

Cork County Council

**Proposed Amendment No2 to Midleton Local Area Plan (Water-Rock Framework Masterplan)
Habitats Directive Screening Statement**

**Prepared by Cork County Council Planning Policy Unit
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1 Introduction

1.1 Background and Context

- 1.1.1 Water-Rock is a site located to the north west of Midleton Town which has been zoned as a Special Policy Area in the Midleton Electoral Local Area Plan 2011. This zoning is intended to allow for the development of a new residential neighbourhood to facilitate a significant expansion of the population of the town of Midleton. The zone incorporates the townland of Water-Rock, as well as parts of the townlands of Curragh, Knockgriffin, Carrigogna and Broomfield West.
- 1.1.2 Cork County Council has developed a Masterplan for the Water-Rock Special Policy Area. The purpose of the Masterplan is to set out proposals for the development of the site. The plan provides for the development of up to 2,500 new dwellings, two primary schools, one post primary school, a neighbourhood centre and an amenity area to include a green corridor and a linear park along the Owenacurra River.
- 1.1.3 The Masterplan has informed an amendment to the Midleton Electoral Area Local Area Plan 2011 in order to give the Masterplan a statutory footing. The Masterplan Framework Study will act as a background planning guidance document to inform the future development of the site.
- 1.1.4 In accordance with requirements under the EU Habitats Directive (43/92/EEC) and EU Birds Directive (79/409/EEC) as transposed into the Planning and Development Act 2010, the impacts of draft Planning Schemes for Strategic Development Zones, on certain sites that are designated for the protection of nature (Natura 2000 sites¹), must be assessed as an integral part of the process of drafting, amending or varying these. This is to determine whether or not the implementation of such schemes could have negative consequences for the habitats or plant and animal species for which these sites are designated, and to avoid such impacts. This assessment process is called a Habitats Directive Assessment (HDA). In accordance with section 177S (b) of the Planning and Development Act 2010, the responsibility for assessing such impacts is the Planning Authorities in whose area the zone is situated, or, on appeal An Bord Pleanála, as the case may be.
- 1.1.5 A preliminary masterplan consultation document and amendment was published in April 2015 and put on display for a 4 week period from April 7th to May 4th. These documents were assessed in accordance with the HDA requirements. The results of this assessment were represented in a Habitats Directive Screening Report. 19 submissions were received at the preliminary stage of the process which included submissions from the Department of the Environment, Community and Local Government, Dublin Airport Authority, Tipperary County

¹ Natura 2000 sites include Special Areas of Conservation designated under the Habitats Directive and Special Protection Areas designated under the Birds Directive. Special Areas of Conservation are sites that are protected because they support particular habitats and/or plant and animal species that have been identified to be threatened at EU community level. Special Protection Areas are sites that are protected for the conservation of species of birds that are in danger of extinction, or are rare or vulnerable. Special Protection Areas may also be sites that are particularly important for migratory birds. The designation of these sites is to contribute to ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European Territory.

Council, Environmental Protection Agency, National Transport Authority (NTA), Department of Education and Skills, Irish Water and several private landowners. Any proposed changes arising from the submissions were discussed with members of the East Cork Municipal District and the Cobh Municipal District at their July 2015 meetings.

- 1.1.6 The proposed Amendment to the Midleton Electoral Area Local Area Plan, Habitats Screening Report and the Environmental Report (SEA requirements) were put on display for a 6 week statutory public consultation period from the 4th of August to the 15th of September 2015 and submissions and observations were invited from members of the public as well as from statutory consultees. Twelve submissions were received following formal public consultation on the Amendment. A number of minor text changes were recommended to be made to the scheme on foot of those submissions. These changes are discussed in the Chief Executive Officers Report. These submissions and the recommendations of the Chief Executive were outlined in CEO report to Members in November 2015. No further material changes were proposed to be made to the amendment at the full Council meeting held on the 23rd of November 2015.
- 1.1.7 The recommended changes have been screened to determine whether they could have implications for one or more Natura 2000 sites. The outcome of that screening is presented in this report.

1.2 Description of the Proposed Amendment

- 1.2.1 The proposed amendment comprises the insertion of relevant section of the Framework masterplan into Chapter 3 of the Midleton Electoral Area Local Area Plan 2011 (Midleton). The proposed amendment reflects the policy and zoning which were contained in the Water-Rock Framework Masterplan as amended by the preliminary public consultation which took place from April 7th to May 5th 2015 and set out in the Chief Executive Officers Report in July 2015.
- 1.2.2 The amendment proposes new policies for residential densities, ecological considerations, transportation and road networks, phasing of development and the implementation of key infrastructure. In addition the amendment proposes new text for the provision of schools, water and waste-water facilities, road and transportation, cycling and public transport.
- 1.2.3 The new zonings provide for residential, business, community and open space, sports and recreational uses within the area designated as a Special Policy Area (X-01). The proposed amendment inserts new zonings and specific objectives for the following;
- 18 new medium and high density residential zones in line with the County Development Plan 2014 guidelines (R-08 to R-24).
 - Provision of a new linear recreation park along the Owenacurra River and two other small parks in the masterplan (O-05 to O-07)
 - Two additional primary schools and one post primary school campus (C-02, C-03 and C-04).
 - A network of new link streets and new and upgraded feeder streets throughout the site (U-02, U-03, U-04, U-07 and U-08)
 - A new greenway along the railway line linking the proposed schools and open space/recreation areas and the proposed linear park (U-06)

- Four pedestrian and cycle bridges over the Owenacurra River.

Every attempt has been made to minimise the impact on the multiple landownership pattern.

The full text of the amendment can be accessed at www.corkcoco.ie. The map showing the land use zoning proposals in the amendment is shown below.

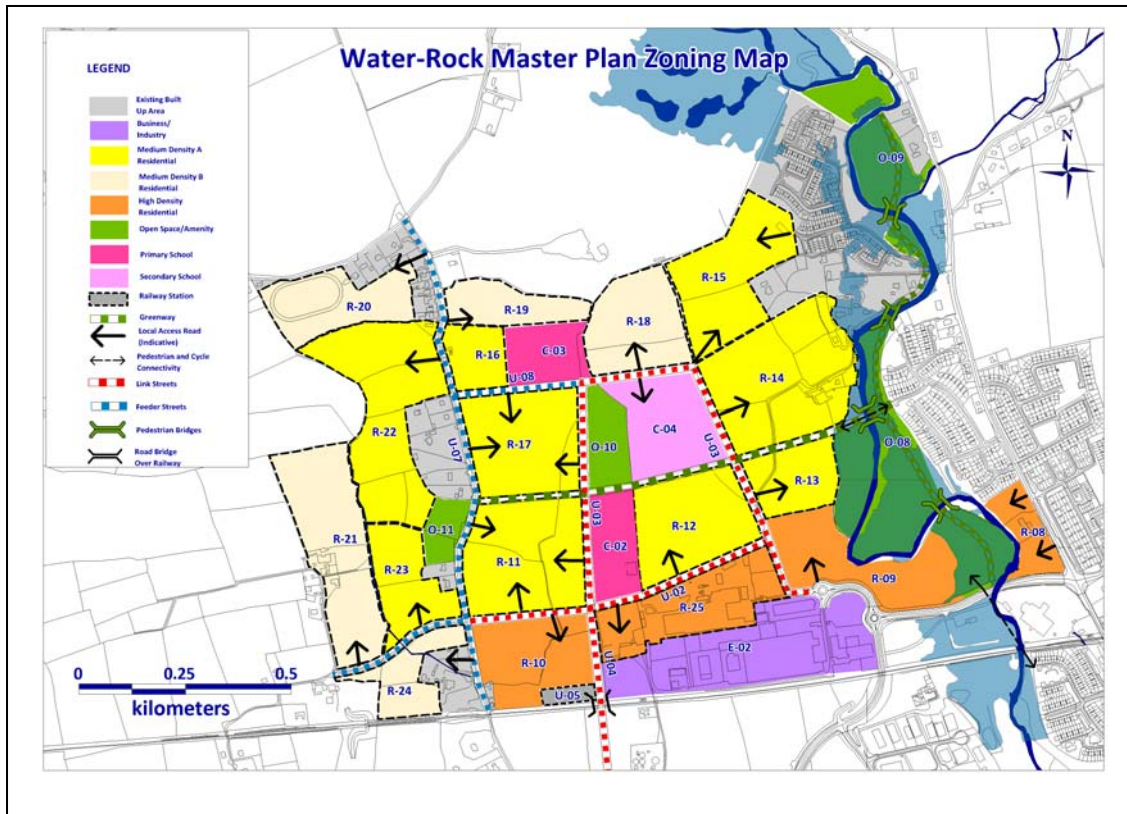


Figure 1: Water-Rock Master Plan Zoning Map – Amendment No. 2 Midleton Electoral Area Local Area Plan 2011

1.3 Legislative Background Habitats Directive Assessment

1.3.1 Habitats Directive Assessment is a process which involves the evaluation of the potential impacts of plans and projects on Natura 2000 sites and the habitats and species that they support and, where necessary, the development of mitigation measures to avoid any such impacts. It is an iterative process which runs parallel to and informs the plan making process, involving analysis and review of draft policies, or amendments/ variations, as they emerge during each stage of plan making. Within this process, regard must also be had to the potential for policies or amendments to policies, to contribute to impacts which on their own may be acceptable, but which could be significant when considered in combination with the impacts from the implementation of other plans or policies.

1.3.2 Article 6(3) of the Habitats Directive identifies what is required in terms of assessment of plans of projects.

Habitats Directive Article 6(3)

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. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

- 1.3.3 EU and National Guidance sets out two main stages to the assessment process which are as follows:

Stage One: Screening

- 1.3.4 The process which identifies what might be likely impacts arising from a plan on a Natura 2000 site, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant. No further assessment is required if no significant impacts on Natura 2000 sites are identified during the screening stage. The screening assessment is normally contained in a Habitats Directive Screening Report.

Stage Two: Appropriate Assessment

- 1.3.5 Where the possibility of significant impacts has not been discounted by the screening process, a more detailed assessment is required. This is called an Appropriate Assessment and involves the compilation of a Natura Impact Report by the Planning Authority which is a report of scientific evidence and data relating to European sites for which significant negative impacts have not been previously screened out. This is used to identify and classify any implications of the plan for these sites in view of their conservation objectives. The appropriate assessment must include a determination as to whether or not the plan or its proposed amendments would adversely affect the integrity of any European site or sites. The plan may be adopted if adverse effects on the integrity of European sites can be ruled out during the appropriate assessment process. The plan may not be adopted on foot of an Appropriate Assessment, if it is found that it will give rise to adverse impacts on one or more European sites, or if uncertainty remains in relation to potential impacts on one or more European sites following appropriate assessment.
- 1.3.6 The Directive provides for a derogation procedure which can allow a plan or project to proceed in spite of a finding that the plan or project could / would give rise to adverse effects on the overall integrity of one or more Natura 2000 sites. Derogation procedures can only be progressed in very limited circumstances which are set out in Article 6(4) of the Directive (see below).

Habitats Directive Article 6(4)

If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding

public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

1.3.7 EU and National Guidance identifies the procedures which must be followed in circumstances where a derogation from the Habitats Directive is sought to allow a project or a plan to proceed, despite a finding that it will give rise to adverse effects on the integrity of one or more Natura 2000 sites. These procedures can only be invoked where it has been shown that there are no alternative ways to implement the plan/project which avoid adverse effects on the integrity of one or more European sites, where it has been demonstrated that there are imperative reasons of overriding public interest for which the plan/project must proceed and where measures have been developed and provided to compensate for any losses to be incurred. These further stages are described below.

Stage Three: Assessment of alternative solutions

1.3.8 In circumstances where the potential for a plan to give rise to adverse effects on the integrity of a European site or sites has not been ruled out during the appropriate assessment process, it can only be considered for authorisation where it is demonstrated that there are no alternative solutions and that there imperative reasons of overriding public interest which can allow the plan or project to proceed. Stage three of a Habitats Directive Assessment involves the assessment of alternative solutions.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain

1.3.9 The fourth stage of the Habitats Directive Assessment process involves demonstrating that imperative reasons of overriding public interest exist, and the assessment of the compensatory measures which are proposed to be implemented. In every case in which a local authority envisages approving or proceeding with a plan or project on grounds of IROPI, the Minister for Arts, Heritage and the Gaeltacht must be consulted.

1.3.10 This document represents the first phase of the HDA process for the Midleton Local Area Plan Amendment Water-Rock Masterplan, being a screening of the proposed changes to the masterplan which have arisen out of the public consultation process and from Council members following deliberations.

2 Natura 2000 sites subject to screening – Proposed Changes Stage

2.1.1 Natura 2000 sites that could be vulnerable to impacts arising from the development of the masterplan lands at Water-Rock are those with hydrological linkage to the development site. These sites were identified and described in the screening document for the preliminary amendment. The relevant sites are:

Blackwater River Special Area of Conservation (2170)

Ballycotton Bay Special Protection Area (4022)

Great Island Channel Special Area of Conservation (1058)

Cork Harbour SPA Special Protection Area (4030)

The Gearagh Special Protection Area (4019)

The Gearagh Special Area of Conservation (0101)

- 2.1.2 Both the Blackwater River SAC and the Ballycotton Bay SPA are over 14kms from the Masterplan area and are within separate catchments. At the screening stage no hydrological connection between the Masterplan area and these two sites was identified, and no other ecological linkages or connections have been identified between the Masterplan area and these sites. Therefore these sites did not need to be considered further at the screening stage.
- 2.1.3 The primary focus of the screening report were all watercourses within the site which flow into the Cork Harbour SPA and the Great Island Channel SAC at the Owencurra Estuary approximately 1.5km downstream from the Masterplan area and potential for impacts on these sites. The Natura 2000 sites within Cork Harbour (Great Island Channel SAC and Cork Harbour SPA) were identified for further consideration as part of the screening assessment for this proposal as they occur downstream from Water-Rock and have a direct hydrological linkage to the proposed new town. These sites are designated for the protection of habitats (the SAC) and for birds (the SPA) that are sensitive to changes to water quality. There is a direct hydrological linkage between Water-Rock and these sites (via various watercourses within the site which flow into Cork Harbour SPA and the Great Island SAC at the Owenacurra Estuary), and it is proposed that wastewater from the masterplan lands will be pumped to the Midleton Waste Water Treatment Plant for treatment and ultimate discharge to Cork Harbour, this plant will need to be upgraded during the course of the development at Water-Rock. Potential for impacts on these sites was considered during the initial screening assessment for the preliminary amendment and some potential for effects was identified as follows.
- 2.1.4 Screening of the Draft amendment raised issues in relation to **nutrient discharges** into Cork Harbour immediately adjacent to the Great Island Channel SAC and to the Cork Harbour SPA. The Screening report identified a number of measures which are required to reduce the level of nutrient input to the north channel of Cork Harbour. These include provision of the necessary upgrade of to the Midleton Waste Water Treatment plant in terms of capacity and treatment ability and that this upgrade is in place in advance of any population increase and provided that ongoing monitoring is carried out to track any changes in water quality of the discharges and surface water, to ensure that treatment systems are operating effectively and that the licensed emission limit values continue to be set at an appropriate level to ensure the protection of the SAC.
- 2.1.5 The Screening concluded that the potential for the implementation of this plan to cause or contribute to significant negative impacts relating to **nutrient inputs** on the Cork Harbour SPA or the Great Island Channel SAC can be ruled out. It is considered that the potential for the implementation of this plan to cause or contribute to significant negative impacts

relating to discharge of treated effluent can be ruled out. It is anticipated that any additional design measures which may be required for the Midleton WWTP to ensure protection of the Natura 2000 sites within Cork Harbour will be identified during the preparation of the Wastewater Management Strategy.

- 2.1.6 The Screening Report also identified that poorly managed **surface water run-off** from this site could have the potential to introduce contaminants to intertidal habitats, thereby giving rise to potential for negative impacts on habitats for which the SAC is designated, and upon which birds for which the SPA is designated are dependent. The proposal in the masterplan to integrate SuDS into the Water-Rock masterplan site will provide for effective protection of water quality, protection against flooding and opportunities for biodiversity enhancement within the site, provided that the system is designed to have the capacity to attenuate all surface water generated on the site is well built and maintained. The report concluded that risks of impacts on either the SAC or the SPA arising from the release of increased levels of surface water to the system can be minimised and that potential for significant negative impacts on the SAC and the SPA can be screened out.
- 2.1.7 The Screening Study also assessed the **construction of a storm pipe** to facilitate the discharge of surface waters from the Water-Rock development area directly to the Owenacurra Estuary to cater for extreme weather events. The report concluded that subject to adherence to a number of basic principles at project design, authorisation (planning consent), implementation (construction) and operational stages, it is considered that the risk of the construction of this storm water pipe causing pollution of surface waters or contamination of intertidal habitats within the SAC and the SPA can be minimised, and that potential for significant negative impacts on the SAC and the SPA can be screened out.
- 2.1.8 In relation to **drinking water** for the proposed scheme at Water-Rock the Screening report concluded that a detailed assessment of the potential for impact on the Cork Harbour SPA will be required to be completed, should it be proposed to increase the volume of water abstracted from the Glashaboy River to service this or other proposed schemes or development.
- 2.1.9 The Screening report also took account of the potential for impact on the hydrology of the estuary during the design of the proposed **flood protection measures**, any such impacts should be avoided through design. Flood protection measures will need to be subject to HDA when completed.
- 2.1.10 In relation to **construction activity** over a number of years on the Water-Rock site the screening report concludes that subject to ensuring retention and protection of watercourse buffer zones and to implementation of best practice procedures to ensure protection of water quality during the construction phase of this project which will require follow through at project design authorisation (planning consent) and implementation (construction) stages, it is considered that the risk of construction activities causing pollution of surface waters or contamination of intertidal habitats within the SAC and the SPA can be minimised, and that potential for significant negative impacts on the SAC and the SPA can be screened out.

- 2.1.11 The screening report also considered the potential for the development to give rise to impacts on two further Natura 2000 sites. This is on the basis that drinking water supply for Water-Rock may come from the water catchment in which these sites are located. These sites are The Gearagh SAC (0108) and The Gearagh SPA (4109) located close to Macroom in the upper Lee catchment approximately 45km from the Masterplan site. It was concluded in the AA screening report for the Water-Rock site that the development of Water-Rock will not cause or contribute to significant impacts on the Gearagh SAC or the Gearagh SP for the reasons outlined in the HDA Screening Assessment for the Proposed Amendment No. 2 to Midleton Local Area Plan 2011.
- 2.1.12 This report assess whether the changes which are proposed to be made to the draft amendment on foot of the consultation process could have the potential to give rise to negative impacts on these sites. No additional sites have been identified which could potentially be affected by the proposed changes to the draft amendment. Information relating to these sites, including lists of their qualifying features, known conservation condition and relevant conservation objectives is provided in the Screening Report for the draft Amendment and is repeated in **Appendix I** to this report.

3 Summary of Modifications to the Proposed Amendment

3.1 Preliminary Public Consultation

- 3.1.1 As a result of the Preliminary Public Consultation in April 2015 a number of changes were proposed to be made to the Proposed Amendment. These are summarised in Table 1 below and are set out in full in the Chief Executives Officers Report on the Proposed Amendment on the Proposed Amendment to the Midleton LAP dated July 2015.

Table 1: Summary of Recommended Changes to the Proposed Amendment to the Midleton EA Local Area Plan 2011, Water-Rock – Preliminary Public Consultation Process

Chapter 3 Midleton EA Local Area Plan 2011	Proposed Changes Arising from Public Consultation Process
section 1.4.30 Chapter 3 Midleton LAP	Insert new text as follows; 'Irish Water will be responsible for the funding and provision of water supply and waste water treatment capacity and it is the intention of Irish Water to include funding for these projects in their next investment cycle. The design and layout of water services will require consultation with Irish Water.'
Objective R-25 Midleton LAP Amendment and Water-Rock Masterplan Map and Text	Provision of additional lands for High Density Residential Development
Objective R-14 Midleton LAP Amendment and Water-Rock Masterplan	Extension of R-14 to include additional lands for Medium Density A Residential Development

Map and Text	
Objective R-09 Midleton LAP Amendment and Water-Rock Masterplan Map and Text	Extension of R-09 to include additional lands for High Density Residential Development

- 3.1.2 The revisions to the proposed amendment, listed in Table 1 above, were examined to identify whether any additions to the draft amendment or modifications being made to the text arising from it would be likely to cause significant impacts on any Natura 2000 site, having regard to their qualifying features. In summary, the changes relate to clarifications of text and mapping and proposed rezonings on sections of the site.
- 3.1.3 The Framework Masterplan lands are within 1.5 km of a Natura 2000 site and accordingly all of the changes which have been made may have the potential to give rise to direct impacts on habitats. Equally potential for impacts relating to the disturbance of species are discounted.
- 3.1.4 The potential for any change to give rise to indirect damage to the physical quality of the environment by affecting water quality or water levels, within the above listed sites are discounted, as the changes propose only a modest increase in the scale of the development or the population targets for the site. There are minor increased requirements in terms of water supply, and there is only a minor projected increase in wastewater generation beyond those set out in the Draft Framework Masterplan and proposed Amendment.
- 3.1.5 Consideration was given to direct and indirect impacts which may arise from activities within or near Natura 2000 sites (e.g. recreational activities) which could be encouraged by any of the proposed changes. No such activities/impacts have been identified.

3.2 Statutory Public Consultation

- 3.2.1 As a result of the statutory public consultation in August 2015 on the revised amendment a number of changes were proposed to be made to the Proposed Amendment. These are summarised in Table 2 below and are set out in full in the Chief Executive Officers Report on the Proposed Amendment No. 2 to the Midleton LAP dated October 2015.

Table 2: Summary of recommended modifications to the Revised Amendment to the Midleton EA Local Area Plan 2011, Water-Rock – Public Consultation Process

Chapter 3 Midleton EA Local Area Plan 2011	Proposed Changes Arising from Public Consultation Process
Objectives 0-08 and 0-09 Chapter 3 Midleton LAP	Insert “improving the appropriate lighting and adequate buffer zones to minimise disturbance to bio-diversity, such as protected species” in Objective O-08 and O-09 in Water-Rock Amendment.
Objective R-14	Insert flood risk paragraph in R-14 of Water-Rock Amendment.

Chapter 3 Midleton LAP	
Paragraph 3.2.29	Replace the word strategy with study ... a cycle network strategy study ... the objective of this strategy study was to ... The plan study when completed, will identify routes,..
Paragraph 3.2.32	Insert new text as follows; <i>On completion of a new rail policy to address the future role of rail transport in Ireland, as required under DTTaS' Strategic Investment Framework for Land Transport (SIFLT) Action 6, a study of the Cork Metropolitan Area's future suburban rail network requirements should be considered. This could include consideration of additional stations, rail service patterns and interchange with other modes.</i>
Paragraph 3.4.30	In relation to Rail insert the following text; <i>On completion of a new rail policy to address the future role of rail transport in Ireland, as required under DTTaS' Strategic Investment Framework for Land Transport (SIFLT) Action 6, a study of the Cork Metropolitan Area's future suburban rail network requirements should be considered. This could include consideration of additional stations (including the 2nd station at Midleton) rail service patterns and interchange with other modes. Discussions will be held with Irish Rail about the delivery of the Link Road and railway bridge (U-04).</i> In relation to bus insert the following text: <i>Future bus service provision and the potential for bus to meet the future public transport requirements for Midleton and the masterplan lands will be considered as part of a package of transport interventions. This will include the provision of high levels of permeability within and between new and existing development areas which facilitates the operation of bus services through these areas, at an early stage in their development.</i>

3.2.2 The proposed modifications to the revised amendment were examined to identify whether any additions to the revised amendment or modifications being made to the text arising from it would be likely to cause significant impacts on any Natura 2000 site listed in Appendix 1, having regard to their qualifying features. The changes relate to clarifications of text and mapping and will have no impact on the Natura 2000 sites as shown in Table 3 below, which summarises the results of the screening of proposed modifications to the Midleton LAP 2011 Amendment No 2.

Table 3 Screening Matrix

Natura 2000 sites	Habitat Loss	Habitat Fragmentation	Disturbance to Key Species	Reduction in Species Richness and Density	Changes in key indicators of conservation value
Blackwater River Special Area of Conservation (2170)	X	X	X	X	X
Ballycotton Bay Special Protection Area (4022)	X	X	X	X	X
Great Island Channel Special Area of Conservation (1058)	X	X	X	X	X
Cork Harbour SPA Special Protection Area (4030)	X	X	X	X	X
The Gearagh Special Protection Area (4019)	X	X	X	X	X
The Gearagh Special Area of Conservation (0101)	X	X	X	X	X

Finding of No Significant Impacts, Screening Conclusion Statement

Plan Ref.	Midleton LAP Amendment No. 2 (Water-Rock Framework Masterplan), Proposed Changes
Name and Location of Natura 2000 sites subject to screening for appropriate assessment.	Gearagh SAC, Gearagh SPA, Great Island Channel SAC, Cork Harbour SPA, Blackwater River SAC and Ballycotton Bay SPA.
Description of the proposed changes	See Table 1 and Table 2 above.

Are the proposed changes directly connected with or necessary to the management of the Natura 2000 sites identified above	No
Are there other projects or plans that together with the amendments being assessed could affect the site (provide details)	No impacts identified, therefore no potential for 'in combination' impacts identified.
Assessment of Significant Effects	
Describe how the proposed amendments (alone or in combination is likely to affect Natura 2000 sites)	No changes have been identified which could give rise to impacts which could be significant.
Explained why these effects are not considered significant	Proposed changes do not direct development within or near any Natura 2000 site. No increase in population is proposed. There are no significant increased demands on water or wastewater infrastructure therefore no potential for impacts on any Natura 2000 site have been identified arising from the proposed changes to the scheme.
List of agencies consulted	The Draft Amendment was referred to the NPWS, EPA and other Statutory Consultees as well as the general public during the public consultation process. The proposed changes set out above arise from that process.
Response to Consultation	No submissions were made in relation to the AA Screening Report during public consultation.
Data collected to carry out the assessment	
Who carried out the assessment	Planning Policy Unit, Cork County Council
Sources of data	National Parks and Wildlife Service Site Synopses and other data relating to Natura 2000 sites.
Level of assessment completed	Screening
Where can the full results of the assessment be accessed and viewed	AA Screening Report and Statement
Date Assessment Completed	23rd November 2015

Appendix I Natura 2000 Sites Screened for Impacts – Site Data

Great Island Channel Special Area of Conservation (1058)

This site is located approximately 1.5km downstream from the Water-Rock Masterplan area within the Owenacurra Estuary. The following description is based on NPWS Site Synopsis. The Great Island Channel SAC comprises the North Channel of Cork Harbour extending from Little Island to Midleton including the estuaries of the Owenacurra and Dungourney. The main habitats of conservation interest for which this site is designated are the sheltered tidal sand and mudflats and Atlantic salt meadows. The intertidal flats are composed mainly of soft muds which support a range of macro-invertebrate species that provide a valuable food source for large numbers of a wide range of wintering bird species. Saltmarshes are scattered through the site and are all of the estuarine type on mud substrate. The Owenacurra Estuary is approximately 1.5km downstream from the Masterplan site and forms part of the Great Island Channel Special Area of Conservation. The Great Island Channel provides valuable habitat for wintering waterbirds, and forms part of the Cork Harbour Special Protection Area (see below).

Features of Interest identified for this site (www.NPWS.ie 12/03/2015) are as follows:

- Mudflats and sandflats not covered by seawater at low tide [1140]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330]

Detailed **Conservation Objectives** have been published for this SAC (06/06/2014 Version 1). These are as follows:

1. To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Great Island Channel SAC.
2. To restore the favourable conservation condition of Atlantic salt meadows (*Glauco Puccinellietalia maritima*) in Great Island Channel SAC.

The attributes and targets which are associated within these objectives are available at http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001058.pdf

The conservation status of the qualifying habitats for which this SAC has been designated was assessed by BEC Consultants on behalf of Cork County Council (Assessment of the Conservation Status of the Great Island Channel SAC (1058) in 2014).

The conservation status of **Mudflats and Sandflats habitat [1140]** was assessed to be **unfavourable-bad**. The primary source of impact on this habitat was identified to be pollution from surface waters with sources including both the Carrigtwohill and Midleton treatment plants, nutrient inputs from agricultural sources within the river catchments that discharge to the harbour, and leaks in the existing sewer network giving rise to further nutrient inputs to the system. Other sources of pressure on this habitat include the spread of *Spartina* within the estuary.

The conservation status of **Atlantic Salt Meadows habitat [1330]** was assessed to be **unfavourable-inadequate**. A number of sources of impact on this habitat were identified on this habitat during

field survey for the assessment. These related to development of sea-walls/coastal protection infrastructure which prevents the development of salt marsh habitat, storm damage, coastal erosion, shading from treelines, water pollution, litter, spartina invasion, rabbit grazing and climate change.

Cork Harbour Special Protection Area (4030)

This site is located approximately 1.5km downstream from the Water-Rock Masterplan area within the Owenacurra Estuary. The following description is based on NPWS Site Synopsis and on the Cork Harbour Special Protection Area Conservation Objectives Supporting Document ver 1, 2014.

This is a large sheltered bay system comprising several river estuaries including the estuary of the Owenacurra River at Midleton which is proximal to the Masterplan site. The SPA comprises most of the main intertidal areas of Cork Harbour. Muddy sandflats within the site support a range of macro-invertebrate species which are a valuable foodsource for wetland bird species that winter in the Harbour. The site also includes some areas of salt marsh, shallow bay water, Rostellan Lake which is a small brackish lake that is used by swans in the winter period and some marginal wet grassland which is of importance for feeding and roosting birds.

Cork Harbour is a wetland site which is of international importance as it regularly supports in excess of 20,000 wintering waterfowl. Of particular note is that the site supports internationally important populations of Black-tailed Godwit and Redshank, and nationally important of a further 19 species including Shelduck, Wigeon, Teal, Pintail, Shoveler, Red-breasted Merganser, Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Bar-tailed Godwit, Curlew, Black-headed Gull, Lesser Black-backed Gull and Common Tern. Other species using the site include Mute Swan, Whooper Swan, Pochard, Gadwall, Tufted Duck, Goldeneye, Coot, Ringed Plover, Knot and Turnstone. It is an important site for a range of gull species including Mediterranean Gull, a species which has recently begun to occur in Ireland. It also supports a breeding population of Little Egret, another species which was first recorded as breeding in Ireland in the 1990's.

A range of passage waders occurs regularly in the autumn, including Ruff, Spotted Redshank and Green Sandpiper. The Harbour also supports a nationally important colony of Common Tern. Several of the species which occur in the Harbour are listed on Annex I of the EU Birds Directive.

The NPWS has recently (March 2015) notified Cork County Council of its intention to extend the Cork Harbour Special Protection Area to include an area of wetland habitat at Ringabella Estuary. This proposed extension to the SPA is currently subject to a public consultation process.

Features of Interest identified for this site (www.NPWS.ie 12/03/2015) are as follows:

- Little Grebe (*Tachybaptus ruficollis*) [A004];
- Great Crested Grebe (*Podiceps cristatus*) [A005];
- Cormorant (*Phalacrocorax carbo*) [A017];
- Grey Heron (*Ardea cinerea*) [A028];
- Shelduck (*Tadorna tadorna*) [A048];
- Wigeon (*Anas penelope*) [A050];
- Teal (*Anas crecca*) [A052];

- Pintail (*Anas acuta*) [A054];
- Shoveler (*Anas clypeata*) [A056];
- Red-breasted Merganser (*Mergus serrator*) [A069];
- Oystercatcher (*Haematopus ostralegus*) [A130];
- Golden Plover (*Pluvialis apricaria*) [A140];
- Grey Plover (*Pluvialis squatarola*) [A141];
- Lapwing (*Valellus vanellus*) [A142];
- Dunlin [*Calidris alpina*];
- Black-tiled Godwit (*Limosa limosa*) [A156];
- Bar-tailed Godwit (*Limosa lapponica*) [A157];
- Curlew (*Numenius arquata*) [A160];
- Redshank (*Tringa Totanus*) [A162];
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179];
- Common Gull (*Larus canus*) [A183];
- Lesser Black-backed Gull (*Larus fuscus*) [A183];
- Common Tern (*Sterna hirundo*) [A193];
- Wetland and Waterbirds.

Conservation Objectives for non-breeding waterbird species and wetland habitats have been published in the Cork Harbour SPA Conservation Objectives Supporting Document Version 1 (Nov 2014)) as follows:

1. To maintain the favourable conservation condition of the non-breeding waterbird Special Conservation Interest Species listed for the Cork Harbour SPA.

The objective is defined by the following attributes and targets :

- To be favourable, the long term (site) **population trend** for each waterbird Special Conservation Interest species should be stable or increasing. Waterbird populations are deemed to be unfavourable when they have declined by 25% or more, as assessed by the most recent population trend analysis.
- To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.

2. To maintain the favourable conservation condition of the wetland habitat at Cork Harbour as a resource for the regularly-occurring migratory waterbirds that utilise it.

The objective is defined by the following attributes and targets:

- To be favourable, the permanent **area** occupied by the wetland habitat should be stable and not significantly less than the area of **2,587ha**, other than that occurring from natural patterns of variation.

The **Conservation Objective** for Common Tern has been published in the Cork Harbour SPA Conservation Objectives Document (Dec 2014) as follows:

3. To maintain the favourable conservation condition of Common Tern in Cork Harbour SPA.

This objective is defined by a list of attributes and targets which are set out in the Conservation Objectives for Cork Harbour ver 1 (Dec 2014).

The conservation condition of the Species of Conservation Interest for which this SPA has been designated have been published in the Cork Harbour SPA Conservation Objectives supporting document (Dec 2014) and are as follows:

Special Conservation Interests	BoCCI Category ^a	Site Population Trend ^b	Site Conservation Condition	Current all-Ireland Trend ^c	Current International Trend ^d
Shelduck	Amber	- 39	Unfavourable	Stable	Increasing
Wigeon	Red	- 27	Unfavourable	Declining	Stable
Teal	Amber	- 1	(Intermediate) Unfavourable	Stable	Increasing
Pintail	Red	- 65	Highly Unfavourable	Increasing	Increasing
Shoveler	Red	- 75	Highly Unfavourable	Increasing	Increasing
Red-breasted Merganser	Green	- 51	Highly Unfavourable	Stable	n/c
Little Grebe	Amber	+ 16	Favourable	Stable	Increasing
Great Crested Grebe	Amber	- 46	Unfavourable	Declining	Declining?
Cormorant	Amber	- 50	Highly Unfavourable	Stable	Increasing
Grey Heron	Green	- 15	(Intermediate) Unfavourable	Stable	Increasing
Oystercatcher	Amber	- 20	(Intermediate) Unfavourable	Stable	Declining
Golden Plover	Red	+ 21	Favourable	Declining	Declining
Grey Plover	Amber	- 68	Highly Unfavourable	Declining	Declining?
Lapwing	Red	- 68	Highly Unfavourable	Declining	Stable
Dunlin	Red	- 49	Unfavourable	Declining	Stable
Black-tailed Godwit	Amber	+ 16	Favourable	Increasing	Increasing
Bar-tailed Godwit	Amber	+ 41	Favourable	Stable	Increasing
Curlew	Red	-44	Unfavourable	Declining	Declining
Redshank	Red	-29	Unfavourable	Stable	Stable/Increasing?
Black-headed Gull	Red	- 53	Highly Unfavourable	n/c	n/c
Common Gull	Amber	- 89	Highly Unfavourable	n/c	n/c
Lesser Black-backed Gull	Amber	- 83	Highly Unfavourable	n/c	n/c

^aAfter Colhoun & Cummins, 2013; ^b Site population trend analysis; see Table 4.3; ^call-Ireland trend - where a species is deemed to be increasing or declining if the annual rate of change is equal to or greater than 1.2% (after Crowe & Holt, 2013); ^d current international trend after Wetlands International (2012).

Table 4.4 also shows the relationship between a species' long-term site trend and the current all-Ireland trend for the period 1999/00 to 2010/11. The colour coding used represents the following cases:-

- Grey – un-assessed.
- Green – species whose populations are stable or increasing at both site level and all-Ireland level.
- Beige – species whose populations are declining at both site level and all-Ireland level. Therefore there is a potential for factors at a larger spatial scale to be influencing the observed trend at site level.
- Orange - species whose populations are exhibiting a 1.0 – 24.9% decline at site level but are stable or increasing at all-Ireland level.
- Pink - species whose populations are exhibiting a 25.0 – 49.9% decline at site level but are stable or increasing at all-Ireland level.
- Red - species whose populations are exhibiting a decline of >50.0% at site level but are stable or increasing at all-Ireland level.

The Gearagh Special Area of Conservation (0108)

3.2.3 This site is located approximately 45km from the Masterplan site. However, it is possible that the water supply for the Masterplan area will be sourced from the Inniscarra Lake which is within the catchment of this site. The following description is based on the NPWS Site Synopsis. The Gearagh SAC is located on the River Lee just south of Macroom. It extends along approximately 7km of the river occupying a wide, flat valley on a bed of limestone overlain with sand and gravel. The site supports two woodland habitat types which are listed on Annex I of the EU Habitats Directive, being Residual Alluvial woodland and Old Oak Woodland. It is thought that the area has been continuously wooded since the ice-age. It supports a number of plant species that are relatively scarce in Ireland including the protected *Mudwort* which is listed in the Red Data Book and on the Flora (Protection) Order, 1999. The site has a well developed epiphytic bryophyte flora associated with the old woodland as well as freshwater and wet grassland habitat types. The site represents the only extensive alluvial woodland in Ireland or Britain, or west of the Rhine in Europe which has retained a high level of naturalness. It is a unique site which has many other nature conservation designations including Ramsar Site, Statutory Nature Reserve and Biogenetic Refuge. The Gearagh supports an important wintering bird population, and is also designated as a Special Protection Area on this basis.

Features of Interest identified for this site (www.NPWS.ie 12/03/2015) are as follows:

- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260];
- Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0];
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae* [91E0];
- Lutra lutra (Otter) [1355]

Detailed **Conservation Objectives** have not been identified for this site to date. The generic **Conservation Objective** which applies to this site is as follows:

1. To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:
 - Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260];
 - Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0];
 - Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae* [91E0];
 - Lutra lutra (Otter) [1355]

NPWS (2015) Conservation Objectives for The Gearagh SAC [000108]. Generic Version 4.0 Dpartment of Arts, Heritage and the Gaeltacht.

3.2.4 The Conservation Status of this SAC has not been assessed. However, activities which could interfere with the achievement of the Conservation Objectives for this site include activities which cause direct loss or damage to the quality of woodland habitats [91A0 and 91E0](eg woodland clearance or burning, changes in woodland grazing patterns, spread of invasive species); activities causing a deterioration in water quality which thereby has the potential to affect the quality of freshwater habitats for which the SAC is designated (habitat [3260]); and activities causing significant disturbance to Otters at their breeding sites or resting areas (eg development of river crossings), or affecting the availability of their prey species (eg impacts on water quality).

The Gearagh Special Protection Area (4109)

3.2.5 This site is located approximately 45km from the Masterplan site, but it is possible that the water supply for the Masterplan area will be sourced from the Inniscarra Lake which is within the catchment of this site. No description of this site is currently available on the NPWS website, however the Gearagh SAC site synopsis does include some information relating to the wintering bird population as follows:

'the Gearagh supports part of an important wintering bird populations: the area most utilised by birds extends also east of the site towards Cork City (Carrigadrohid). At the Gearagh, Whooper Swans are regular (40-110, 1990's), as are Wigeon (640, average max. 1992-1994), Teal (707, average max. 1992-94), Mallard (250 in January 1993) and Tufted Duck (154, average max. 1992-94). Golden Plover utilise the site on occasions (eg 2,000 in January 1994), while there is a regular flock of Dunlin (100-200, 1990s) a species unusual at inland sites. A late summering flock of Mute Swan is regular, with numbers between 120 and 250 from 1992 to 1994. Great Crested Grebe and Tufted Duck breed in small numbers, while there is a feral flock of about 50 Grey lag Geese.'

Features of Interest identified for this site (www.NPWS.ie 12/03/2015) are as follows:

- Wigeon (*Anas penelope*) [A050]
- Teal (*Anas crecca*) [A052]
- Mallard (*Anas platyrhynchos*) [A125]
- Coot (*Fulica atra*) [A125]
- Wetland and Waterbirds [A999]

Detailed Conservation Objectives have not been identified for this site to date. The generic **Conservation Objectives** which apply to this site are as follows:

1. *To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:*
 - *Wigeon (A050)*
 - *Teal (A052)*
 - *Mallard (A053)*
 - *Coot (A125)*

2. *To maintain or restore the favourable conservation condition of the wetland habitat at the Gearagh SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.*

*NPWS (2015) Conservation Objectives for The Gearagh SPA [004109]. Generic Version 4.0.
Department of Arts, Heritage and the Gaeltacht.*

- 3.2.6 The Conservation Status of this SPA has not been assessed. However activities which could interfere with the achievement of the Conservation Objectives for this site include activities which could cause significant disturbance to birds at their feeding sites or resting places or activities causing removal of the extent or deterioration of the quality of feeding habitat within the SPA.