

Dungarvan Road Flood Protection

Part 8 Planning Particulars Report

27 April 2018

Waterford City and County
Council
Civic Offices
Dungarvan
Co. Waterford

Dungarvan Road Flood Protection

Part 8 Planning Particulars Report

27 April 2018

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
P1	November 17	BM/RM/JOR	NS	JSN	Draft for Client Comment
P2	November 17	BM/RM/JOR	NS	JSN	For Client Approval
P3	April 18	JOR	NS	JSN	For Approval

Document reference: 319884-MMD-RP-001_P3

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Proposed Development	1
1.2	Benefits of the Proposed Development	1
1.3	Planning and Development Regulations	1
2	Planning Policy and Context	2
2.1	National & Regional Planning Policy	2
2.2	County Development Plan	3
3	Description of Proposed Development	4
3.1	Location	4
3.2	Road Type	4
3.3	Demolition	5
3.4	Junctions	5
3.5	Road Closures / Re-Alignments	5
3.6	Earthworks / Excavation	6
3.7	Drainage	6
3.8	Flood Risk	6
3.9	Public Utilities	7
3.10	Signage	7
3.11	Vehicle Restraint Systems	7
3.12	Pedestrian/Cycleway Facilities	7
3.13	Traffic Management	7
4	Environmental Appraisal	8
4.1	Environmental Impact Assessment Screening	8
4.2	Screening for Appropriate Assessment (Habitats Directive)	9
4.3	Baseline Ecology	9
4.3.1	Desktop Assessment	9
4.3.2	Field Assessment	11
4.4	Archaeology, Cultural Heritage and Architectural Heritage	16
4.4.1	Baseline Environment	16
4.4.2	Recommendations	17
4.5	Landscape and Visual Impact Assessment	17
4.5.1	Baseline Environment	17
4.6	Noise and Vibration	18
4.7	Flood Risk Assessment	19
4.8	Air Quality	19

5	Land Acquisition and Accommodation Works	20
6	Public Consultation	21
6.1	Plans and Particulars	21
6.2	Submissions or observations	21
6.3	Notice of Proposed Development (Newspaper & Site)	21
	Appendices	22
A.	Public Notice (Site & Newspaper)	23
B.	Drawings	24
C.	Flood Risk Assessment	25
D.	Existing Utilities	26
E.	EIA Screening	27
F.	Appropriate Assessment Screening	28
G.	Archaeology Screening Report	29

1 Introduction

1.1 Proposed Development

The Dungarvan Road Flood Protection Scheme, Clonmel refers to works to eliminate flood risk on the existing R665 Dungarvan road by altering the level and orientation of the existing road structure above the extreme flood level in this area.

The works include raising the existing road level, reconfiguring the R671/R665 junction to form a new roundabout, the construction of earthen embankments on the lands immediately north and south of the new road alignment, the provision of the surface water runoff drainage and ancillary services.

Further details of the project are presented in Section 3 of this report.

1.2 Benefits of the Proposed Development

The town of Clonmel in Co. Tipperary has a long history of flooding. The main route between Clonmel and Dungarvan also suffers from frequent flooding from the River Suir. It is predicted that during the 1 in 30-year flood event the road will flood to a depth of up to 1.7m. Waterford City and County Council wish to raise the level of this road to maintain a transport connection between these two towns during flood events.

It is proposed to raise the road over a length of approximately 750m by up to 1.6m which will bring the road levels above the 1 in 30-year flood level, ensuring that flood waters from the River Suir will not inundate the road. Surface water runoff drainage is also proposed to deal with rainfall within the road corridor.

1.3 Planning and Development Regulations

The proposed road development is considered under Part VIII of the Planning and Development Regulation, 2001 as amended.

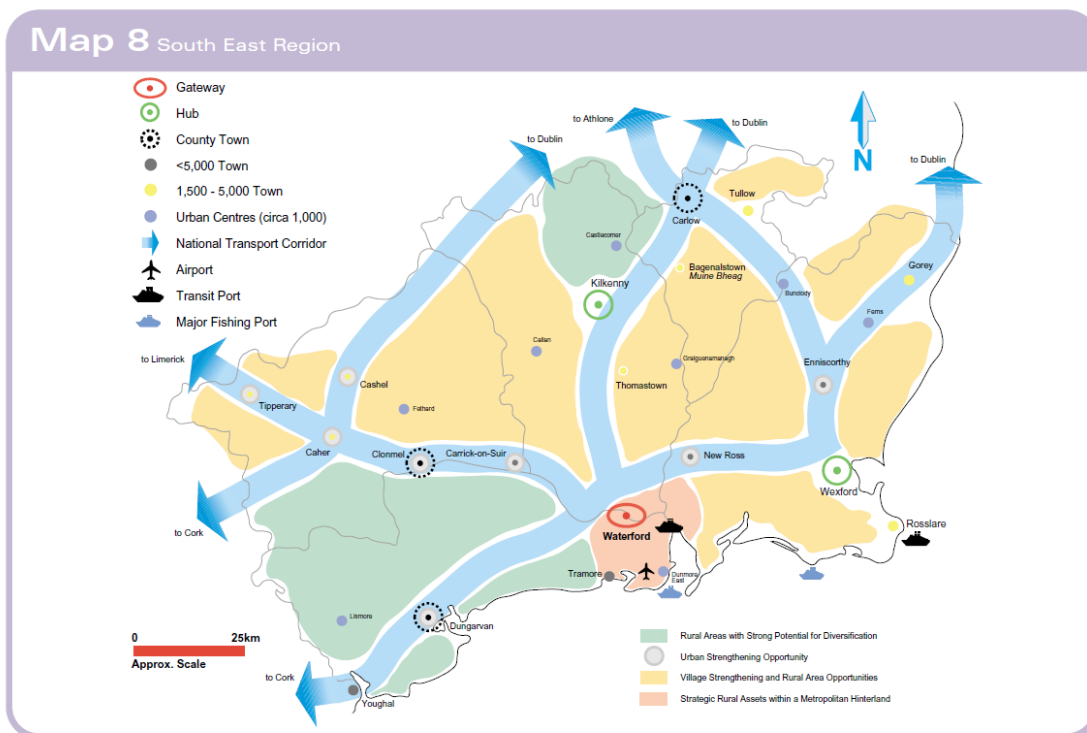
This Planning Report has been prepared by Mott MacDonald as part of the Planning Procedure under Part VIII of the Planning and Development Regulation, 2001. It is accompanied by a screening for Appropriate Assessment (Habitats Directive), Environmental Impact Assessment Screening, a Flood Risk Assessment and planning drawings.

2 Planning Policy and Context

2.1 National & Regional Planning Policy

National Spatial Strategy, 2002 – 2020

Both towns of Clonmel and Dungarvan are identified in the National Spatial Strategy (NSS) as county towns with urban strengthening opportunities which “provide good bases for population and service which will attract investment”.



The objectives of the NSS are implemented at a regional level in Regional Planning Guidelines (RPGs).

South-East Regional Planning Guidelines

The Southern Region Assembly is currently in the process of preparing the Regional Spatial and Economic Strategy. It is expected that the strategy will be published in the second half of 2017. The South-East Regional Planning Guidelines 2010-2022 prepared and published by the South East Regional Development Authority shall continue to have effect until a Regional Spatial and Economic Strategy is prepared and adopted by the Southern Regional Assembly.

Section 9 of the Regional Planning Guidelines (RPG) sets out the approach to Flood Risk and Assessment.

2.2 County Development Plan

On 1st June 2014, Waterford City & County Council was established following the amalgamation of Waterford City Council and Waterford County Council. Three existing development plans within the amalgamated Council area; Waterford City Development Plan 2013 – 2019, Waterford County Development Plan 2011 – 2017, & the Dungarvan Town Development Plan 2012 – 2018, will have their lifetime extended, as per Section 11A of the Planning & Development Act 2000 (as amended). These will remain in effect until the new Regional Spatial & Economic Strategy is made by the Southern Regional Assembly. Thereafter, a new City and County Development Plan will be prepared.

The proposed development is located in the Clonmel environs which is covered under the Waterford County Development Plan 2011-2017.

Waterford County Development Plan 2011-2017

The County Development Plan (CDP) was prepared in accordance with the requirements of the Planning & Development Act 2000 (as amended) and Development Plan Guidelines issued by the DoEHLG in June 2007. The Plan was formally adopted on 14th February 2011 and came into operation on 14th March 2011.

In relation to road development, the CDP recognises the strategic importance of the regional road network in the future development of the county. In particular, the carrying capacity and safety of regional roads needs to be protected.

In relation to flood protection, the CDP recognises that where flooding impacts on human activities, it can threaten people, their property and the environment. The main route between Clonmel and Dungarvan suffers from frequent flooding from the River Suir and floods during the mean annual flood. The proposed development will improve the safety of the junction between two regional roads, protects the route from frequent flooding. This will improve the connectivity within the county and between the county towns of Clonmel and Dungarvan.

The most relevant planning policies in the context of the proposed development are as follows:

- Policy INF 1 - To protect and where necessary enhance the quality of service infrastructure that will promote socioeconomic development and environmental objectives in the County, and improve the quality of life for its citizens.
- Policy INF 3 - To protect the efficient and safe operation, and facilitate the ongoing development of National, Regional and County Roads throughout Waterford in accordance with the National Development Plan 2007-2013 and Transport 21.
- Policy ENV 16 - It is the policy of Waterford County Council that flood risk be managed proactively at all stages in the planning process, by avoiding development in flood risk areas where possible, and by reducing the causes of flooding to and from existing and future development.
- Policy ENV 17 - The Council will have regard to the policies and guidelines of the DoEHLG and OPW in floodplains and areas sensitive to flooding.

The CDP contains supportive planning policies and objectives in relation to road infrastructure protection and safety and flooding management. The proposed new development is therefore considered to be wholly consistent with this policy ethos. Further, as demonstrated in Section 4 of this PECD, the environmental impacts associated with the development are acceptable.

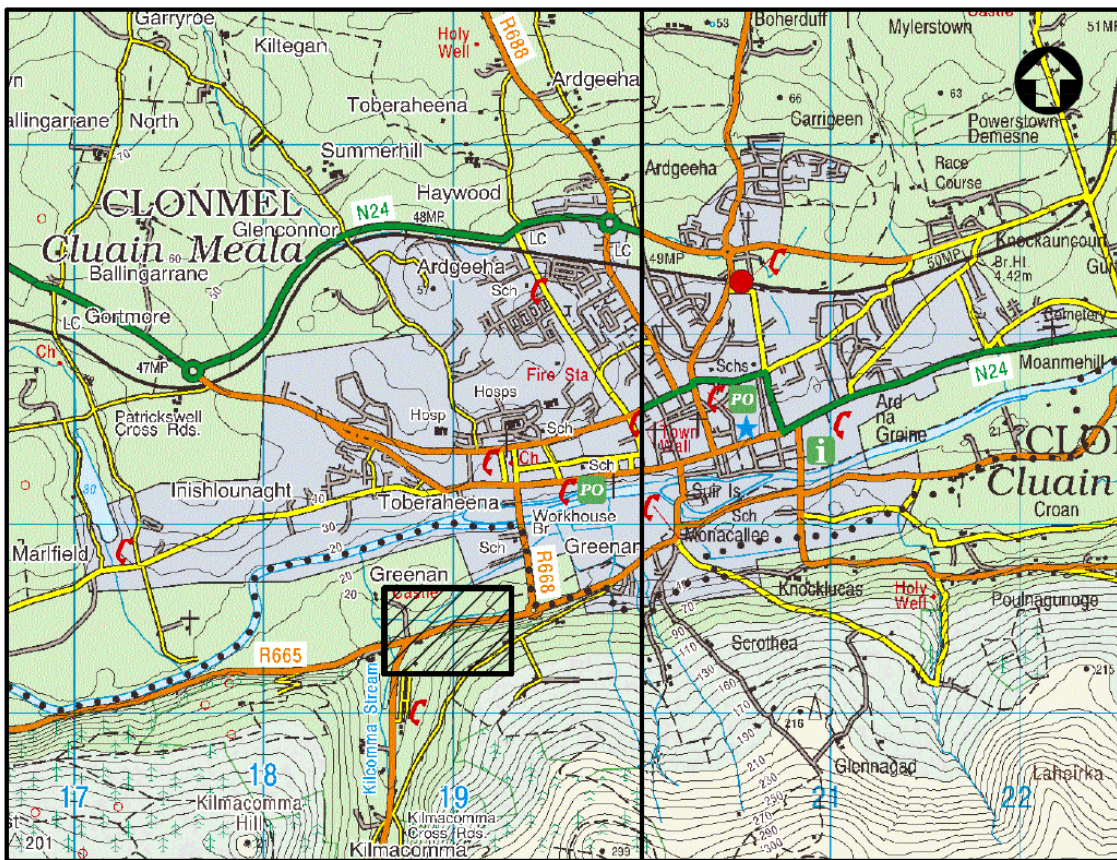
3 Description of Proposed Development

3.1 Location

The Dungarvan Road Flood Protection Scheme, Clonmel, is located on the existing R665 Dungarvan Road to the south west of Clonmel Town.

It is proposed to reconfigure the R671/R665 junction to form a new three-arm roundabout and raise the existing road level on the R665.

Figure 1: Site Location



Ordnance Survey Ireland Licence Number: EN0034517

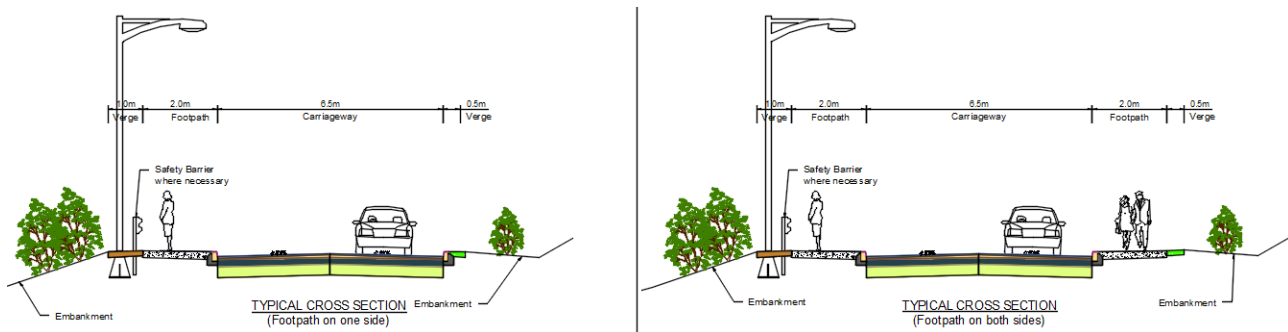
3.2 Road Type

The existing Dungarvan road (i.e. Regional Road R665) is a rural single carriageway road. The proposed road will be a Single Carriageway road (6.5m wide carriageway road) and includes a 2m wide footpath on one side of the road carriageway. This footpath switches between the south and north side of the road by way of the provision of a controlled pedestrian crossing located midway along the proposed scheme (i.e. Chainage 0+190). For approximately 50m the 2m wide footpath is provided on both sides of the road carriageway (i.e. area adjacent to the proposed controlled pedestrian crossing point).

The speed limit for the existing regional road is 60km/h. The preliminary design was carried out using this speed limit (i.e. design speed of 60km/h). The proposed layout, typical cross sections and longitudinal profiles are detailed on drawings MMD-319884-C-DR-00-XX-250 to 252 in Appendix B.

A preliminary design has been prepared in accordance with the principles outlined in the Design Standards published by Transport Infrastructure Ireland (TII).

Figure 2: Typical Cross Sections



3.3 Demolition

It is not proposed to carry out any demolition of buildings for this development. There may be a requirement to remove some existing boundary walls to accommodate the realigned road. This will be reinstated as part of the accommodation works agreed with each individual landowner.

3.4 Junctions

It is proposed to alter the existing T-Junction between the Dungarvan Road (R671) and the Wood Road (R665) so that it will be improved to facilitate appropriate vehicle turning movements. The existing Dungarvan Road currently joins the Wood Road at an oblique angle. It is proposed to reconfigure this junction into a three-arm roundabout as shown on drawing MMD-319884-C-DR-00-XX-250 in Appendix B. The proposed roundabout is necessary due to the high number of right turn movements from the R671 Regional Road heading towards Clonmel. The preliminary design of the roundabout has been prepared in accordance with the principles outlined in the Design Standard “DN-GEO-03060” published by Transport Infrastructure Ireland (TII).

A number of other accesses will be provided along the proposed road to facilitate access to either commercial and residential properties.

3.5 Road Closures / Re-Alignments

It is not proposed to extinguish any public rights of way (road closures).

All existing commercial and residential accesses along the proposed scheme are to be maintained. All accesses will be located at the existing access locations or where necessary re-alignments of access will be required.

3.6 Earthworks / Excavation

The construction involves various earthworks throughout the length of the proposed road development, including the construction of earthen embankments on the lands immediately north and south of the new road alignment. Various heights of fill will be required to construct the proposed road development, including the mainline road, side roads, junction and other property accesses. The maximum difference in height between the new proposed road and the existing adjacent ground level is 1.6m. An embankment slope of 1:2 is proposed in the preliminary design. Based on the preliminary road design, an approximate fill volume of 6800m³ and cut volume of 423m³ is proposed for the road development. Material for the fill volume will be taken from a sustainably sourced location. All material to be imported to the site will be screened to ensure there is no risk of contaminated material.

3.7 Drainage

The proposed road drainage will facilitate the efficient removal of surface and sub-surface water. This will minimise the impact of runoff on the receiving environment using Sustainable Drainage Systems (SuDS). The following standards have been referenced in the development of the drainage strategy and will be used in the preparation of the detailed design;

- NRA Design Manual for Roads and Bridges (NRA DMRB) Volume 4 Geotechnics and Drainage – Section 2 Drainage
- The Greater Dublin Strategic Drainage Study: Volume 2 New Development, Dublin City Council, March 2005
- Guidelines for Road Drainage, Department of the Environment, Heritage and Local Government, April 2004
- CIRIA Guidance Document C697: The SuDS Manual

The proposed changes to the road will not alter current traffic volumes, therefore the risk of an increase in concentration of pollutants associated with road run-off is very low. In the interest of water quality, where the footpath is proposed, a kerb and trapped gully system is provided. Where the road is at grade or in cut a filter drain system will be provided. It is proposed to maintain existing outfalls which currently discharge to the adjacent wetland. To mitigate against the risk of accidental spillage a manual shut-off valve will be provided at all outfalls, together with procedures on how the valves are activated in the event of a spillage.

3.8 Flood Risk

A flood risk assessment was carried out for the Dungarvan Road proposals in 2015 (Appendix C). The risk assessment looked at the hydraulic model created for the River Suir (Clonmel) Drainage Scheme and compared the results with and without the proposed development on Dungarvan Road.

The assessment involved modelling the proposed road alignment and modelling the area of floodplain (reservoir) that will now no longer be available during a flood event due to the increased road levels and associated embankments.

The assessment found that due to the insignificant change in the reservoir geometry, there is little to no difference in the maximum stage on the long profile, indicating that the changes to the road will not affect the current flood risk situation.

It is considered that the introduction of a roundabout to the proposed road will not affect the current flood risk situation.

3.9 Public Utilities

The design of the new proposed road development will include for the provision of road lighting for the full length of the proposed road development as per the existing local public lighting network.

Local electricity diversions and alterations will be made as necessary to facilitate the proposed road development. A 10kv ESB networks line traverses the development at the junction between the R671 and the R665. The headroom clearance of this line will be checked and a diversion or lifting of this line will be made if necessary.

Initial consultation has taken place with Gas Network Ireland, ESB, Eircom and Irish Water. Provisional existing utilities are included in Appendix D. It is noted that Irish Water are currently planning to undertake some upgrade work along this stretch of road. Further consultations will be undertaken at detailed design stage.

3.10 Signage

Appropriate signage and road markings as required, and with reference to the Traffic Signs Manual will be provided.

3.11 Vehicle Restraint Systems

The maximum difference in height between the new proposed road and the existing adjacent ground level is 1.6m. The transition between these heights is achieved by a grassed embankment with a slope of 1:2. An appropriate risk assessment is required to confirm the need for the provision of vehicle restraint systems along the scheme. Vehicle restraint systems as required will be installed in accordance with the Design Manual for Roads and Bridges following consideration of the principles of the Conference of European Directors of Roads (CEDR) document "Forgiving Roadsides Design Guide" and Transport Infrastructure Ireland (TII) document "A Guidance Document for the Implementation of the CEDR Forgiving Roadsides Report".

3.12 Pedestrian/Cycleway Facilities

No provision is made in the design for non-motorised vehicles which is consistent with the existing arrangement.

2m wide footpaths will be provided along the proposed road as per the existing road arrangement. The 2m wide footpaths are located either on the south or north sides of the proposed road carriageway. The existing controlled pedestrian crossing at chainage 0+190 will be maintained as detailed on drawing MMD-319884-C-DR-00-XX-250 in Appendix B.

3.13 Traffic Management

Traffic management will be required during the construction phase of the works. The proposed road will be constructed 'on-line' with the existing road carriageway. Therefore, for much of the construction phase, substantial traffic management or diversions will be required. Construction of the junction with the existing Regional Roads (R665) & (R671) will also require further traffic management or diversions.

4 Environmental Appraisal

4.1 Environmental Impact Assessment Screening

The requirement for environmental impact assessment has its origins in Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment. This Directive has been amended three times and was codified by Directive 2011/92/EU in 2011. Directive 2011/92/EU was then subsequently replaced by Directive 2014/52/EU in 2014. The primary objective of the EIA Directive is to ensure that projects which are likely to have significant effects on the environment are subject to an assessment of their likely impacts.

It should be noted that Directive 2014/52/EU has yet to be formally transposed into Irish planning legislation, i.e. the Planning and Development Acts and Regulations. However, Circular Letter PL 1/2017 issued on the 15th May 2017 states that the Department of Housing, Planning, Community and Local Government is urgently drafting the changes to this legislation to provide for the transposition of the Directive into the Irish planning code. In advance of transposition of Directive 2014/52/EU into Irish law, Competent Authorities are advised to ensure that the requirements of Directive 2014/52/EU are applied to planning application received on or after the 16th May 2017. The EIS Screening prepared for this project complies with this requirement.

In determining the requirement for EIA, the Directive 2014/52/EU differentiates between the projects that always require EIA and those for which an EIA may be required. These projects are listed in Annex I and Annex II of the Directive.

- Annex I projects are projects which are considered as having significant effects on the environment and require a mandatory EIA.
- Annex II projects are projects where national authorities have to decide whether an EIA is needed. This is done by the "screening procedure", which determines the effects of projects on the basis of thresholds/criteria or a case by case examination. The projects listed in Annex II are in general those not included in Annex I which may be considered to have a lesser environmental impact.

The proposed Dungarvan Road Flood Protection Scheme is not a type of project identified in either Annex I or Annex II of the EIA Directive. As such, there is no statutory requirement under the Directive for it to be subject to EIA.

Notwithstanding this, Article 50(1) of the Roads Act, 1993 (as amended) requires that where a road authority considers that the construction of a public road or the **improvement** of an existing public road would be likely to have significant effects on the environment, it shall inform the Minister in writing. Where the Minister concurs, the road authority must prepare an environmental impact statement. As such, Waterford City and County Council has prepared an EIA Screening report to inform the road authority in their determination of potential for significant effects.

In completing the report, regard was had to Annex IIA and Annex III of the EIA Directive and other relevant Irish EIA guidance. A copy of the EIA screening is included in Appendix E of this report.

4.2 Screening for Appropriate Assessment (Habitats Directive)

Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 437 of 2011) (as amended) transposes Article 6 of the Habitats Directive (92/43/EEC) into Irish law. The regulations require that before consent for a project is given, **a screening for Appropriate Assessment** of a project for which an application for consent is received (which is not directly connected with or necessary to the management of the site as a European Site), must be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

The Dungarvan Road Flood Protection Scheme is **not directly connected with or necessary to the management of any Natura 2000 sites** and must therefore be subjected to screening for Appropriate Assessment.

A screening for Appropriate Assessment was carried out in accordance with the following European Commission and National Guidance and was informed by ecological field assessment:

- EC (2000) 'Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC'
- EC (2001) 'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC'
- DEHLG (2009, updated 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities

The screening assessment found that the Lower River Suir SAC (site code: 002137) is located approximately 50m from the proposed project. The qualifying features of the Lower River Suir SAC are beyond the spatial and temporal limits of the likely impacts of the project i.e. there are no qualifying features within the zone of influence of the project. Therefore, there will be no impacts on the SAC. There are no other European Sites within the zone of influence of the project. As such there can be no significant effects on the European Site.

The screening for Appropriate Assessment determined that there are **no likely significant effects** on the Natura 2000 Network from the proposed Dungarvan Road Flood Protection Scheme.

A copy of the screening for Appropriate Assessment is included in Appendix F of this report.

4.3 Baseline Ecology

4.3.1 Desktop Assessment

A desk based assessment was undertaken to identify the likely presence of features of ecological importance within the zone of influence of the Dungarvan Road Flood Protection Scheme. The following resources and databases were consulted in the production of this report:

- The National Biodiversity Data Centre - <http://maps.biodiversityireland.ie>
- The National Parks and Wildlife Services - <http://www.npws.ie>
- Conservation Status Assessment Reports (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive

- Published and unpublished NPWS reports on protected and species including Irish Wildlife Manual reports, Species Action Plans, and Conservation Management Plans

Records from National Biodiversity Data Centre (NBDC) within the 2km square grid (S12V) which encompasses the proposed development site include a number of species protected under the Wildlife Act 1976 (as amended). These species, their designation, and level of protection are listed in Table 1.

Table 1: NBDC Records within the 2km square grid (S12V)

Species group	Scientific name	Common name	Record count	Date of last record	Designation / Protection
Bird	<i>Anas crecca</i>	Eurasian Teal	1	25/02/2017	Protected Species: Wildlife Acts Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Carduelis cannabina</i>	Common Linnet	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Columba palumbus</i>	Common Wood Pigeon	3	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Bird	<i>Cygnus olor</i>	Mute Swan	2	25/02/2017	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Falco tinnunculus</i>	Common Kestrel	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Gallinago gallinago</i>	Common Snipe	1	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Hirundo rustica</i>	Barn Swallow	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Lagopus lagopus</i>	Red Grouse	1	31/07/1991	Protected Species: Wildlife Acts Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Bird	<i>Passer domesticus</i>	House Sparrow	2	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species group	Scientific name	Common name	Record count	Date of last record	Designation / Protection
Bird	<i>Phalacrocorax carbo</i>	Great Cormorant	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	<i>Phasianus colchicus</i>	Common Pheasant	3	25/02/2017	Protected Species: Wildlife Acts Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Bird	<i>Sturnus vulgaris</i>	Common Starling	2	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Terrestrial mammal	<i>Lutra lutra</i>	European Otter	2	22/08/2007	Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Terrestrial mammal	<i>Martes martes</i>	Pine Marten	2	24/07/2016	Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Terrestrial mammal	<i>Meles meles</i>	Eurasian Badger	5	31/12/2009	Protected Species: Wildlife Acts
Terrestrial mammal	<i>Sciurus vulgaris</i>	Eurasian Red Squirrel	2	22/10/2016	Protected Species: Wildlife Acts

Source: NBDC (downloaded 07/11/2017)

4.3.2 Field Assessment

An ecological field assessment was undertaken by Mott MacDonald Ecologists on 06 October 2017 to determine the presence / likely presence of species / habitats of ecological value within the spatial and temporal extents of the likely impacts of the development. A survey area of 350m from the project boundary was assigned.

Equipment used for the survey included base maps, iPad, template target notes, digital camera, Explorer Premium wireless inspection endoscope (Model 8003AL), and binoculars.

- The habitat survey was carried out with regard to 'Best Practice Guidance for Habitat Survey and Mapping' (Heritage Council, 2011). Habitats were classified in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000).
- Badger survey followed *Surveying Badgers, Mammal Society* (Harris et. al., 1989)
- Otter survey followed *Monitoring the Otter Lutra lutra* (Chanin, 2003).
- Red Squirrel survey followed the feeding sign survey prescribed in *Practical techniques for surveying and monitoring squirrels* (Gurnell et al, October 2009)
- Bat survey was carried out in accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (The Bat Conservation Trust, 2016). A daytime ground level visual assessment of vegetation was carried out regarding *Bat Tree Habitat Key* (Andrews, H et al., 2013) to determine potential roost features.
- Observations of ornithological activity within and adjacent to the study area were made during the ecological survey.

Habitats

The evaluation of ecological value of habitats is in accordance with *Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009)*. A habitat map is included in Figure 13.

Lands to the north of the road comprise improved agricultural grassland (GA1) in mosaic with wet grassland (GS4). These habitats are common throughout the area and are assessed as Local Importance (lower value).

There is an area of species poor swamp (FS1), approximately 3.5km² west of the petrol station, north of Dungarvan Road. This area has a high water table and there are areas of stagnant water throughout. This habitat is semi-natural and uncommon in the locality. This habitat is likely to support common frog (protected under the Wildlife Act). This habitat is assessed as Local Importance (higher value).

The habitat to west of the swamp grades in to willow scrub (WS1). There are similar areas of standing water throughout. This habitat is an important ecological corridor between the swamp and Kilmacomma stream.

The Kilmacomma stream is located approximately 30m from the location of the reconfiguration of the R671/R665 junction. The Kilcomma stream flows in a northerly direction and joins the River Suir approximately 500m downstream. This watercourse is assessed as County Importance as it is a tributary of the River Suir (part of the Lower River Suir SAC) and is likely to support Annex I species of the SAC. Japanese knotweed occurs below the road culvert on the Kilmacomma stream. This area will not be affected by the proposed development.

There is an area of mixed broadleaf /conifer woodland (WD2) dominated by beech to the immediate east of the proposed development (beyond the project lands). A large stand of Japanese Knotweed occurs within the woodland. There is also extensive winter heliotrope growth along the road verge at this location. This area will not be affected by the proposed development.

Lands to the south of the Dungarvan road comprise a high, steep embankment dominated by willow scrub (WS1), with some mixed broadleaf /conifer woodland (WD2) (beech, ash, cypress and alder trees). There are a small number of sessile oak also present towards the rear of the embankment.

Figure 3: Wet grassland



Source: Mott MacDonald October 2017

Figure 4: Swamp and willow scrub



Source: Mott MacDonald October 2017

Figure 5: Japanese Knotweed in mixed woodland



Source: Mott MacDonald October 2017

Figure 6: Willow scrub embankment to the south



Source: Mott MacDonald October 2017

Species

Otter: No evidence of otter was observed during field survey. Otter are however known to use the Kilmacomma stream. In the event that the proposed works do not commence within 36 months of this baseline ecological survey (October 2017), **a pre-construction survey must be carried out to ensure no new otter resting places within 150m of the proposed works.**

Badger: Signs of badger (latrines, mammal paths, prints, and snuffle holes) were observed throughout the survey area. A high level of badger activity was noted; however, no setts were observed. It is of note that there were a number of areas of impenetrable scrub on the southern boundary of the road which could not be surveyed. Therefore, site clearance must be carried out under the supervision of a competent ecologist.

Section 23 (5)(d) of the Wildlife Act 1976 as amended states that any person who willfully interferes with or destroys the breeding place or resting place of any protected wild animal, shall be guilty of an offence. If a badger sett is observed during site clearance, works must cease in this location. An area 50m around the sett (including all entrances) should be cordoned off and excluded from site clearance until such time as the sett can be destroyed under licence from NPWS under the Wildlife Act.

Pine Marten: one pine marten scat was observed in agricultural lands adjacent to the Kilmacomma stream. No other evidence of pine marten was observed. This is an elusive animal and is difficult to survey. Vegetation clearance to accommodate the works will predominantly comprise willow scrub. This is not habitat typically used by pine marten. Impacts are therefore unlikely. However, all site clearance should be carried out under the supervision of the Ecologist. Works should cease and NPWS should be consulted in the event of locating a pine marten den or refuge within the area of site clearance.

Red Squirrel: No evidence of red squirrel was observed during field survey. Vegetation clearance to accommodate the works will predominantly comprise willow scrub. This is not habitat typically used by squirrel. Impacts are therefore unlikely. However, all site clearance should be carried out under the supervision of the Ecologist. Works should cease and NPWS should be consulted in the event of locating a squirrel drey within the area of site clearance.

Fallow Deer: Deer inhabit the woodland to the south and west of the proposed Dungarvan Road upgrade. Deer droppings and slots were observed throughout the woodland. Deer are

known to cross the road regularly. There is existing warning signage in place in relation to deer crossing. The speed limit on the road will not be altered as part of the scheme. There will be no significant habitat loss in association with the works. Impact on deer are unlikely.

Bats: Trees and buildings within the zone of influence of the scheme were assessed for bat roost potential and bat activity. Most trees were assessed as having low bat potential with the exception of a mature ash tree (high bat roost potential) at the residential property at the R671/R665 junction which is to be provided a new entrance. The felling of this tree (as may be necessary) must be under the supervision of a competent ecologist and in accordance with NRA “*Guidelines for the treatment of bats during the construction of national road schemes*”.

Buildings to be demolished as part of the scheme were examined for bat activity. No bat activity or bat roosts were observed.

Common Frog: The marsh habitat to the north of the road is suitable habitat for common frog. This habitat will not be directly impacted by the works and there will be no change in hydrology of the area as a result of the works.

Figure 7: Badger Snuffle Holes



Source: Mott MacDonald October 2017

Figure 8: Badger Latrine



Source: Mott MacDonald October 2017

Figure 9: Deer droppings



Source: Mott MacDonald October 2017

Figure 10: Deer slots



Source: Mott MacDonald October 2017

Figure 11: Ash tree with high roost potential



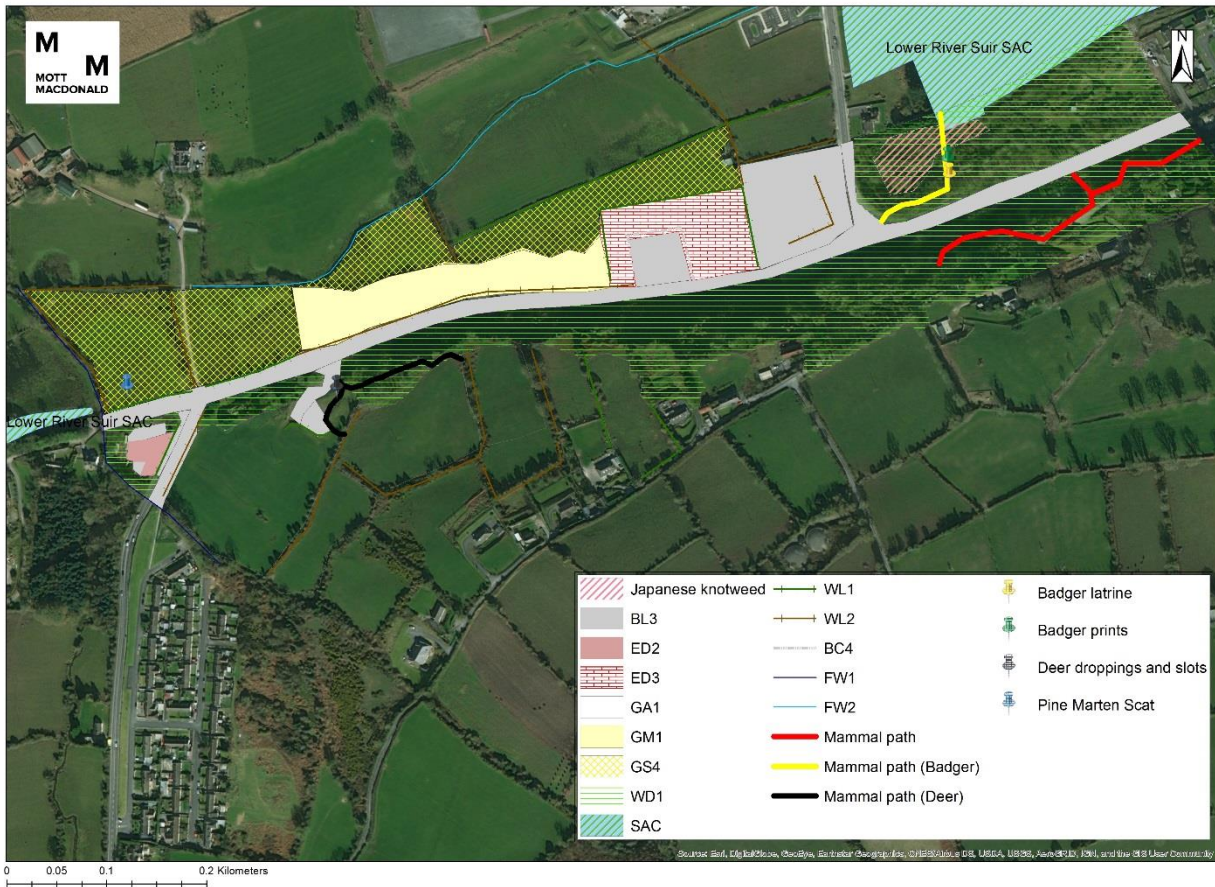
Source: Mott MacDonald October 2017

Figure 12: Shed assessed for bats



Source: Mott MacDonald October 2017

Figure 13: Habitat Map



4.4 Archaeology, Cultural Heritage and Architectural Heritage

4.4.1 Baseline Environment

The proposed development site boundary is outlined in green on the map included Archaeology Screening Report in Appendix G. The following sites were identified in the vicinity:

Sites and Monuments Record

A review of the Sites and Monuments Record (SMR) data available from the National Monuments Service indicates that the closest SMR's to the proposed flood protection and road development are SMR No. WA001-012001 (church) and SMR No. WA001-012002 (graveyard) located approx. 74m from the nearest proposed works site. Some works will be located within the boundary of the National Monuments Service Zone of Notification. Where works are carried out within a zone, notification to National Monuments and Services is required under section 12 of the National Monuments Act (1930-2004).

SMR No. WA001-011 (House - fortified house) and SMR No. WA001-010 (enclosure) are located over 260m and 360m respectively from the proposed development, and are situated to the north of the church and graveyard site. None of the proposed works are located within the National Monuments Service Zone of Notification for these two sites.

Table 2: SMR sites

SMR. No.	Name	Townland	Sched for inclusion in next rev of the RMP	Approx. Distance from Site
WA001-012001	Church	Greenan (Glenahiry By.)	Yes	74m North of the proposed roundabout
WA001-012002	Graveyard	Greenan (Glenahiry By.)	Yes	74m North of the proposed roundabout
WA001-010	Enclosure	Greenan (Glenahiry By.)	Yes	360m North of the proposed roundabout
WA001-011	House - fortified house	Greenan (Glenahiry By.)	Yes	260m North of the proposed roundabout

Source: <http://webgis.archaeology.ie/historicenvironment/>

National Inventory of Architectural Heritage

A review of the National Inventory of Architectural Heritage (NIAH) indicates that there are two NIAH features in the vicinity of the proposed works. These include: Reg. No. 22208315 (house), and Reg. No. 22120002 (bridge).

Birdhill House is located approximately 640m to the north of the proposed flood protection and road development and is located on the northern side of the River Suir.

The bridge (Workhouse Bridge) is located approximately 530m to the northeast of the eastern tie in of the flood protection and road development.

Record of Protected Structures

A review of the Record of Protected Structures (RPS) in Waterford County Development Plan (WCDDP) indicated that there are no RPS points in the townlands of Greenan and Kilmacomma where the proposed development is located. The nearest RPS point is Knocklofty Bridge¹ (RPS 86, NIAH Reg No. 22900104) in Kilnamack West approx. 4.3km to the west of the proposed development.

¹ Waterford County Development Plan 2011 – 2017 Appendix A13 Record of Protected Structures

Architectural Conservation Area

Waterford County Development Plan 2011 – 2017 does not identify Dungarvan Road as an Architectural Conservation Areas (ACA).

4.4.2 Recommendations

Mitigation

Consultation will be required with the National Monuments Service to determine the requirements for archaeological monitoring during site investigation and construction works. If monitoring is required, this will be carried out by a suitably qualified Archaeologist procured on behalf on Waterford City & County Council.

During the construction works, the Contractors will be made aware of the locations of all NIAH and RPS sites to ensure impacts to the structures are avoided. No works will be carried out within the curtilage area of these sites.

Conclusion

Due to the SMR sites present directly adjacent to the proposed works, it is proposed to engage in consultation with the National Monuments Service and the Development Applications Unit in the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (where required). A more detailed archaeological study will be required to be undertaken by a suitable qualified Archaeologist procured on behalf on Waterford City & County Council.

4.5 Landscape and Visual Impact Assessment

4.5.1 Baseline Environment

Site Location

The proposed development site is located on the existing R671/R665 Dungarvan Road to the South west of Clonmel Town. The proposed road development is located on a flat, low lying area adjacent to the River Suir. The River Suir floodplain is located to the north of the site. The topography climbs steeply to the south of the site. There are no scenic views or prospects present within the immediate environs of the road. Mature hedgerows and treelines line the existing road edge.

The proposed road development follows the existing alignment for the most part. This minimises the visual impact of the proposed project. As the development will entail the raising of road levels, this will necessitate the construction of new embankments. This will create a requirement to remove roadside hedgerow and tree vegetation in places. The proposed development alignment has been designed to minimise woodland loss as far as is practicable. Native tree planting is proposed for land that will be disturbed to further mitigate visual impacts over time.

The level of screening afforded by the existing tree and hedgerow vegetation and the hillside landform to the south of the proposed development is a significant factor in limiting the anticipated visual impacts.

Scenic Routes

Waterford City & County Council's policy regarding scenic routes is that "*Scenic routes indicate public roads from which views and prospects of areas of natural beauty and interest can be enjoyed. Sightseeing visitors are more likely to be concentrated along these routes.*"

One of the scenic routes listed in Appendix A9 of the County Development Plan includes the R671 at the location of the proposed development.

“North-west from Dungarvan to Tooraneena on the R672. Third class North to Ballymacarbry. Join R671 to Clonmel taking the R678 and turning south for third class route through the Comeraghs;”

The proposed development will not impede on any views from the route at the proposed location, the road level will be raised along the existing alignment which may offer improved views on the River Suir flood plains.

Tree Preservation Order

It is an objective of Waterford City & County Council to conduct a comprehensive tree survey to identify suitable trees for the Tree Preservation Order. Appendix A12 of the County Development Plan lists trees and woodlands which are subject to the Tree Preservation Order. None of the trees or woodlands are located within close proximity to the proposed development.

Visual Receptors

The proposed road development is in close proximity to a number of residential houses. The closest residential properties are located on the southern side of the R671 (location approximately Chainage 0+100 and 0+200). These will be impacted by the removal of mature trees along the road/property boundary which currently act as visual screening of the road. This loss of mature trees will be mitigated through the planting of new trees.

Other receptors such as Applegreen service station and Semiton Ltd Contracting and Project Management Company currently face the existing road with no screening and a view of the hillside opposite. The road will be lifted in these areas by approximately 0.5m. These receptors will therefore have little or no visual impact from the proposed development

Conclusion

The proposed works will generally be limited to the existing road curtilage, this combined with existing tree and hedgerow vegetation significantly limit visual impacts. Mitigation measures proposed will ensure that there is no significant impact on any visual receptors. Therefore, no significant adverse impacts on the landscape and visual aspects are unlikely.

4.6 Noise and Vibration

The proposed development site is located in a rural-agricultural area with a low population density. The closest residential property is located at the R671/R665 junction. Other properties in close proximity to the proposed development include; residential properties on the R671 and R665, Pinewood Drive housing estate, Applegreen Service station, and Semiton Ltd Contracting and Project Management Company.

Construction Phase

There is likely to be a short term, localised increase in noise levels as a result of the construction phase of these works. To minimise the impact of construction noise associated with the proposed development, noise reduction measures will be in place during the construction phase and will comply with British Standard 5228 " *Noise Control on Construction and open sites Part 1. Code of practice for basic information and procedures for noise control*".

The following mitigation measure will also be implemented:

- Plant and vehicles will be maintained in good working order;

- Local screening will be provided where considered necessary;
- Noisy construction works (like rock breaking) will be limited and will not be undertaken outside of normal working hours.

Following the mitigation measures outlined above, no significant impacts in terms of noise associated with the proposed new development is anticipated.

Operational Phase

The closest residential properties are located on the southern side of the R671 (location approximately Chainage 0+100 and 0+200). These will be impacted by the removal of mature trees along the road/property boundary which currently act as noise screening from the road. This loss of mature trees will be mitigated through the planting of new trees.

It is not anticipated that traffic levels will increase above the existing baseline noise levels during the operational phase of the proposed development. Therefore, the operational phase of the proposed works are extremely unlikely to cause an increase to baseline noise levels.

4.7 Flood Risk Assessment

A flood risk assessment was carried out for the Dungarvan Road proposals in 2015 (Appendix C). The risk assessment looked at the hydraulic model created for the River Suir (Clonmel) Drainage Scheme and compared the results with and without the proposed development on Dungarvan Road.

The assessment involved modelling the proposed road alignment and modelling the area of floodplain (reservoir) that will now no longer be available during a flood event due to the increased road levels and associated embankments.

The assessment found that there is little to no difference in the maximum stage on the long profile due to the insignificant change in the reservoir geometry. This indicates that the proposed changes to the road, including the proposed roundabout, will not cause an increase in flood risk.

4.8 Air Quality

Construction Phase

Construction phase emissions to the atmosphere will be in the form of dust during earthworks and construction. The spatial limit for dust impacts have been determined with regard to the Institute of Air Quality Management (IAQM) '*Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance*' (2012). The IAQM defines the zone of influence for dust as 350m from the site boundary •

To minimise the impact of dust associated with the proposed development, dust suppression measures will be in place during the construction phase. These will comply with TII *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes*. With the incorporation of these best practice measures, impacts as a result of dust are considered unlikely.

Operational Phase

There will be no increase in traffic levels from baseline during the operational phase of the proposed development. Therefore, impacts to air quality as a result of the proposed works are extremely unlikely.

5 Land Acquisition and Accommodation Works

Land acquisition by Waterford City and County Council will be required in order to construct this proposed road development.

The proposed development area consists predominantly of a road bed and verges.

The preliminary design has been progressed to permit planning and land acquisition procedures to be undertaken. In this regard, the preliminary design of the road alignment, cross-section, pedestrian and cycle facilities, fencing, drainage & attenuation, utilities, vehicle restraint systems and flood mitigation have been considered to ascertain the required land acquisition.

The land area to be acquired is approximately 1.640 hectares (ha).

Waterford City and County Council will acquire the necessary lands to construct the proposed flood defence development through agreement with the relevant landowners in the area.

Accommodation works in the form of private entrances, single field accesses and access tracks will be required. These will be designed in consultation with the affected landowners.

6 Public Consultation

6.1 Plans and Particulars

Plans and particulars of the proposed development will be available for inspection or purchase at a reasonable fee not exceeding the reasonable cost of making a copy, at the following locations: -

- Waterford City & County Council, Civic Offices, Davitts Quay, Dungarvan
- Waterford City & County Council, Customer Care Desk, Baileys New Street, Waterford

6.2 Submissions or observations

Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the proposed development would be situated, may be made in writing, to The Director of Services, Roads & Transportations Dept. Waterford City & County Council, Menapia Building, The Mall, Waterford or by emailing contact@waterfordcouncil.ie before 4 p.m. on Friday 19th June 2018.

6.3 Notice of Proposed Development (Newspaper & Site)

In accordance with Article 81.1a of the regulations notice of the proposed development was placed in the approved newspaper Munster Express on the 2nd May 2018. A copy of the newspaper notice is contained in Appendix A of this report.

In accordance with Article 81.1b of the regulations site notices have been erected on the land on which the proposed development would be situated. The site notice locations are shown on the scheme drawings MMD-319884-C-DR-00-XX-250 in Appendix B. A copy of the site notice is contained in Appendix A of this report.

Appendices

A.	Public Notice (Site & Newspaper)	23
B.	Drawings	24
C.	Flood Risk Assessment	25
D.	Existing Utilities	26
E.	EIA Screening	27
F.	Appropriate Assessment Screening	28
G.	Archaeology Screening Report	29

A. Public Notice (Site & Newspaper)

NOTICE OF PROPOSED DEVELOPMENT BY A LOCAL AUTHORITY

PLANNING & DEVELOPMENT ACT 2000 (as amended) PLANNING & DEVELOPMENT REGULATIONS, 2001 (as amended) ARTICLE 81 OF PART 8 OF THE PLANNING & DEVELOPMENT REGULATIONS 2001 (as amended)

In accordance with Article 81 of Part 8 of the Planning and Development Regulations 2001 (as amended), notice is hereby given that Waterford City and County Council proposes to carry out the following development: Dungarvan Road Flood Protection Scheme at Greenan and Kilmacomma, Clonmel, Co Waterford.

The proposed development will consist of

- Construction of new roundabout to replace existing T-Junction of the R665 and the R671 (known locally as the Fingerpost);
- Road levels raised to be above predicted flood levels including construction of earth embankments
- Construction of footpaths and pedestrian crossing to match existing;
- Construction of drainage works; access, accommodation works and utility diversions;
- Ancillary roadworks and traffic management.

In accordance with Section 250 of SI 476/2011, Planning and Development (Amendment) (No. 3) Regulations, 2011, the Council has carried out an appropriate assessment screening and has determined that an Appropriate Assessment is not required.

Plans and particulars of the proposed development will be available for inspection or purchase at a reasonable fee not exceeding the reasonable cost of making a copy, at the following locations :-

- Waterford City & County Council, Customer Services Department, Civic Offices, Davitts Quay, Dungarvan
- Waterford City & County Council, Customer Care Desk, Baileys New Street, Waterford

between the hours of 9.30 am to 4.00 pm Monday to Friday for the period 2nd May 2018 to 31st May 2018 inclusive (excluding Bank and Public Holidays)

A copy of the plans and particulars of the proposed development may also be viewed on the Waterford City & County Council's website at www.waterfordcouncil.ie

Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the proposed development would be situated, may be made in writing, to The Director of Services, Roads & Transportations Dept. Waterford City & County Council, Menapia Building, The Mall, Waterford or by emailing contact@waterfordcouncil.ie before 4 p.m. on Friday 15th June 2018.

Mr Fergus Galvin,
Director of Services,
Roads, Water & Environment Department,
Waterford City & County Council,
Menapia Building, The Mall,
Waterford.

DATE 2nd May 2018.

NOTICE OF PROPOSED DEVELOPMENT BY A LOCAL AUTHORITY

PLANNING & DEVELOPMENT ACT 2000 (as amended) PLANNING & DEVELOPMENT REGULATIONS, 2001 (as amended) ARTICLE 81 OF PART 8 OF THE PLANNING & DEVELOPMENT REGULATIONS 2001 (as amended)

In accordance with Article 81 of Part 8 of the Planning and Development Regulations 2001 (as amended), notice is hereby given that Waterford City and County Council proposes to carry out the following development: Dungarvan Road Flood Protection Scheme at Greenan and Kilmacomma, Clonmel, Co Waterford.

The proposed development will consist of

- Construction of new roundabout to replace existing T-Junction of the R665 and the R671 (known locally as the Fingerpost);
- Road levels raised to be above predicted flood levels including construction of earth embankments
- Construction of footpaths and pedestrian crossing to match existing;
- Construction of drainage works; access, accommodation works and utility diversions;
- Ancillary roadworks and traffic management.

In accordance with Section 250 of SI 476/2011, Planning and Development (Amendment) (No. 3) Regulations, 2011, the Council has carried out an appropriate assessment screening and has determined that an Appropriate Assessment is not required.

Plans and particulars of the proposed development will be available for inspection or purchase at a reasonable fee not exceeding the reasonable cost of making a copy, at the following locations :-

- Waterford City & County Council, Customer Services Department, Civic Offices, Davitts Quay, Dungarvan
- Waterford City & County Council, Customer Care Desk, Baileys New Street, Waterford

between the hours of 9.30 am to 4.00 pm Monday to Friday for the period 2nd May 2018 to 31st May 2018 inclusive (excluding Bank and Public Holidays)

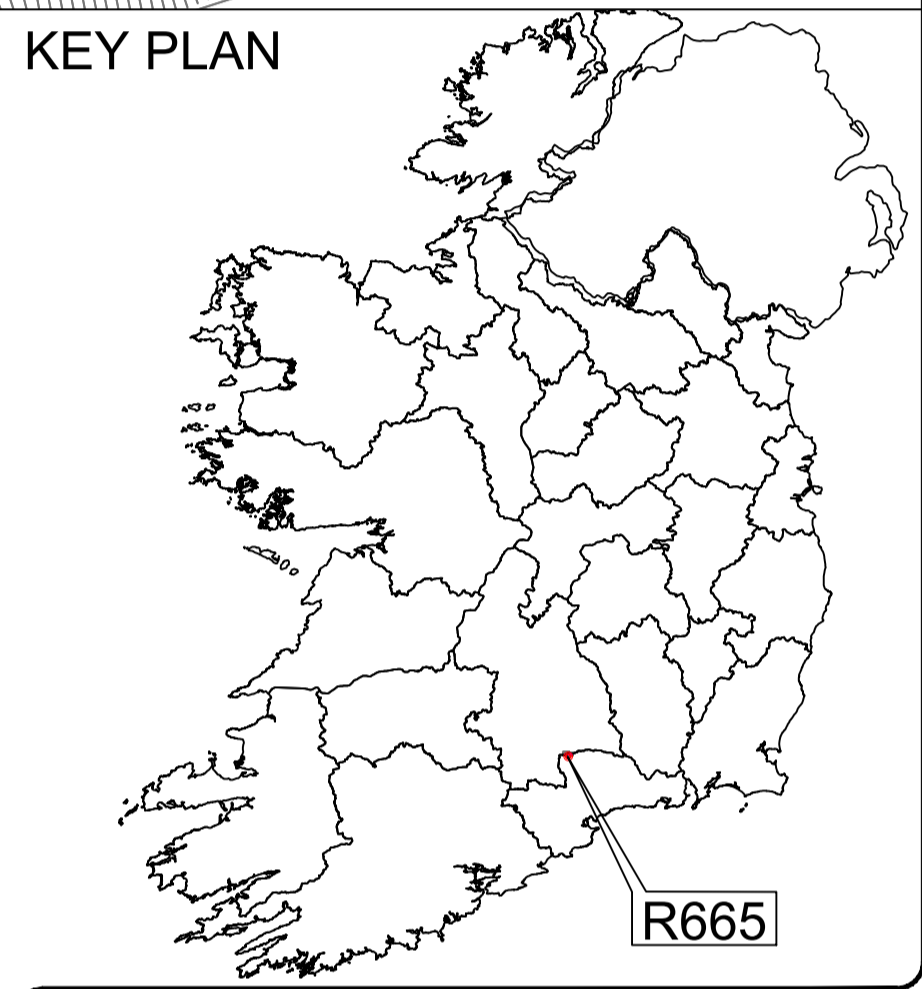
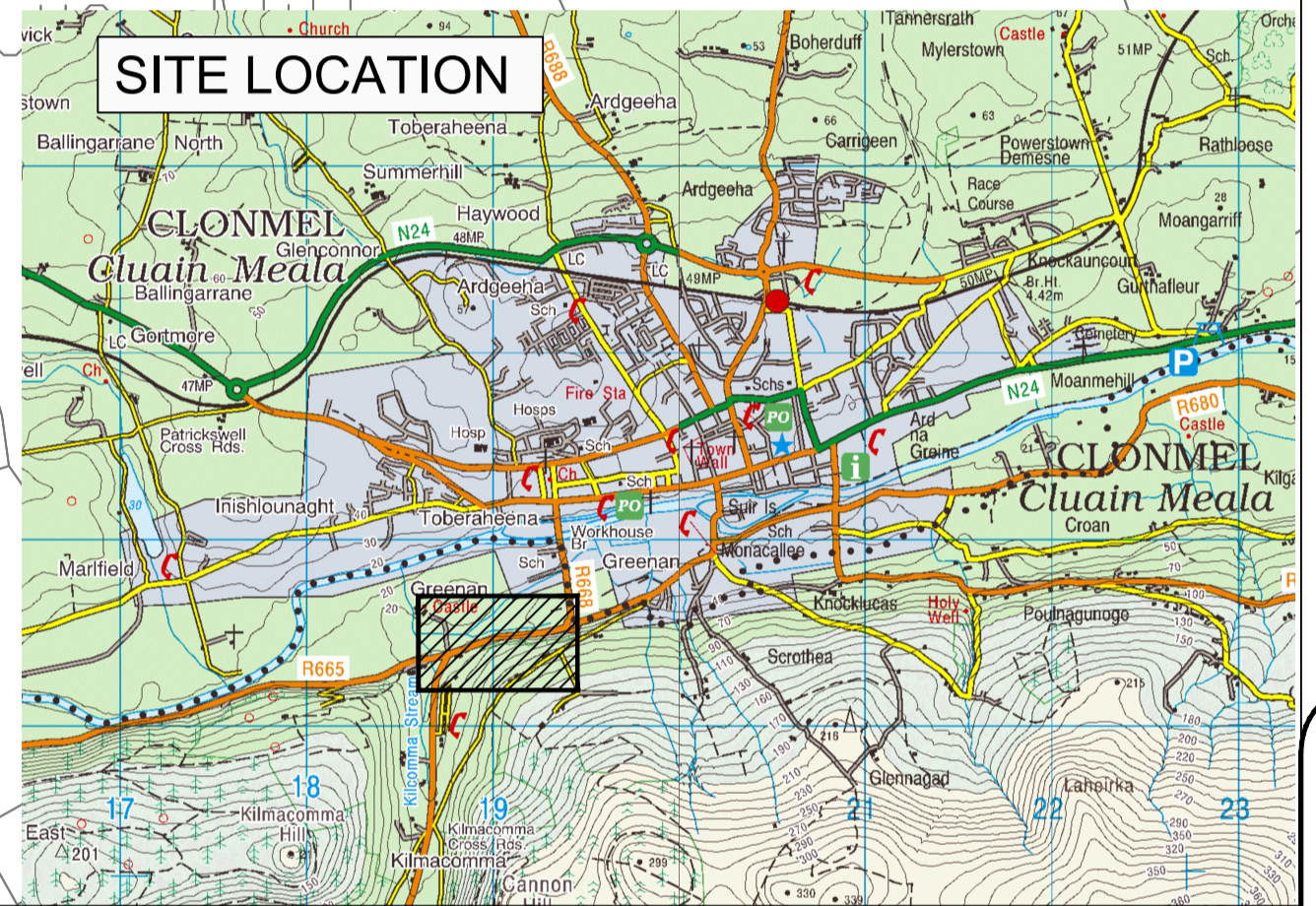
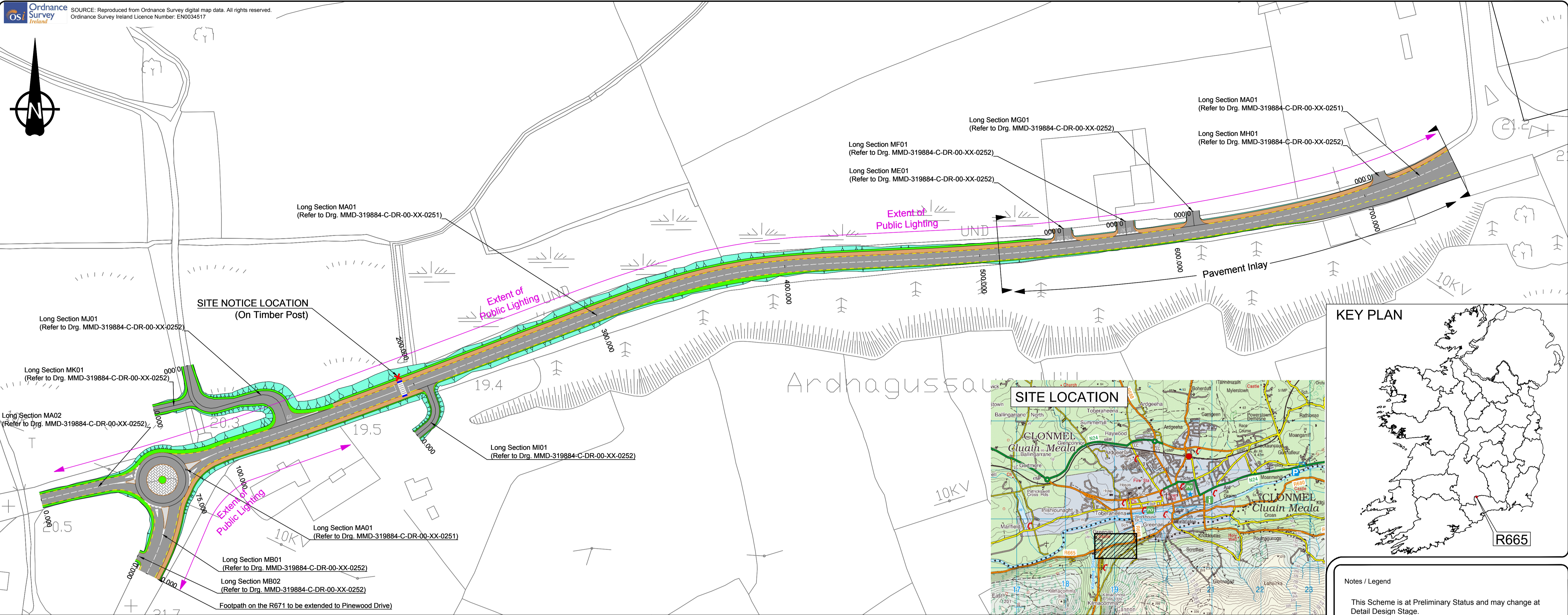
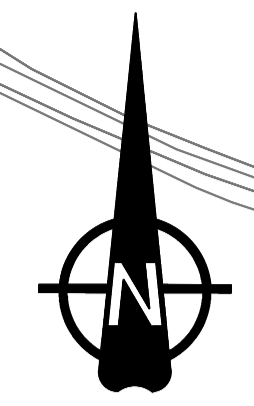
A copy of the plans and particulars of the proposed development may also be viewed on the Waterford City & County Council's website at www.waterfordcouncil.ie

Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the proposed development would be situated, may be made in writing, to The Director of Services, Roads & Transportations Dept. Waterford City & County Council, Menapia Building, The Mall, Waterford or by emailing contact@waterfordcouncil.ie before 4 p.m. on Friday 15th June 2018.

Mr Fergus Galvin,
Director of Services,
Roads, Water & Environment Department,
Waterford City & County Council,
Menapia Building, The Mall,
Waterford.

DATE 2nd May 2018.

B. Drawings



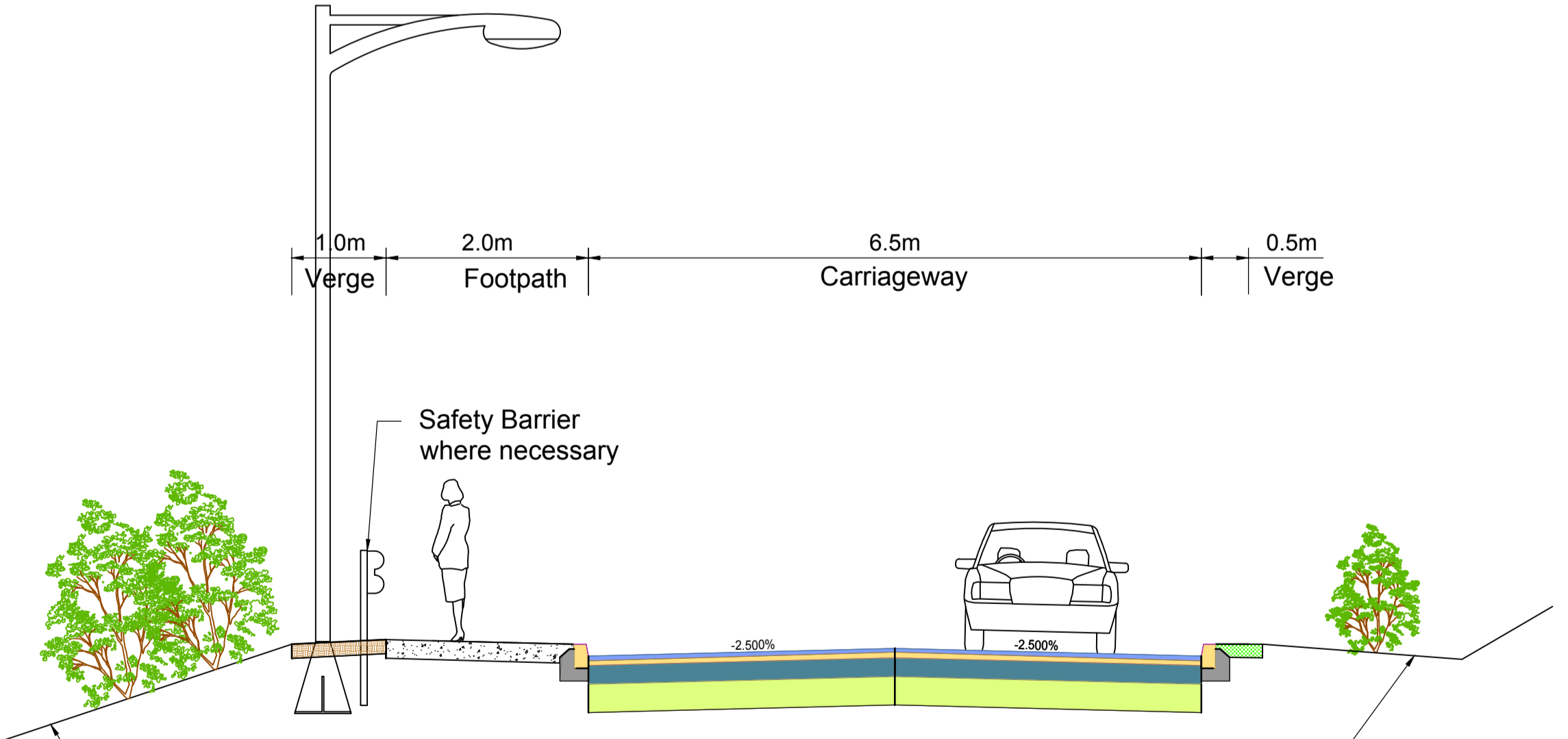
Notes / Legend

This Scheme is at Preliminary Status and may change at Detail Design Stage.

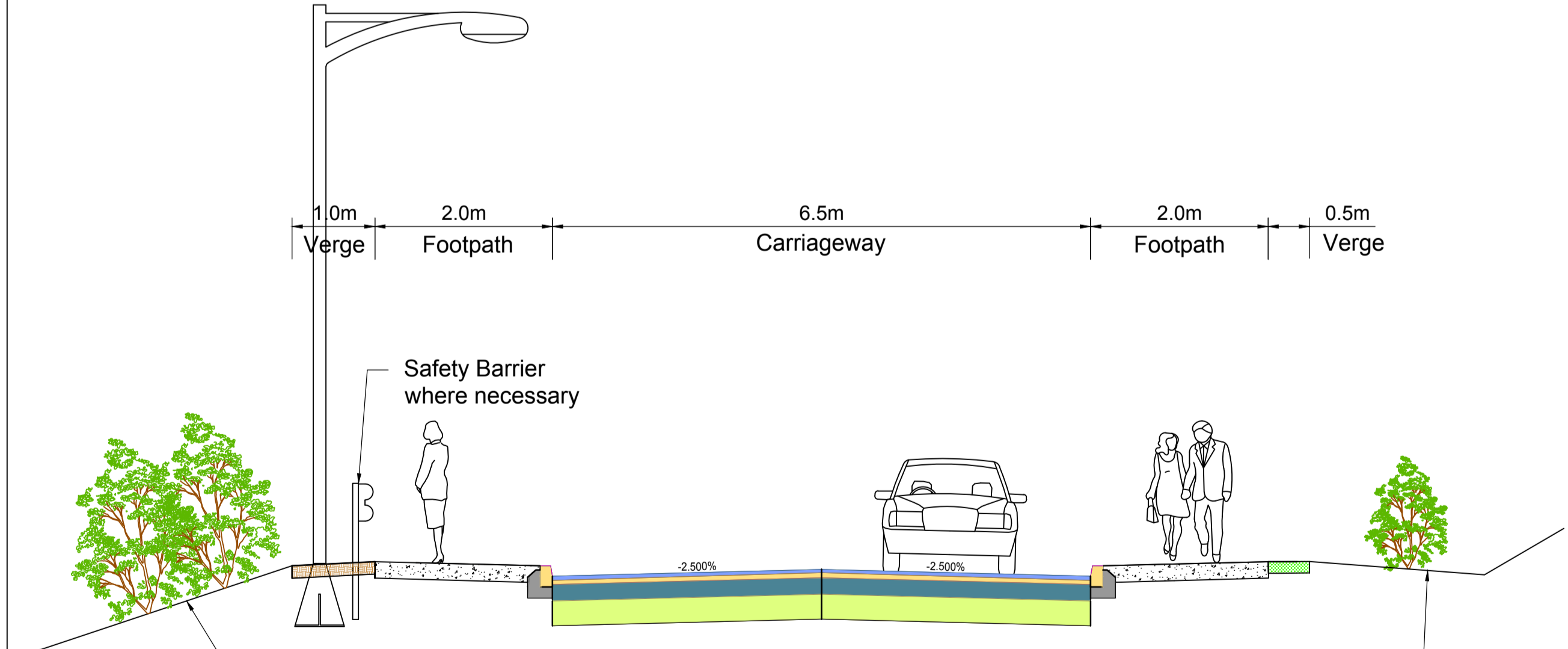
Future permanent access will be provided in accordance with future planning permissions.

Current access to lands will be maintained via field gates - Location to be agreed with landowner.

- Road
- Footpath
- Verge
- Earthworks
- Tactile Paving



TYPICAL CROSS SECTION (Footpath on one side)



TYPICAL CROSS SECTION (Footpath on both sides)

© This drawing should not be relied on or used in circumstances other than those for which it was originally prepared and for which Mott MacDonald Ireland Ltd was commissioned. Mott MacDonald Ireland Ltd accepts no responsibility for this document to any other party other than the person by whom it was commissioned.

Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council
Davitt's Quay
Dungarvan
Co. Waterford
X35 Y326

M M
MOTT MACDONALD
5 Eastgate Avenue
Eastgate
Little Island
Cork
Ireland
T +353 (0) 21 4809800
F +353 (0) 21 4809801
W www.mottmac.com

Notes

- This drawing is the property of Mott MacDonald. It is a confidential document and must not be copied, used, or its contents divulged without prior consent.
- All levels are referred to Ordnance Survey Datum, Malin Head.
- DO NOT SCALE, use figured dimensions only, if in doubt ask.

Original Drawing Size A1

Dungarvan Road FPS, Clonmel

Rev.	Date	Drawn	Description	Chk'd	Appr.
PO4	27/04/2018	JOR	For Approval	NS	NS
PO3	21/03/2018	JOR	For Approval	NS	NS
PO2	24/11/2017	MH	For Approval	BM	NS
PO1	10/11/2017	MH	For Information (Draft)	NS	NS

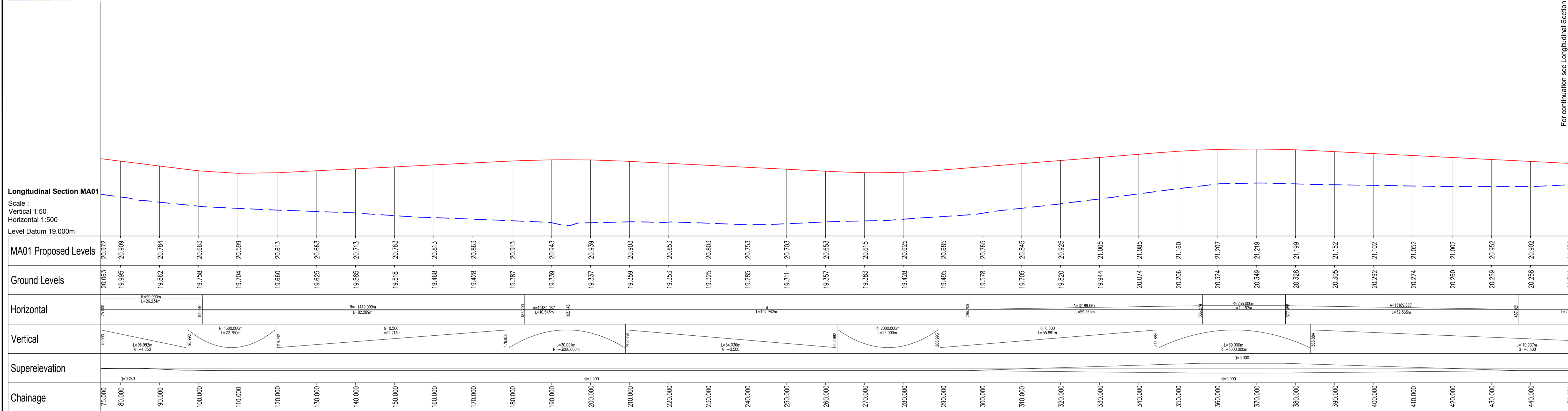
Drawing Title:
Dungarvan Road R665
Part 8 Planning
Horizontal Layout - R665 (Sheet 1 of 1)

Designed: J. O'Riordan
Drawn: M. Hurley
Checked: N. Samachetty
Approved: N. Samachetty

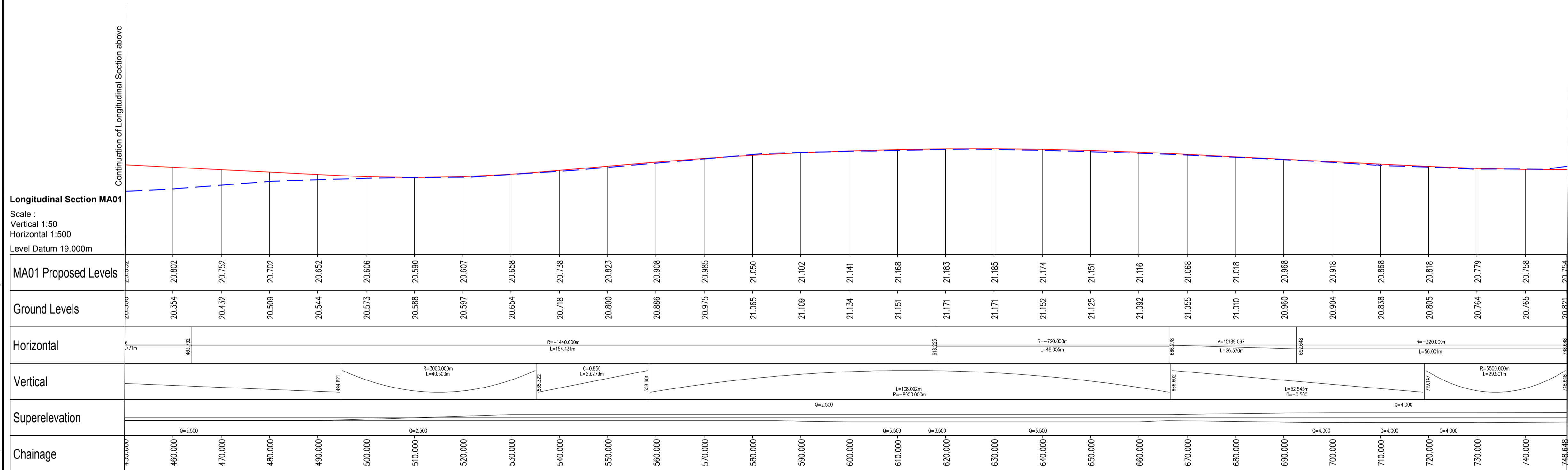
Status: PRE
Revision: P04

Job Number: 319884
Scale at A1: 1:1000
Date: Nov 2017

Drawing No.
MMD-319884-C-DR-00-XX-0250



For continuation see Longitudinal Section Below



Notes / Legend

This Scheme is at Preliminary Status and may change at Detail Design Stage.

Future permanent access will be provided in accordance with future planning permissions.

Current access to lands will be maintained via field gates - Location to be agreed with landowner.

--- Existing Ground Level
 --- Proposed Ground Level

C:\documents and settings\p35590\p35590\mmd\0155041\MMD_319884-C-DR-00-XX-0251.dwg

© This drawing should not be relied on or used in circumstances other than those for which it was originally prepared and for which Mott MacDonald Ireland Ltd was commissioned. Mott MacDonald Ireland Ltd accepts no responsibility for this document to any other party other than the person by whom it was commissioned.

Comhairle Cathrach & Contae Phort Láirge
 Waterford City & County Council
 Davitt's Quay
 Dungarvan
 Co. Waterford
 X35 Y326

M MOTT MACDONALD
 5 Eastgate Avenue
 Eastgate
 Little Island
 Cork
 Ireland
 T +353 (0) 21 4809800
 F +353 (0) 21 4809801
 W www.mottmac.com

Notes

- This drawing is the property of Mott MacDonald. It is a confidential document and must not be copied, used, or its contents divulged without prior consent.
- All levels are referred to Ordnance Survey Datum, Malin Head.
- DO NOT SCALE, use figured dimensions only, if in doubt ask.

Original Drawing Size A1

Dungarvan Road FPS, Clonmel

Rev.	Date	Drawn	Description	Chk'd	Appr.
P03	27/04/2018	JOR	For Approval	NS	NS
P02	21/03/2018	JOR	For Approval	NS	NS
P01	10/11/2017	MH	For Information	NS	NS

Drawing Title:
 Dungarvan Road R665
 Part 8 Planning
 Longitudinal Section MA01

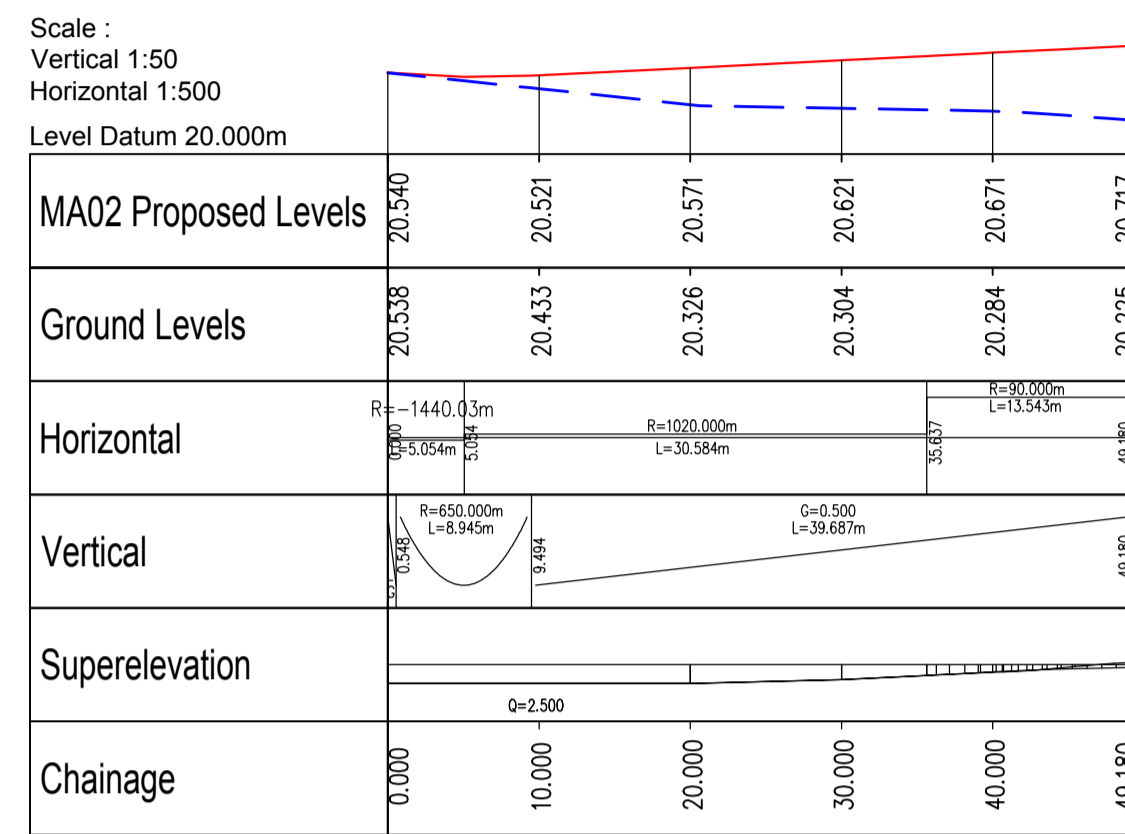
Status: PRE
Revision: P03

Designed: J. O'Riordan
 Drawn: M. Hurley
 Checked: N. Samachetty
 Approved: N. Samachetty

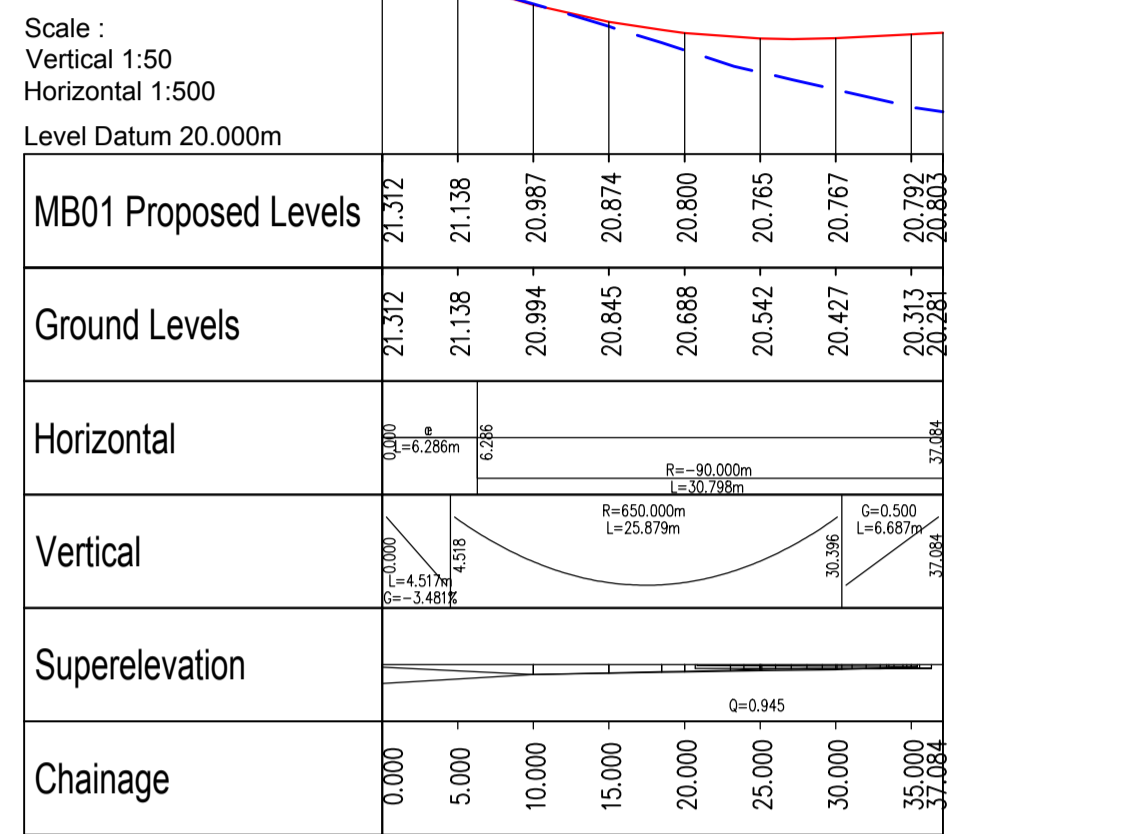
Job Number: 319884
 Scale at A1: V=1:50 H=1:500
 Date: Nov 2017

Drawing No. MMD-319884-C-DR-00-XX-0251

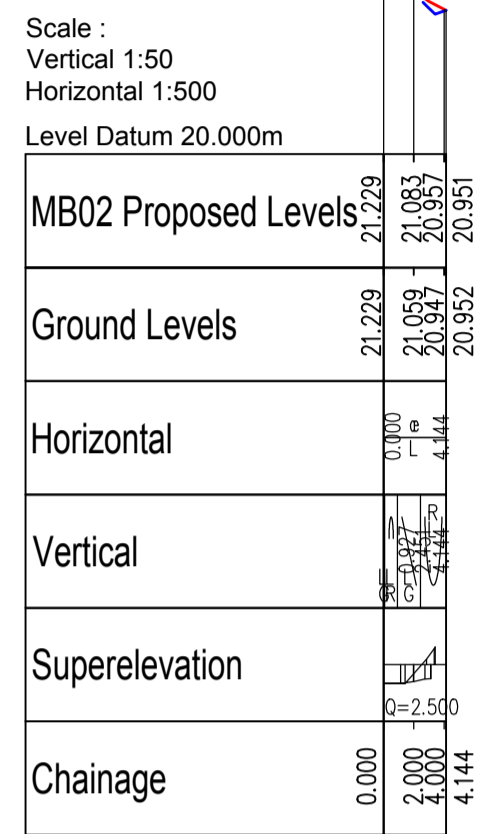
Longitudinal Section MA02



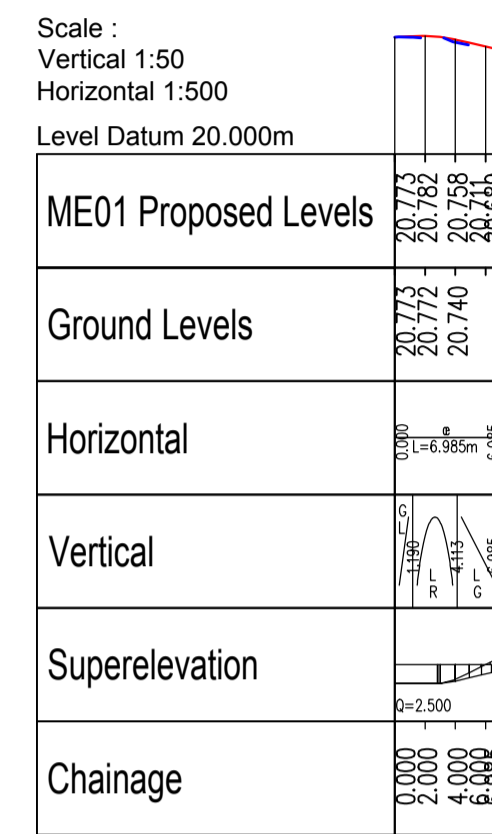
Longitudinal Section MB01



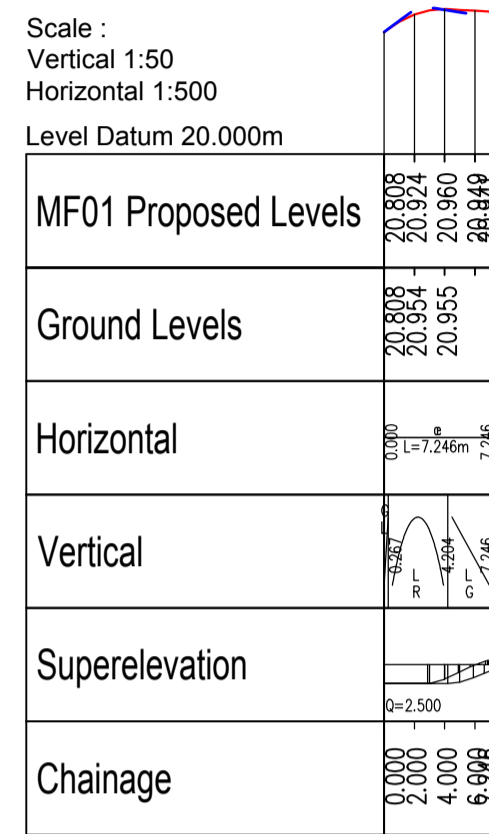
Longitudinal Section MB02



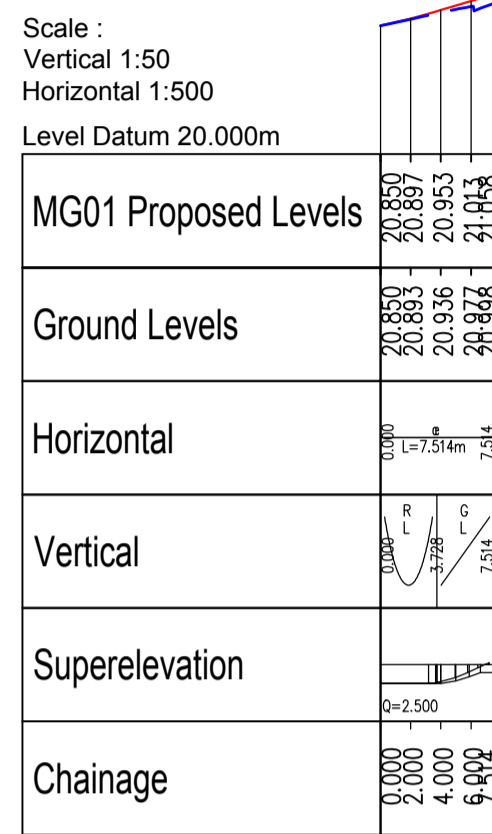
Longitudinal Section ME01



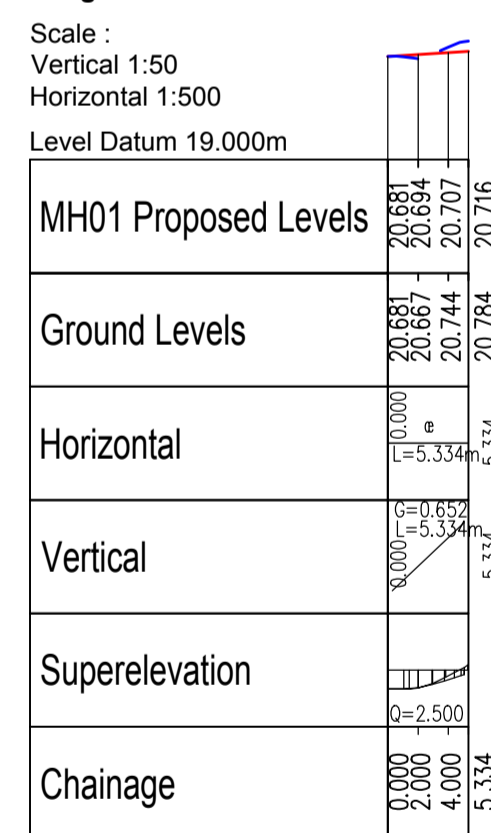
Longitudinal Section MF01



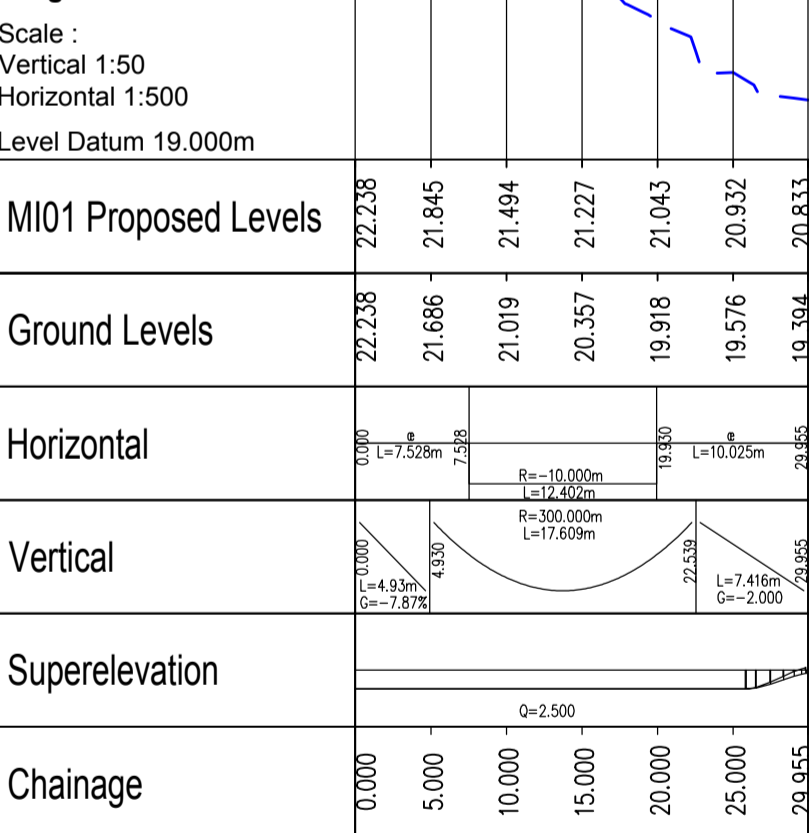
Longitudinal Section MG01



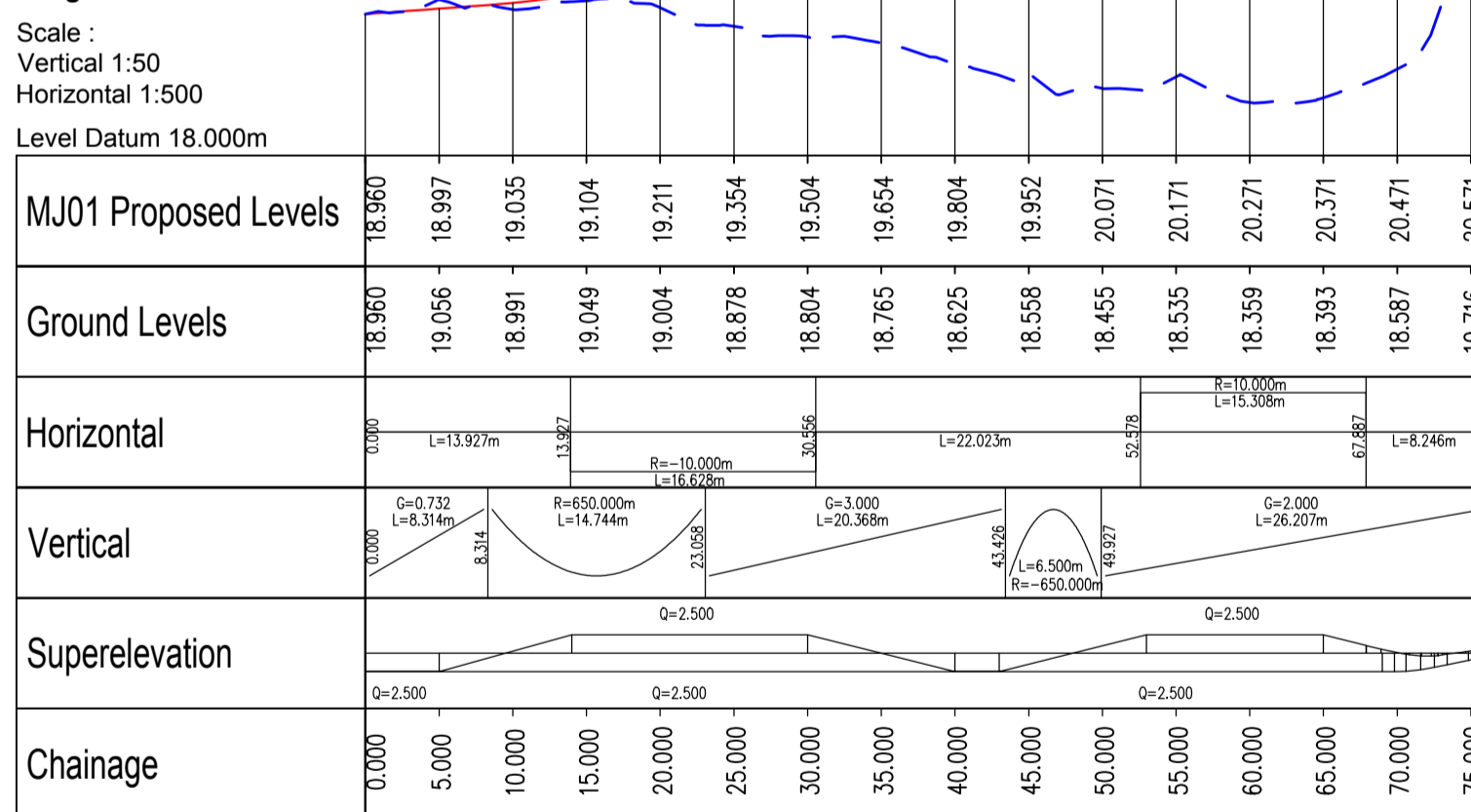
Longitudinal Section MH01



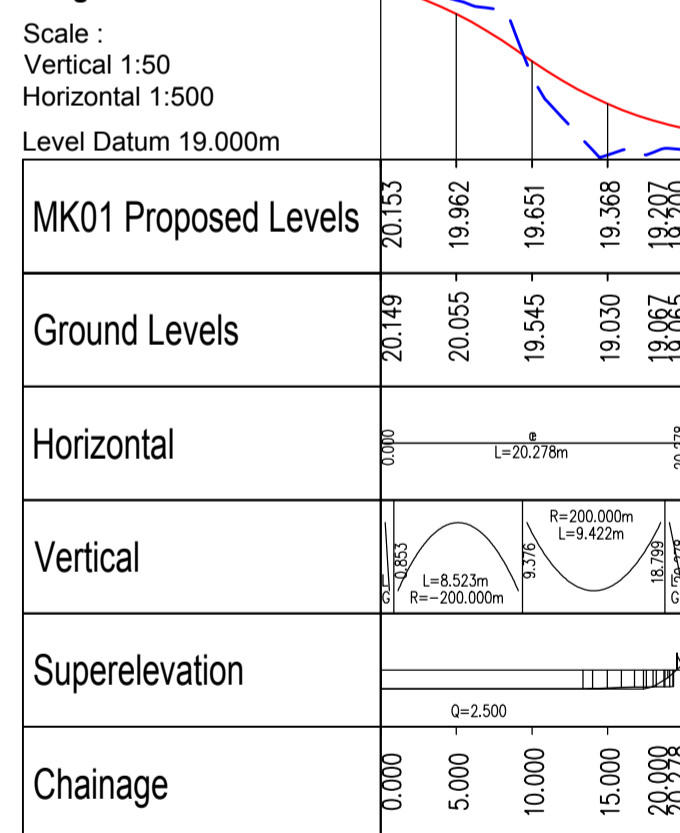
Longitudinal Section MI01



Longitudinal Section MJ01



Longitudinal Section MK01

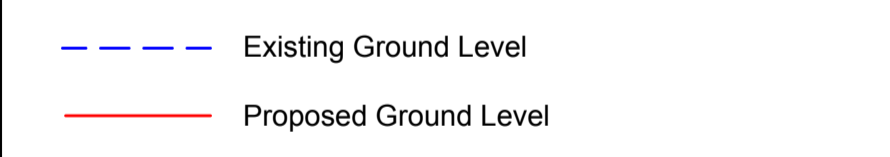


Notes / Legend

This Scheme is at Preliminary Status and may change at Detail Design Stage.

Future permanent access will be provided in accordance with future planning permissions.

Current access to lands will be maintained via field gates - Location to be agreed with landowner.



© This drawing should not be relied on or used in circumstances other than those for which it was originally prepared and for which Mott MacDonald Ireland Ltd was commissioned. Mott MacDonald Ireland Ltd accepts no responsibility for this document to any other party other than the person by whom it was commissioned.

Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council
Davitt's Quay
Dungarvan
Co. Waterford
X35 Y326

MOTT MACDONALD
5 Eastgate Avenue
Eastgate
Little Island
Cork
Ireland
T +353 (0) 21 4809800
F +353 (0) 21 4809801
W www.mottmac.com

Notes

- This drawing is the property of Mott MacDonald. It is a confidential document and must not be copied, used, or its contents divulged without prior consent.
- All levels are referred to Ordnance Survey Datum, Malin Head.
- DO NOT SCALE, use figured dimensions only, if in doubt ask.

Original Drawing Size A1

**Dungarvan Road
FPS,
Clonmel**

Rev.	Date	Drawn	Description	Chk'd	Appr.
P03	27/04/2018	JOR	For Approval	NS	NS
P02	21/03/2018	JOR	For Approval	NS	NS
P01	10/11/2017	MH	For Information	NS	NS

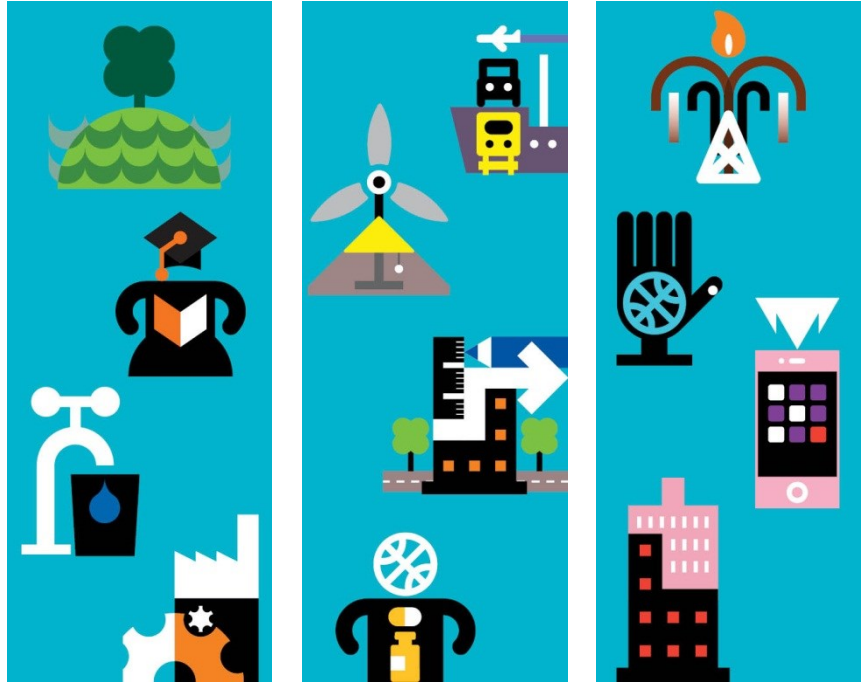
Drawing Title:
**Dungarvan Road R671
Part 8 Planning. Longitudinal Sections
MA02,MB01,MB02,ME01,MF01,MG01,MH01,MI01,**

Status: **PRE** Revision: **P03**

Designed: J. O'Riordan Job Number: 319884 Drawing No.
Drawn: M. Hurley
Checked: N. Samachetty Scale at A1: V=1:50 H=1:50
Approved: N. Samachetty Date: Nov 2017

MMD-319884-C-DR-00-XX-0252

C. Flood Risk Assessment



Dungarvan Road Flood Risk Assessment

September 2015

Waterford County Council




Dungarvan Road Flood Risk Assessment

September 2015

Waterford County Council

R665 - Dungarvan Road

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	November 2015	Chris Jones 	Domenico Santoro  Marianne Piggott 		First Draft

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

Chapter	Title	Page
	Executive Summary	i
1	Introduction	1
1.1	Purpose of the Study _____	1
1.2	Site Location & Proposed Road _____	1
2	Hydraulic Modelling	2
2.1	Hydraulic Model _____	2
2.2	Representation of Road in Hydraulic Model _____	2
2.3	Extrapolation of 1000 year flows _____	4
3	Discussion	6
3.1	Baseline Scenario _____	6
3.2	Post Road Scheme Development _____	7
4	Conclusion	8
Appendices		9
Appendix A. Proposed Road (.dwg) _____		10
Appendix B. Modelling Results (Long Profiles) _____		11
Appendix C. Hydraulic Modelling Results (248Res – Reservoir Units) _____		14

Executive Summary

Mott MacDonald was commissioned by Waterford County Council to undertake hydraulic modelling of the River Suir in the vicinity of Clonmel South, County Waterford, to assess whether the change to an existing section of road (Old Dungarvan Road, R665) will impact the current flood regime.

Hydraulic modelling of the area was undertaken using the 1D HR Wallingford built Clonmel Model, first produced in 2002 as part of the River Suir (Clonmel) Drainage Scheme. The latest 2010 version of the model was used in this study.

The results of hydraulic modelling found that the proposed scheme of works on the R665 will not change the flooding regime and the displacement of water due to this does not increase the risk of flooding downstream.

1 Introduction

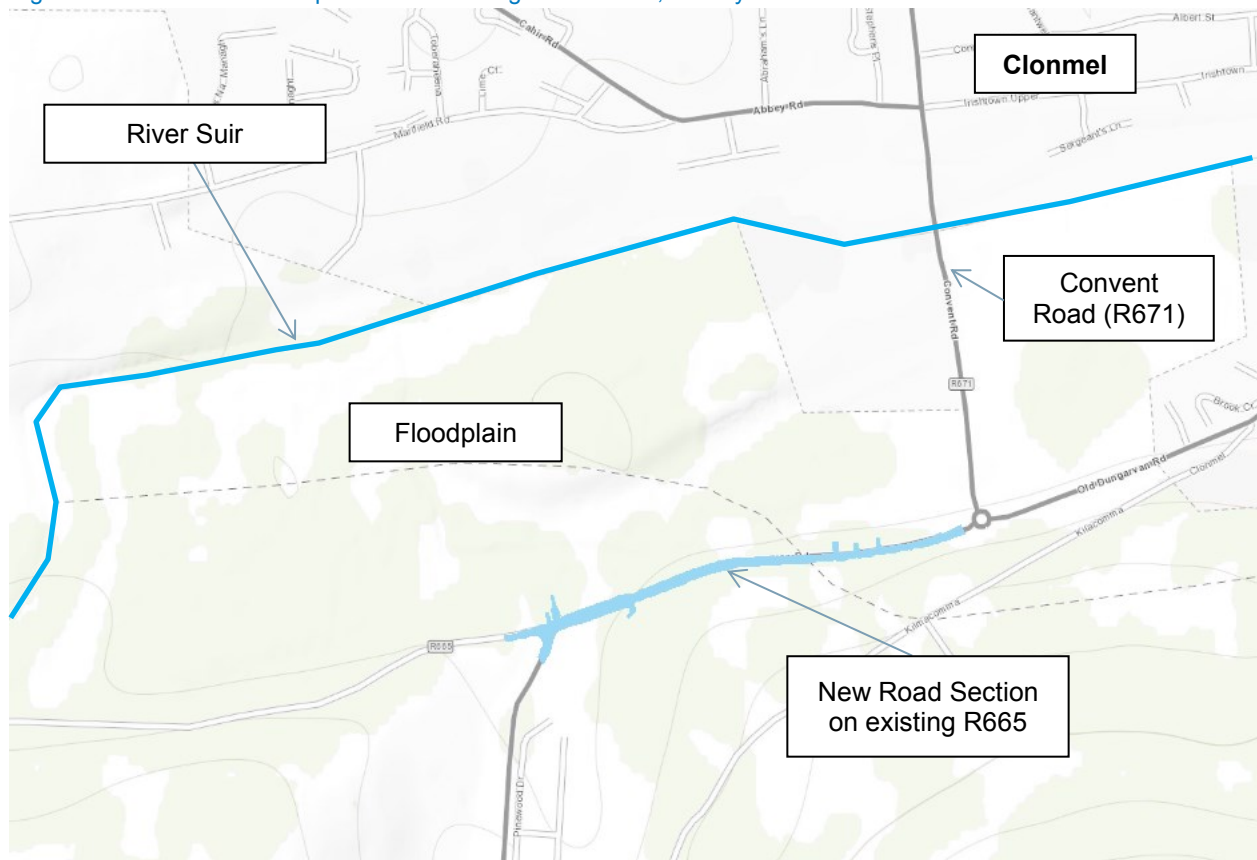
1.1 Purpose of the Study

This study was commissioned by Waterford County Council to understand the possible consequences of the displacement of water of the proposed changes to the Old Dungarvan Road (R665), in the County Waterford area of Clonmel South.

1.2 Site Location & Proposed Road

The proposed road scheme lies to the South West of Clonmel, Country Waterford and is displayed in Figure 1.1.

Figure 1.1: Location of Proposed Road Change at Clonmel, County Waterford



Source: Mott MacDonald

The scheme of works is to redevelop the existing R665 road, with proposed works causing an increase in the elevation at the majority of the planned area. An outline of the proposed road is displayed in Appendix A.

2 Hydraulic Modelling

2.1 Hydraulic Model

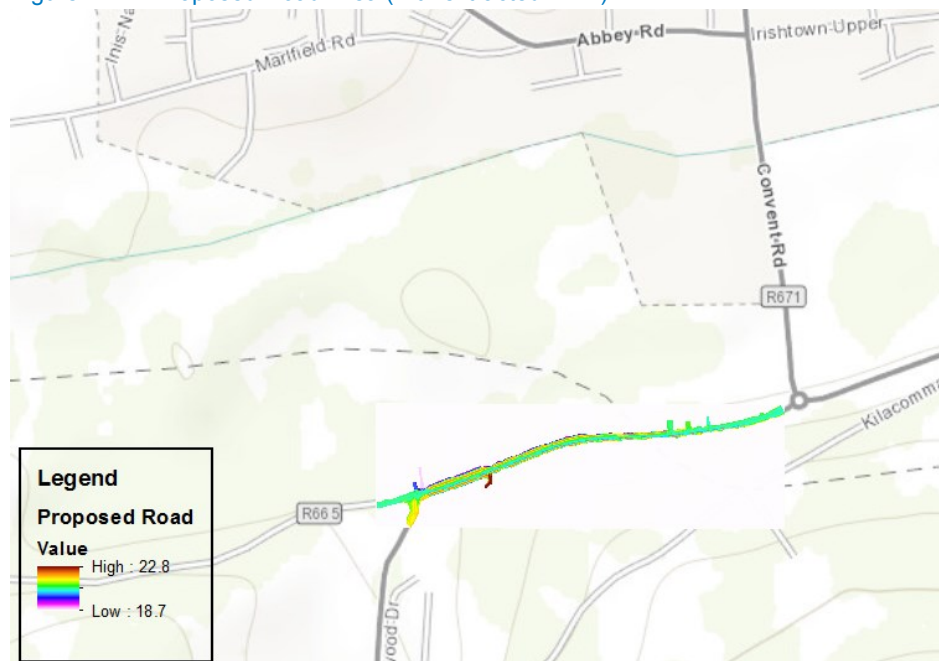
The 1D hydraulic model used in this study was originally developed by HR Wallingford for the River Suir (Clonmel) Drainage Scheme and the model was run using ISIS¹.

2.2 Representation of Road in Hydraulic Model

After analysis of the reservoir units and spills within the model, it was found that the road falls entirely within the area of the ISIS reservoir unit 248SRes. Due to this, the storage found to be 'removed from the floodplain area' due to the addition of the road will be taken entirely out of this reservoir unit for the post road build modelling runs. The loss of floodplain area after the addition of the new road will be modelled as a reduction of the current storage capacity of the reservoir unit 248SRes.

The procedure used to evaluate the floodplain area loss is described as follows; the proposed road was converted from the original .dwg format to a polygon using ArcGIS². The road polygon was used as a mask to extract the road Digital Terrain Model (DTM). Then the road DTM was split into horizontal layers at intervals of 0.1m, and the footprint area was calculated for each 0.1m layer of the road. The proposed road DTM is displayed in Figure 2.1.

Figure 2.1: Proposed Road Area (with extracted DTM)



Source: Mott MacDonald, ArcGIS

¹ Version 3.7.

² Version 10.3.

The proposed road data was compared to the current elevation data (provided in ASCII format) by horizontal layer to understand the area increase/decrease of the proposed road at the same intervals used in the reservoir unit 248Res. This comparison was carried out by using ArcGIS to assess the current topographical area that the road takes up. The area of the proposed road (which occupies the same space as the existing conditions) was also analysed and the two compared to derive the increased amount of m² for each interval, therefore the loss to floodplain. Table 2.1 gives the details for the existing and proposed road, including the final difference. A change was only visible between the elevations of 20m to 21.7m.

Table 2.1: Change of 248Res unit Geometry Due to Proposed Road

Upper Limit Elevation (mODP)	Existing Road		Proposed Road		Difference m ²
	Plan Area m ²	Cumulative Area m ²	Plan Area m ²	Cumulative Area m ²	
21.7	5,093	5,093	377	377	-4,716
22.2	2,832	7,925	206	583	-7,341
22.7	745	8,670	448	1,031	-7,639
23.2	4,894	13,564	3477	4,508	-9,055
23.7	0	13,564	5020	9,529	-4,035
24	0	13,564	1388	10,917	-2,647
24.7	0	13,564	2475	13,392	-172
25.2	0	13,564	162	13,553	-11
25.7	0	13,564	11	13,564	0

Source: Mott MacDonald

Table 2.2 displays the final geometry of the 248Res, used to update the proposed road scheme model. There is no change to the geometry of the floodplain above an elevation of 21.7m.

Table 2.2: Final Geometry of 248Res Including Changes of Proposed Road

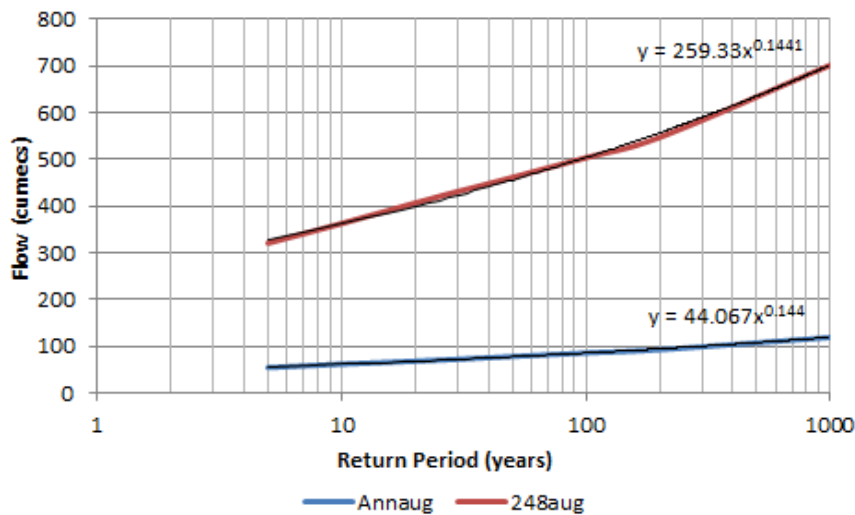
Upper Limit Elevation (mODP)	Existing Plan Area m ²	Post-Scheme Plan Area m ²
20	0	0
20.7	3180	3180
21.2	192281	192281
21.7	366906	362,190
22.2	580361	573,020
22.7	709960	702,321
23.2	745205	736,150
23.7	766760	762,725
24	766760	764,113
24.7	766760	766,588
25.2	766760	766,749
25.7	766760	766,760

Source: Mott MacDonald

2.3 Extrapolation of 1000 year flows

In order to estimate the 1000 year flow, an extrapolation of the peak flows was required. The 1000 year flow was derived using the range of peak flows extracted from the existing hydrology, and then applying a power trend line in excel. This was undertaken for the inflow nodes ‘annaug’ and ‘248Aug’ in the existing model (see Figure 2.2).

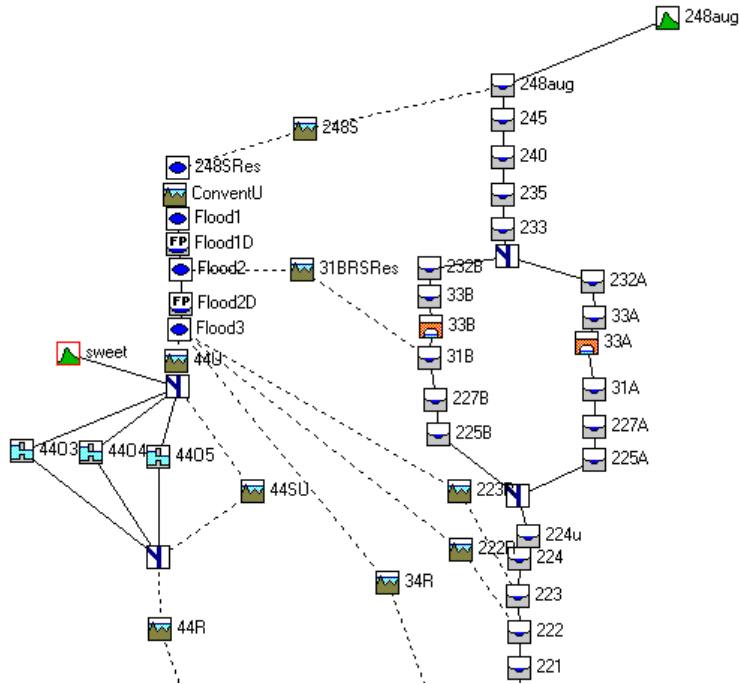
Figure 2.2: Extrapolation of 1000 Year Return Period Flows



Source: Mott MacDonald

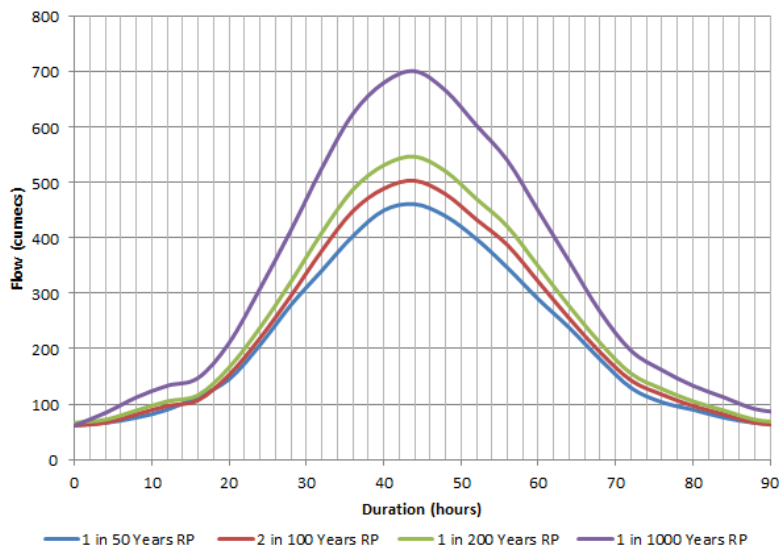
Analysis of the model showed that the ‘annaug’ hydrological inflow, enters the model at the downstream end and this is not expected to affect the model upstream where the road is proposed. The ‘248Aug’ inflow flows in the top of the model (see Figure 2.3) upstream of the area of interest and the inflow hydrographs are displayed in Figure 2.4.

Figure 2.3: Upper Model Schematic



Source: ISIS 3.7, Mott MacDonald

Figure 2.4: 248Aug – Peak Flows (including 1000 year)



Source: Mott MacDonald

3 Discussion

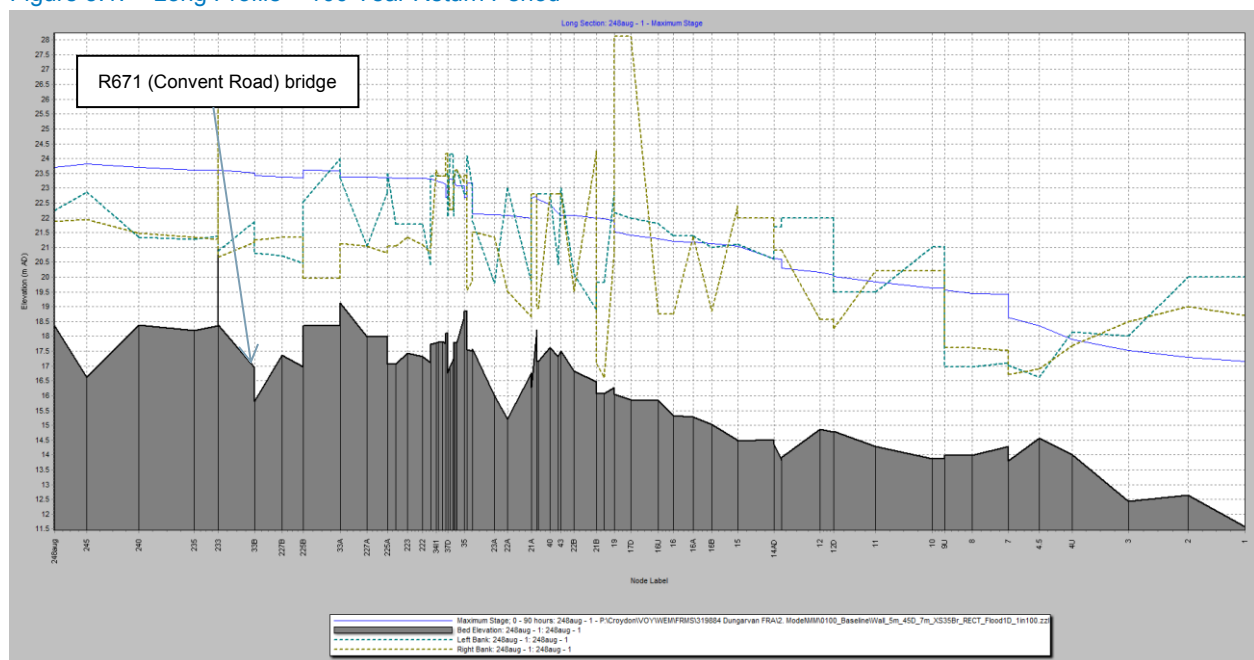
3.1 Baseline Scenario

The Baseline Scenario (model without changes made to the floodplain geometry of reservoir unit 248Res) has been run for the following return periods:

- 100 Year;
- 100 Year Plus Climate Change;
- 1000 Year.

The model was run for all three baseline scenario events and results were stored for later comparison. The model long section of the 1000 year baseline scenario with maximum stage is displayed in Figure 3.1 below.

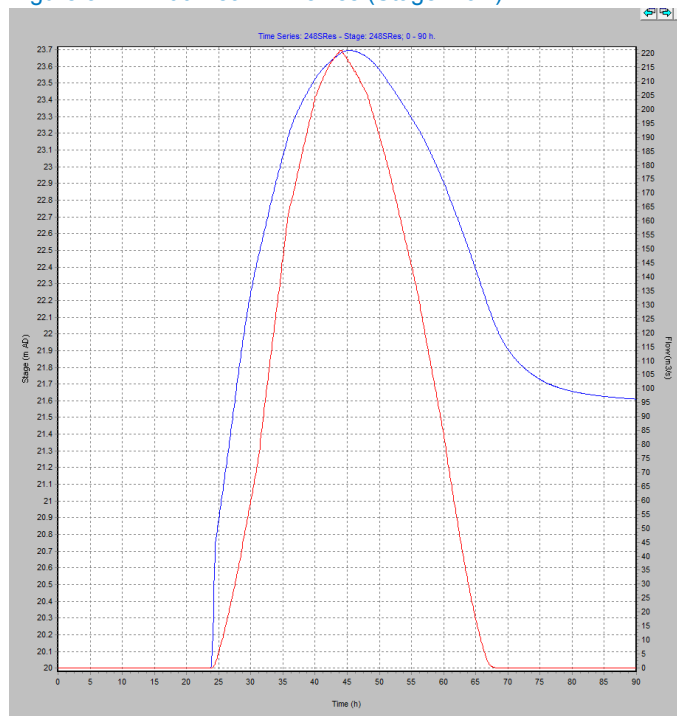
Figure 3.1: Long Profile – 100 Year Return Period



Source: ISIS 3.7, Mott MacDonald

The long profile was scrutinised and does not show any irregularities, such as sudden large stage maxima and unusual losses at bridges. The inflow stage/flow hydrograph of 248Res is displayed in Figure 3.2 and also does not show any issues, such as incorrect initial flow conditions.

Figure 3.2: 100 Year – 248Res (Stage/Flow)



Source: ISIS 3.7, Mott MacDonald
 Blue Line: Stage (mAOD)
 Red Line: Flow (cumecs)

Further to the 100 year baseline event, the other return periods were run and checked for irregularities.

3.2 Post Road Scheme Development

The post development model was run with the total area of the road removed from the flood plain unit, therefore giving a loss of floodplain area (see section 2.2). For each Baseline Scenario a post road development event was run. Then the long profile maximum stage and stage of 248Res were compared. The results of the long profile and reservoir stage for each scenario are displayed in Appendix B and Appendix C, respectively.

The results show that for all three events, due to the insignificant change in the reservoir geometry, there is little to no difference in the maximum stage on the long profile, indicating that the changes to the road will not affect the current flood risk situation. The results also indicate that there is little to no change to the stage seen in the floodplain over the area.

4 Conclusion

This study was carried out to assess the possible impact that the proposed change to the road (R665) may have in terms of flood risk to Clonmel on the River Suir.

Appendix B1-B3 and Appendix C1-C3 display the resulting model long sections with maximum water levels and the stage within the reservoir unit 248Res (the unit in which the floodplain geometry was changed, to represent the loss of volume). It can be seen from these that there is no difference in terms of maximum water level and stage on the floodplain, across all three return periods (100, 100 plus climate change and the 1000 year scenario). This indicates that the flood risk/maps currently in place from the original flood mapping study of the area will not change as the road will be very unlikely to have an effect on the flood risk in the area.

Appendices

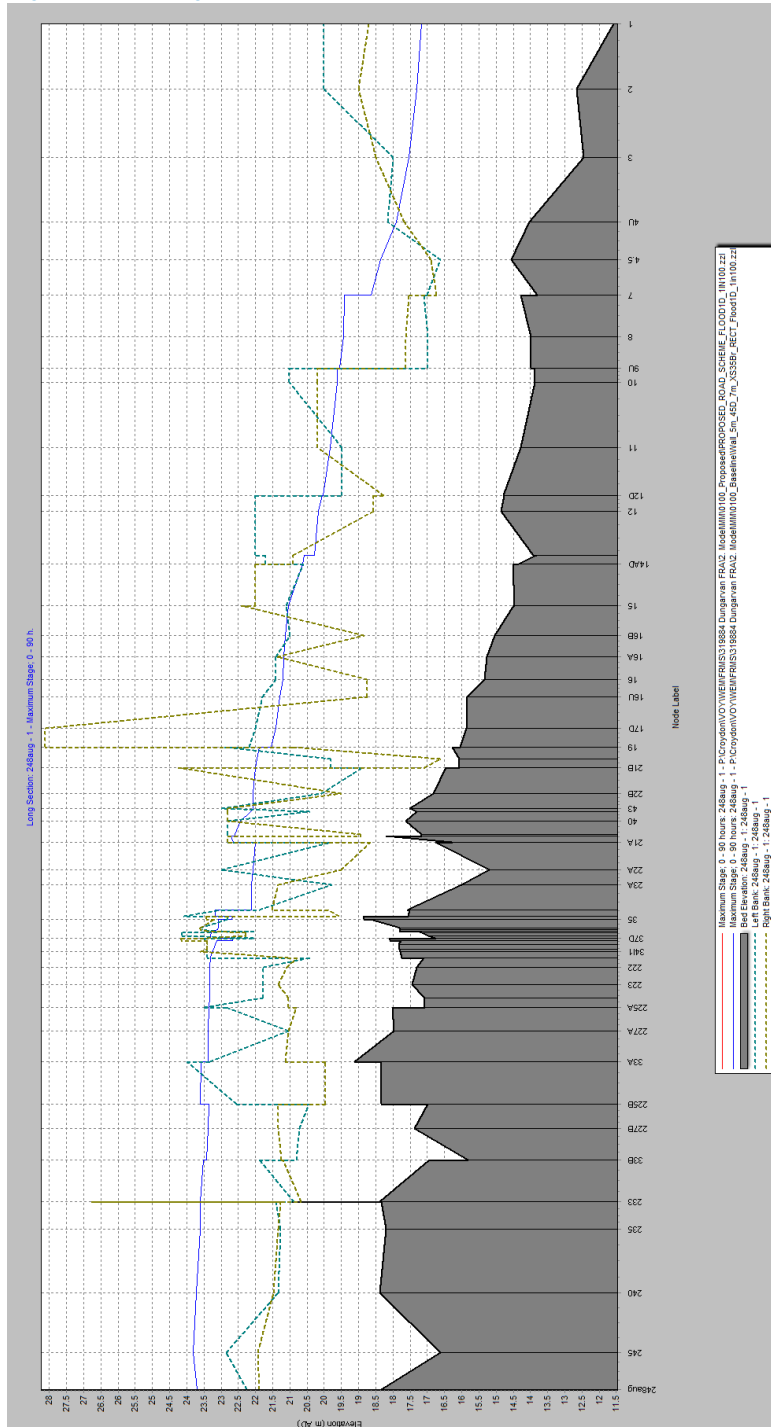
Appendix A. Proposed Road (.dwg)	10
Appendix B. Modelling Results (Long Profiles)	11
Appendix C. Hydraulic Modelling Results (248Res – Reservoir Units)	14

Appendix A. Proposed Road (.dwg)

<Start editing the appendix here>

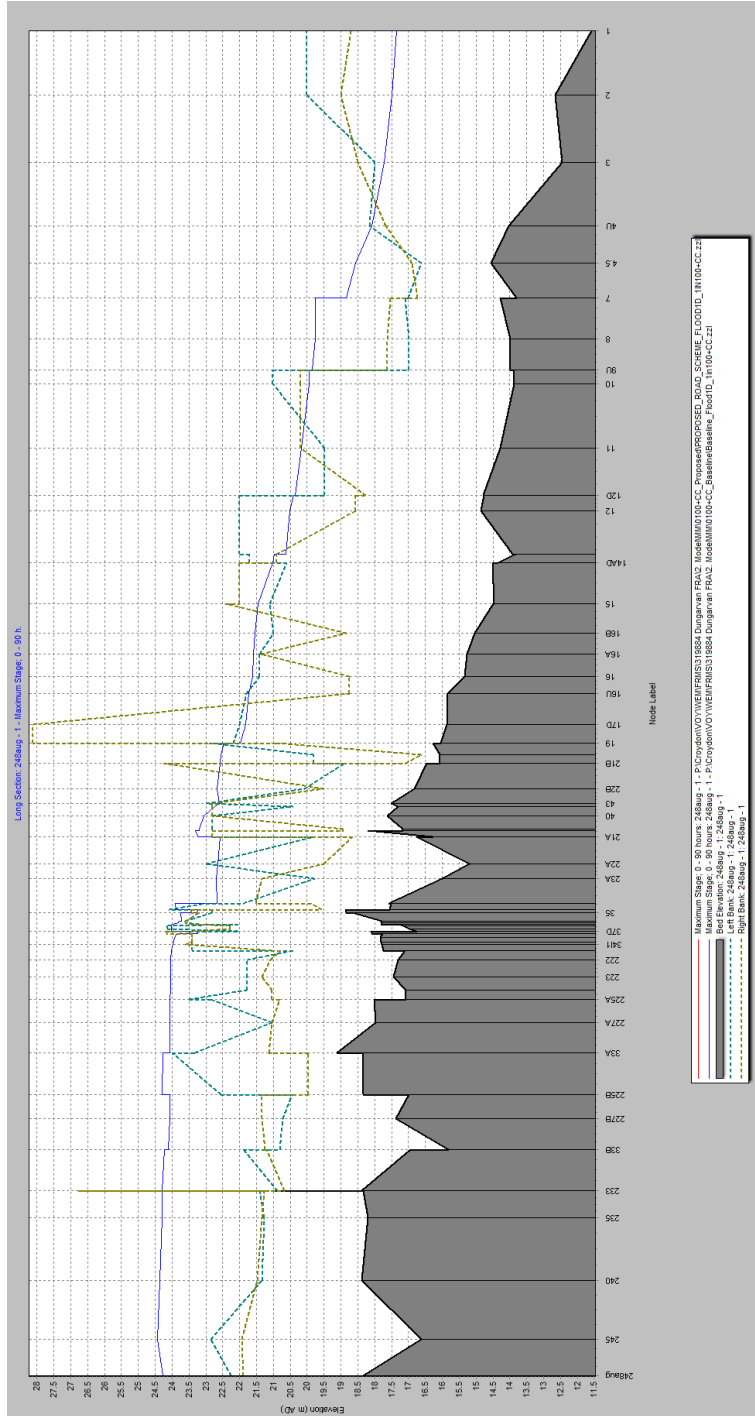
Appendix B. Modelling Results (Long Profiles)

Figure B.1: Long Profile – 100 Year Baseline vs 100 Year Proposed Road Scheme



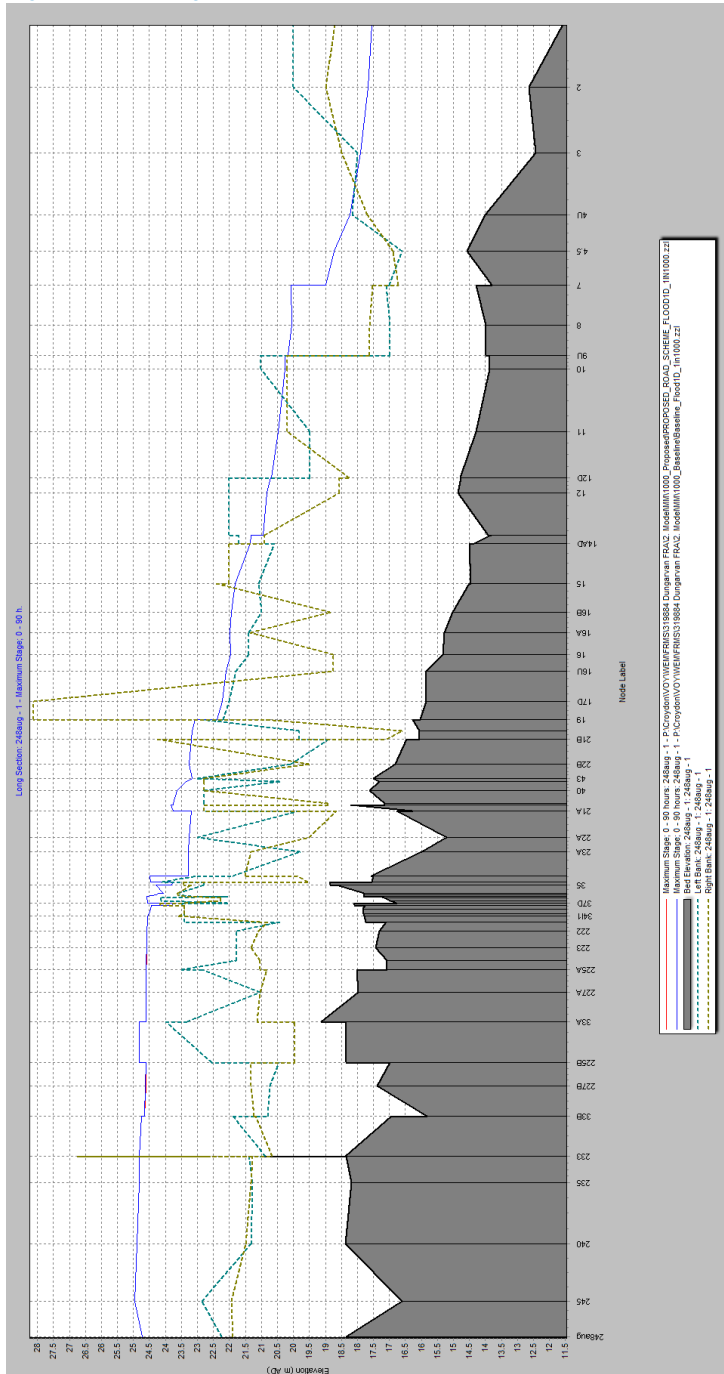
Source: Mott ISIS 3.7, Mott MacDonald

Figure B.2: Long Profile – 100+cc Year Baseline vs 100+cc Year Proposed Road Scheme



Source: ISIS 3.7, Mott MacDonald

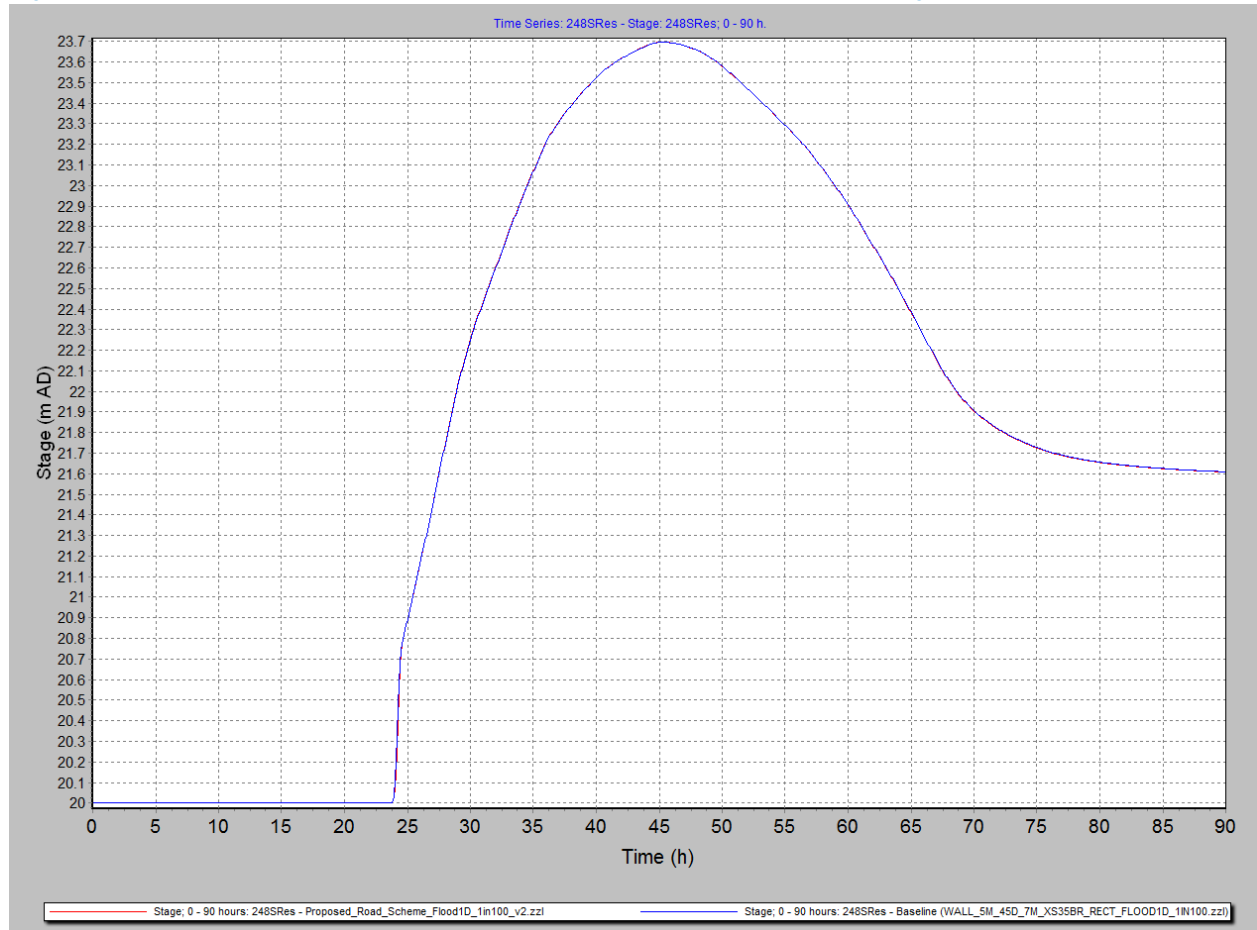
Figure B.3: Long Profile – 1000 Year Baseline vs 1000 Year Proposed Road Scheme



Source: ISIS 3.7, Mott MacDonald

Appendix C. Hydraulic Modelling Results (248Res – Reservoir Units)

Figure C.1: 100 Year Baseline vs 100 Year Proposed Road Scheme – 248Res (Stage)

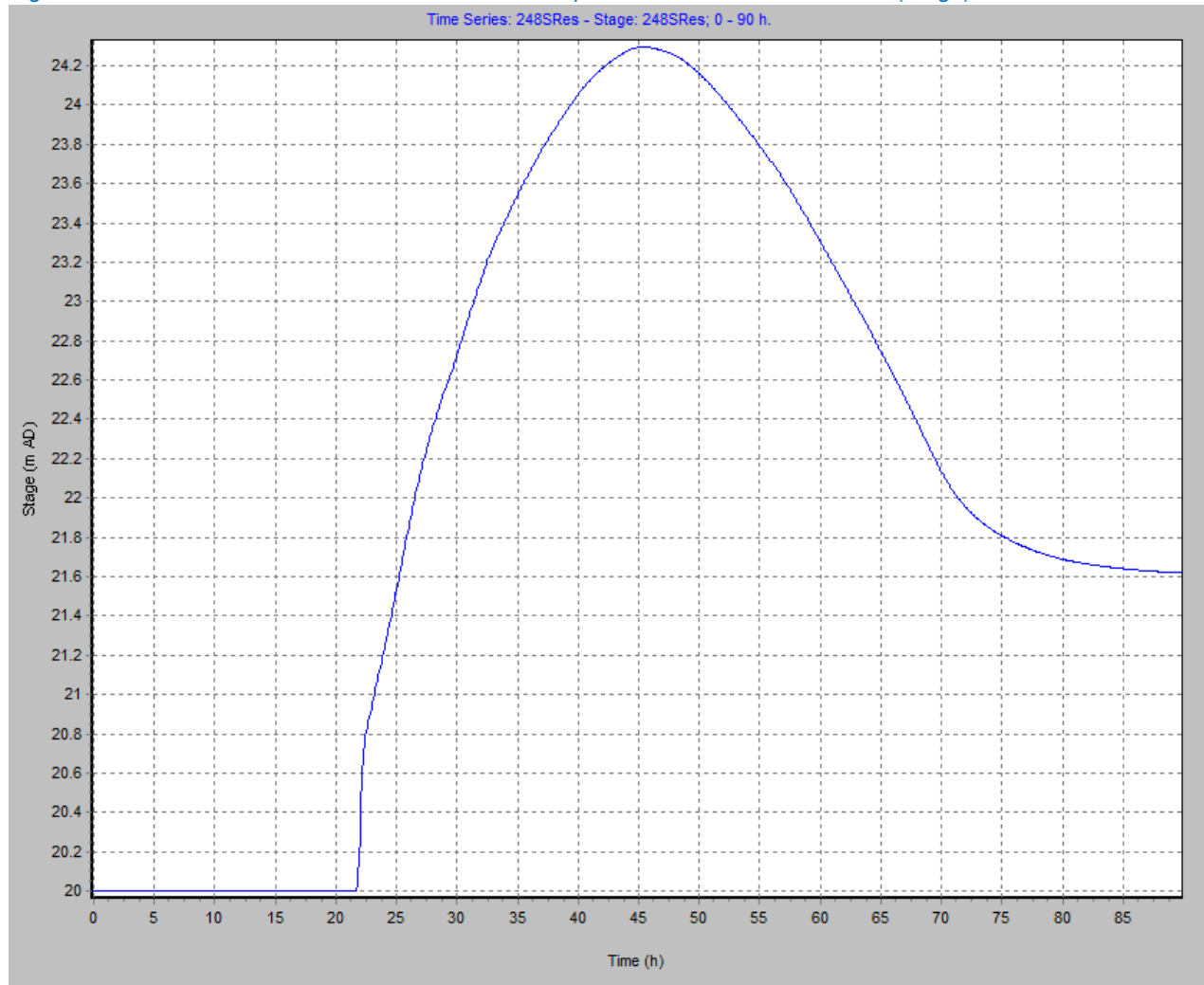


Source: ISIS 3.7, Mott MacDonald

Blue Line: Stage (mAOD)

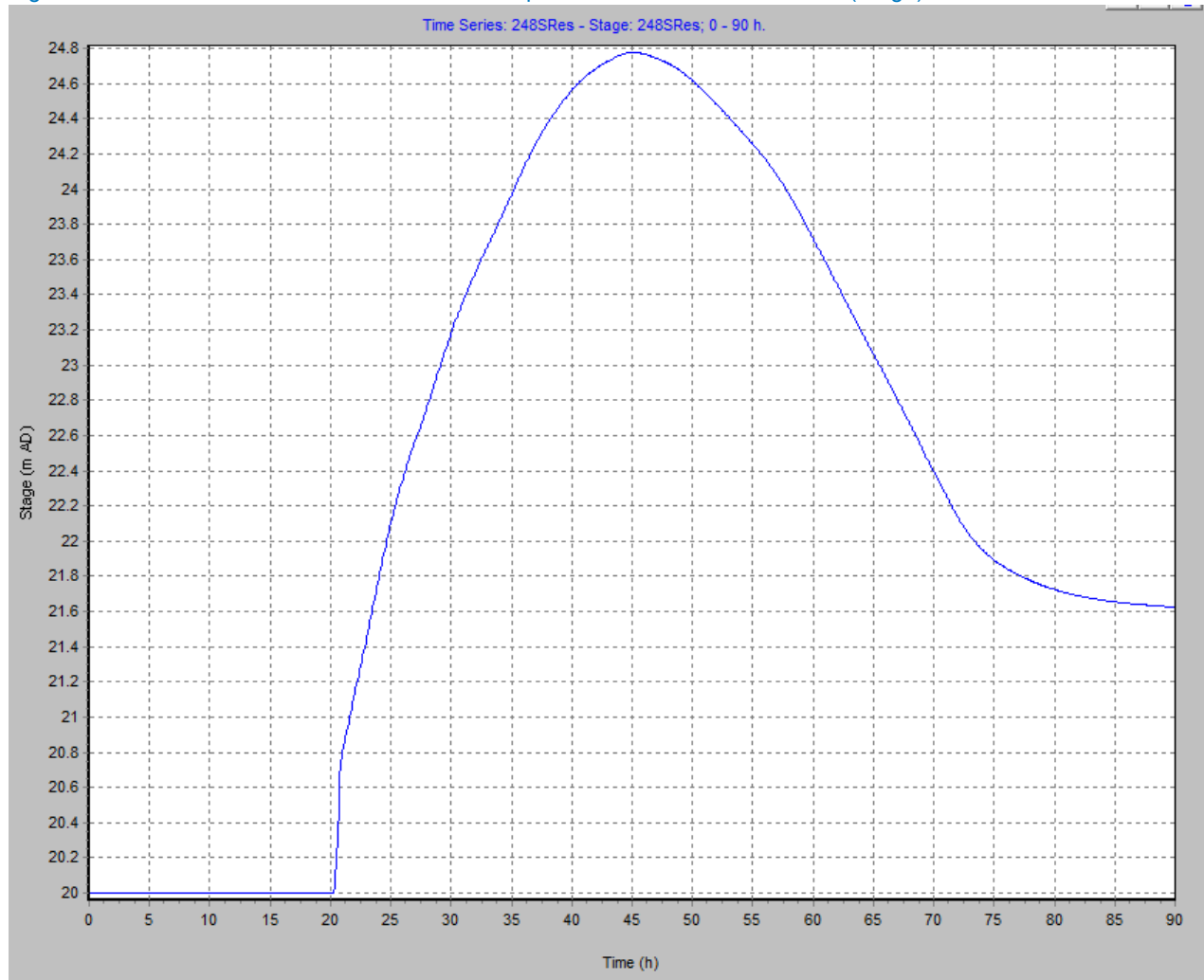
Red Line: Flow (cumecs)

Figure C.2: 100+cc Year Baseline vs 100+cc Year Proposed Road Scheme – 248Res (Stage)



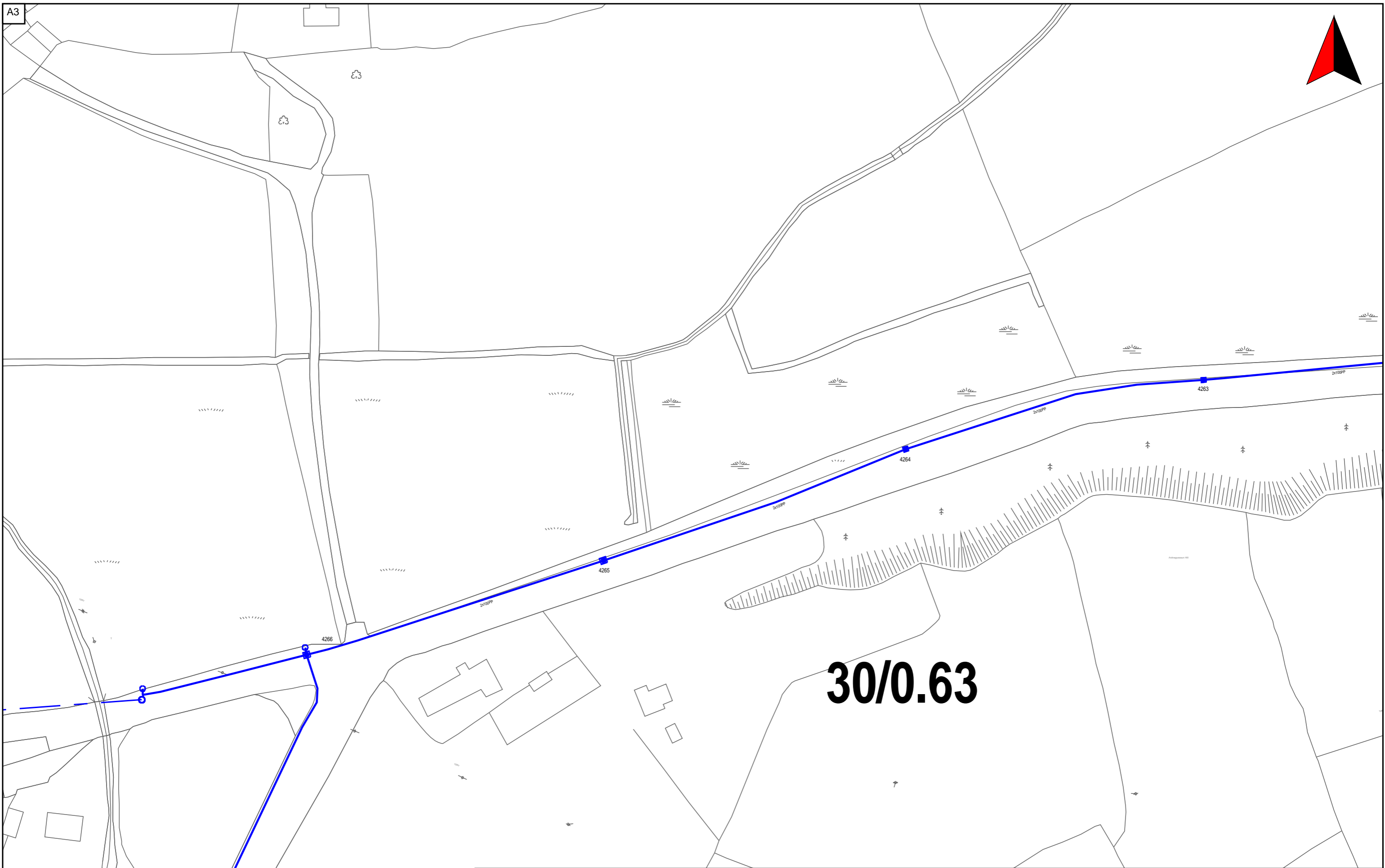
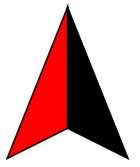
Source: ISIS 3.7, Mott MacDonald
 Blue Line: Stage (mAOD)
 Red Line: Flow (cumecs)

Figure C.3: 1000 Year Baseline vs 1000 Year Proposed Road Scheme – 248Res (Stage)



Source: ISIS 3.7, Mott MacDonald
 Blue Line: Stage (mAOD)
 Red Line: Flow (cumecs)

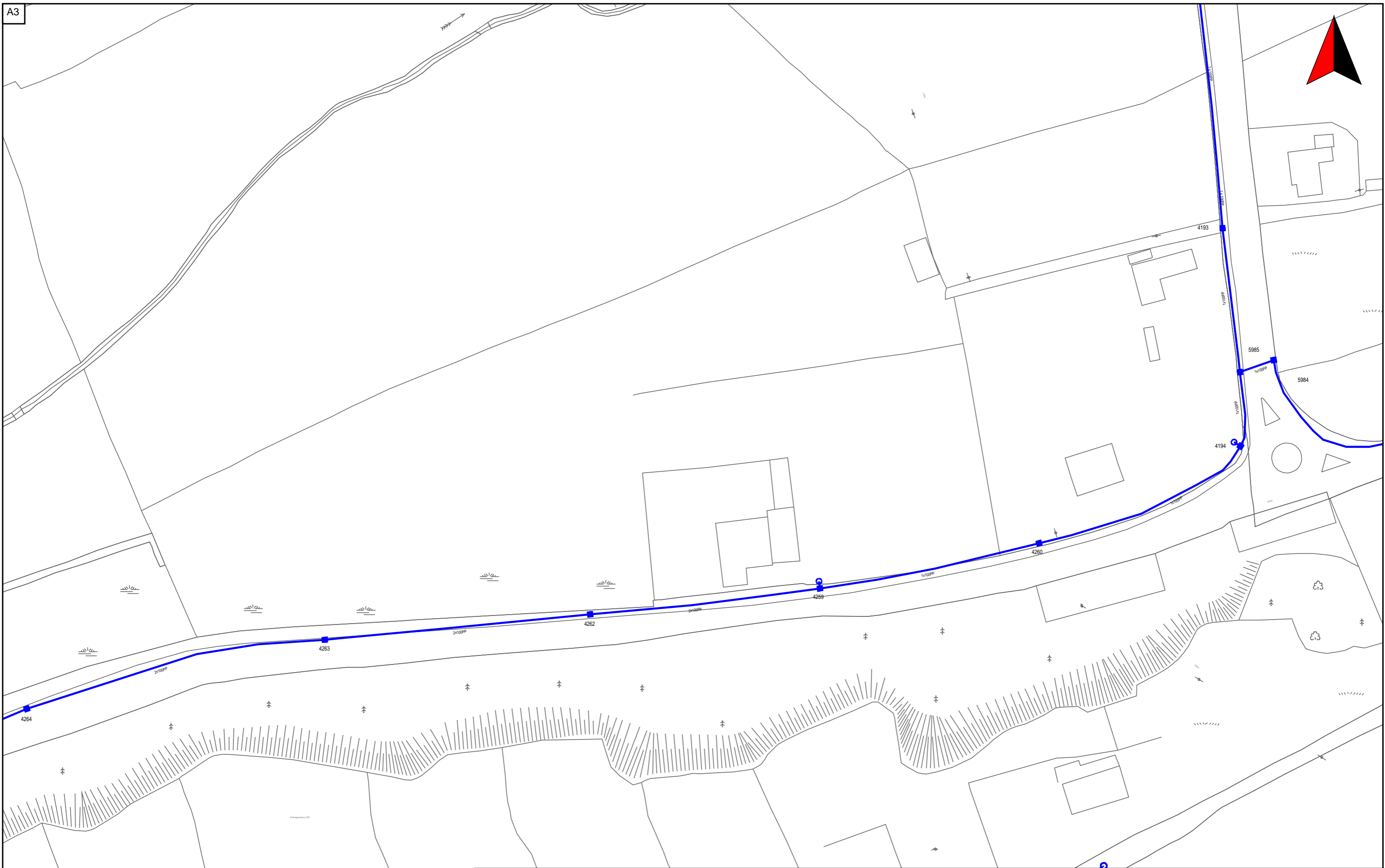
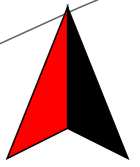
D. Existing Utilities



30/0.63

PLANT REQUESTED FROM eircom emaps CBYD SERVICE https://cbyd.emaps.eircom.ie/	Scale: 1:1250	Irish National Grid Co-Ordinates Centre XY: 218887 m, 121447 m
	Date 22/01/2015	emaps CBYD
<small>THE INFORMATION IN THIS DRAWING IS CONFIDENTIAL AND SHOULD NOT BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE EXPRESS WRITTEN CONSENT OF eircom LTD. THE DRAWING IS NOT TO BE PHOTOCOPIED OR REPRODUCED IN ANY WAY</small>		<small>THE INFORMATION GIVEN IS COMPILED FROM RECORDS AND IS BELIEVED TO BE CORRECT. THERE MAY, HOWEVER, BE DEPARTURES FROM THE COURSE[S] AND DEPTH[S] SHOWN OR INDICATED. THERE MAY ALSO BE ITEMS OF eircom PLANT OF WHICH NO RECORDS IN HELD. THE INFORMATION IS GIVEN WITHOUT PREJUDICE TO THE LEGAL RIGHTS OF eircom LTD. TO COMPENSATION SHOULD eircom PLANT BE DAMAGED.</small>





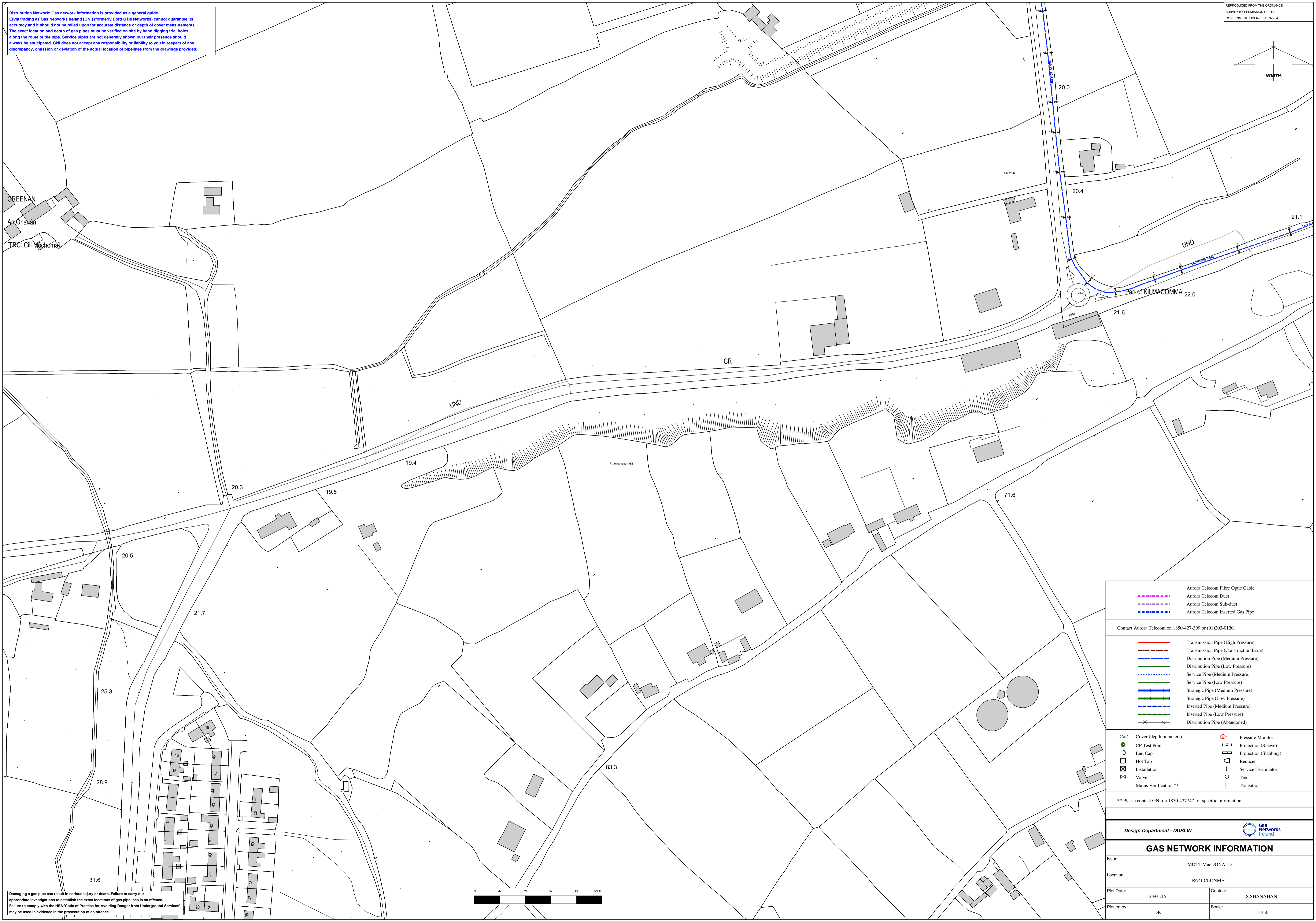
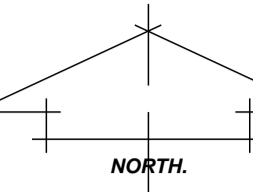
0.63

<p>PLANT REQUESTED FROM eircom emaps CBYD SERVICE</p> <p>https://cbyd.emaps.eircom.ie/</p>		Scale: 1:1250	<p>Irish National Grid Co-Ordinates Centre XY: 219210 m, 121543 m</p>
		Date 22/01/2015	
<p>THE INFORMATION IN THIS DRAWING IS CONFIDENTIAL AND SHOULD NOT BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE EXPRESS WRITTEN CONSENT OF eircom LTD. THE DRAWING IS NOT TO BE PHOTOCOPIED OR REPRODUCED IN ANY WAY</p>		<p>THE INFORMATION GIVEN IS COMPILED FROM RECORDS AND IS BELIEVED TO BE CORRECT. THERE MAY, HOWEVER, BE DEPARTURES FROM THE COURSE[S] AND DEPTH[S] SHOWN OR INDICATED. THERE MAY ALSO BE ITEMS OF eircom PLANT OF WHICH NO RECORDS IN HELD. THE INFORMATION IS GIVEN WITHOUT PREJUDICE TO THE LEGAL RIGHTS OF eircom LTD. TO COMPENSATION SHOULD eircom PLANT BE DAMAGED.</p>	



Distribution Network: Gas network information is provided as a general guide. Ervia trading as Gas Networks Ireland (GNI) (formerly Bord Gáis Networks) cannot guarantee its accuracy and it should not be relied upon for accurate distance or depth of cover measurements. The exact location and depth of gas pipes must be verified on site by hand digging trial holes along the route of the pipes. Service pipes are not generally shown but their presence should always be anticipated. GNI does not accept any responsibility or liability to you in respect of any discrepancy, omission or deviation of the actual location of pipelines from the drawings provided.

REPRODUCED FROM THE ORDINANCE SURVEY BY PERMISSION OF THE GOVERNMENT. LICENCE No. 3-3-34



	Aurora Telecom Fibre Optic Cable
	Aurora Telecom Duct
	Aurora Telecom Sub-duct
	Aurora Telecom Inserted Gas Pipe

Contact Aurora Telecom on 1850-427-399 or (01)203-0120.

	Transmission Pipe (High Pressure)
	Transmission Pipe (Construction Issue)
	Distribution Pipe (Medium Pressure)
	Distribution Pipe (Low Pressure)
	Service Pipe (Medium Pressure)
	Service Pipe (Low Pressure)
	Strategic Pipe (Medium Pressure)
	Strategic Pipe (Low Pressure)
	Inserted Pipe (Medium Pressure)
	Inserted Pipe (Low Pressure)
	Distribution Pipe (Abandoned)

	C=?	Cover (depth in meters)		Pressure Monitor
	CP	CP Test Point		Protection (Sleeve)
	D	End Cap		Protection (Slabbing)
	H	Hot Tap		Reducer
	I	Installation		Service Terminator
	V	Valve		Tee
	M	Mains Verification **		Transition

** Please contact GNI on 1850-427747 for specific information.

Design Department - DUBLIN

GAS NETWORK INFORMATION

Issue: MOTT MacDONALD

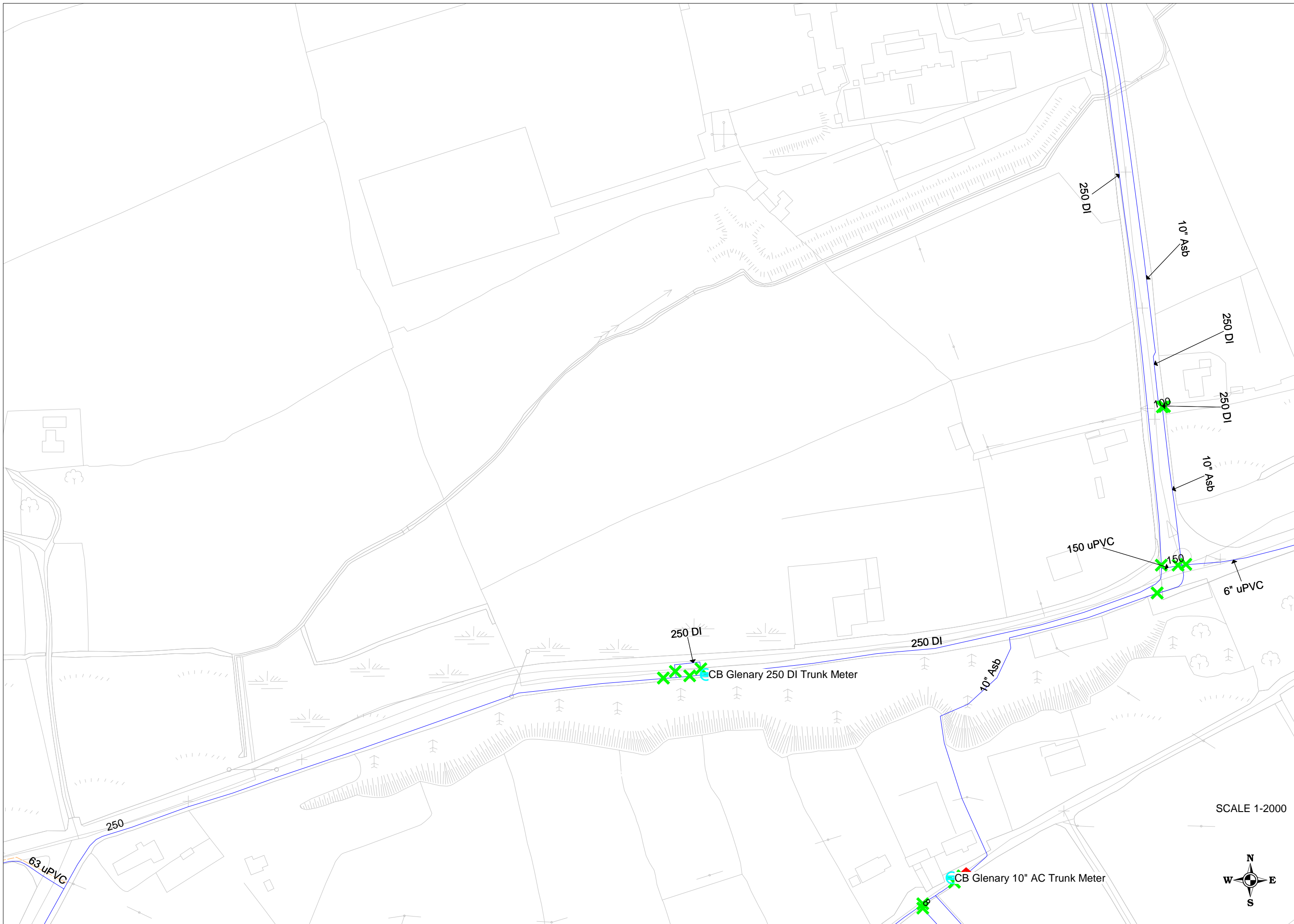
Location: R671 CLONMEL

Plot Date: 23/01/15 Contact: S.SHANAHAN

Plotted by: DK Scale: 1:1250

Damaging a gas pipe can result in serious injury or death. Failure to carry out appropriate investigations to establish the exact locations of gas pipelines is an offence. Failure to comply with the HSA 'Code of Practice for Avoiding Danger from Underground Services' may be used in evidence in the prosecution of an offence.





E. EIA Screening



Dungarvan Road Flood Protection

EIA Screening Report

27 April 2018

Waterford City and County Council

5 Eastgate Avenue
Eastgate
Little Island
Co Cork T45 EE72
Ireland

T +353 (0)21 480 9800

mottmac.com

Civic Offices
Dungarvan
Co. Waterford

Dungarvan Road Flood Protection

EIA Screening Report

27 April 2018

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	31 Oct 17	R Mansfield	E Johnston	N Samachetty	Draft Issue
B	23 Nov 17	R Mansfield	E Johnston	N Samachetty	Issue
C	27 April 18	R Mansfield	E Johnston	N Samachetty	Issue

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Background	1
1.2	EIA Legislative Background	1
1.2.1	Annex I Projects	2
1.2.2	Annex II Projects	2
1.3	Criteria to Determine Requirement for EIA	3
1.3.1	Other Relevant Guidance	4
1.4	Competency of EIA Screening Experts	4
2	Project Description	6
2.1	Project Overview	6
2.2	Environmental Sensitivity	7
3	A Screening	10
3.1	Background	10
3.2	Annex III: Criteria to Determine Whether Projects Should be Subject to an Environmental Impact Assessment	10
3.2.1	Characteristics of the Project	10
3.2.2	Location of Project	11
3.2.3	Type and Characteristics of Potential Impacts	12
4	Recommendations and Conclusions	13
5	References	14

1 Introduction

1.1 Background

This EIA Screening Report has been prepared by Mott MacDonald Ireland Limited on behalf of Waterford City and County Council for the Dungarvan Road Flood Protection Scheme.

EIA screening assessment is undertaken to establish whether or not an Environmental Impact Assessment is required for a proposed infrastructural development as part of the statutory consent process.

The main route between Clonmel and Dungarvan, the R671 Dungarvan road, suffers from frequent flooding from the River Suir. Waterford City and County Council wish to raise the level of this road to maintain a transport connection between these two towns during flood events. To achieve this objective, it is proposed to progress the Dungarvan Road Flood Protection Scheme, to alter the level and orientation of the existing road structure above the 1 in 30-year flood level as follows:

- Raise the existing road level for a length of approximately 750 m
- Reconfigure the R671/R665 junction to form a new roundabout
- Construct earthen embankments on the lands immediately north and south of the new road alignment
- Provide surface water runoff drainage and ancillary services

Additional information on the Dungarvan Road Flood Protection Scheme, which is the subject of a planning application to Waterford City and County Council, is provided in Section 2 of this EIA Screening and also in the Planning Particulars Report and Screening for Appropriate Assessment.

1.2 EIA Legislative Background

The requirement for environmental impact assessment has its origins in Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment. This Directive has been amended three times and was codified by Directive 2011/92/EU in 2011. Directive 2011/92/EU was then subsequently replaced by Directive 2014/52/EU in 2014. The primary objective of the EIA Directive is to ensure that projects which are likely to have significant effects on the environment are subject to an assessment of their likely impacts.

Directive 2014/52/EU provides a definition of environmental impact assessment as being a process consisting of:

- The preparation of an environmental impact assessment report (EIAR);
- The carrying out of consultations required to inform the EIAR;
- The examination by the competent authority of the information presented in the EIAR and any supplementary information;
- The reasoned conclusion by the competent authority on the significant effects of the project on the environment; and
- The integration of the competent authority's reasoned conclusion into its decisions.

It should be noted that Directive 2014/52/EU has yet to be formally transposed into Irish law. However, Circular Letter PL 1/2017 issued on the 15th May 2017 states that the Department of Housing, Planning, Community and Local Government is urgently drafting the changes to this legislation to provide for the transposition of the Directive into the Irish planning code. In advance of transposition of Directive 2014/52/EU into Irish law, Competent Authorities are advised to ensure that the requirements of Directive 2014/52/EU are applied to planning application received on or after the 16th May 2017. This EIS Screening complies with this requirement and has had regard to the Key Issues Consultation Paper '*Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems*' (Department of Housing, Planning, Community and Local Government, 2017)

In determining the requirement for EIA, the Directive differentiates between the projects that always require EIA (those listed in Annex I of the Directive) and those for which an EIA may be required (those listed in Annex II of the Directive).

1.2.1 Annex I Projects

These are projects which are considered as having significant effects on the environment and require a mandatory EIA. **The project does not exhibit any characteristics associated with the projects identified in Annex I.** As such, an EIA is not required under Annex I.

While the project does not correlate to an Annex I type project under the Directive, national legislation¹, identifies where mandatory environmental impact assessment is required:

- The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area; and
- The construction of a new bridge or tunnel which would be 100 metres or more in length

The project does not exhibit any characteristics associated with the projects identified as requiring mandatory EIS in national legislation.

1.2.2 Annex II Projects

These are projects where national authorities have to decide whether an EIA is needed. This is done by the "screening procedure" which determines the effects of projects on the basis of thresholds/criteria or a case by case examination. Annex II of the Directive includes "*Construction of roads, harbours and port installations, including fishing harbours...*". The project is the upgrading of an existing road as opposed to the construction of a road and as such **does not exhibit any characteristics associated with the projects identified in Annex II.**

However, Article 50(1) of the Roads Act, 1993 (as amended) requires that where a road authority considers that the construction of a public road or the **improvement** of an existing public road would be likely to have significant effects on the environment, it shall inform the Minister in writing and where the Minister concurs, the road authority must prepare an environmental impact statement. This EIS Screening has been prepared to inform the road authority in their determination of potential for significant effects.

¹ The Roads Act 1993 as amended and Article 8 of the Roads Regulations 1994.

This Screening assessment has been undertaken having regard to both the requirements of Section 50 (1) of the Roads Act 1993 as amended and the criteria set out in the (new) EIA Directive (2014/52/EU) as set out in the following sections.

1.3 Criteria to Determine Requirement for EIA

The criteria to determine whether a project should be subject to environmental impact assessment on the basis of their significant effects on the environment are laid down in Annex III to Directive 2011/92/EU as follows:

Characteristics of Projects

The characteristics of projects must be considered, with particular regard to:

- a) *the size and design of the whole project;*
- b) *cumulation with other existing and/or approved projects;*
- c) *the use of natural resources, in particular land, soil, water and biodiversity;*
- d) *the production of waste;*
- e) *pollution and nuisances;*
- f) *the risk of major accidents and/ or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge;*
- g) *the risks to human health (for example due to water contamination or air pollution).*

Location of Projects

The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:

- a) *the existing and approved land use;*
- b) *the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground;*
- c) *the absorption capacity of the natural environment, paying particular attention to the following areas:*
 - i. *wetlands, riparian areas, river mouths;*
 - ii. *coastal zones and the marine environment;*
 - iii. *mountain and forest areas;*
 - iv. *nature reserves and parks;*
 - v. *areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC;*
 - vi. *areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure;*
 - vii. *densely populated areas;*
 - viii. *landscapes and sites of historical, cultural or archaeological significance.*

Type and Characteristics of Potential Impact

The likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of this Annex, with regard in particular to the impact of the project on the factors specified in Article 3(1), taking into account:

- a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);*
- b) the nature of the impact;*
- c) the transboundary nature of the impact;*
- d) the intensity and complexity of the impact;*
- e) the probability of the impact;*
- f) the expected onset, duration, frequency and reversibility of the impact;*
- g) the cumulation of the impact with the impact of other existing and/or approved projects;*
- h) the possibility of effectively reducing the impact.*

Section 3 of this report provide a comprehensive analysis of the project having regard to the above headings.

1.3.1 Other Relevant Guidance

In addition to Annex IIA and Annex III, the following guidance were also considered in the preparation of this EIA Screening Report:

- Circular Letter PL 1/2017, Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive), Department of Housing, Planning, Community and Local Government, May 2017;
- Key Issues Consultation Paper - Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems, Department of Housing, Planning, Community and Local Government, May 2017;
- The Planning and Development Acts 2000 to 2016, as amended and the Planning and Development Regulations 2001 to 2017, as amended;
- Guidance on EIA Screening, European Commission, 2001;
- EIA, Guidance for Consent Authorities regarding Sub-Threshold Development, Department of the Environment, Heritage and Local Government, 2003;
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government 2009 (revised 2010); and
- The Planning System and Flood Risk Management, Guidelines for Planning Authorities, Department of the Environment, Heritage and Local Government and the Office of Public Works, 2009.

1.4 Competency of EIA Screening Experts

Mott MacDonald has over 20 years' experience of complex and challenging environmental impact assessments (EIA) and of writing EIA Reports for a wide range of projects. These include some of the world's largest infrastructure, engineering, and development projects. In Ireland, Mott MacDonald have been carrying out EIA and delivering statutory consents on projects since the original transposition of the EIA Directive in 1989. Mott MacDonald is a

corporate member of the Institute of Environmental Management and Assessment and hold its EIA Quality Mark.

The EIA Screening Report has been prepared by **Rita Mansfield** who is an **Environmental Scientist** with Mott MacDonald Ireland. Rita has 13 years' experience providing EIA, planning, environmental licensing/auditing and project management services to clients across multiple sector areas both in Ireland and internationally.

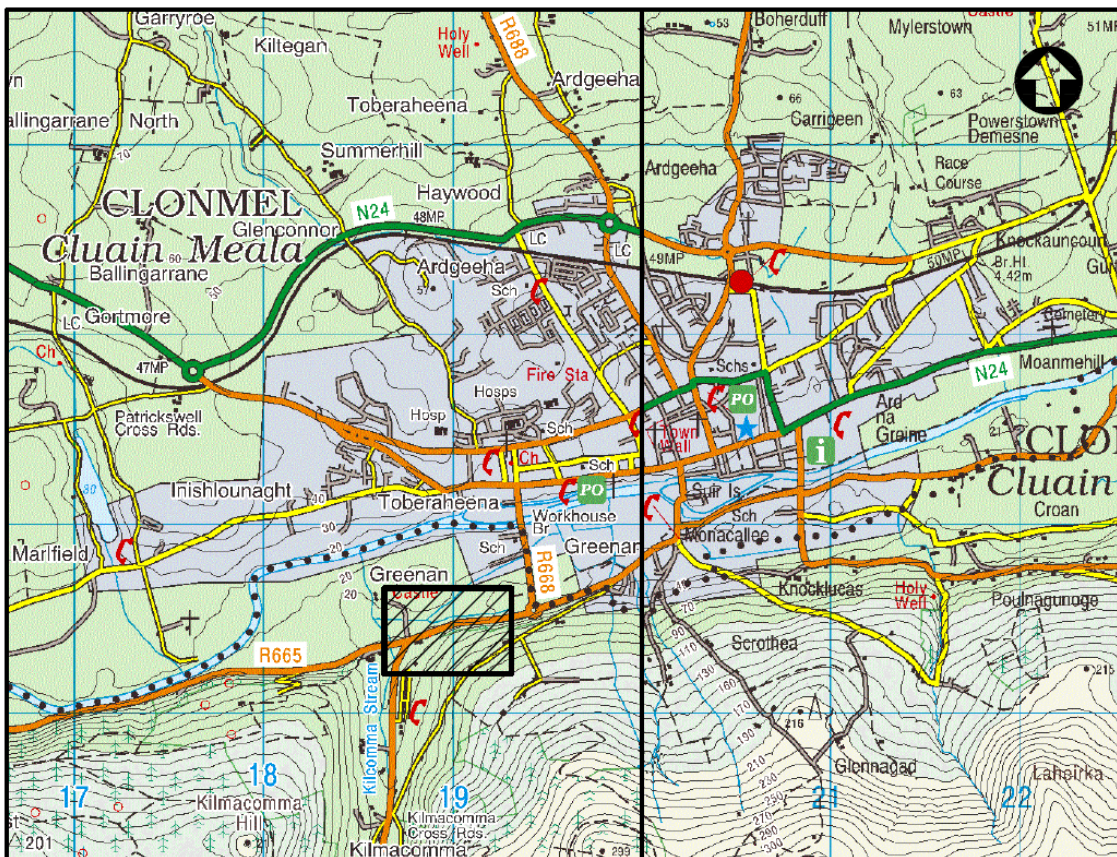
The report has been reviewed and authorised for issue by **Paul Kelly** who is **Divisional Director (Environment)** with Mott MacDonald. Paul is a Project Director and Environmental Scientist with over 20 years' experience gained in the statutory approval and environmental assessment of utility-scale infrastructure projects. Paul has extensive experience in the delivery of infrastructure in Ireland and specialises in statutory consent processes, including land-use planning, statutory approval, environmental impact assessment, appropriate assessment and environmental licensing. Paul is a member of the Irish Environmental Law Association.

2 Project Description

2.1 Project Overview

The proposed Dungarvan Road Flood Protection Scheme will be located on the existing R671 Dungarvan Road to the south west of Clonmel Town.

Figure 1: Site Location



Ordnance Survey Ireland Licence Number: EN0034517

It is proposed to raise the road over a length of approximately 750m by up to 1.6m which will bring the road levels above the 1 in 30-year flood level. The scheme will comprise the following:

- raise the existing road level for a length of approximately 750 m
- reconfigure the R671/R665 junction to form a new roundabout
- construct earthen embankments on the lands immediately north and south of the new road alignment
- provide surface water runoff drainage and ancillary services

An overview of the scheme is presented in drawing number MMD-319884-C-DR-00-XX-0250, included as an appendix to the Planning Particulars Report.

The proposed development area comprises the existing road bed and road verges. It will be necessary however to acquire a small parcel of private lands to accommodate the road augmentation. Waterford City and County Council will acquire the necessary lands which comprise wet willow woodland and wet grassland. There may be a requirement to remove some existing boundary walls to accommodate the realigned road. This will be reinstated as part of the accommodation works agreed with each individual landowner.

The development will necessitate the breaking out of the existing road pavement. Fill material will be used to construct embankments and to raise the road level above the flood level. Waste material and fill material will be contained, transported, and managed in accordance with the 'Guidelines for the Management of Waste from National Road Construction Projects' (NRA, 2014) and the *Waste Management Act 1996*, as amended. Based on the preliminary road design, an approximate fill volume of 14975m³ and cut volume of 345m³ is proposed for the road development. Material for the fill volume will be taken from a sustainably sourced location. All material to be imported to the site will be screened to ensure there is no risk of contaminated material.

The proposed road drainage will facilitate the efficient removal of surface and sub-surface water. This will minimise the impact of runoff on the receiving environment using Sustainable Drainage Systems (SuDS). The following standards have been referenced in the development of the drainage strategy and will be used in the preparation of the detailed design;

- NRA Design Manual for Roads and Bridges (NRA DMRB) Volume 4 Geotechnics and Drainage - Section 2 Drainage
- The Greater Dublin Strategic Drainage Study: Volume 2 New Development, Dublin City Council, March 2005
- Guidelines for Road Drainage, Department of the Environment, Heritage and Local Government, April 2004
- CIRIA Guidance Document C697: The SuDS Manual

The proposed changes to the road will not alter current traffic volumes, therefore the risk of an increase in concentration of pollutants associated with road run-off is very low. In the interest of water quality, where the footpath is proposed, a kerb and trapped gully system is provided. Where the road is at grade or in cut a filter drain system will be provided. It is proposed to maintain existing outfalls which currently discharge to the adjacent wetland. To mitigate against the risk of accidental spillage a manual shut-off valve will be provided at all outfalls, together with procedures on how the valves are activated in the event of a spillage. The design of the new proposed road development will include for the provision of road lighting for the full length of the proposed road development as per the existing road lighting currently in place.

2.2 Environmental Sensitivity

Mott MacDonald conducted ecological site walkover survey of the proposed Dungarvan Road Flood Protection Scheme (which included the area 350m beyond the scheme boundary) on 06 October 2017 to identify ecological constraints to inform scheme design. The ecological survey was carried out with regard to Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA 2009).

The proposed scheme is located within a rural context. The road is bounded by wet grassland and improved agricultural grassland to the north, and by a steep embankment vegetated with

wet willow-ash woodland to the south. There are a small number of businesses along the road which include a service station and fuel/shed sales business.

European Sites

The western extent of the road works (i.e. the location of the reconfiguration of the R671/R665 junction) will be approximately 50m from the Lower River Suir SAC (site code: 002137). The habitat within the SAC at this location comprises oak-birch-holly woodland. This is not a qualifying feature of the SAC.

Kilcomma stream is located approximately 30m from the location of the reconfiguration of the R671/R665 junction. The Kilcomma stream flows in a northerly direction and joins the River Suir approximately 500m downstream. The Lower River Suir SAC is designated for the protection of a number of aquatic species including lamprey, white-clawed crayfish, Atlantic salmon, twaite shad and freshwater pearl mussel.

- Maitland (2003) describes the habitat requirements for lamprey species. The Kilcomma stream has suitable habitat to support the larval stages of lamprey species. The gravel/shingle component of the river substrate is sub-optimal for lamprey spawning given its compact nature and small size.
- Atlantic salmon and twaite shad are less likely to utilise the Kilcomma stream given the high level of sedimentation and the absence of habitat sequences (i.e. riffle-pool) necessary to support all life stages.
- White-clawed crayfish has been recorded on the River Suir, upstream and downstream with the Kilcomma stream confluence. White-clawed crayfish are however unlikely to be present in the Kilcomma stream given the absence of suitable refugia (i.e. absence of suitably sized stable material such as stone / large cobbles as described by Peay, 2002) and the high level of sedimentation.
- Freshwater pearl mussel in the SAC are within the Clodiagh River. This is not hydrologically connected to the Kilcomma stream.

Otter have been recorded on the River Suir, including a number of road kills on the R665 in close proximity to the Kilcomma stream. Otter survey was carried out during the ecological site walkover. No field signs of otter were observed and no otter resting or breeding places were identified on the Kilcomma stream.

Other Protected Areas / Species

The Marfield Lake pNHA (site code: 001981) and wildfowl sanctuary is located approximately 1.6km north-west of the proposed development. There is no connectivity between the development and the pNHA and the road works are located such a distance from the site not to cause disturbance to waterfowl.

Signs of deer and badger (both protected under the Wildlife Act) were observed during field survey however no badger sett was observed within 150m of the road works (as per NRA guidance on zone of influence).

Trees which will be felled / cleared for the purpose of the works were assessed as having low bat roost potential and mainly comprise willow scrub.

Figure 2: Kilcomma stream



Source: Taken 06 October 2017, Mott MacDonald

3 A Screening

3.1 Background

As the project is not a type of project identified in either Annex I or Annex II, there is no statutory requirement under the EIA Directive for it to be subject to EIA. However, as a responsible developer, and in order to satisfy the Roads Act, Waterford City and County Council is committed assessing the potential for significant effects on the environment. As such, Waterford City and County Council has prepared this EIA Screening Report for inclusion in the Part 8 planning application. In completing this report, regard was had to Annex IIA and Annex III of the EIA Directive, as well as other relevant Irish EIA guidance, as set out in the following sections.

3.2 Annex III: Criteria to Determine Whether Projects Should be Subject to an Environmental Impact Assessment

3.2.1 Characteristics of the Project

Criterion	Response
Will the size and design of the whole project be considered significant?	The Dungarvan Road Flood Protection Scheme is an upgrade to the existing road. The existing Dungarvan road (i.e. Regional Road R665) is a rural single carriageway road. The upgraded road will similarly be a single carriageway road (6.5m wide carriageway road) and includes a 2m wide footpath on one side of the road carriageway. There will be no associated change in land use. The road upgrade will not have a significant footprint in terms of length or width. A small portion of land along the existing road margins will be taken over to provide for the minor realignment of the existing road. Overall the size of the proposed development is not considered significant
Will the project have a significant impact when considered in cumulation when considered with other existing and/ or approved projects?	A search of the City and County Council's online planning enquiry system determined that permission has been granted (ref 17/109) for the augmentation of the petrol service station on Dungarvan Road (new parking spaces, new wall, signage, reconfiguration of internal building layout, replacement of cladding with walls). This business is on the alignment of the proposed Dungarvan Road upgrade. New entrances will be provided to the service station as part of the Dungarvan Road project. The works to the petrol station were subjected to screening for Appropriate Assessment which determined no potential for significant effects. The sewage discharge from the petrol station will be diverted to public sewer (as opposed to the current discharge to the River Suir via a package plant). There will be no negative effects from the development. There is no potential for in-combination effects.
Will the project involve the use of natural resources, in particular land, soil, water, and biodiversity? Is the use of these natural resources considered significant?	The road upgrade will require the use of fill material for the purpose of raising the road. Based on the preliminary road design, an approximate fill volume of 6800m ³ and cut volume of 423m ³ is proposed for the road development. The fill material will be sustainably sourced and will be free of contaminated material. Given the scale of the project, the use of natural resources is not significant.
Will the project produce a significant volume of wastes?	No. Given the scale of the project the volume of waste generated will not be significant.
Will the project result in significant pollution or nuisance?	During construction, there is potential for runoff from works areas into the Kilcomma stream. However, providing that best design and construction practice is followed, no significant pollution is envisaged. There will be a temporary increase in noise during the construction phase of the project due to construction machinery and the increase of vehicles. Traffic management and traffic diversions will be necessary. Noise impacts are not considered to present a significant risk of nuisance given that they will be temporary in nature and given that there are few sensitive receptors (the majority

Criterion	Response
	<p>of the works is surrounded by agricultural lands). It is likely that, due to noise, Deer will be deterred from crossing the road during working hours. This will not significantly affect the availability of suitable habitat for deer, which is predominantly south of the road. There will be no increase in traffic volumes associated with the scheme. There will be no noise impacts to breeding / resting Wildlife Act / Habitats Directive species given the absence of their resting places within the zone of influence of the works.</p> <p>Sustainable Drainage Systems will be incorporated to reduce the impact of any runoff. All drainage from the proposed road will discharge through the existing outfalls to the adjacent wetland.</p>
Will the project result in a risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge?	No. The inventory of substances to be used are not subject to any of the requirements contained in the <i>Chemical Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015</i> which implement the Seveso III Directive, which is the main EU legislation dealing specifically with the control of on-shore major accident hazards, involving dangerous substances, into Irish law.
Will the project result in any risks to human health (i.e. due to water contamination or air pollution)?	No. The project will be constructed in accordance with environmental best practice. The replacement of the R671/R665 junction with a new roundabout will improve road safety. The realignment will similarly improve road safety in relation to improved sight lines.

3.2.2 Location of Project

Criterion	Response
What is the existing and approved land use?	The project will upgrade a section of the existing Dungarvan Road. The land use will remain the same as current use.
Has the project the potential to impact directly or indirectly on the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground?	No the project will not require the use of natural resources with the exception of a relatively small portion of fill material.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to wetlands, riparian areas, river mouths?	No. The flood risk assessment for the proposed road upgrade (document ref: 319884/WNE/WAM/1/A) modelled the post-development scenario (i.e. the removal of the road from the floodplain area) and concluded that the changes to the road will not affect the current flood risk situation.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to coastal zones and the marine environment?	No, the proposed works are located inland, away from any coastal zones
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to mountain and forest areas?	No, the proposed works are will not impact directly or indirectly on any mountain or forest areas.
Has the development the potential to impact directly or indirectly on nature reserves or parks?	No, the proposed works are will not impact directly or indirectly on any nature reserves or parks.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC?	The project will be carried out in close proximity (~30m) to the Kilcomma stream which is hydrologically connected to the Lower River Suir SAC (site code: 002137). The project has been subjected to Screening for Appropriate Assessment which determined no potential for significant effects.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure?	Sustainable Drainage Systems will be incorporated to reduce the impact of any runoff. All drainage from the proposed road will discharge through the existing outfalls to the adjacent wetland. The existing Water Quality of both the Kilcomma stream and the River Suir is classed as "Good" under the Water Framework Directive. The project will be

Criterion	Response
	constructed in accordance with environmental best practice which will include measures to prevent site runoff to the watercourse.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to densely populated areas?	No, the proposed development is to be carried out within rural areas and will impact directly or indirectly on densely populated areas.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to landscapes and sites of historical, cultural or archaeological significance?	<p>No. SMR No. WA001-012001 (church) and SMR No. WA001-012002 (graveyard) are located approx. 74m north of the proposed works. Some works will be located within the boundary of the National Monuments Service Zone of Notification. Notification to National Monuments and Services is required under section 12 of the National Monuments Act (1930-2004). Mitigation as may be prescribed will be adopted to ensure no significant effects.</p> <p>The proposed works will generally be limited to the existing road curtilage, this combined with existing tree and hedgerow vegetation significantly limit visual impacts. Mitigation measures proposed will ensure that there is no significant impact on any visual receptors. Therefore, no significant adverse impacts on the landscape and visual aspects are unlikely.</p>

3.2.3 Type and Characteristics of Potential Impacts

Criterion	Response
Outline the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected).	The roadworks will have a small spatial scale (c. 750m). The footprint of the development will predominately be based within the existing road alignment. There will be a small loss of willow woodland and wet grassland. These habitats are of low ecological value. The environmental impact associated with the proposed development will not be significant.
Outline the nature of the impact	The nature of the impact arising from both the construction and operational phases of the project is the potential for negative adverse impacts on water quality, landscape, cultural heritage etc. However, providing that best design and construction practice is followed, no significant pollution is envisaged. Also, once the project is constructed and operational, no significant pollution is envisaged.
Outline the transboundary nature of the impact	The project will result in no transboundary impacts.
Outline the intensity and complexity of the impact.	The intensity of impacts is not considered to be significant. The upgrade works to the road will take place mainly within the existing road footprint (although additional land will also be required). The works will be carried out over a short period of time. The impacts would not be considered complex in nature.
Outline the probability of the impact	During construction, conventional construction and best environmental practice techniques will be employed. Thereby limiting the potential for environmental impacts.
Outline the expected onset, duration, frequency and reversibility of the impact	<p>Impacts associated with the construction phase (e.g. noise) will be temporary in nature and will only occur during the construction period.</p> <p>There will be an associated permanent loss of habitat (willow scrub and wet grassland) with the scheme. While this impact is irreversible, these habitats are of low ecological value.</p>
Outline the cumulation of the impact with the impact of other existing and/ or approved projects	There are no other projects which have potential to interact with the project and result in significant cumulative impacts. The proposed refurbishment of the petrol station on Dungarvan Road is a small-scale project which will bring benefit to water quality of the River Suir (by diverting foul to the public sewer).
Outline the possibility of effectively reducing the impact	The road alignment and design has been optimised to ensure that environmental impacts are minimised as much as possible. Lands will be reinstated where feasible. These impacts are not considered significant and do not result in a requirement for EIA.

4 Recommendations and Conclusions

It is concluded that impacts associated with the construction and operation of the proposed development is **not considered to be significant** in the context of the EIA Directive (2014/52/EU) and the Roads Act. This conclusion is based on the findings of the analysis provided in the preceding sections in relation to:

- Characteristics of Project;
- Location of Project; and
- Type and Characteristics of Potential Impact.

A Planning Particulars Report has been prepared in support of the Part 8 Planning submission to Waterford City and County Council. This report identifies potential impacts of the proposed scheme and prescribes measures to be taken to ensure no significant environmental effects.

The project was subjected to Screening for Appropriate Assessment which determined no potential for significant effects on European Sites.

The flood protection works on the Dungarvan Road are not considered significant to the extent that an EIA is required.

5 References

- Chanin P (2003). Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.
- Harris S, Cresswell P and Jefferies D (1989). Surveying Badgers. Mammal Society. Commissioned Report No. 096.
- Maitland PS (2003). Ecology of the River, Brook and Sea Lamprey. Conserving Natura 2000 Rivers Ecology Series No. 5. English Nature, Peterborough
- Maitland PS & Hatton-Ellis TW (2003). Ecology of the Allis and Twaite Shad. Conserving Natura 2000 Rivers Ecology Series No. 3. English Nature, Peterborough
- NASCO (2010) Guidelines for the Protection, Restoration and Enhancement of Atlantic Salmon Habitat
- National Roads Authority (2009) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes
- National Roads Authority (2008) Guidelines for the Treatment of Otters during the Construction of National Road Schemes. National Roads Authority
- National Roads Authority (2005). Guidelines for the Treatment of Badgers during the Construction of National Road Schemes.
- Stephanie Peay (2002) Guidance on Habitat for White-clawed Crayfish and its Restoration

F. Appropriate Assessment Screening

Dungarvan Road Flood Protection

Screening for Appropriate Assessment

27 April 2018

5 Eastgate Avenue
Eastgate
Little Island
Co Cork T45 EE72
Ireland

T +353 (0)21 480 9800

mottmac.com

Civic Offices
Dungarvan
Co. Waterford

Dungarvan Road Flood Protection

Screening for Appropriate Assessment

27 April 2018

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	19/12/2013	R. McEvoy	P. Kelly	B O' Connor	For Client Review
B	07/11/2017	R. Mansfield	N Samachetty	B O' Connor	For Issue
C	27/04/2018	R. Mansfield	N Samachetty	B O' Connor	For Issue

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Overview	1
1.2	Requirement for Appropriate Assessment	1
1.3	Screening for Appropriate Assessment - Methodology	2
1.4	Scope of This Screening Assessment	2
2	Project Description	4
2.1	Project Overview	4
2.2	Likely Effects	6
2.3	Baseline Environment	7
2.3.1	Annex I Species	8
2.3.2	Annex II Habitats	10
3	Assessment of Likely Significant Effects	13
3.1	General	13
4	Screening Statement	14
4.1	Screening Matrix	15
5	References	17

1 Introduction

1.1 Overview

This Screening for Appropriate Assessment has been prepared by Mott MacDonald Ireland Limited on behalf of Waterford City and County Council for the Dungarvan Road Flood Protection Scheme.

The main route between Clonmel and Dungarvan, the R671 Dungarvan road, suffers from frequent flooding from the River Suir. Waterford City and County Council wish to raise the level of this road to maintain a transport connection between these two towns during flood events. To achieve this objective, it is proposed to progress the Dungarvan Road Flood Protection Scheme, to alter the level and orientation of the existing road structure above the 1 in 30-year flood level as follows:

- raise the existing road level for a length of approximately 750 m
- reconfigure the R671/R665 junction to form a new roundabout
- construct earthen embankments on the lands immediately north and south of the new road alignment
- provide surface water runoff drainage and ancillary services

Additional information on the Dungarvan Road Flood Protection Scheme, which is the subject of a planning application to Waterford City and County Council, is provided in Section 2 of this report.

1.2 Requirement for Appropriate Assessment

Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 437 of 2011) (as amended) transposes Article 6 of the Habitats Directive (92/43/EEC) into Irish law. The regulations require that before consent for a project is given, **a screening for Appropriate Assessment** of a project for which an application for consent is received (which is not directly connected with or necessary to the management of the site as a European Site), must be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

The Dungarvan Road Flood Protection Scheme is **not directly connected with or necessary to the management of any Natura 2000 sites** and must therefore be subjected to screening for Appropriate Assessment.

This report is a screening for Appropriate Assessment for the Dungarvan Road Flood Protection Scheme. The intention of this screening for Appropriate Assessment is to assess whether the proposed scheme is likely to have a significant effect on a Natura 2000 site(s), either alone or in combination with other plans or projects. Where significant effects are determined to be likely the project is statutorily required to be subjected to Appropriate Assessment.

1.3 Screening for Appropriate Assessment - Methodology

This screening for Appropriate Assessment has been carried out in accordance with the following European Commission and National Guidance:

- EC (2000) 'Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC'
- EC (2001) 'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC'
- DEHLG (2009, updated 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities

Desk Study

The screening assessment has been informed by desktop review of available records of protected species and habitats including the following sources:

- Conservation Status Assessment Reports [1] (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive;
- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, Species Action Plans and Conservation Management Plans; and
- Existing relevant mapping and databases e.g. waterbody status, species and habitat distribution etc. (sourced from the Environmental Protection Agency - <http://gis.epa.ie/>, the National Biodiversity Data Centre - <http://maps.biodiversityireland.ie> and the National Parks and Wildlife Services - <http://www.npws.ie/mapsanddata/>);

Field Survey

Mott MacDonald conducted an ecological walkover survey of the proposed Dungarvan Road Flood Protection Scheme (which included the area 350m beyond the scheme boundary) on 06 October 2017 to determine the presence of protected species or habitats within the zone of influence of the project. The ecological survey was carried out with regard to the following guidelines:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal (Chartered Institute of Ecology and Environmental Management (CIEEM, 2016)
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA 2009)
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (National Roads Authority, 2009)

1.4 Scope of This Screening Assessment

The DEHLG Guidance¹ states that screening for Appropriate Assessment should be carried out for any Natura 2000 site within the likely zone of influence (ZoI). For projects, the ZoI must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects.

^[1] Every six years, Member States of the European Union are required to report on the conservation status of all habitats and species listed on the annexes of the Habitats Directive as required under Article 17 of the Directive. Ireland submitted our conservation status report to the European Commission in June 2013. The assessment documents may be viewed on the NPWS website: <http://www.npws.ie/publications/article17assessments/article172013assessmentdocuments/>

¹ DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities

European Sites that are within the Zones of Influence (Zol) of The Project are determined using the source-pathway-receptor (SPR) approach as follows:

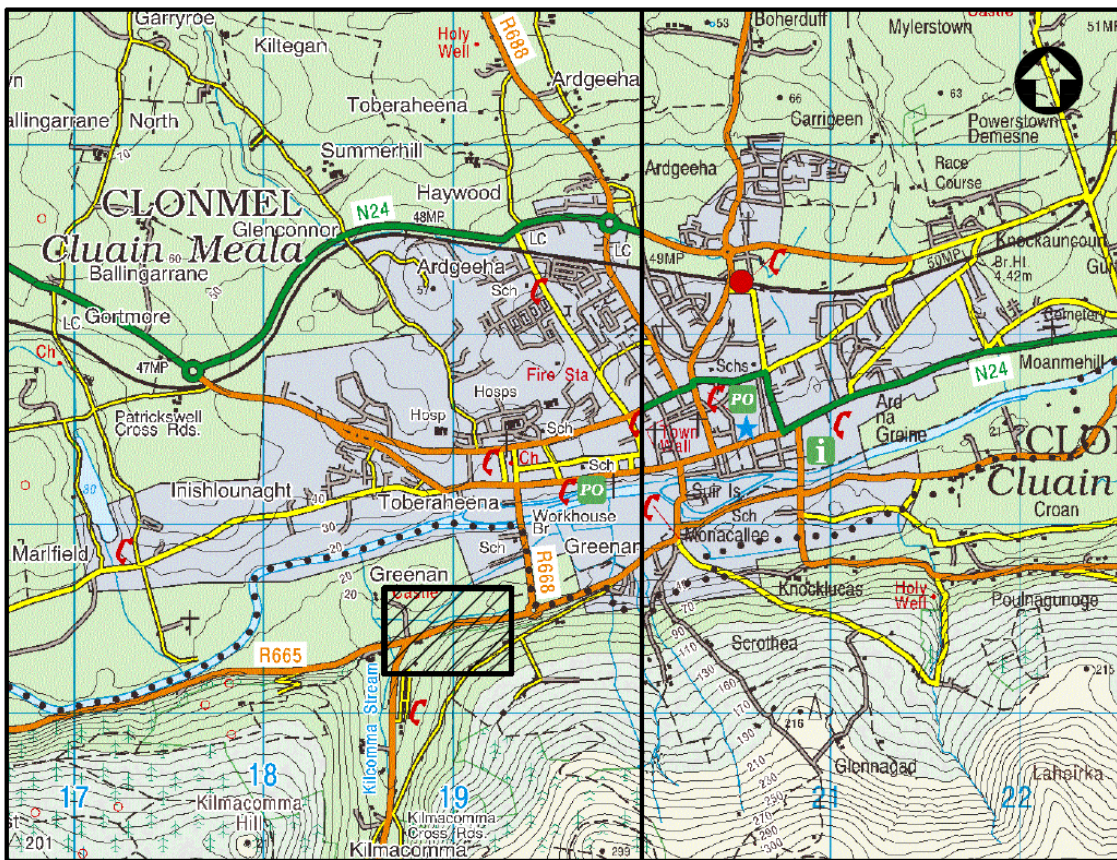
- The first step in the SPR assessment is to identify the likely direct and indirect impacts from The Project (i.e. identify the source). Project-related impacts are presented in Section 2.2 of this report.
- Secondly the pathway between the impacts (source) and the qualifying features / conservation interests of and SAC/SPA (receptor) must be determined i.e. the spatial and temporal limits of the likely impacts (biological / chemical / physical changes) are identified and the presence of qualifying features / conservation interests within these limits are determined. The potential for qualifying features / conservation interests to be present is described in Section 2.3 of this report.
- Finally, the sensitivity of these ecological features to particular impacts is assessed. Where there is no sensitivity, the ecological feature will not be impacted and therefore is not within the 'zone of influence'.

2 Project Description

2.1 Project Overview

The proposed Dungarvan Road Flood Protection Scheme will be located on the existing R671 Dungarvan Road to the south west of Clonmel Town.

Figure 1: Site Location



Ordnance Survey Ireland Licence Number: EN0034517

It is proposed to raise the road over a length of approximately 750m by up to 1.6m which will bring the road levels above the 1 in 30-year flood level. The scheme will comprise the following:

- raise the existing road level for a length of approximately 750 m
- reconfigure the R671/R665 junction to form a new roundabout
- construct earthen embankments on the lands immediately north and south of the new road alignment
- provide surface water runoff drainage and ancillary services

An overview of the scheme is presented in drawing number MMD-319884-C-DR-00-XX-0250, included as an appendix to the Planning Particulars Report.

The proposed development area comprises the existing road bed and road verges. It will be necessary however to acquire a small parcel of private lands to accommodate the road augmentation. Waterford City and County Council will acquire the necessary lands which comprise wet willow woodland and wet grassland. There may be a requirement to remove some existing boundary walls to accommodate the realigned road. This will be reinstated as part of the accommodation works agreed with each individual landowner.

The development will necessitate the breaking out of the existing road pavement. Fill material will be used to construct embankments and to raise the road level above the flood level. Waste material and fill material will be contained, transported, and managed in accordance with the '*Guidelines for the Management of Waste from National Road Construction Projects*' (NRA, 2014) and the *Waste Management Act 1996*, as amended.

Pollution control measures will be an integral part of the project and will be designed, installed, and maintained in accordance with CIRIA guidance for '*Environmental Good Practice on Site*' (C741) and '*Control of water pollution from linear construction projects. Technical guidance*' (C648). The potential for accidental pollution or site runoff to the Kilcomma stream will be controlled on site. Impacts on aquatic species and habitats which are qualifying features of the Lower River Suir SAC are therefore extremely unlikely. There will be no in-stream works associated with the flood protection works to the Dungarvan Road therefore there is no potential for direct disturbance the Annex I species or their habitats.

The proposed road drainage will facilitate the efficient removal of surface and sub-surface water during the operational phase of the proposed works. This will minimise the impact of runoff on the receiving environment using Sustainable Drainage Systems (SuDS). The following standards have been referenced in the development of the drainage strategy and will be used in the preparation of the detailed design;

- NRA Design Manual for Roads and Bridges (NRA DMRB) Volume 4 Geotechnics and Drainage – Section 2 Drainage
- The Greater Dublin Strategic Drainage Study: Volume 2 New Development, Dublin City Council, March 2005
- Guidelines for Road Drainage, Department of the Environment, Heritage and Local Government, April 2004
- CIRIA Guidance Document C697: The SuDS Manual

The proposed changes to the road will not alter current traffic volumes, therefore the risk of an increase in concentration of pollutants associated with road run-off is very low. In the interest of water quality, where the footpath is proposed, a kerb and trapped gully system is provided. Where the road is at grade or in cut a filter drain system will be provided. It is proposed to maintain existing outfalls which currently discharge to the adjacent wetland. To mitigate against the risk of accidental spillage a manual shut-off valve will be provided at all outfalls, together with procedures on how the valve is activated in the event of a spillage.

The design of the new proposed road development will include for the provision of road lighting for the full length of the proposed road development as per the existing road lighting currently in place.

2.2 Likely Effects

The elements of the project that have the potential to cause environmental impact are identified in Table 1 in accordance with the European Commission Guidance (2001).

Table 1 Elements of the project with the potential to cause environmental impact

Characteristics	Details
Physical changes that will arise due to the project	The Dungarvan Road Flood Protection Scheme is an upgrade to the existing road. The existing Dungarvan road (i.e. Regional Road R665) is a rural single carriageway road. The upgraded road will similarly be a single carriageway road (6.5m wide carriageway road) and includes a 2m wide footpath on one side of the road carriageway. There will be no associated change in land use. A small portion of land along the existing road margins will be taken over to provide for the realignment of the existing road. There will be an associated permanent loss of habitat.
Resource requirements	The road upgrade will require the use of fill material for the purpose of raising the road. Based on the preliminary road design, an approximate fill volume of 6800m ³ and cut volume of 423m ³ is proposed for the road development. The fill material will be sustainably sourced and will be free of contaminated material. There is no requirement for resources within any Natura 2000 site.
Emissions and waste (incl. invasive species)	<p>During construction:</p> <ul style="list-style-type: none"> The development will necessitate the breaking out of the existing road pavement. Waste material will be contained, transported, and managed in accordance with the 'Guidelines for the Management of Waste from National Road Construction Projects' (NRA, 2014) and the <i>Waste Management Act 1996</i>, as amended. There is potential for runoff from works areas into the Kilcomma stream. There will be a temporary increase in dust, particularly when breaking out the existing road and when moving fill material. IAQM (December 2011) defines the zone of influence for dust as 350m from the site boundary. There will be a temporary increase in noise due to construction machinery and the increase of vehicles. BS 5228-1:2009+A1:2014 prescribes typical noise level data for various construction plant and activities 10m from source. The inverse square law can be applied to determine likely noise levels at varying distances from the project. These can be compared against the EPA daytime noise limits (55dB LAr, T). At 250m from the works, noise levels for individual plant are at or below the EPA limits. (refer to Table 2) <p>During operation:</p> <ul style="list-style-type: none"> Sustainable Drainage Systems will be incorporated to reduce the impact of any runoff. All drainage from the proposed road will discharge through the existing outfalls to the adjacent wetland Manual shut-off valves will be provided at all outfalls, together with procedures on how the valves are activated in the event of a spillage There will be no increase in traffic volumes associated with the scheme.
Transportation requirements	There will be a temporary increase in traffic volumes to the area during the construction period. Traffic management and traffic diversions will be necessary during construction. Transportation to the site will be via the existing roadway. There will be no increase in the volume of traffic as a result of the proposed realignment. Therefore, there will be no impact on any Natura 2000 site as a result of transportation requirements caused by the proposed development.
Duration of construction, operation, decommissioning, etc.	The expected duration of the construction works is approximately 9 months. The proposed construction phase is short term in nature. The proposed development will upgrade an existing road. Given the nature and scale of these works there will be no impact as a result of duration of the proposed works.
Distance from Natura 2000 site or key features of the site	<p>The western extent of the road works (i.e. the location of the reconfiguration of the R671/R665 junction) will be approximately 40m from the Lower River Suir SAC (site code: 002137).</p> <p>Kilcomma stream is located approximately 10m from the location of the reconfiguration of the R671/R665 junction. The Kilcomma stream flows in a northerly direction and joins the River Suir approximately 530m downstream</p> <p>Given the nature and scale of the proposed works there will be no impacts to any Natura 2000 sites as a result of the distance or key features of the site..</p>

Characteristics Details

Plans and Projects Which Article 6(3) of the Habitats Directive requires that:
Might Act in Combination

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

A search of Waterford City and County Council's online planning enquiry system determined that permission has been granted (ref 17/109) in August 2017 for the augmentation of the petrol service station on Dungarvan Road (new parking spaces, new wall, signage, reconfiguration of internal building layout, replacement of cladding with walls). This business is on the alignment of the proposed Dungarvan Road upgrade. New entrances will be provided to the service station as part of the Dungarvan Road project. The works to the petrol station were subjected to screening for Appropriate Assessment which determined no potential for significant effects. The sewage discharge from the petrol station will be diverted to public sewer (as opposed to the current discharge to the River Suir via a package plant). This will have a positive implication for water quality in the River Suir. There will be no negative impact from the development. There is no potential for in-combination effects.

Table 2: Noise Levels Associated with Road Works Over Distance²

Plant Item	Distance (m)				
	10	100	200	250	300
Backhoe mounted hydraulic breaker	88	65	57	55	53
Tracked excavator	78	55	47	45	43
Earthworks (Dozer)	86	63	55	53	51
Dump truck (empty)	88	65	57	55	53
Road planer	82	59	51	49	47
Asphalt paver	77	54	46	44	42
Spreading chipping/fill (dozer)	82	59	51	49	47
Vibratory roller	84	61	53	51	49

Source: Adopted from BS 5228-1:2009+A1:2014

2.3 Baseline Environment

The proposed Dungarvan Road Flood Protection Scheme is not located within a European Site.

The western extent of the road works (i.e. the location of the reconfiguration of the R671/R665 junction) will be approximately 50m from the Lower River Suir SAC (site code: 002137).

Kilcomma stream is located approximately 30m from the location of the reconfiguration of the R671/R665 junction. The Kilcomma stream flows in a northerly direction and joins the River Suir approximately 500m downstream.

The Lower River Suir SAC consists of all the freshwater stretches of the Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many of the tributaries including the Clodiagh, the Lingaun, Anner, Nier, Tar, Aherlow and Multeen. This site contains a range of Annex I habitats and Annex II species as follows:

² Inverse Square Law – For every doubling of the distance from the noise source, the sound pressure levels will broadly be reduced by 6 decibels (dB)

Table 3: Qualifying Features of the SAC**Qualifying Feature (* indicates priory habitat)**

Annex I Habitats	Annex II Species
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]	<i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	<i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]	<i>Petromyzon marinus</i> (Sea Lamprey) [1095]
<i>Hydrophilous</i> tall herb fringe communities of plains and of the montane to alpine levels [6430]	<i>Lampetra planeri</i> (Brook Lamprey) [1096]
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	<i>Lampetra fluviatilis</i> (River Lamprey) [1099]
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0]	<i>Alosa fallax fallax</i> (Twaité Shad) [1103]
<i>Taxus baccata</i> woods of the British Isles [91J0]	<i>Salmo salar</i> (Atlantic Salmon) [1106]
	<i>Lutra lutra</i> (Otter) [1355]

Source: www.npws.ie

An ecological field assessment was undertaken by Mott MacDonald Ecologists on 06 October 2017 to determine the presence / likely presence of qualifying features of the SAC within the spatial and temporal extents of the likely impacts of the development. Equipment used for the survey included base maps, iPad, template target notes, digital camera, Explorer Premium wireless inspection endoscope (Model 8003AL), and binoculars

2.3.1 Annex I Species

NRA *Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes* states that impacts from construction works can impact breeding otter holts within 150m of the works. Mott MacDonald Ecologists undertook an Otter survey within 150m of the proposed development (following *Monitoring the Otter Lutra lutra* Chanin, 2003) in October 2017. No signs of otter were observed and no otter couches or holts were observed. Otter is however widespread on the system and are known to cross the existing Dungarvan Road at the Kilcomma stream crossing as is evidenced by a number of recorded otter road deaths at this location. There is potential for noise disturbance to otter commuting as a result of the increased activity on site during construction. However, given that otter are crepuscular animals (most active at dusk / dawn) there is limited potential for construction works to coincide with otter activity. Disturbance of otter is extremely unlikely. Once works have been completed, the raised road and embankments will not negatively impact on otters as the embankments are located away from the Kilcomma stream and will not impede otter crossing at this location.

Mott MacDonald Ecologists undertook a river habitat survey of the Kilcomma stream (downstream of the road development) to determine the potential for the stream to support the qualifying features of the SAC. The stream substrate comprises a 50/50 mix of sand and fine gravel/shingle. The stream flow is predominantly a smooth glide. There are small areas of riffle over cobble/stone immediately downstream of the culverted section under the Dungarvan Road (note Japanese knotweed is present at this location). Land use is agricultural on both stream banks. The riparian zone of the stream comprises gappy willow and bramble on a low bank. The stream is accessible to cattle and there is a high level of poaching.

Figure 2: Kilcomma stream downstream of road culvert

Source: Mott MacDonald October 2017

Figure 3: Kilcomma stream at cattle access

Source: Mott MacDonald October 2017

River/Brook and Sea Lamprey are present in the River Suir, in proximity to Clonmel (ref Figure 4). Maitland (2003) describes the habitat requirements for lamprey species. The Kilcomma stream has suitable habitat to support the larval stages of lamprey species. The gravel/shingle component of the river substrate downstream of the road is generally sub-optimal for lamprey spawning given its compact nature and small size, however there are suitable gravel areas within the stream. Lamprey are likely to use this stream.

Atlantic salmon and twaite shad are less likely to utilise the Kilcomma stream given the high level of sedimentation and the absence of habitat sequences (i.e. riffle-pool) necessary to support all life stages. Inland Fisheries Ireland (IFI) holds responsibility for fish monitoring in support of the Water Framework Directive waterbody status classification. IFI monitor on the River Suir at Kilsheelan Br (16S022700F) downstream of Clonmel. Fish species recorded at this site include Salmon. The weir in Clonmel, which was historically problematic to the upstream migration of salmon, was upgraded in 2011 to provide fish passage. Salmon are therefore able to migrate more readily upstream of Clonmel Town.

Twaite Shad have not been recorded in the Suir catchment.

White-clawed crayfish (*Austropotamobius pallipes*) is also common throughout the Suir and has been recorded on the main channel of the Suir at Marfield (upstream and downstream with the Kilcomma stream confluence). White-clawed crayfish are however unlikely to be present in the Kilcomma stream given the absence of suitable refugia (i.e. absence of suitably sized stable material such as stone / large cobbles as described by Peay, 2002) and the high level of sedimentation.

Freshwater Pearl Mussel (*Margaritifera margaritifera*) on the Clodiagh River. This is not hydrologically connected to the Kilcomma stream.

Figure 5: Wet grassland

Source: Mott MacDonald October 2017

Figure 6: Swamp and willow scrub

Source: Mott MacDonald October 2017

Lands to the south of the Dungarvan road comprise a high, steep embankment vegetated with willow scrub, beech, ash, cypress and alder trees. There are a small number of sessile oak also present towards the rear of the embankment.

Figure 7: Willow scrub on embankment

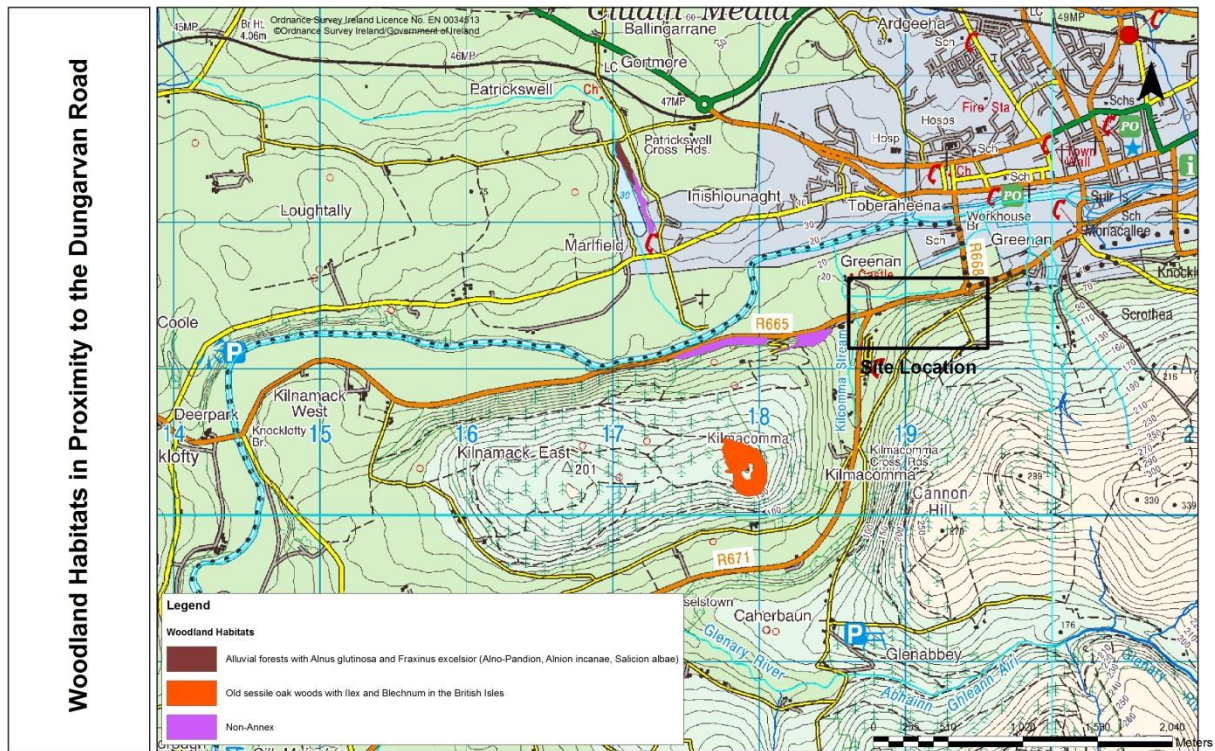
Source: Mott MacDonald 2017

There are no Annex I habitats for which the SAC is designated within the zone of influence of the project. The woodland approximately 50m west of the project and within the SAC boundary is oak-birch-holly woodland, is not an Annex I habitat, and is not a qualifying feature of the SAC (refer to Figure 8). Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles occurs at Tower Woods, approximately 1.5km south-west of the location of the proposed works. Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) occurs near Patrick's Well Cross Roads, approximately 2.5km north-west of the location of the proposed works. The woods are outside of the spatial scale of the impacts from the road works and will not therefore be impacted.

The vegetation on the Kilmacomma stream is dominated by Common Water-starwort (*Callitriche stagnalis*) however *Ranunculus* species are absent. There is therefore no strong correlation to Water courses of plain to montane levels. Floating river vegetation is however evident in the freshwater stretches of the River Suir.

Japanese knotweed occurs on the Kilmacomma stream. The works will be set back approximately 30m from the stream and as such there is no potential for the translocation of this invasive species.

Figure 8: Annex I Woodlands



3 Assessment of Likely Significant Effects

3.1 General

The Dungarvan Road Flood Protection Scheme is not located within the boundary of any Natura 2000 Site.

The Annex I species protected within the Lower River Suir SAC do not occur within the zone of influence of the proposed Dungarvan Road Flood Protection Scheme.

- There will be no in-stream works associated with the flood protection works to the Dungarvan Road therefore there is no potential for direct disturbance the Annex I species or their habitats.
- The project will be constructed in accordance with industry best practice. As such, pollution control measures will be an integral part of the project and will be designed, installed, and maintained in accordance with CIRIA guidance for '*Environmental Good Practice on Site*' (C741) and '*Control of water pollution from linear construction projects. Technical guidance*' (C648). The potential for accidental pollution or site runoff to the Kilcomma stream will be controlled on site. Impacts on aquatic species and habitats which are qualifying features of the Lower River Suir SAC are therefore extremely unlikely.
- Noise impacts on otter are unlikely given the absence of resting places within 150m of the project. Construction works will not coincide with peak otter activity (dawn and dusk).

The Annex II species protected within the Lower River Suir SAC do not occur within the zone of influence of the proposed Dungarvan Road Flood Protection Scheme.

4 Screening Statement

This screening for Appropriate Assessment has determined that there are **no likely significant effects** on the Natura 2000 Network from the proposed Dungarvan Road Flood Protection Scheme.

The upgrade works to the Dungarvan Road will be located outside of the Lower River Suir SAC site boundary, therefore *in situ* impacts will not occur.

The qualifying features of the Lower River Suir SAC are beyond the spatial and temporal limits of the likely impacts of the project i.e. there are no qualifying features within the zone of influence of the project, thus there will be no impacts on the SAC. As such there can be no significant effects on the European Site.

4.1 Screening Matrix

Table 4: Screening Matrix – findings of no significant effects

Name of project or plan	Dungarvan Road Flood Protection	
Name and location of Natura 2000 site	The proposed works are located approximately 50m from the Lower River Suir SAC (site code 002137).	
Description of the project or plan	A 750m segment of the Dungarvan Road, located to the South West of Clonmel town centre, is to be raised in level in order to protect against flooding. The R671/R665 junction will be reconfigured to form a new roundabout. Earthen embankments on the lands immediately north and south of the new road alignment. Surface water runoff drainage and ancillary services will be provided. All surface water drainage will link in to the existing outfalls which discharge to the adjacent wetland area	
Is the project or plan directly connected with or necessary to the management of the site?	No	
Are there other projects or plans that together with the project or plan being assessed could affect the site?	<p>The nearest Natura 2000 site to the proposed works is the Lower River Suir SAC. This designated site is located approximately 50m from the development boundary. Given the nature and scale of the proposed works, and the best practice measures incorporated into the project design there will be no significant effect on any Natura 2000 site.</p> <p>As there is no potential for impact on any Natura 2000 Site, there is therefore no potential for any in-combination effects.</p>	
The assessment of significance of effects		
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.	Emissions during the construction phase of the project	
Explain why these effects are not considered significant	The nature and scale of the project, along with the best practice measures which have been incorporated into the design of the project will ensure that there are no significant effects to the Lower River Suir SAC.	
List of agencies consulted: provide contact name and telephone or e-mail address	No agencies were consulted for this project	
Response to consultation.	Not applicable	
Data collected to carry out the assessment		
Who carried out the assessment?	Sources of data	Level of assessment
Rita Mansfield Ecologist with Mott MacDonald	<p>Conservation Status Assessment Reports (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive;</p> <p>Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, Species Action Plans, and Conservation Management Plans;</p> <p>Existing relevant mapping and databases e.g. waterbody status, species and habitat distribution etc. (sourced from the Environmental Protection Agency - http://gis.epa.ie/, the National Biodiversity Data Centre - http://maps.biodiversityireland.ie and the National Parks</p>	Site visit and desk study

Name of project or plan

Dungarvan Road Flood Protection

and Wildlife Services -
<http://www.npws.ie/mapsanddata/>; .

5 References

- Chanin P (2003). Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.
- Chartered Institute of Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal
- Environment Agency (2003) River Habitat Survey in Britain and Ireland Field Survey Guidance Manual (updated October 2017)
- Harris S, Cresswell P and Jefferies D (1989). Surveying Badgers. Mammal Society. Commissioned Report No. 096.
- Hatton-Ellis TW & Grieve N (2003). Ecology of Watercourses Characterised by Ranunculion fluitantis and Callitriche-Batrachion Vegetation. Conserving Natura 2000 Rivers Ecology Series No. 11. English Nature, Peterborough
- Institute of Air Quality Management (IAQM) (December 2011) Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance
- Maitland PS (2003). Ecology of the River, Brook and Sea Lamprey. Conserving Natura 2000 Rivers Ecology Series No. 5. English Nature, Peterborough
- Maitland PS & Hatton-Ellis TW (2003). Ecology of the Allis and Twaite Shad. Conserving Natura 2000 Rivers Ecology Series No. 3. English Nature, Peterborough
- NPWS (2017) Conservation Objectives: Lower River Suir SAC 002137. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs
- NASCO (2010) Guidelines for the Protection, Restoration and Enhancement of Atlantic Salmon Habitat
- National Roads Authority (2009) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes
- National Roads Authority (2009b) Guidelines for Assessment of Ecological Impacts of National Road Schemes
- National Roads Authority (2008) Guidelines for the Treatment of Otters during the Construction of National Road Schemes. National Roads Authority
- National Roads Authority (2005). Guidelines for the Treatment of Badgers during the Construction of National Road Schemes.
- O'Connor, W. (2007) A Survey of Juvenile Lamprey Populations in the Corrib and Suir Catchments. Irish Wildlife Manuals No. 26. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- Stephanie Peay (2002) Guidance on Habitat for White-clawed Crayfish and its Restoration

G. Archaeology Screening Report

Dungarvan Road Flood Protection

Archaeological Screening Assessment Report

24 October 2017

Mott MacDonald
5 Eastgate Avenue
Eastgate
Little Island
Co Cork T45 EE72
Ireland

T +353 (0)21 480 9800
mottmac.com

Waterford City and County
Council
Civic Offices
Dungarvan
Co. Waterford

Dungarvan Road Flood Protection

Archaeological Screening Assessment Report

24 October 2017

Directors: C O'Donovan BE MBA CEng
MIET (Managing), J T Murphy BE
HDipMM CEng FIEI CMCILT (Deputy
Managing), D Herlihy BE MSc CEng, K
Howells BSc MBA CEng MICE MCIWEM
(British), F McGivern BSc DipEnvEng
CEng MIEI
Innealtóirí Comhairleach (Consulting
Engineers)
Company Secretary: Ian Kilty BA (Hons)
ACA
Registered in Ireland no. 53280. Mott
MacDonald Ireland Limited is a member of
the Mott MacDonald Group

Waterford City and County Council

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	24 th Oct. 2017	B. Moynihan	R. Mansfield	N Samachetty	Draft Issue to Client

Document reference: 319884-MMD-00-RP

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Methodology	1
1.2	Consultation	1
2	Baseline Environment	2
2.1	Existing Environment	2
2.1.1	Sites and Monuments Record	2
2.1.2	National Inventory of Architectural Heritage	2
2.1.3	Record of Protected Structures	2
2.1.4	Architectural Conservation Area	3
3	Recommendations	4
3.1	Mitigation	4
3.2	Conclusion	4
	Appendices	5
A.	Archaeological & Cultural Features	6
B.	Historic 6" Mapping	8

1 Introduction

An Archaeological screening assessment for Dungarvan Road Flood Protection works has been undertaken in accordance with the requirements of the Terms of Reference (ToR) and in order to satisfy the requirements of planning legislation.

The aim of this report is to determine whether there is potential for the proposed works to effect the archaeological heritage of the area, and to recommend the need for a full archaeological assessment as necessary.

1.1 Methodology

A desktop based assessment was undertaken to identify known cultural heritage sites and features within close proximity of the proposed development sites for each of the agglomerations. The following resources were consulted as part of this assessment:

- National Inventory of Architectural Heritage (NIAH) (www.buildingsofireland.ie)
- National Monuments Services (www.archaeology.ie)
- Waterford County Development Plan 2011 – 2017
- Local Area Plans

1.2 Consultation

Consultation will be undertaken with the Waterford City & County Council Heritage & Conservation Officers, prior to the submission of the planning applications and any construction works.

Notification forms will be issued in due course to the National Services and Monuments, in order to inform the Department of any proposed works which will be carried out within RMP Notification Zones.

2 Baseline Environment

2.1 Existing Environment

The proposed development site boundary is outlined in green on the map included in Appendix A. The following sites were identified in the vicinity:

2.1.1 Sites and Monuments Record

A review of the Sites and Monuments Record (SMR) data available from the National Monuments Service indicates that the closest SMR's to the proposed flood protection and road development are SMR No. WA001-012001 (church) and SMR No. WA001-012002 (graveyard) located approx. 74m from the nearest proposed works site. Some works will be located within the boundary of the National Monuments Service Zone of Notification. Where works are carried out within a zone, notification to National Monuments and Services is required under section 12 of the National Monuments Act (1930-2004).

SMR No. WA001-011 (House - fortified house) and SMR No. WA001-010 (enclosure) are located over 260m and 360m respectively from the proposed development, and are situated to the north of the church and graveyard site. None of the proposed works are located within the National Monuments Service Zone of Notification for these two sites.

Table 1: SMR sites

SMR. No.	Name	Townland	Sched for inclusion in next rev of the RMP	Approx. Distance from Site
WA001-012001	Church	Greenan (Glenahiry By.)	Yes	74m North of the proposed roundabout
WA001-012002	Graveyard	Greenan (Glenahiry By.)	Yes	74m North of the proposed roundabout
WA001-010	Enclosure	Greenan (Glenahiry By.)	Yes	360m North of the proposed roundabout
WA001-011	House - fortified house	Greenan (Glenahiry By.)	Yes	260m North of the proposed roundabout

Source: <http://webgis.archaeology.ie/historicenvironment/>

2.1.2 National Inventory of Architectural Heritage

A review of the National Inventory of Architectural Heritage (NIAH) indicates that there are two NIAH features in the vicinity of the proposed works. These include: Reg. No. 22208315 (house), and Reg. No. 22120002 (bridge).

Birdhill House is located approximately 640m to the north of the proposed flood protection and road development and is located on the northern side of the River Suir.

The bridge (Workhouse Bridge) is located approximately 530m to the northeast of the eastern tie in of the flood protection and road development.

2.1.3 Record of Protected Structures

A review of the Record of Protected Structures (RPS) in Waterford County Development Plan (WCDP) indicated that there are no RPS points in the townlands of Greenan and Kilmacomma

where the proposed development is located. The nearest RPS point is Knocklofty Bridge¹ (RPS 86, NIAH Reg No. 22900104) in Kilnamack West approx. 4.3km to the west of the proposed development.

2.1.4 Architectural Conservation Area

Waterford County Development Plan 2011 – 2017 does not identify Dungarvan Road as an Architectural Conservation Areas (ACA).

¹ Waterford County Development Plan 2011 – 2017 Appendix A13 Record of Protected Structures

3 Recommendations

3.1 Mitigation

Consultation will be required with the National Monuments Service in order to determine the requirements for archaeological monitoring during site investigation and construction works. If monitoring is required, then this will be carried out by a suitably qualified Archaeologist procured on behalf on Waterford City & County Council.

During the construction works, the Contractors will be made aware of the locations of all NIAH and RPS sites to ensure impacts to the structures are avoided. No works will be carried out within the curtilage area of these sites.

3.2 Conclusion

Due to the SMR sites present directly adjacent to the proposed works, it is proposed to engage in consultation with the National Monuments Service and the Development Applications Unit in the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (where required). A more detailed archaeological study will be required to be undertaken by a suitable qualified Archaeologist procured on behalf on Waterford City & County Council.

Appendices

A.	Archaeological & Cultural Features	6
B.	Historic 6" Mapping	8

A. Archaeological & Cultural Features



Historic Environment Viewer Help Home (NMS) Home (NIAH)

Enter address

TOBERAHEENA GREENAN KILMACOMMA SCROTHERA WE

River Suir

GREENAN

Site Location

R665

R671

Convent Rd R665

Pinewood Drive

100m 619639 621030

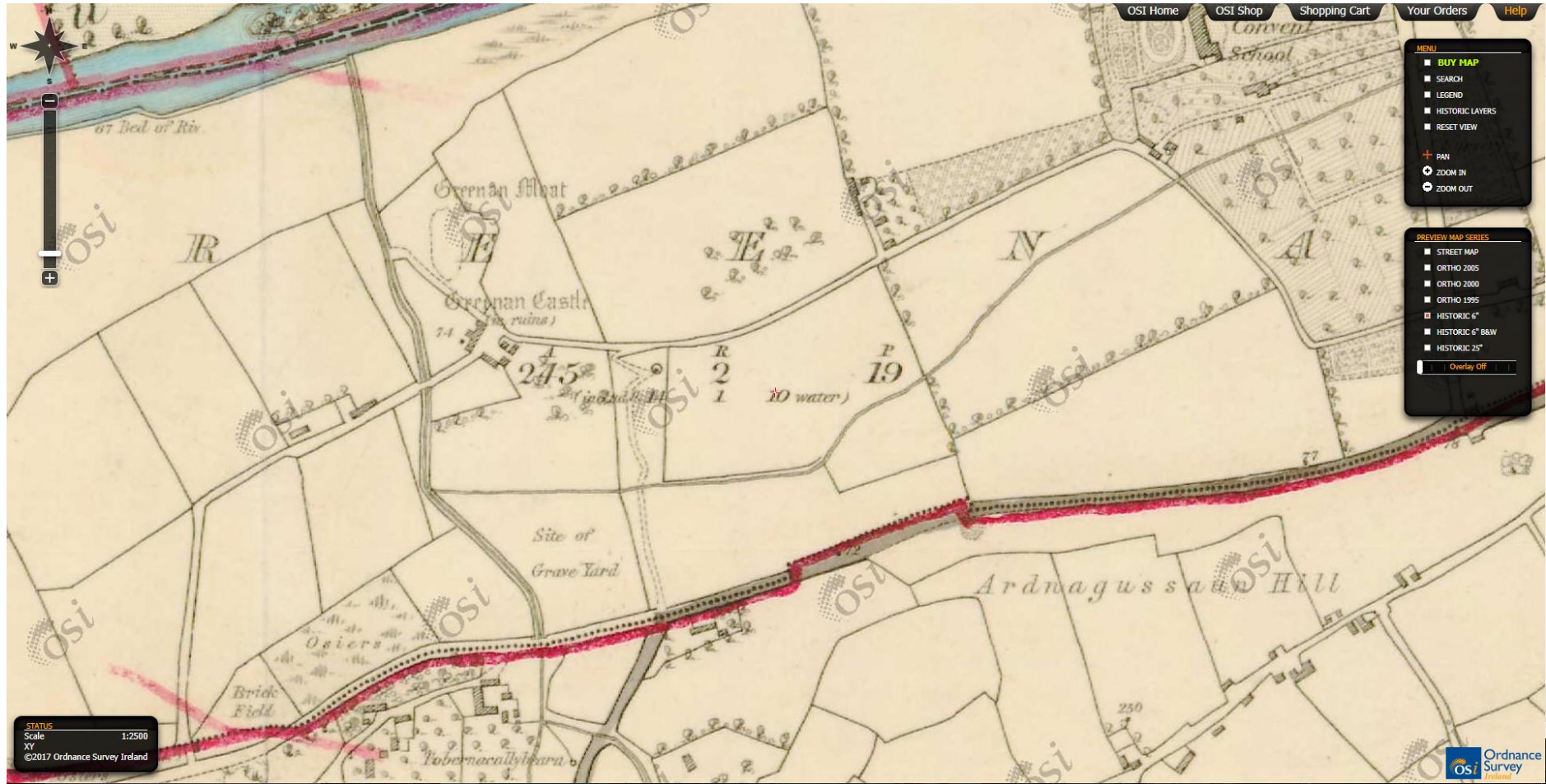
Copyright Government of Ireland. The content of this application is owned and operated by the National Monuments Service.

Layer List

Operational Layers

- National Monuments Service
- National Monuments Service - Zones of Notification
- National Inventory of Architectural Heritage

B. Historic 6" Mapping



Source: maps.osi.ie/publicviewer/

