

SECTION F – EXISTING ENVIRONMENT & IMPACT OF THE DISCHARGE(S)

Attachment F1: Assessment of Impact on Receiving Surface or Ground Water

- Attachment F.1(a): An Assessment of the Impacts of Any Existing or Proposed Emissions on the Environment
- Attachment F.1(b): Map of Protected Areas
- Table F.1(i)(a): Upstream Ambient Monitoring Data – Regular Emissions
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Irish Water Report

Appropriate Assessment Screening as part of the Mogeely Waste
Water Certificate of Authorisation Application



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Introduction

This report provides an Appropriate Assessment (AA) of the existing Waste Water Treatment Plant (WwTP) at Mogeely, Co Cork, for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007), as amended. It assesses whether the on-going operation of the plant, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 Site(s) in view of best scientific knowledge and the conservation objectives of the site(s). Natura 2000 Sites are those identified as sites of European Community importance designated as Special Areas of Conservation under the Habitats Directive or as Special Protection Areas under the Birds Directive.

This report follows the guidance for AA published by the Environmental Protection Agency's (EPA) 'Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007)' (EPA, 2009); and takes account of the Department of the Environment, Heritage and Local Government's guidelines 'Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities' (DoEHLG, 2009) and Circular L8/08 'Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments' (DoEHLG, 2008).

Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC) as codified by Directive 2009/147/EC.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (AA):

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In 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.

Article 6(4) states:

If, in spite of a negative assessment of the implications for the [Natura 2000] 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, Member States 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.

Methodology

Guidance Followed

Both EU and national guidance exists in relation to Member States fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive. The methodology followed in relation to this AA Screening has had regard to the following guidance:

- Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007). Environmental Protection Agency, (EPA, 2009).
- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government, (DoEHLG, 2010).
- Circular L8/08 – Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments. Department of Environment, Heritage and Local Government, (DoEHLG, 2008).
- Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg, (EC, 2000a).
- Managing Natura 2000 Sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg, (EC, 2000b).
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001).
- Guidance document on Article 6(4) of the ‘Habitats Directive’ 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission. Office for Official Publications of the European Communities, Luxembourg, (EC, 2007).
- Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg (EC, 2006).
- Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document, National Parks and Wildlife Service, Dublin (NPWS, 2012).
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No.477 of 2011).

- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013).

Stages Involved in the Appropriate Assessment Process

Stage 1: Screening / Test of Significance

This process identifies whether the WwTP discharge is directly connected to or necessary for the management of a Natura 2000 Site(s); and identifies whether the discharge is likely to have significant impacts upon a Natura 2000 Site(s) either alone or in combination with other projects or plans.

The output from this stage is a determination for each Natura 2000 Site(s) of not significant, significant, potentially significant, or uncertain effects. The latter three determinations will cause that site to be brought forward to Stage 2.

Stage 2: Appropriate Assessment

This stage considers the impact of the WwTP discharge on the integrity of a Natura 2000 Site(s), either alone or in combination with other projects or plans, with respect to (1) the site's conservation objectives; and (2) the site's structure and function and its overall integrity. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts

The output from this stage is a Natura Impact Statement (NIS). This document must include sufficient information for the EPA to carry out the appropriate assessment. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must consider alternatives (Stage 3) or proceed to Stage 4.

Stage 3: Assessment of Alternatives

This process examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 Site. This assessment may be carried out concurrently with Stage 2 in order to find the most appropriate solution. If no alternatives exist or all alternatives would result in negative impacts to the integrity of the Natura 2000 Sites then the process either moves to Stage 4 or the project is abandoned.

Stage 4: Assessment Where Adverse Impacts Remain

An assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

Stage 1: Screening / Test of Significance

In complying with the obligations under Article 6(3) and following the appropriate guidelines, this AA Screening has been structured as a stage by stage approach as follows:

- Description of the project;
- Identification of Natura 2000 sites potentially affected;
- Identification and description of individual and cumulative impacts likely to result;
- Assessment of the significance of the impacts identified above on site integrity;
- Exclusion of sites where it can be objectively concluded that there will be no significant effects; and
- Screening conclusion.

Field Walkover Surveys

Field walkover surveys were undertaken on the 29th of October 2015 to identify the potential for qualifying species and habitats in the surrounding environs of the WwTP discharge.

Consultation

The EPA, as the competent authority, will seek NPWS advice as may be required in reaching their decision on a WwTP discharge. The NPWS can only communicate with the applicant (i.e. Irish Water) on request from the competent authority, when the formal application process to the competent authority has already commenced.

Inland Fisheries Ireland (IFI) Macrooin division were contacted requesting any information that might be relevant to this Appropriate Assessment Screening report however no response was received at the time of writing.

Screening

Management of the Site

The Mogeely WwTP is not directly connected with or necessary to the management of the site for nature conservation.

Description of the Project

Mogeely is located approximately 10km east of Midleton, Co. Cork and 2km north of Castelmartyr.

The existing collection system is estimated to serve seventy three houses and three public houses. Mogeely Waste Water Treatment Plant (WWTP) has a capacity of 1200PE and discharges treated effluent to the Kiltha River. The remainder of the properties in the village are served by individual septic tanks. The WWTP which is operational since October 2008 is required to receive the waste water collected in the local sewerage system network and treat it to the required standards. All flows in excess of the designated capacity will be treated as stormwater. A volume equivalent to 3DWF for a two hour period will be stored and returned to the treatment stream when capacity is available in the WWTP. All additional flows will be conveyed from the storm water holding tank to the outfall pumps and discharged to the nearby Kiltha River via the primary discharge point.

Data provided by Irish Water indicates that the current population equivalent for the agglomeration is 299p.e. (residential and non-domestic) and the estimated future (6 years) load will be 437p.e. Based on a current loading of 225l/pp/day the dry weather flow for the current discharge is calculated at $0.00078\text{m}^3/\text{sec}$, with the future dry weather flow calculated at $0.00114\text{m}^3/\text{sec}$. The long-term 95-percentile flow for the Kiltha river, as obtained from the EPA Hydrotool website (Station no. 19002), is $0.094\text{m}^3/\text{sec}$.

Process Description

Mogeely WWTP is modular in layout which has the capacity for expansion within the existing site boundary. The treatment capacity is phased as follows:

- Phase 1 – 1200PE
- Phase 2 – 2000PE

Phase 1 has been operational since 2008. The contractor made provisions for the expansion of the WWTP to cater for the Phase 2 design capacity of 2000PE.

The existing Phase 1 development includes :

- Inlet Works;
- Retention Tanks(s);
- Secondary Treatment Works;
- Sludge Holding Tanks(s);
- Outlet Works and Outfall;
- Miscellaneous Mechanical and Electrical Works;
- Control Building;
- Access Road;

- The decommissioning, removal and disposal off site of the existing wastewater treatment plant in Mogeely village;
- Site Roads and Footpaths;
- Site Fencing;
- Grass seeding and landscaping; and
- Approximately 700m of sewer.

The location of the primary discharge to the Kiltha River (Womanagh catchment) and the stormwater overflow is at 196000E and 074644N.

Effluent data from 2014 and 2015 is presented in Table 1.0 together with Urban Wastewater Treatment Regulations (UWWT) Emission Limit Values (ELV's).

Table 1.0: Mogeely WwTP Effluent Monitoring Data

Date	BOD mg/l O2	COD mg/l O2	SS mg/l
UWWT ELV's*	25	125	35
13/02/2014	1.9	27	-
09/04/2014	1.9	34	6
05/06/2014	-	-	1.25
25/06/2014	1.4	25	3
27/08/2014	4	39	24
22/10/2014	2.1	23	3
16/12/2014	2.6	39	6
11/02/2015	1.8	10.5	4
15/04/2015	2.4	28	10
04/06/2015	2.2	10.5	9
26/08/2015	1.3	21	5

* Limits set for plants >2000p.e. for BOD, COD and SS in Schedule 2, Part 1 of the UWWT Regulations 2001 (S.I. 254 of 2001); Limits set for plants >10,000p.e. for Total Nitrogen and Total Phosphorus in Schedule 2, Part 1 of the UWWT Regulations 2001 (S.I. 254 of 2001) for discharges to sensitive waters listed in Schedule 1 of the UWWT (Amendment) Regulations 2010 (S.I. 48 of 2010); Subject to EPA determination following amended regulation 4(3) of S.I. No 254/2001.

The effluent discharge meets the Urban Wastewater Treatment Regulations 2001(S.I. No. 254/2001) as amended for all relevant parameters though it is noted that these only apply to plants >2000p.e. The Kiltha River or the Womanagh River downstream are not sensitive waters listed on Schedule 1 of the Urban Waste Water Treatment (Amendment) Regulations 2010 (S.I. No. 48/2010), and the discharge does not exceed 10,000 p.e., and therefore the limits for Total Nitrogen and Total Phosphorus do not apply.

Description of the Receiving Environment and Monitoring Results

The WwTP discharges to the Kiltha River ca 3.5km upstream of the main channel of the Womanagh River, ca. 14.2km upstream of Ballymacoda Bay SPA and ca. 14.8km upstream of Ballymacoda (Clonpriest and Pillmore) SAC. The EPA monitor water quality at stations 8km

upstream (Br WNW of Donickmore House - RS19W010300) and 1.5km downstream (Br in Castlemartyr - RS19W011000) of the discharge location.

Monitoring data upstream of the discharge is limited to one sampling occasion in July 2015. Water quality within the Kiltha River upstream of the WwTP was compliant with Schedule 5 of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009) on this occasion. Downstream there was one minor exceedance of the regulation standards for Ammonia, and two exceedances for Orthophosphate.

Table 2.0: Monitoring Data Upstream and Downstream of WwTP Discharge

Sampling Date/ Parameter	Ammonia	BOD	Dissolved Oxygen	Orthophosphate	pH	Suspended Solids
	mg/l N	mg/l	% Sat	mg/l P	pH Units	mg/l
SW EQS	≤0.14 (good) ≤0.090 (high)	≤2.6 (good) ≤2.2 (high)		≤0.075 (good) ≤0.045 (high)	4.5-9	
Upstream						
30/ 7/ 2015	0.01	1.5	92.19	0.067	7.4	-
Downstream						
11/ 2/ 2014	0.150	0.70	98.00	0.097	7.70	-
15/ 4/ 2014	0.008	0.80	103.10	0.020	7.97	-
13/ 8/ 2014	0.015	1.70	111.00	0.069	8.40	-
25/ 9/ 2014	0.022	0.50	92.00	0.486	8.00	3.00
1/ 10/ 2014	0.028	1.10	96.10	0.050	7.90	-
22/ 10/ 2014	0.010	1.20	94.90	0.041	7.90	1.25
19/ 11/ 2014	0.034	1.10	93.60	0.035	7.70	6.00
27/ 11/ 2014	0.029	0.50	99.10	0.030	7.80	1.25
16/ 12/ 2014	0.036	1.10	95.90	0.032	8.00	1.25

The EPA monitor the Kiltha River for biological water quality¹. Upstream (ca. 1.5km) of the discharge location the river (2nd Br N of Mogeely – RS19W010700) was assigned a Q4 rating in 2014 indicating Good water quality, while downstream (1.5km) at Castlemartyr (Br in Castlemartyr - RS19W011000) the river was assigned a Q3-4 rating indicating Moderate water quality. Kick samples taken during the site are consistent with these ratings with pollution sensitive mayfly common and the upstream site and absent from the downstream site.

The EPA website² indicates that the Kiltha river has Moderate WFD status (2010-2015) and is 'At risk of not achieving good status'.

¹ <http://gis.epa.ie/Envision>

² <http://gis.epa.ie/Envision>

Waste Assimilative Capacity

Table 3.0 summaries the assimilative capacity calculations which are based on the future (6 years) estimated loading of 437p.e., 95%ile river flow and water quality standards in the European Communities Environmental Objectives (Surface Water) Regulations, 2009 (S.I. No. 272 of 2009). Assimilative capacity calculations use both actual background concentrations and the 'notionally clean river' approach. BOD is the only parameter used as effluent data for Orthophosphate and Ammonia was not available.

Table 3.0: Assimilative capacity calculations at estimated future loadings of 437p.e. for actual background concentrations and for a notionally clean river.

Parameter		Background (mg/l)	Predicted downstream quality (mg/l)	EQS* (mg/l)
BOD	Actual Background	1.5	1.507	≤2.6
	Notionally Clean	0.26	0.282	

*European Communities Environmental Objectives (Surface Waters) Regulations 2009, S.I. No. 272 of 2009 (95%ile standards presented).

Using both the actual background concentrations and the notional clean river concentrations demonstrates that the Kiltha River has available assimilative capacity to accommodate the WwTP discharge with respect to BOD levels.

Field Walkover Survey

The river upstream of the WwTP discharge is ca. 5m wide, 0.2-0.5m deep, and characterised by a fast flowing riffle and glide habitat. The substrate is predominately cobbles and gravels. Banks are ca. 2m high and support trees (ash, sycamore, elder, hawthorn, beech and hazel) with a ground flora of brambles, wild angelica, creeping buttercup and soft shield fern. Water crowfoot occurs instream. The river flows through an agricultural landscape.

Downstream the channel is 4-5m wide, and ca. 0.3m deep. The banks are channelised with glide habitat dominating. The substrate has more silts and gravels than further upstream. Water crowfoot was again noted as occurring in-stream.

No Annex I habitats or Annex II species were recorded during the site visit, though the river has the potential to support salmon, lamprey species and otter.

Fish Stocks

The Womanagh River was surveyed in 2011 by IFI (Kelly *et al*, 2012)³ downstream of the confluence with the Kiltha River. A total of six fish species were recorded in the Womanagh

³ Kelly, F.L., Matson, R., Connor, L., Feeney, R., Morrissey, E., Wogerbauer, C. and Rocks, K. (2012) Water Framework Directive Fish Stock Survey of Rivers in the South Western River Basin District. Inland Fisheries Ireland, Swords Business Campus, Swords, Co. Dublin, Ireland.

River site. Three-spined stickleback was the most abundant species, followed by brown trout, eels, lamprey, salmon and flounder

Brief Description of the Natura 2000 Sites

This section of the screening process describes the Natura 2000 sites within a 15km radius of the WwTP discharge location. A 15km buffer zone has been chosen as a precautionary measure, to ensure that all potentially affected Natura 2000 sites are included in the screening process, which is in line with Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities produced by the Department of the Environment, Heritage and Local Government.

Table 4.0 lists the SACs and Table 5.0 lists the SPAs that are within 15km of the WwTP discharge location, and Figure 1.0 shows their location in relation to the Mogeely WwTP discharge. The qualifying interests of each of the identified Natura 2000 Sites is also provided.

Table 4.0: SACs located within 15km from Mogeely WwTP discharge

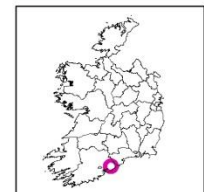
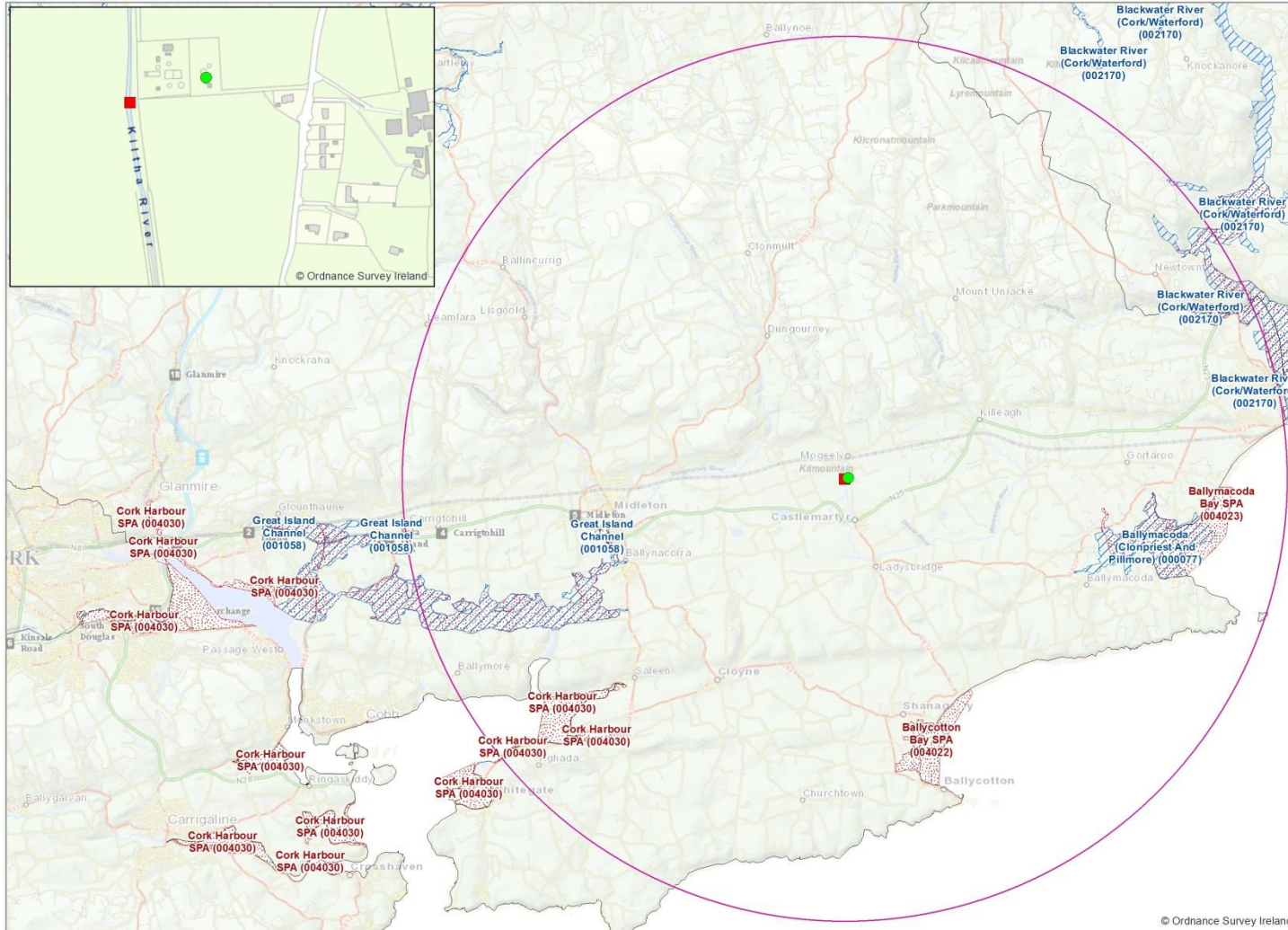
Site Code	Site Name	Qualifying Habitats	Qualify Species
000077	Ballymacoda (Clonpriest and Pilmore) SAC	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330]	
002170	Blackwater River (Cork/Waterford) SAC	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	<i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Alosa fallax fallax</i> (Twaite Shad) [1103]

Site Code	Site Name	Qualifying Habitats	Qualify Species
		<p>[3260]</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</p> <p><i>Taxus baccata</i> woods of the British Isles [91J0]</p>	<p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p> <p><i>Trichomanes speciosum</i> (Killarney Fern) [1421]</p>
001058	Great Island Channel SAC	<p>Mudflats and sandflats not covered by seawater at low tide [1140]</p> <p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330]</p>	

Table 5.0: SPAs located within 15km from Mogeely WwTP discharge

Site Code	Site Name	Qualifying Features – Annex I Species
004023	Ballymacoda Bay SPA	<p>Wigeon (<i>Anas penelope</i>) [A050]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Sanderling (<i>Calidris alba</i>) [A144]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Turnstone (<i>Arenaria interpres</i>) [A169]</p> <p>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Common Gull (<i>Larus canus</i>) [A182]</p> <p>Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</p> <p>Wetland and Waterbirds [A999]</p>
004028	Blackwater Estuary SPA	<p>Wigeon (<i>Anas penelope</i>) [A050]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Wetland and Waterbirds [A999]</p>

004030	Cork Harbour SPA	<p>Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Grey Heron (<i>Ardea cinerea</i>) [A028] Shelduck (<i>Tadorna tadorna</i>) [A048] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]</p>
004022	Ballycotton Bay SPA	<p>Teal (<i>Anas crecca</i>) [A052] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Turnstone (<i>Arenaria interpres</i>) [A169] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Wetland and Waterbirds [A999]</p>



- Legend**
- Mogeely Waste Water Treatment Plant
 - Primary Discharge
 - Buffer Zone (15km)
 - Local Authority
 - Special Area of Conservation
 - Special Protection Areas



Coordinate System: TM65 Irish Grid Projection: Transverse Mercator	
Scale at A3:	1:130,000
Drawing No.:	IW-AGG-2015-0180
Drawn By:	Zuzana Jamrichova
Checked By:	Sean Minogue
Approved By:	Kate Harrington
Drawn Date:	08/12/2015
Checked Date:	08/12/2015
Approved Date:	08/12/2015

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Mogeely Waste Water Treatment Natura sites within 15km

Possible Effects of the Waste Water Discharge in the Natura 2000 Sites

The purpose of this section of the screening is to examine the possibility that the existing waste water discharge, either individually or in combination with other plans and projects, may result in significant negative effects on the Conservation Objectives and the integrity of the Natura 2000 Sites identified.

The most apparent potential risk to a Natura 2000 Site(s) from a WwTP discharge is to the water quality of the receiving environment, and if the receiving environments water quality has the potential to interact with the qualifying interests of the Natura 2000 Sites identified.

The WwTP discharges to the Kiltha River, which enters the Ballymacoda SAC and SPA via the Womanagh River ca. 14km downstream of the discharge location. These are the only Natura 2000 sites with a potential connection to the discharge.

Direct, Indirect or Secondary Impacts

Tables 4.0 and 5.0 lists the Natura 2000 sites within 15km of the Mogeely WwTP discharge location. There are three SAC's and four SPAs. The waste water discharge location is not within the boundaries of any SAC or SPA, therefore, no direct impacts will occur through landtake or fragmentation of habitats. A new WwTP has been recently installed and the quality of the effluent being produced meets the Urban Waste Water Treatment limit values for parameters measured.

It is important to establish whether the receiving environments water quality has the potential to interact with the qualifying interests of the Natura 2000 Sites identified. The discharge enters the Kiltha River over 14km upstream of the connected SAC and SPA designation. Furthermore the habitats for which the SAC is designated are estuarine and not considered sensitive to a small discharge of treated effluent 14km upstream. The SAC is not designated for any mobile aquatic species potentially connected to upstream habitats. No birds for which the SPA is designated were recorded in the Kiltha River and they are unlikely to use such habitat. The SPA species are not highly sensitive to minor changes in water quality, and are not likely to be affected in any regard given the distance to the WwTP.

Given the distance to the SAC and SPA, and the qualifying interests under consideration, the Mogeely discharge will not impact on the conservation objectives of the downstream receiving Natura 2000 Sites, Ballymacoda Bay SAC and SPA. No significant adverse impacts on the water dependent qualifying habitats (estuarine habitats) of Ballymacoda Bay SAC are anticipated as a result of the waste water discharge from Mogeely WwTP. Likewise, no significant adverse impacts on the waterbird population of Ballymacoda Bay SPA are considered likely. Due to the treated nature of the effluent it will not impact on the availability of typical prey species to qualifying waterbird species.

No significant adverse impacts on the qualifying interests of the remaining Natura 2000 Sites identified within 15km of the discharge location is considered likely due to the treated nature of the effluent and the lack of connectivity between the discharge location and the relevant SACs or SPAs.

Possible Cumulative Impacts with other Plans and Projects in the Area

As part of Stage 1 Screening, in addition to the existing waste water discharge, other relevant projects and plans in the relevant region must also be considered. This step aims to identify at this early stage any possible significant effects on the Natura 2000 Sites from the waste water discharge in-combination or cumulative with other plans and projects. Existing plans and projects which have been examined include:

- Cork County Development Plan 2014;
- Womagh Water Management Unit Action Plan 2009-2015;
- County Cork Biodiversity Action Plan 2009 – 2014;
- The Dairygold facility in Mogeely (IPPC License No. P0817-01); and
- Existing Mogeely Wastewater Treatment Plant.

The above plans/projects have been assessed in accordance with Article 6(3) of the Habitats Directive and Part XAB of the Planning and Development Act, 2000, and are not envisaged to result in significant effects on the integrity of the Natura 2000 network.

Water quality in the Kiltha river appears to deteriorate downstream of Mogeely, and data is not available to calculate assimilative capacity in the river for Ammonia or Orthophosphate in the discharge. Given the size of the agglomeration however the discharge of treated effluent from Mogeely alone is not considered a threat to water quality in the catchment, but may combine with other pressures in the catchment (diffuse agricultural inputs, channelisation and the IPPC-licensed facility in Mogeely) to affect the water quality in the Kiltha river. However no freshwater habitats or species sensitive to water quality changes are qualifying interests of the connected SAC. The SAC and SPA are also a significant distance downstream and qualifying interests would not be highly sensitive to minor changes in water quality. Significant effects to the connected Natura 2000 sites as a result of any deterioration in water quality in the Kiltha river are therefore considered unlikely.

Screening Assessment

Table 6.0 provides a summary of the likely significant impact of the current waste water discharge on the conservation objectives of the Natura 2000 sites potentially linked to the Mogeely WwTP as identified in Tables 4.0 and 5.0.

Table 6.0: Potential Significant Impacts on Natura 2000 sites from the Mogeely Waste Water Discharge

Site Name	Direct Impacts	Indirect/ Secondary	Resource Requirements (Drinking Water Abstraction Etc.)	Emissions (Disposal to Land, Water or Air)	Excavation Requirements	Transportation Requirements	Duration of Construction, Operation, Decommissioning
Ballymacoda (Clonpriest and Pilmore) SAC	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest
Blackwater River (Cork/Waterford) SAC	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest
Great Island Channel SAC	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest
Ballymacoda Bay SPA	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest
Blackwater Estuary SPA	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest
Cork Harbour SPA	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest
Ballycotton Bay SPA	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest	No impact on qualifying interest

Likely Changes to the Natura 2000 Site(s)

The likely changes that will arise from the Mogeely waste water discharge have been examined in the context of a number of factors that could potentially affect the integrity of the identified Natura 2000 Sites. Overall, it has been found that the current waste water discharge will not affect the integrity of the identified Natura 2000 Sites.

Table 7.0: Likely Affect on Natura 2000 Sites

Site Name	Reduction of Habitat Area	Disturbance to Key Species	Habitat or Species Fragmentation	Reduction in Species Density	Changes in Key Indicators of Conservation Value (Water Quality Etc.)	Climate Change
Ballymacoda (Clonpriest and Pilmore) SAC	None	None	None	None	None	None
Blackwater River (Cork/Waterford) SAC	None	None	None	None	None	None
Great Island Channel SAC	None	None	None	None	None	None
Ballymacoda Bay SPA	None	None	None	None	None	None
Blackwater Estuary SPA	None	None	None	None	None	None
Cork Harbour SPA	None	None	None	None	None	None
Ballycotton Bay SPA	None	None	None	None	None	None

Elements of the Project where the Impacts are Likely to be Significant

No elements of the current waste water discharge are likely to cause significant impacts on NATURA 2000 Sites.

Screening Conclusions and Statement

The likely impacts that will arise from the current waste water discharge have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network. None of the sites within 15km of the discharge location will be adversely affected. A finding of No Significant Effects Matrix has been completed and is presented in next section of this Screening Statement.

On the basis of the findings of this Screening for Appropriate Assessment of Natura 2000 Sites, it is concluded that the current waste water discharge from the Mogeely WwTP will not have a significant effect on the Natura 2000 network alone, or in combination with other plans or projects, and a Stage 2 Appropriate Assessment is not required.

Finding of No Significant Effects Report Matrix

Name of project or plan	Mogeely Waste Water Certificate of Authorisation: D0428-01.
Name and location of Natura 2000 site	<p>Ballymacoda (Clonpriest and Pilmore) SAC Blackwater River (Cork/Waterford) SAC Great Island Channel SAC Ballymacoda Bay SPA Blackwater Estuary SPA Cork Harbour SPA Ballycotton Bay SPA</p>
Description of the project or plan	<p>Mogeely is located approximately 10km east of Midleton, Co. Cork and 2km north of Castlemartyr.</p> <p>The existing collection system is estimated to serve seventy three houses and three public houses. Mogeely Waste Water Treatment Plant (WWTP) has a capacity of 1200PE and discharges treated effluent to the Kiltha River. The remainder of the properties in the village are served by individual septic tanks. The WWTP which is operational since October 2008 is required to receive the waste water collected in the local sewerage system network and treat it to the required standards. All flows in excess of the designated capacity will be treated as stormwater. A volume equivalent to 3DWF for a two hour period will be stored and returned to the treatment stream when capacity is available in the WWTP. All additional flows will be conveyed from the storm water holding tank to the outfall pumps and discharged to the nearby Kiltha River via the primary discharge point</p> <p>The effluent discharge meets Urban Wastewater Treatment Regulations 2001(S.I. No. 254/2001) as amended for all relevant parameters.</p> <p><u>Description of the Receiving Environment and Monitoring Results</u></p> <p>The WwTP discharges to the Kiltha River ca 3.5km upstream of the main channel of the Womanagh River, ca. 14.2km upstream of Ballymacoda Bay SPA and ca. 14.8km upstream of Ballymacoda (Clonpriest and Pillmore) SAC. The EPA monitor water quality at stations 8km upstream (Br WNW of Donickmore House - RS19W010300) and 1.5km downstream (Br in Castlemartyr - RS19W011000) of the discharge location.</p> <p>Monitoring data upstream of the discharge is limited to one sampling occasion in July 2015. Water quality within the</p>

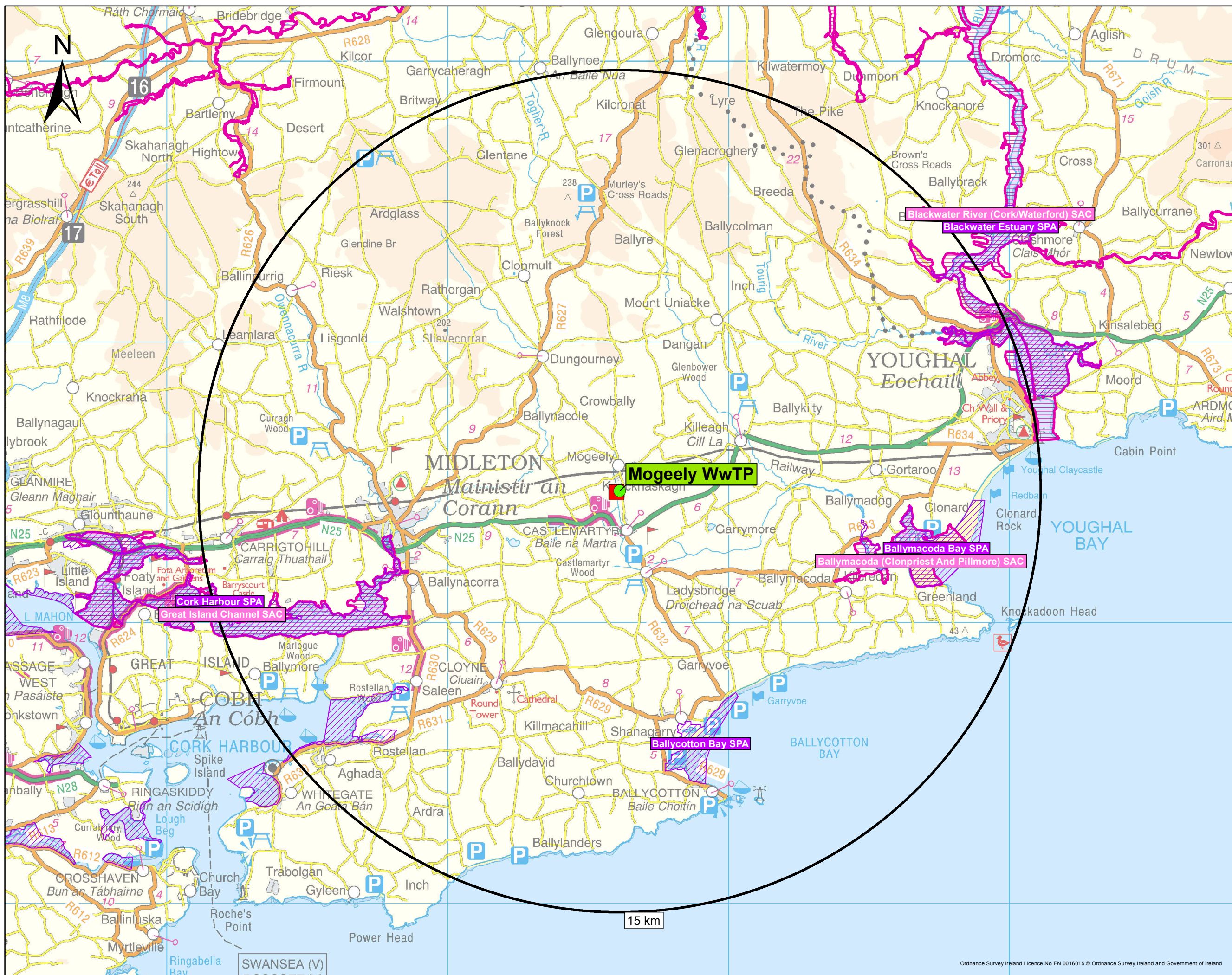
	<p>Kiltha River upstream of the WwTP was compliant with Schedule 5 of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009) on this occasion. Downstream there was one minor exceedance of the regulation standards for Ammonia, and two exceedances for Orthophosphate.</p> <p>The EPA monitor the Kiltha River for biological water quality⁴. Upstream (ca. 1.5km) of the discharge location the river (2nd Br N of Mogeely – RS19W010700) was assigned a Q4 rating in 2014 indicating Good water quality, while downstream (1.5km) at Castlemartyr (Br in Castlemartyr - RS19W011000) the river was assigned a Q3-4 rating indicating Moderate water quality. Kick samples taken during the site are consistent with these ratings with pollution sensitive mayfly common and the upstream site and absent from the downstream site.</p> <p>The EPA website⁵ indicates that the Kiltha river has Moderate WFD status (2010-2012) and is 'At risk of not achieving good status'.</p> <p><u>Waste Assimilative Capacity</u></p> <p>Using both the actual background concentrations and the notional clean river concentrations demonstrates that the Kiltha River has available assimilative capacity to accommodate the WwTP discharge with respect to BOD levels.</p>
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?	No.
The Assessment of Significance of Effects	
Describe how the project or plan (alone or in combination) is likely to affect the European Site(s).	<p>The purpose of this section of the screening is to examine the possibility that the existing waste water discharge, either individually or in combination with other plans and projects, may result in significant negative effects on the Conservation Objectives and the integrity of the Natura 2000 Sites identified.</p> <p>The most apparent potential risk to a Natura 2000 Site(s) from a WwTP discharge is to the water quality of the receiving environment, and if the receiving environments water quality has the potential to interact with the qualifying interests of the Natura 2000 Sites identified.</p>

⁴ <http://gis.epa.ie/Envision>

⁵ <http://gis.epa.ie/Envision>

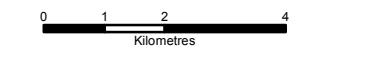
	The WwTP discharges to the Kiltha River ca. 14.2km upstream of Ballymacoda Bay SPA and ca. 14.8km upstream of Ballymacoda (Clonpriest and Pillmore) SAC.
Explain why these effects are not considered significant.	<p>The waste water discharge location is not within the boundaries of any SAC or SPA, therefore, no direct impacts will occur through landtake or fragmentation of habitats.</p> <p>It is important to establish whether the receiving environments water quality has the potential to interact with the qualifying interests of the Natura 2000 Sites identified. The discharge enters the Kiltha River over 14km upstream of the connected SAC and SPA designation. Furthermore the habitats for which the SAC is designated are estuarine and not considered sensitive to a small discharge of treated effluent 14km upstream. The SAC is not designated for any mobile aquatic species potentially connected to upstream habitats. No birds for which the SPA is designated were recorded in the Kiltha River and they are unlikely to use such habitat. The SPA species are not highly sensitive to minor changes in water quality, and are not likely to be affected in any regard given the distance to the WwTP.</p> <p>Given the effluent quality, the distance to the SAC and SPA, and the qualifying interests under consideration, the Mogeely discharge will not impact on the conservation objectives of the downstream receiving Natura 2000 Sites, Ballymacoda Bay SAC and SPA. No significant adverse impacts on the water dependent qualifying habitats (estuarine habitats) of Ballymacoda Bay SAC are anticipated as a result of the waste water discharge from Mogeely WwTP. Likewise, no significant adverse impacts on the waterbird population of Ballymacoda Bay SPA are considered likely. Due to the treated nature of the effluent it will not impact on the availability of typical prey species to qualifying waterbird species.</p>
List of agencies consulted: provide contact name and telephone or e-mail address.	IFI – Andrew Gillespie
Response to consultation.	None recieved to date.
Data Collected to Carry Out the Assessment	
Who carried out the assessment?	Qualified Ecologist, Tobin Consulting Engineers for Irish Water
Sources of data	NPWS database; EPA database; WFD Ireland database; and Information from Irish Water.
Level of assessment completed	Desktop and Field walkover survey

Where can the full results of the assessment be accessed and viewed?	EPA
Overall Conclusion	Stage 1 Screening indicates that the Mogeely WwTP discharge will not have a significant negative impact on the Natura 2000 network, alone or in combination with other plans or projects. Therefore, a Stage 2 'Appropriate Assessment' under Article 6(3) of the Habitats Directive 92/43/EEC is not required.



Legend

- Wastewater Treatment Plant
- Primary Discharge
- Buffer Zone (15km)
- Special Area of Conservation
- Special Protection Areas



- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
 2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
 3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
 4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
A	NOV-2015	Final	G.F.	O.McA.

Client: **UISCE**
EIREANN - IRISH WATER

Project: **Mogeely Waste Water Treatment Plant**

Title: **European Sites**

Scale @ A3: **1:125,000**

Prepared by: G.Fil Checked: K.Harrington Date: November 2015

Project Director: D. Grehan

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FIGURE 1

Parameter	Results(mg/l)			Sampling Method	Limit of Quantitation	Analysis Method/Technique
	07/05/2009	Date	Date			
pH	7.9			Grab	2	Electrochemical
Temperature	NT			Grab	0.5	Electrochemical
Electrical Conductivity (@25oC)	210			Grab	0.5	Electrochemical
Suspended Solids	3			Grab	0.5	Gravimetric
Ammonia (as N)	<0.1			Grab	0.02	Colorimetric
Biochemical Oxygen Demand	2			Grab	0.06	Electrochemical
Chemical Oxygen Demand	<21			Grab	8	Digestion & Colorimetric
Dissolved Oxygen	NT			Grab	0	ISE
Hardness (as CaCo3)	NT			Grab	0	Titrimetric
Total Nitrogen (as N)	5.39			Grab	0.5	Digestion & Colorimetric
Nitrite (as N)	<0.1			Grab	0.013	Colorimetric
Nitrate (as N)	5.71			Grab	0.04	Colorimetric
Total Phosphorus (as P)	<0.05			Grab	0.2	Digestion & Colorimetric
Orthophosphate (as P) - unfiltered	<0.05			Grab	0.02	Colorimetric
Sulphate (SO4)	<30			Grab	30	Turbidimetric
Phenols (sum) Note : (ug/l)	<0.1			Grab	0.1	GC-MS2

Note: The EPA have extracted samples from the Kiltha River upstream and downstream of the WWTP in 2014 and 2015. The samples were tested for water quality parameters listed in Schedule 5 of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009). Further details provided Section F and also in the Appropriate Assessment Screening Report included in Attachment F.1(a)

Parameter	Results(mg/l)				Sampling Method	Limit of Quantitation	Analysis Method/Technique
	07/05/2009	Date	Date	Date			
pH	8.1				Grab	2	Electrochemical
Temperature	NT				Grab	0.5	Electrochemical
Electrical Conductivity (@25oC)	298				Grab	0.5	Electrochemical
Suspended Solids	<2.5				Grab	0.5	Gravimetric
Ammonia (as N)	<0.1				Grab	0.02	Colorimetric
Biochemical Oxygen Demand	2				Grab	0.06	Electrochemical
Chemical Oxygen Demand	<21				Grab	8	Digestion & Colorimetric
Dissolved Oxygen	NT				Grab	0	ISE
Hardness (as CaCo3)	NT				Grab	0	Titrimetric
Total Nitrogen (as N)	5.74				Grab	0.5	Digestion & Colorimetric
Nitrite (as N)	<0.1				Grab	0.013	Colorimetric
Nitrate (as N)	5.16				Grab	0.04	Colorimetric
Total Phosphorus (as P)	<0.05				Grab	0.2	Digestion & Colorimetric
Orthophosphate (as P) - unfiltered	<0.05				Grab	0.02	Colorimetric
Sulphate (SO4)	<30				Grab	30	Turbidimetric
Phenols (sum) Note : (ug/l)	<0.1				Grab	0.1	GC-MS2

Note: The EPA have extracted samples from the Kiltha River upstream and downstream of the WWTP in 2014 and 2015. The samples were tested for water quality parameters listed in Schedule 5 of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009). Further details provided Section F and also in the Appropriate Assessment Screening Report included in Attachment F.1(a)

Parameter	Results($\mu\text{g/l}$)			Sampling Method	Limit of Quantitation	Analysis Method/Technique
	07/05/2009	Date	Date			
Atrazine	<0.01			Grab	0.96	HPLC
Dichloromethane	<1			Grab	1	GC-MS1
Simazine	<0.01			Grab	0.01	HPLC
Toluene	<0.28			Grab	0.02	GC-MS1
Tributyltin	NT			Grab	0.02	GC-MS1
Xylenes	<1			Grab	1	GC-MS1
Arsenic	<0.96			Grab	0.96	ICP-MS
Chromium	<20			Grab	20	ICP-OES
Copper	<20			Grab	20	ICP-OES
Cyanide	<5			Grab	5	Colorimetric
Fluoride	<100			Grab	100	ISE
Lead	<20			Grab	20	ICP-OES
Nickel	<20			Grab	20	ICP-OES
Zinc	<20			Grab	20	ICP-OES
Boron	<20			Grab	20	ICP-OES
Cadmium	<20			Grab	20	ICP-OES
Mercury	<0.2			Grab	0.2	ICP-MS
Selenium	<0.74			Grab	0.74	ICP-MS
Barium	20.845			Grab	20	ICP-OES

Note: The EPA have extracted samples from the Kiltha River upstream and downstream of the WWTP in 2014 and 2015. The samples were tested for water quality parameters listed in Schedule 5 of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009). Further details provided Section F and also in the Appropriate Assessment Screening Report included in Attachment F.1(a)

Parameter	Results($\mu\text{g/l}$)			Sampling Method	Limit of Quantitation	Analysis Method/Technique
	07/05/2009	Date	Date			
Atrazine	<0.01			Grab	0.96	HPLC
Dichloromethane	<1			Grab	1	GC-MS1
Simazine	<0.01			Grab	0.01	HPLC
Toluene	<0.28			Grab	0.02	GC-MS1
Tributyltin	NT			Grab	0.02	GC-MS1
Xylenes	<1			Grab	1	GC-MS1
Arsenic	<0.96			Grab	0.96	ICP-MS
Chromium	<20			Grab	20	ICP-OES
Copper	<20			Grab	20	ICP-OES
Cyanide	<5			Grab	5	Colorimetric
Fluoride	<100			Grab	100	ISE
Lead	<20			Grab	20	ICP-OES
Nickel	<20			Grab	20	ICP-OES
Zinc	37.64			Grab	20	ICP-OES
Boron	<20			Grab	20	ICP-OES
Cadmium	<20			Grab	20	ICP-OES
Mercury	<0.2			Grab	0.2	ICP-MS
Selenium	1.5			Grab	0.74	ICP-MS
Barium	78.14			Grab	20	ICP-OES

Note: The EPA have extracted samples from the Kiltha River upstream and downstream of the WWTP in 2014 and 2015. The samples were tested for water quality parameters listed in Schedule 5 of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009). Further details provided Section F and also in the Appropriate Assessment Screening Report included in Attachment F.1(a)