinery accessing the sensitive habitats surrounding it</li> <li>Height required to allow light to reach vegetation beneath could have impacts on birds within SAC and SPA</li> </ul>
<p>Impact on visual and landscape</p>	<ul style="list-style-type: none"> <li>Widening of the road is not in keeping with the visual character of the surround area and coastal views</li> </ul>	<ul style="list-style-type: none"> <li>Vertical alignment of route will match existing ground as far as possible to minimise visual impacts while horizontal alignment will avoid straight lines to give appearance of parkland paths</li> <li>Provision of path in certain areas</li> </ul>	<ul style="list-style-type: none"> <li>Vertical alignment of will match existing ground to minimise visual impacts while horizontal alignment will avoid straight lines to give appearance of parkland paths</li> <li>Cross-section mitigated by 2.4m wide grass</li> </ul>	<ul style="list-style-type: none"> <li>Boardwalk will be raised above existing ground level, possibly resulting in greater visual impacts.</li> <li>Need for screens on either side of boardwalk to mitigate against impact on birds will have large visual impact on</li> </ul>

Sub-Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
		will allow access to views of surrounding area not previously readily attainable.	verge between cycle way and footpath <ul style="list-style-type: none"> <li>Path will allow access to views of surrounding area not previously readily attainable.</li> </ul>	surrounding landscape <ul style="list-style-type: none"> <li>Some views of surrounding area possible but screens would block views through SAC.</li> </ul>
<b>Environment Rank</b>				

### Integration

- 6.14. This criterion examines how each route option integrates with the surrounding infrastructure and land use, including future schemes. The assessment considered the following sub-criteria for analysis
- Planning and land use
  - Integration with adjacent schemes
- 6.15. Each route is assessed under each sub-criterion and an overall ranking assigned based on its performance. The assessment is summarised in the table below.

**Table 6-5 Integration Assessment**

Sub-Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
Planning and land use	<ul style="list-style-type: none"> <li>Road widening not in keeping with principles of Green Infrastructure development and would impinge on land zoned as High Amenity (HA)</li> </ul>	<ul style="list-style-type: none"> <li>Shared pedestrian and cyclist route in keeping with Green Infrastructure</li> <li>Route Option in keeping with objectives of LAPs and uses corridor identified within them</li> </ul>	<ul style="list-style-type: none"> <li>Cyclist and pedestrian route in keeping with Green Infrastructure</li> <li>Route Option in keeping with objectives of LAPs and uses corridor identified within them</li> </ul>	<ul style="list-style-type: none"> <li>Shared pedestrian and cyclist route in keeping with Green Infrastructure</li> <li>Route Option in keeping with objectives of LAPs and uses corridor identified within them</li> </ul>
Integration with adjacent schemes	<ul style="list-style-type: none"> <li>Providing route on-road leads to difficulties with tying into Sutton to Malahide pedestrian/cyclist route at either end of the scheme</li> <li>On road option reduces permeability and linkages to adjacent parklands within LAP lands</li> </ul>	<ul style="list-style-type: none"> <li>Route option allows direct ties-ins to Sutton to Malahide scheme at either end</li> <li>Alignment of route allows direct linkages with future pathway within LAP lands</li> </ul>	<ul style="list-style-type: none"> <li>Route option allows direct ties-ins to Sutton to Malahide scheme at either end</li> <li>Alignment of route allows direct linkages with future pathway within LAP lands</li> </ul>	<ul style="list-style-type: none"> <li>Route option allows direct ties-ins to Sutton to Malahide scheme at either end</li> <li>Alignment of route allows direct linkages with future pathway within LAP lands</li> </ul>
<b>Integration Rank</b>				

## Option Assessment Summary

- 6.16. The rankings under each main criterion have been collated and summarised in the table below. The findings of the individual assessment headings have then been combined to give an overall ranking in order to determine the preferred route option.

**Table 6-6 Option Assessment Summary Table**

Criterion	Route Option 1	Route Option 2	Route Option 3	Route Option 4
Economy	Red	Yellow	Green	Red
Safety	Red	Yellow	Green	Yellow
Environment	Red	Yellow	Yellow	Red
Integration	Red	Green	Green	Green
<b>Overall Rank</b>	Red	Yellow	Green	Yellow

- 6.17. From the above summary table, Route Option 3 has the best overall rank and is, therefore, the preferred option. This option best meets the scheme objectives by providing the highest quality feasible route for both pedestrians and cyclists within the scheme extents.
- 6.18. The segregation of pedestrian and cyclists for the majority of its length, coupled with the route being off-road, ensures that the scheme will function as both a leisure facility and as part of the overall cycle network.
- 6.19. This lack of conflict between modes is also likely to attract pedestrians to use it, thus leading them away from the coastal areas of the Baldoyle Bay Natura site.
- 6.20. Given the likely increase in pedestrian and cyclist traffic as the overall Fingal Coastal Way is progressed, it is better to install a segregated facility at this stage to cope with future volumes, as this will mean that the SAC is only impacted by construction once.

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## 7. Preferred Route

### Description of Preferred Route

- 7.1. The preliminary design of the preferred route is shown on drawings 5158369/HTR/SK/0107 - 0109 included in Appendix C. The route is described in the following paragraphs in a south to north direction, i.e. from Baldoyle to Portmarnock.
- 7.2. The scheme begins at the roundabout junction between Coast Road (R106) and Red Arches Road. It is proposed to provide a new crossing on the Red Arches Road arm of this roundabout to link the proposed scheme with the existing and future cycle track link from Baldoyle. From there the route travels around the north-western quadrant of the roundabout before diverting off-road. From there it will widen to the full 7.4m wide cross section and travel roughly parallel to the Coast Road.
- 7.3. The route will then narrow to approximately 4 – 4.5m wide on approach to the Mayne River, which it will cross by means of a bridge or bridges, to be designed. It will then pass through the pinch point between the existing pumping station and the existing wall on the western Coast Road boundary. The existing priority junction between Coast Road and Moyne Road will be upgraded to a signal controlled junction with a toucan crossing provided on Moyne Road for the pedestrian and cyclists.
- 7.4. From this point, the route continues off-road through the lands to the western side of the Coast Road. It will continue roughly parallel to the road before diverting further to the west to avoid the existing Dublin Airport NDB station. It continues along this line to the rear of existing residences before turning back towards the Coast Road to meet it at a right angle, avoiding the proposed location of the planned pumping station, currently being designed by Irish Water. A new toucan crossing will be provided on Coast Road where the route joins it, with the 50kph speed limit being extended on the road to increase safety on approach to the crossing point.

### Design Development of Preferred Route

- 7.5. The exact horizontal and vertical alignments are subject to further development during detail design and will cater for outcomes arising from consultation with various bodies, including Fingal County Council, Irish Water, etc.

#### Minimizing Utility Impacts

- 7.6. It is proposed to avoid utilities as far as possible, although provision for duct crossings for e.g. ESB will be made as part of the detailed design. Public lighting, CCTV and spare ducting will be considered for inclusion as part of this process.

#### Supporting Bus Linkage

- 7.7. Existing bus stops will be considered as part of the design process. We will endeavour to provide access to existing stops along the route from the new pedestrian and cycle way where possible. The nature of these accesses will require careful consideration and will include the possibility of relocation. This will require consultation with the NTA and Dublin Bus.

### Initial Budget Cost Estimate

- 7.8. A high level, initial budget cost estimate has been prepared for the scheme based on unit costs. The following assumptions and limitations apply to this estimate:
  - (a) The cost estimate has been developed based on historical rates from other similar projects.
  - (b) The estimate excludes land acquisition costs.
  - (c) A cost for utility protection/relocation has been included.
  - (d) A cost has been included for inflation in construction costs and a general contingency.
- 7.9. The initial budget cost estimate is approximately €1,800,000 excluding VAT.

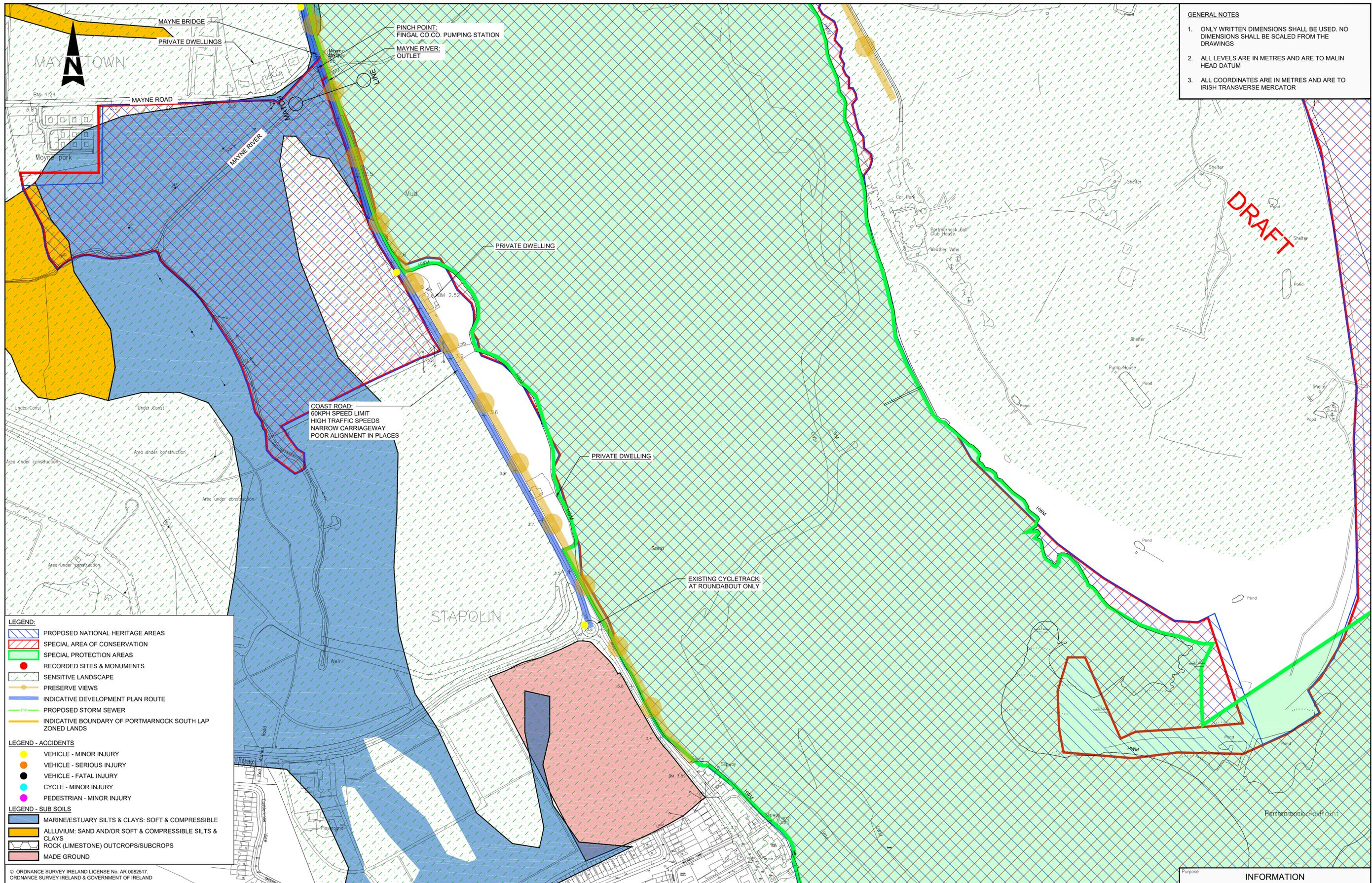
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# Appendix A. Constraints Maps

A1

DO NOT SCALE

File: 5158369\_HTR\_SK\_0101.dwg  
Date: Jun 15, 2017 - 12:18pm  
Plotted by: BCarophy



- GENERAL NOTES**
1. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
  2. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  3. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

DRAFT

- LEGEND:**
- PROPOSED NATIONAL HERITAGE AREAS
  - SPECIAL AREA OF CONSERVATION
  - SPECIAL PROTECTION AREAS
  - RECORDED SITES & MONUMENTS
  - SENSITIVE LANDSCAPE
  - PRESERVE VIEWS
  - INDICATIVE DEVELOPMENT PLAN ROUTE
  - PROPOSED STORM SEWER
  - INDICATIVE BOUNDARY OF PORTMARNOCK SOUTH LAP ZONED LANDS
- LEGEND - ACCIDENTS**
- VEHICLE - MINOR INJURY
  - VEHICLE - SERIOUS INJURY
  - VEHICLE - FATAL INJURY
  - CYCLE - MINOR INJURY
  - PEDESTRIAN - MINOR INJURY
- LEGEND - SUB SOILS**
- MARINE/ESTUARY SILTS & CLAYS: SOFT & COMPRESSIBLE
  - ALLUVIUM: SAND AND/OR SOFT & COMPRESSIBLE SILTS & CLAYS
  - ROCK (LIMESTONE) OUTCROPS/SUBCROPS
  - MADE GROUND

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Rev	Description	By	Date	Chk'd	Auth
-	FOR INFORMATION	RG		SW	MD

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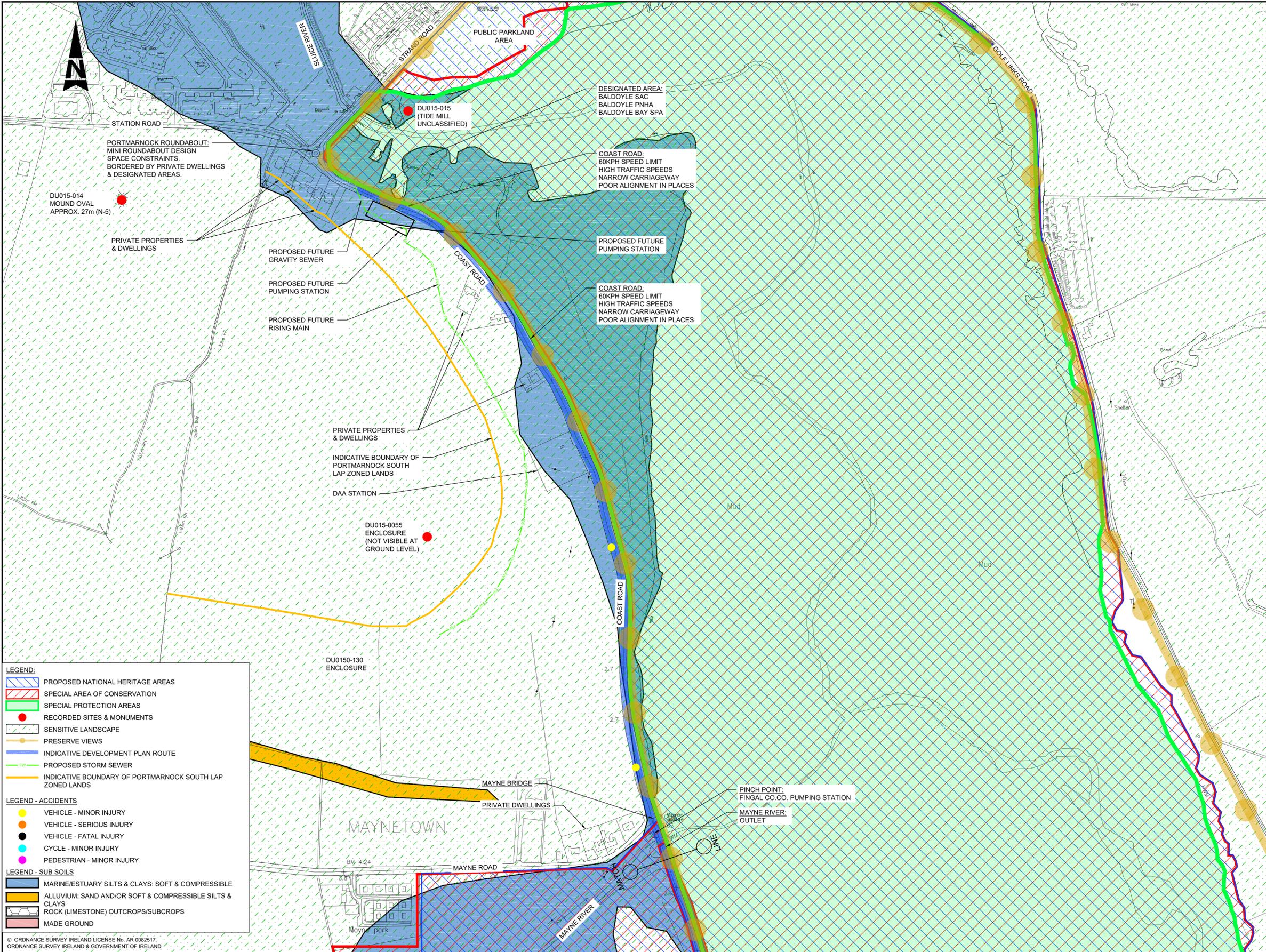
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Client	FINGAL COUNTY COUNCIL
Project	BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

Purpose		INFORMATION			
Title		SCHEME CONSTRAINTS SHEET 1 OF 2			
Original Scale	1:2500 at A1 1:5000 at A3	Design/Drawn	RG	Checked	SW
Date	13.06.17	Date	13.06.17	Date	13.06.17
Status	I	Drawing Number	5158369 / HTR / SK / 0101		
Authorised	MD	Rev	-		



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  2. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  3. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

**LEGEND:**

- PROPOSED NATIONAL HERITAGE AREAS
- SPECIAL AREA OF CONSERVATION
- SPECIAL PROTECTION AREAS
- RECORDED SITES & MONUMENTS
- SENSITIVE LANDSCAPE
- PRESERVE VIEWS
- INDICATIVE DEVELOPMENT PLAN ROUTE
- PROPOSED STORM SEWER
- INDICATIVE BOUNDARY OF PORTMARNOCK SOUTH LAP ZONED LANDS

**LEGEND - ACCIDENTS**

- VEHICLE - MINOR INJURY
- VEHICLE - SERIOUS INJURY
- VEHICLE - FATAL INJURY
- CYCLE - MINOR INJURY
- PEDESTRIAN - MINOR INJURY

**LEGEND - SUB SOILS**

- MARINE/ESTUARY SILTS & CLAYS: SOFT & COMPRESSIBLE
- ALLUVIUM: SAND AND/OR SOFT & COMPRESSIBLE SILTS & CLAYS
- ROCK (LIMESTONE) OUTCROPS/SUBCROPS
- MADE GROUND

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FOR INFORMATION	RG	SW	MD
Rev	Description	By	Date
		Chk'd	Auth

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Client	FINGAL COUNTY COUNCIL
Project	BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

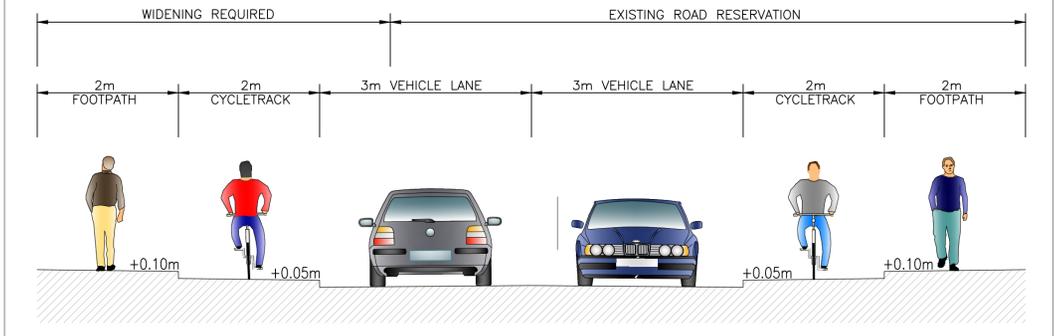
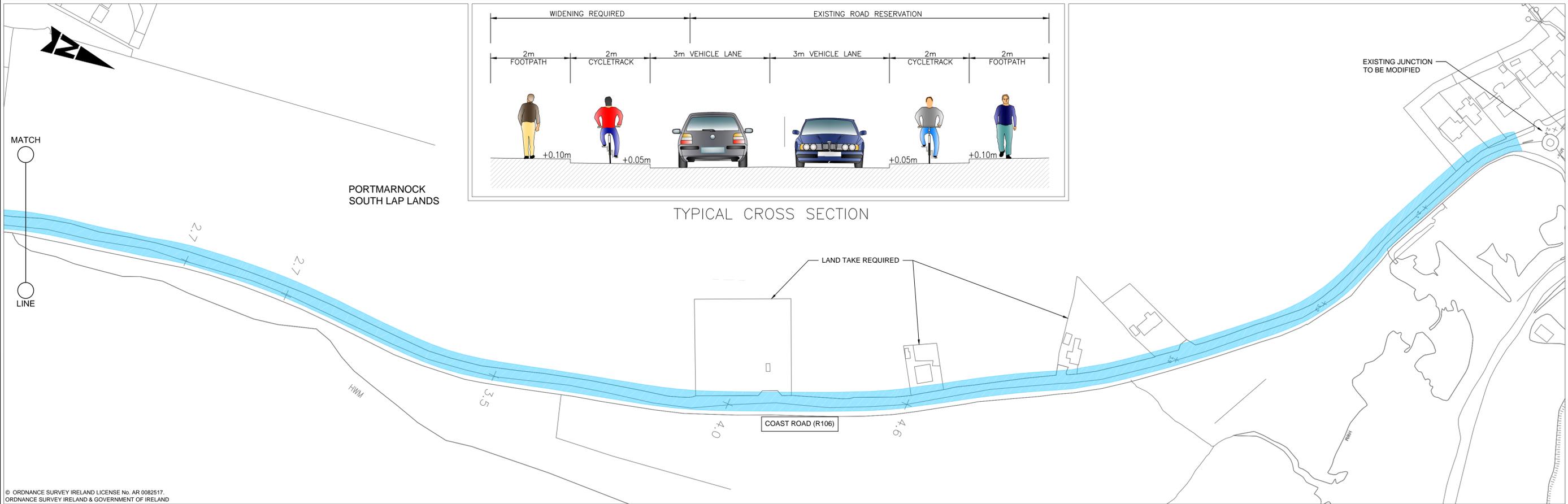
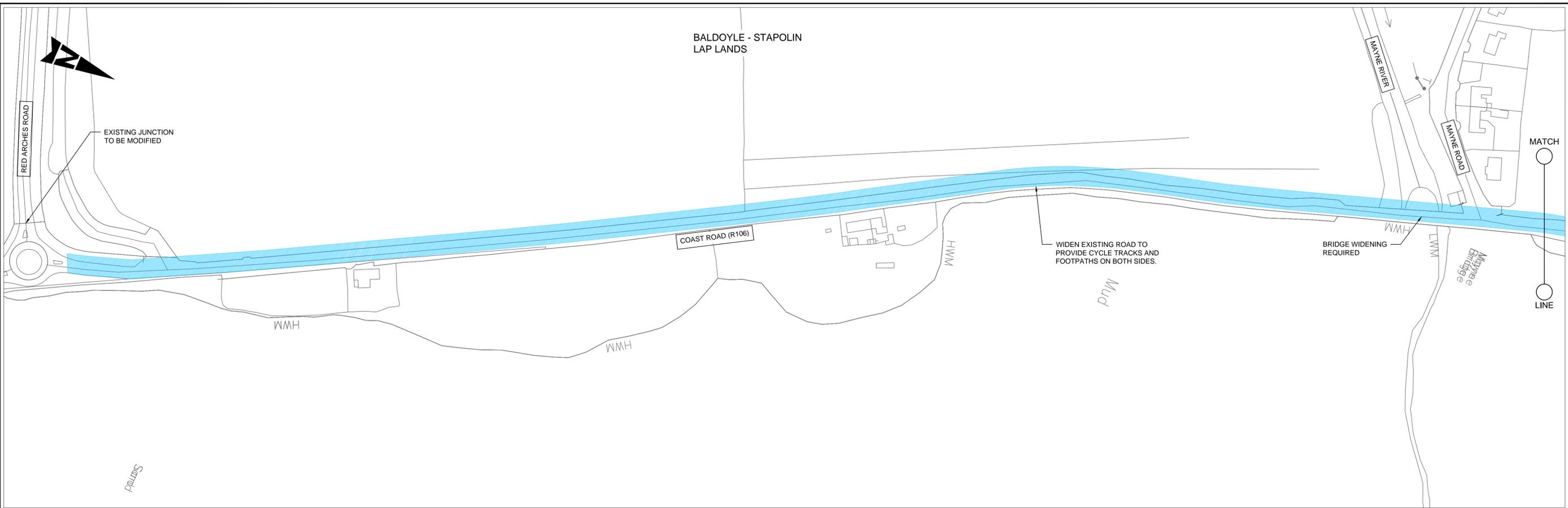
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SCHEME CONSTRAINTS SHEET 2 OF 2			
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Date	Date	Date	Date
13.06.17	13.06.17	13.06.17	13.06.17
Status	Drawing Number	Rev	
I	5158369 / HTR / SK / 0102	-	

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# Appendix B. Route Options Drawings

A1

DO NOT SCALE



TYPICAL CROSS SECTION

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File: 5158369\_HTR\_SK\_0103.dwg  
 Date: Jul 27, 2017 - 12:11pm  
 Plotted by: swyse

Rev	Description	By	Date	Chk'd	Auth
-	FOR INFORMATION	RG		SW	MD

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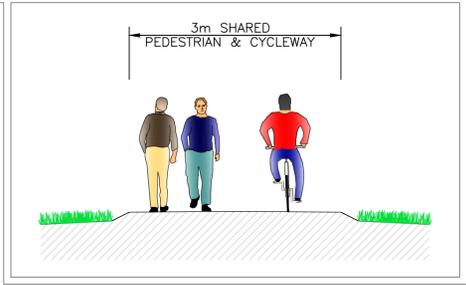
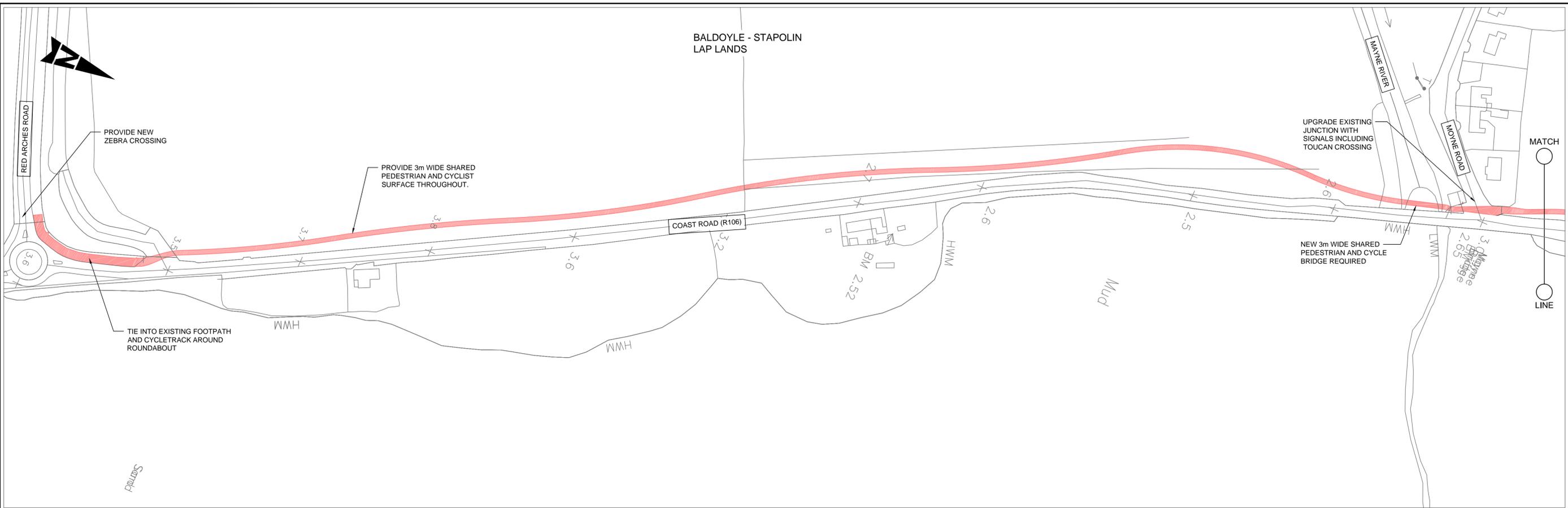
Client	FINGAL COUNTY COUNCIL
Project	BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

Title		ROUTE OPTION 1 UPGRADE COAST ROAD			
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1:1250 at A1 1:2500 at A3	RG	SW	MD		
Status	Drawing Number	Date	Date	Date	Rev
I	5158369 / HTR / SK / 0103	13.06.17	13.06.17	13.06.17	-

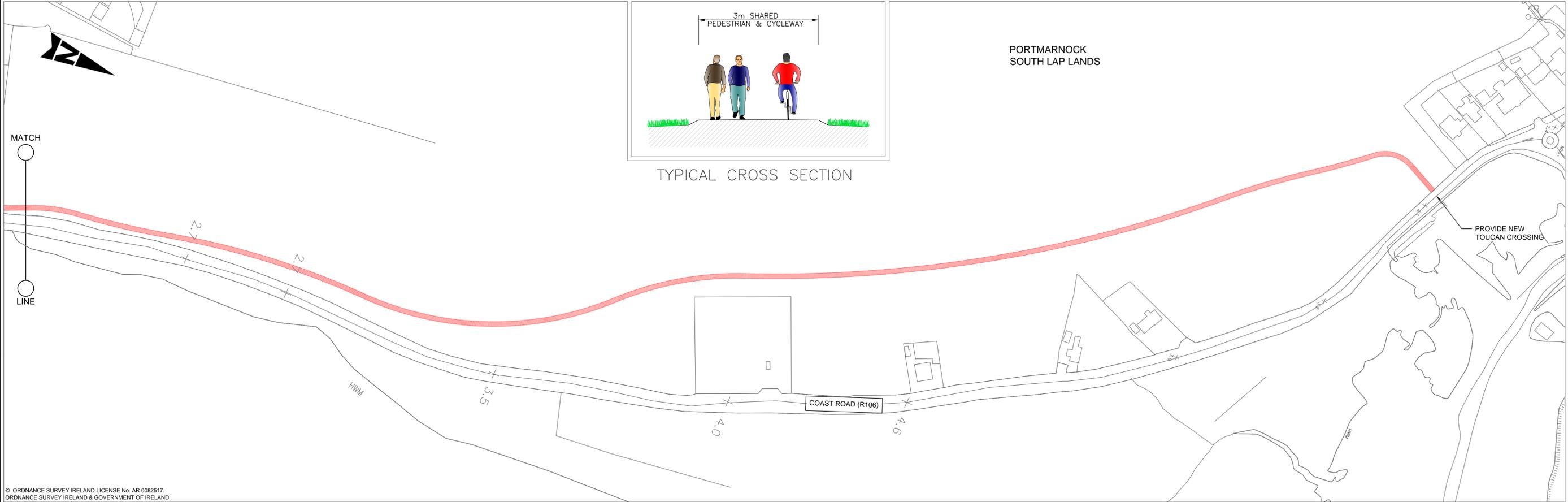
A1

DO NOT SCALE

File: 5158369\_HTR\_SK\_0104.dwg  
Date: Jul 27, 2017 - 12:11pm  
Plotted by: swyse



TYPICAL CROSS SECTION



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Rev	Description	By	Date	Chk'd	Auth
A	NOTES UPDATED	SW	27/07/17	SW	MD
-	FOR INFORMATION	RG		SW	MD

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Client: FINGAL COUNTY COUNCIL

Project: BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

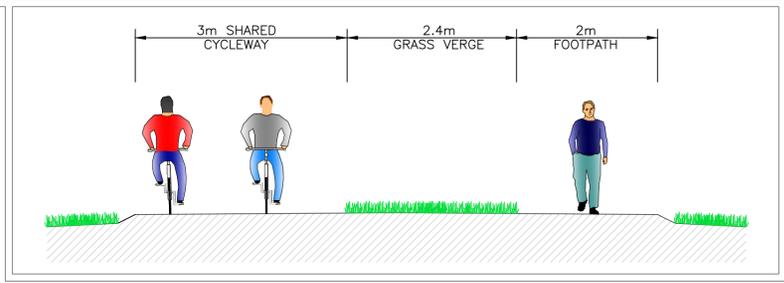
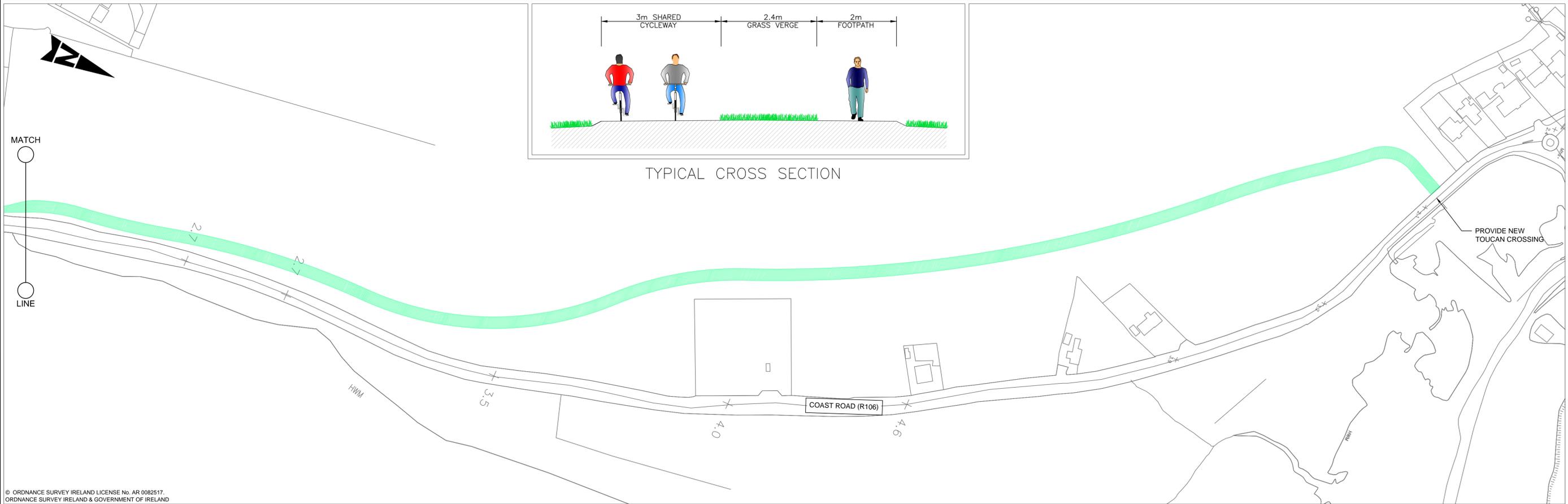
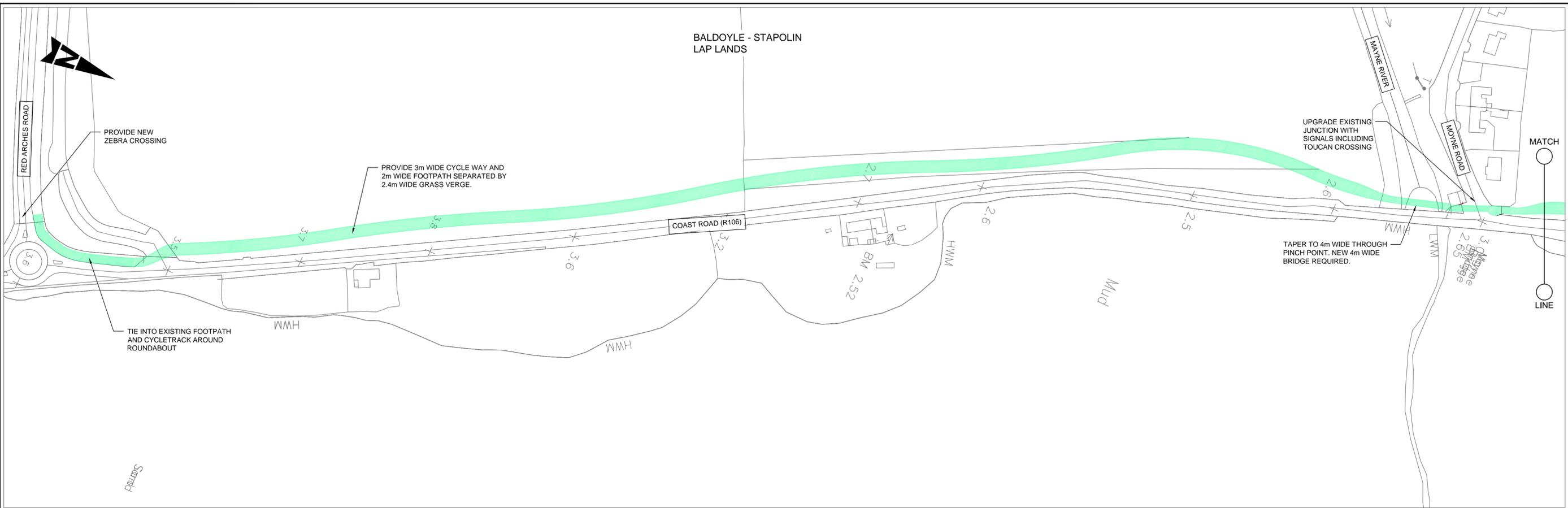
Title: ROUTE OPTION 2 OFF ROAD SHARED FACILITY

Original Scale	Design/Drawn	Checked	Authorised
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Status	Date	Date	Date
I	13.06.17	13.06.17	13.06.17
Drawing Number	Rev		
5158369 / HTR / SK / 0104	A		

A1

DO NOT SCALE

File: 5158369\_HTR\_SK\_0105.dwg  
Date: Jul 27, 2017 - 12:12pm  
Plotted by: swyse



TYPICAL CROSS SECTION

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Rev	Description	By	Date	Chk'd	Auth
A	NOTES UPDATED	SW	27/07/17	SW	MD
-	FOR INFORMATION	RG		SW	MD

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Client: FINGAL COUNTY COUNCIL

Project: BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

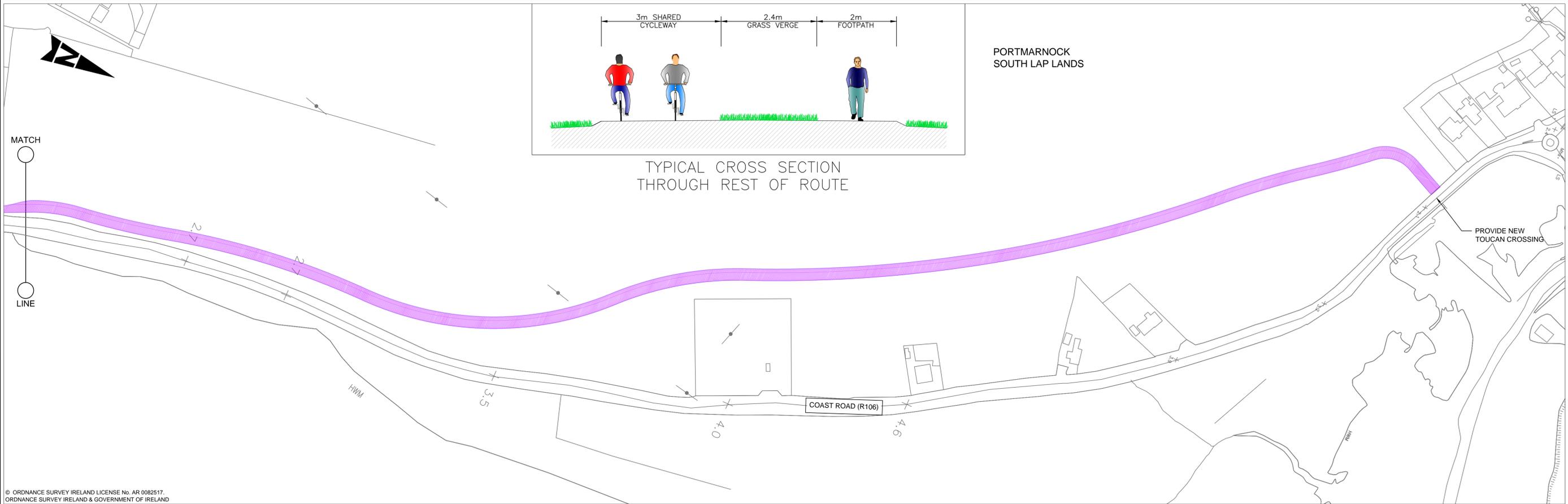
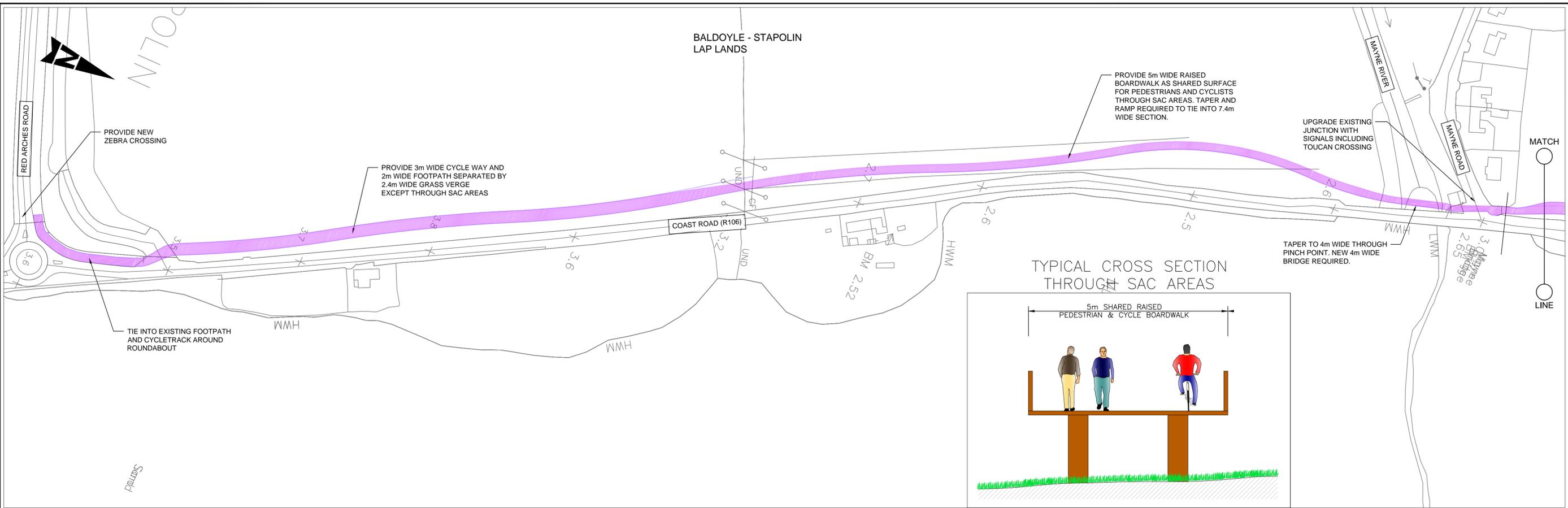
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Original Scale	Design/Drawn	Checked	Authorised
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Status	Drawing Number	Date	Rev
I	5158369 / HTR / 0105	16.06.17	A

A1

DO NOT SCALE

File: 5158369\_HTR\_SK\_0106.dwg  
Date: Jul 27, 2017 - 12:12pm  
Plotted by: swyse



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Rev	Description	By	Date	Chk'd	Auth
B	NOTES MODIFIED, SECTION ADDED	SW	27/07/17	SW	MD
A	NOTES MODIFIED	SW	10/07/17	SW	MD
-	FOR INFORMATION	RG		SW	MD

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Client	FINGAL COUNTY COUNCIL
Project	BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

Title		ROUTE OPTION 4 SHARED BOARDWALK FACILITY			
Original Scale	1:1250 at A1 1:2500 at A3	Design/Drawn	RG	Checked	SW
Date	16.06.17	Date	16.06.17	Date	16.06.17
Status	I	Drawing Number	5158369 / HTR / 0106	Rev	B

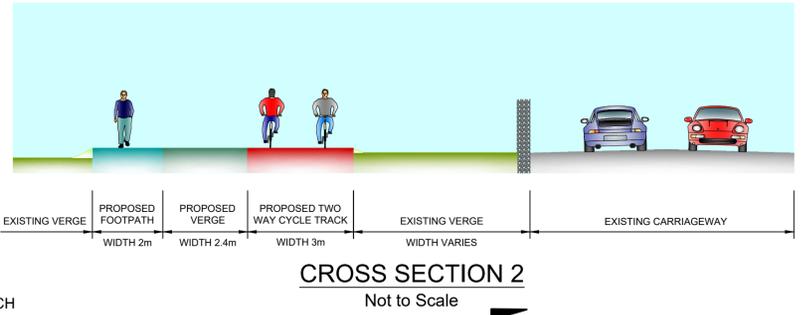
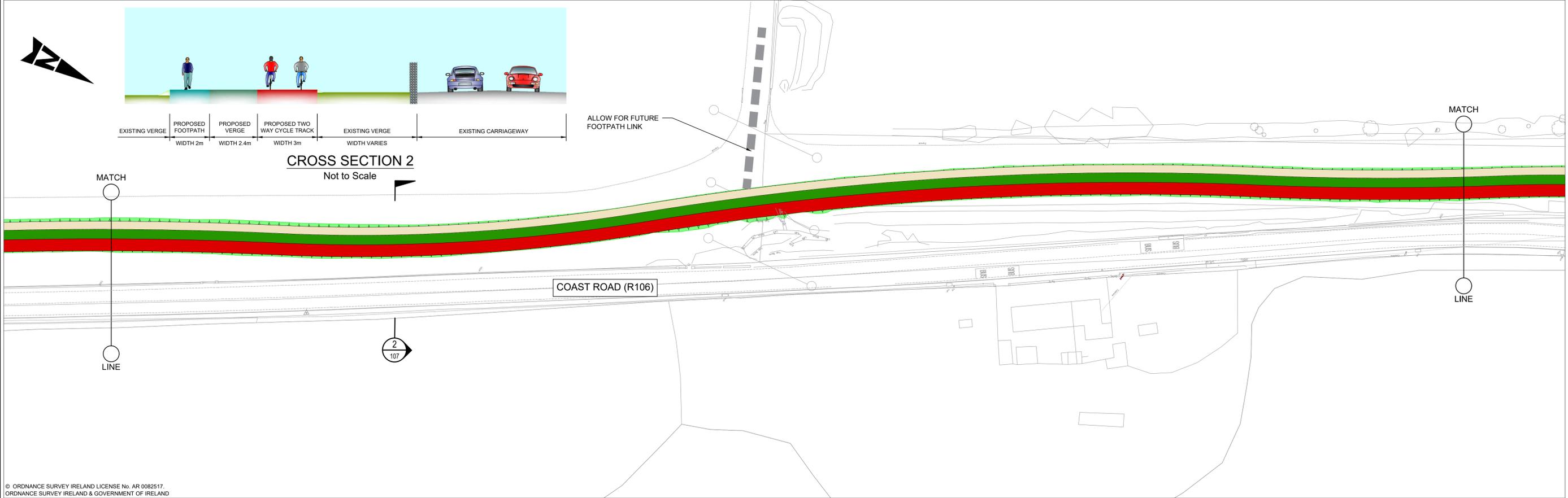
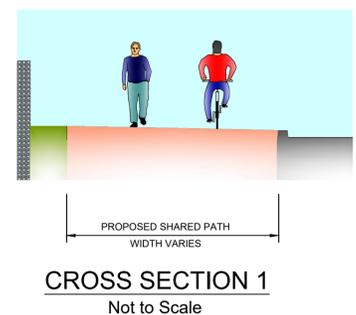
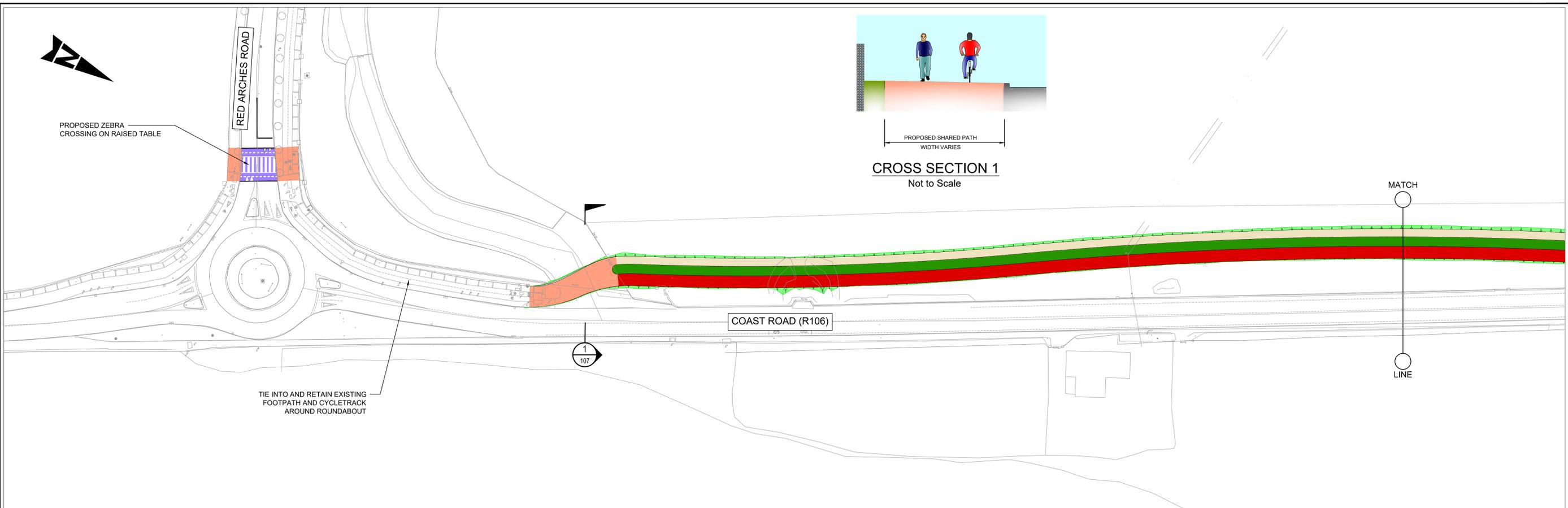
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# Appendix C. Preferred Route Drawings

A1

DO NOT SCALE

Date: Jul 31, 2017 - 2:20pm  
Plotted by: Rieoghty



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LEGEND	
	PROPOSED SHARED PATH
	PROPOSED FOOTPATH
	PROPOSED SHARED BRIDGE
	PROPOSED TWO WAY CYCLE TRACK
	PROPOSED VERGE
	MODIFIED BUS STOP
	PROPOSED RASIED TABLE
	PROPOSED EMBANKMENT



Rev	Description	By	Date	Chk'd	Auth
C	CROSS SECTION UPDATED	RG	31/07/17	SW	MD
B	SHARED SURFACE PART REMOVED	SW	27/07/17	SW	MD
A	LAYOUT UPDATED	SW	10/07/17	SW	MD
-	FOR INFORMATION	RG		SW	MD

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Client	FINGAL COUNTY COUNCIL
Project	BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

Title		PREFERRED ROUTE OPTION SHEET 1 OF 3			
Original Scale	1:500 at A1	Design/Drawn	RG	Checked	SW
1:1000 at A3		Date	13.06.17	Date	13.06.17
Status	I	Drawing Number	5158369 / HTR / SK / 0107	Authorised	MD
				Date	13.06.17
				Rev	C

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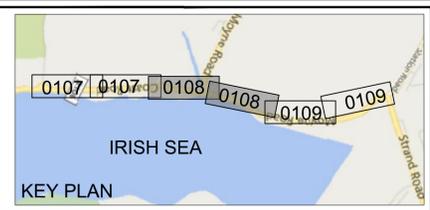
DO NOT SCALE



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Plotted by: Rreaghly  
Date: Jul 31, 2017 - 2:21pm

LEGEND	
	PROPOSED SHARED PATH
	PROPOSED FOOTPATH
	PROPOSED SHARED BRIDGE
	PROPOSED TWO WAY CYCLE TRACK
	PROPOSED VERGE
	MODIFIED BUS STOP
	PROPOSED RAISED TABLE
	PROPOSED EMBANKMENT



Rev	Description	By	Date	Chk'd	Auth
B	CROSS SECTION UPDATED	RG	31.07.17	SW	MD
A	LAYOUT UPDATED	SW	10/07/17	SW	MD
-	FOR INFORMATION	RG		SW	MD

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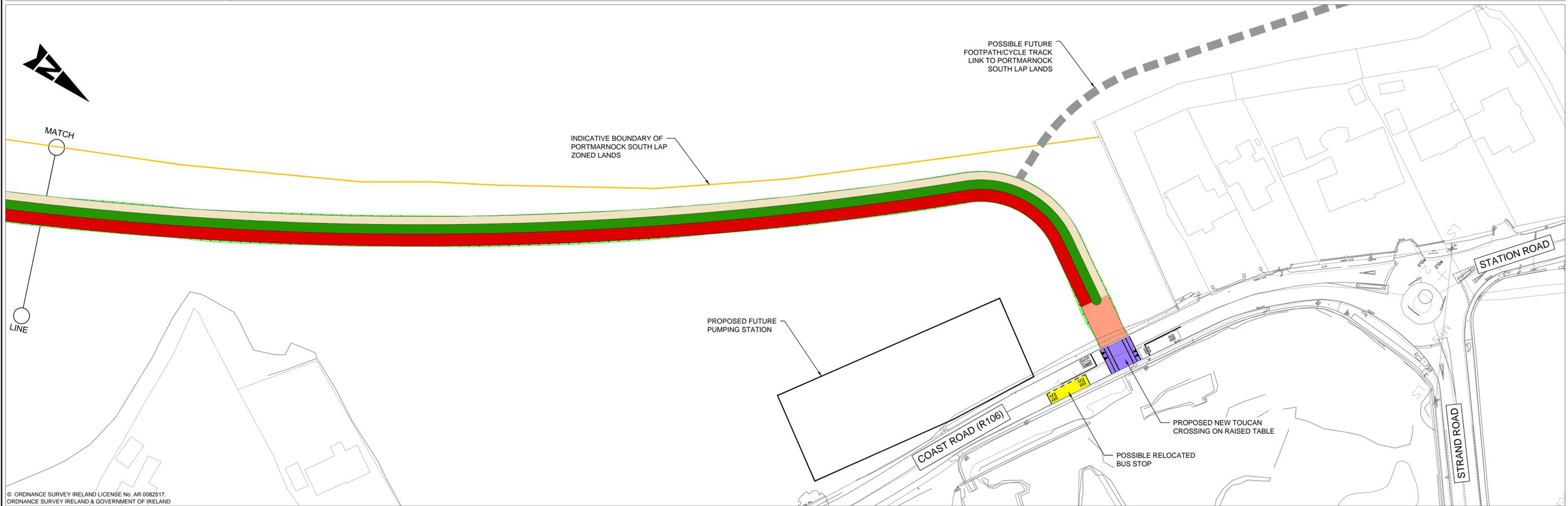
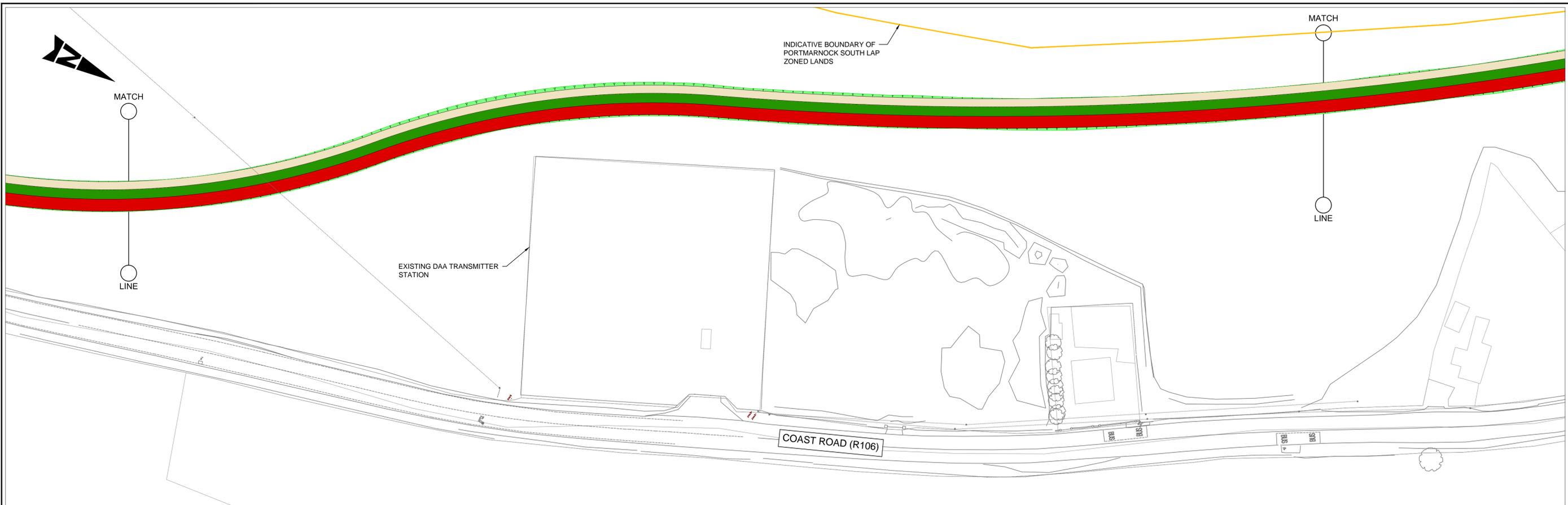
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Client	FINGAL COUNTY COUNCIL
Project	BALDOYLE TO PORTMARNOCK WALKING AND CYCLING ROUTE

Title		PREFERRED ROUTE OPTION SHEET 2 OF 3					
Original Scale	1:500 at A1	Design/Drawn	RG	Checked	SW	Authorised	MD
Scale	1:1000 at A3	Date	13.06.17	Date	13.06.17	Date	13.06.17
Status	I	Drawing Number	5158369 / HTR / SK / 0108	Rev	B		

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0 10  
A1

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**LEGEND**

- PROPOSED SHARED PATH
- PROPOSED FOOTPATH
- PROPOSED SHARED BRIDGE
- PROPOSED TWO WAY CYCLE TRACK
- PROPOSED VERGE
- MODIFIED BUS STOP
- PROPOSED RASIED TABLE
- PROPOSED EMBANKMENT



Rev	Description	By	Date	Chk'd	Auth
B	POSSIBLE FUTURE LINK ADDED	SW	27/07/17	SW	MD
A	LAYOUT UPDATED	SW	10/07/17	SW	MD
-	FOR INFORMATION	RG		SW	MD

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Title				PREFERRED ROUTE OPTION SHEET 3 OF 3			
Original Scale	1:500 at A1	Design/Drawn	RG	Checked	SW	Authorised	MD
Scale	1:1000 at A3	Date	13.06.17	Date	13.06.17	Date	13.06.17
Status	I	Drawing Number	5158369 / HTR / SK / 0109		Rev	B	

File: 5158369\_HTR\_SK\_0109.dwg  
Date: Jul 27, 2017 - 12:15pm  
Plotted by: swyse

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