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Administration,
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Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Headquarters,
PO Box 3000,
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County Wexford

28th January 2011

Re: A0389-01 – Ardgroom Waste Water Discharge Certificate of Authorisation – Reply to Notice in accordance with Regulation 25(c)(ii) of the Waste Water Discharge (Authorisation) Regulations 2007

Dear Ms. Stafford,

I refer to your letter of the 14th December 2010 concerning the above. The following is our reply to your request for further information in accordance with Regulation 25(c)(ii).

1. Assessment of Effects of the Waste Water Discharges on European Sites
With reference to Circular L8/08 and the flow diagram in Appendix 1 attached, it can be concluded that the wastewater discharging from the agglomeration will not have significant effects on any relevant European sites.

The discharge point from the agglomeration is located within the designated area of Glanmore Bog SAC (Site Code 001879) and upstream of Kenmare River SAC (Site Code 2158). The agglomeration discharges into the Ownagappul River which flows into Ardgroom Harbour which is a large, well exchanged body of water with high dilution and the pe of the agglomeration is <500pe. The newly built wastewater treatment plant treats wastewater to a high standard with UV treatment forms part of the process. A Habitats Directive Assessment (Screening Report) for Ardgroom Agglomeration has been carried out and is attached. It can be concluded from this that an appropriate assessment is not required for this agglomeration.

An environmental assessment for the proposed upgrade to the wastewater treatment plant was carried out in July 2005 by Dixon Brosnan Environmental Consultants and was submitted with the original application. There is also a Draft Sub-Basin Management Plan for The Ownagappul produced in March 2010. The recommendation from this management plan was to connect the village to the newly constructed WWTP and this has now been carried out.

2. Design capacity of WWTP & Population Equivalent
The design PE of the wastewater treatment plant is 400. The current average PE for the village is approximately 220, but could rise to a maximum average weekly PE of 272 during peak season.

3. Update on new Wastewater Treatment Plant
a. The wastewater from the village of Ardgroom is being treated by the new WWTP since 12th Jan 2011.

b. Wastewater is no longer entering the old septic tank. This tank will be decommissioned in Feb 2011.

c. The old septic tank is no longer connected to the collection network or the new treatment plan. It will be decommissioned in Feb 2011.

d. The primary and only discharge point form the agglomeration is now from the new treatment plant. See revised section of the application form attached.

e. See revised drawings and applicable sections of the applications form attached for amendments.

Yours sincerely,

p.p.

Niall O'Mahony,
Senior Engineer,
Cork County Council

Enclosures

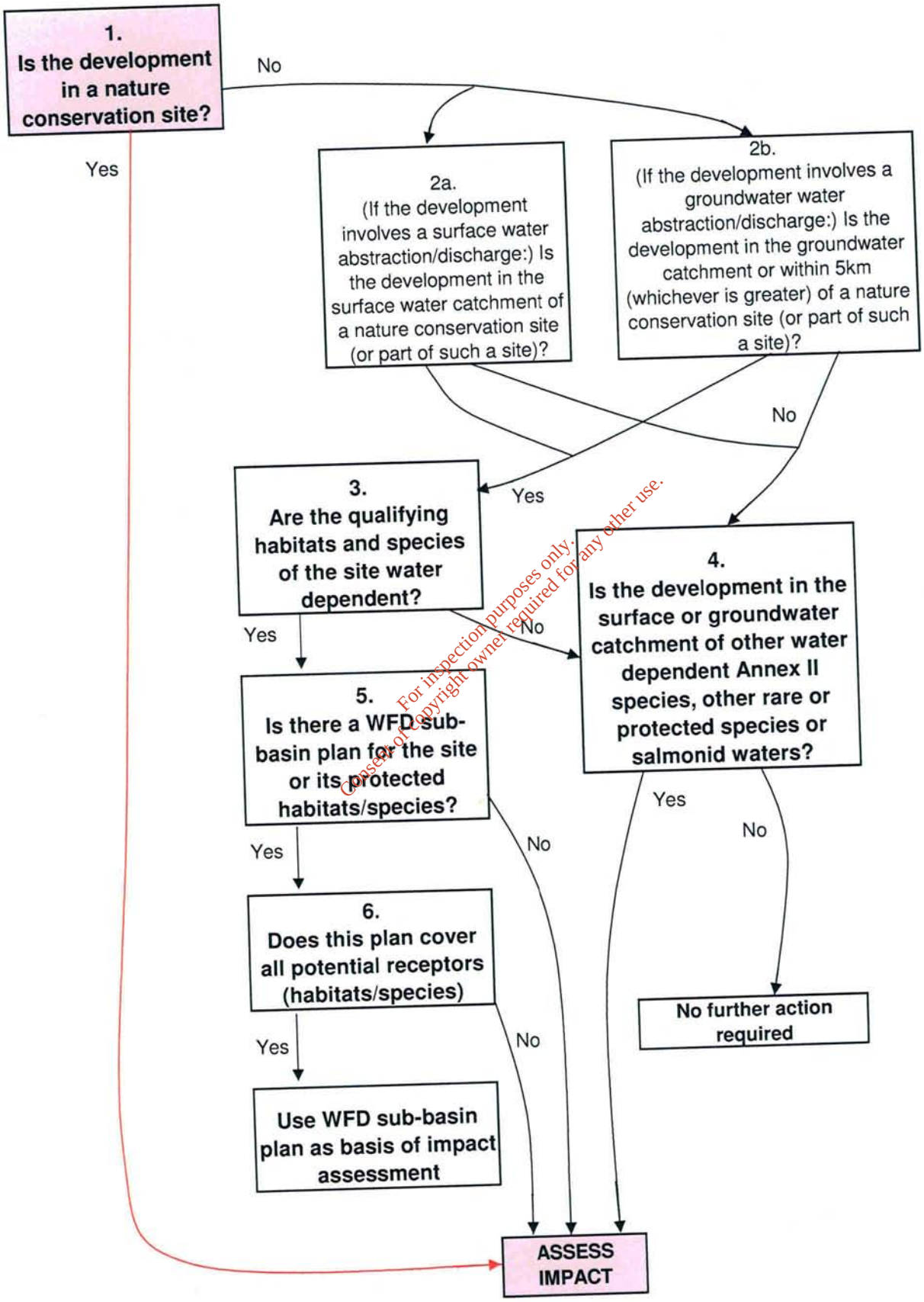
Circular L8/08 2 September 2008
Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments

APPENDIX 1
Water Services Schemes - Natural Heritage Checklist for Local Authorities

What projects must be screened?

For new projects and significant changes to any existing operations, if the answer is 'yes' to any of the following, the project (i.e. construction, operation and maintenance) must be screened for its impacts:	
1. Is the development in or on the boundary of a nature conservation site NHA/SAC/SPA?	Yes
2. Will nationally protected species be directly impacted? Wildlife Acts (1976 and 2000), Flora Protection order (S.I. 94 of 1999)?	No
3. Is the development a surface water discharge or abstraction in the surface water catchment, or immediately downstream of a nature conservation site with water dependant qualifying habitats/ species?	No
4. Is the development a groundwater discharge or abstraction in the ground water catchment or within 5 km of a nature conservation site with water-dependant qualifying habitats/species?	No
5. Is the development in the surface water or groundwater catchment of salmonid waters?	No
6. Is the treatment plant in an active or former floodplain or flood zone of a river, lake, etc?	No
7. Is the development a surface discharge or abstraction to or from marine waters and within 3km of a marine nature conservation site?	No
8. Will the project in combination with other projects (existing and proposed) or changes to such projects affect the hydrology or water levels of sites of nature conservation interest or the habitats of protected species?	No

Flow Diagram - Route Highlighted Red & Shaded Grey



Conclusion: A Screening Report is required for Ardgroom

Habitats Directive Assessment (Screening Report) in respect of

Application by Cork County Council to the EPA

for discharge certificate in respect of

Ardgroom Agglomeration

A0389-01

January 2011

1 Introduction

1.1 Ardgroom village is a small village located on the Beara peninsula north of Castetownbere in West Cork. The waste water in Ardgroom village was previously being treated via a septic tank located adjacent to the river Owenagappul, with a discharge into the river. A new wastewater treatment plant has recently been constructed for the village. The plant was constructed in 2008 and has recently been connected to the village and is treating all wastewater within the agglomeration. This has resulted in the septic tank which was previously treating the wastewater from the village becoming redundant. The new wastewater treatment plant is located just north of the village. Treatment is by means of a preliminary, primary and secondary treatment, with tertiary treatment taking place using UV Radiation. The plant discharges to the adjacent Owenagappul River via 225mm diameter cast iron pipe. The treatment plant has a design pe of 400.

1.2 The plant is located north of the village and the discharges in to Owenagappul River. The discharge point is within The Glanmore Bog SAC and upstream of the Kenmare River SAC. These are designated under the **EU Habitats Directive (92/43/EEC)** as transposed into Irish Law under the European Union (Natural Habitats) Regulations SI 94/1997. As this is the case, and in accordance with requirements under this Directive, the potential impacts of proposed developments that have the potential to impact on Special Protection Areas and Special Areas of Conservation must be assessed. The procedure to do this is called a **Habitats Directive Assessment.** The purpose of such an assessment is to identify whether there may be potential for elements of the project to have a significant impact on nature conservation sites within its impact zone, and if so, to predict the potential for such impacts to affect the overall integrity of such nature conservation sites. The European Union has provided guidance as to how to make a Habitats Directive Assessment which identifies four main stages in the process as follows:

Stage One: Screening
The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, wither alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate assessment
The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage Three: Assessment of alternative solutions
The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain.
An assessment of compensatory measures, where in the light of an assessment of imperative reasons of overriding public interest, it is deemed that the project or plan should proceed.

1.3 This document brings together all of the information necessary to make determination as to whether there are likely to be significant impacts arising from the Ardgroom Waste Water Treatment Plant on the Glanmore Bog SAC and the Kenmare River SAC and represents the first stage of this process (Screening).

Step 1:
Provide a description of the plan and other plans and projects that, in combination, have the potential to have significant effects on Natura 2000 sites within the potential impact zone;

Step 2:
Identify Natura 2000 sites which may be impacted by the plan, and compile information on their qualifying interests and conservation objectives;

Step 3:
Determine whether the plan needs to be screened for potential impacts on Natura 2000 sites;

Step 4:
Carry out an assessment of likely effects - direct, indirect and cumulative - undertaken on the basis of available information as a desk study or field survey or primary research as necessary;

Step 5:
Assess the significance of any such effects on the Natura 2000 sites within the impact zone.

1.4 The assessment has been prepared in accordance with the following guidance:

European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the Habitats Dreictive 92/43/EEC.

European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habtiats Directive 92/43/EEC.

Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Environment, Heritage and Local Government, 2009.

2 Appropriate Assessment Screening Matrix

2.1 Description of project	
Location	Ardgroom WWTP, Ardgroom, Castletownbere, Co. Cork. See attached Map.
Description of the key components of the project	Treatment in Ardgroom is by means of a preliminary, primary and secondary treatment, with tertiary treatment taking place using UV Radiation. The plant discharges to the adjacent Owenagappul River via 225mm diameter cast iron pipe. The treatment plant has a design pe of 400.
Distance from designated sites in potential impact zone*	The discharge point is within the Glanmore Bog SAC, approx 70m upstream of the Kenmare River SAC

Site 1

2.2 Description of the Natura 2000 sites within the potential impact zone[1]	
Name	Glanmore Bog SAC
Site Code	001879
Site Description	Glanmore Bog is situated 3 km north-west of Hungry Hill, Co. Cork and 8 km south-west of the village of Lauragh, Co. Kerry. The site is underlain by Old Red Sandstone and rises in altitude from sea level near Cappul Bridge to 602 m at Eskatarriff at the north of the site. The discharge from the Ardgroom Wastewater Treatment Plant enters Ownagappul River which flows through Glanmore Bog SAC. More information on the Glanmore Bog SAC is contained appendix 1 of this document.
Qualifying Interests of Glanmore Bog SAC	The site is of special interest for the follow habitats: Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae); Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation; Northern Atlantic wet heaths with Ericia tetralix; Blanket bog. And the following species: Margaritifera margaritifera;

[1] Natura 2000 sites within the potential impact zone of the proposed development have been identified in accordance with guidance provided in the NPWS circular L8/08.

Other Notable Features of Glanmore Bog SAC	The Site Synopsis is contained in appendix 1. Trichomanes speciosum.
Conservation Objectives	Objective 1: To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status: Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae); Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation; Northern Atlantic wet heaths with Erica tetralix; Blanket bog. Objective 2: To maintain the Annex II species for which the cSAC has been selected at favourable conservation status: Margaritifera margaritifera; Trichomanes speciosum. Objective 3: To maintain the extent, species richness and biodiversity of the entire site. Objective 4: To establish effective liaison and co-operation with landowners, legal users and relevant authorities. *Source - National Parks and Wildlife Service*

2.3 Assessment Criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	**Discharge from Ardgroom WWTP:** *Treated wastewater from the Ardgroom Waste Water Treatment Plant is discharged to Ownagappul River which flows through the Glanmore Bog SAC.* *The discharge consists of treated effluent from the Ardgroom Waste Water Treatment Plant.* **Other Discharges within the SPA within Cork County:** No other discharge *See Map in Appendix 3 for discharge locations.*
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site taking into account the following: o Size and scale o Land-take o Distance from the Natura 2000 site or key features of the	Discharges could give rise to elevated nutrients entering Ownagappul River. Increased nutrient levels may impact on the ecology of an area by changing the composition of floral communities and reducing the ability of less robust plants to survive. Increased nutrient levels may also result in increasing the invertebrate populations in the estuary, thereby increasing bird population levels. However the potential for the treatment plant to result in elevated nutrients within the waters is reduced by two main factors: 1. The standard of treated effluent is high.

site: ○ Resource requirements (water abstraction etc.) ○ Emissions (disposal to land, water or air) ○ Excavation Requirements ○ Transportation Requirements ○ Duration of construction, operation, decommissioning ○ Other.	2. The treatment provided is considered as appropriate as set out in the Urban Wastewater Treatment Regulation standards for p.e <2000. 3. The treated effluent enters Ownagappul River downstream side of the Bog. ***1 The standard of treated effluent is high.*** *The treatment plant is a newly constructed plant which treats effluent to a high standard with UV treatment being incorporated into the treatment process.* ***2 The treatment provided is appropriate.*** *Treated effluent from the Ardgroom WWTP and receiving water quality were sampled as part of the Certificate of Authorisation application in 2009 (see appendix 2 for effluent testing results). The results of monitoring indicate that the wastewater treatment plant is not having a negative effect on the receiving waters.* **Note 1**: See appendix 2 for effluent quality results for 2009. **Note 2**: The samples taken are grab samples. *3 The treated effluent enters Ownagappul River which flows through the Glanmore Bog. The discharge point is located on the downstream side of the bog.*
Describe any likely changes to the site arising as a result of: ○ Reduction in 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	**Reduction in habitat area:** *Treated effluent is discharging to the Ownagappul River and into Ardgroom Harbour which is a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species within the Ownagappul River or Kenmare Harbour from the operation of this facility.* **Disturbance to key species:** *The operation of the WWTP does not cause any disturbance to habitats & species within the SAC.* **Habitat or species fragmentation:** *No habitat fragmentation has been caused as a result of the operation of this facility.* **Reduction in species density:** *Treated effluent is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species for which the SAC is designated.* **Changes in key indicators of conservation value eg water quality:** *While there is no ongoing monitoring of water quality for Ownagappul River, some sampling and testing were done and submitted as part of the Wastewater Certificate of Authorisation Application. This testing, while insufficient for a complete analysis indicates that there the effluent is of high quality and that there is no deterioration in water*

	quality associated with the Ardgroom discharge.
Describe any likely impacts on the Natura 2000 site as a whole in terms of: ○ Interference with the key relationships that define the structure of the site ○ Interference with key relationships that define the function of the site	**Interference with the key relationships that define the structure of the site:** *The structure of the SAC is not impacted by the operation of this facility.* **Interference with key relationships that define the function of the site:** *The function of the SAC is not impacted by the operation of this facility.*
Describe from the above those elements of the project of plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	No significant impacts are predicted.

Site 2

2.2 Description of the Natura 2000 sites within the potential impact zone[2]	
Name	Kenmare River SAC
Site Code	002158
Site Description	Kenmare River, Co. Kerry, is a long and narrow, south-west facing bay. It is a deep, drowned glacial valley and the bedrock is mainly Old Red Sandstone which forms reefs along the middle of the bay throughout its length. The SAC extends from Kenmare to the north east to Crow Head east of Dursey Island in the south west. The discharge from the Ardgroom Wastewater Treatment Plant enters the Ownagappul River which flows into Ardgroom Harbour. More information on the Kenmare River SAC is contained appendix 1 of this document.
Qualifying Interests of Kenmare River SAC	The site is of special interest for the follow habitats: Large shallow inlets and bays; Reefs;

[2] Natura 2000 sites within the potential impact zone of the proposed development have been identified in accordance with guidance provided in the NPWS circular L8/08.

	Perennial vegetation of stony banks; Vegetated sea cliffs of the Atlantic and Baltic coasts; Atlantic salt meadows (Glauco-Puccinellietalia maritimae): Mediterranean salt meadows (Juncetalis maritimi) Shifting dunes along the shoreline with Ammophila arenaria (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes); European dry heaths; Calaminarian grasslands of the Violetalia calaminariae: Submerged or partly submerged sea caves. And the following species: Vertigo angustior; Rhinolophus hipposideros; Lutra lutra: Phoca vitulina.
Other Notable Features of Kenmare River SAC	The Site Synopsis is contained in appendix 1.
Conservation Objectives	Objective 1: To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status: Large shallow inlets and bays; Reefs; Perennial vegetation of stony banks; Vegetated sea cliffs of the Atlantic and Baltic coats; Atlantic salt meadows (Glauco-Puccinellietalia maritimae); Mediterranean salt meadows (Juncetalia maritime); Shifting dunes along the ; shoreline with Ammophila areanaria (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes); European dry heaths; Calaminarian grasslands of the Violetalia calaminariae; Submerged or partly submerged sea caves. Objective 2: To maintain the Annex II species for which the sSAC has been selected at favourable conservation status: Vertigo angustior; Rhinolophus hipposideros; Lutra lutra; Phoca vitulina. Objective 3: To maintain the extent, species richness and biodiversity of the entire site. Objective 4: To establish effective liaison and co-operation with landowners, legal user and relevant authorities. *Source - National Parks and Wildlife Service*

2.3 Assessment Criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	**Discharge from Ardgroom WWTP:** *Treated wastewater from the Ardgroom Waste Water Treatment Plant is discharged to Ownagappul River which flows into Ardgroom Harbour and forms part of the Kenmare River SAC.* *The discharge consists of treated effluent from the Ardgroom Waste Water Treatment Plant.*

	Other Discharges within the SPA within Cork County: Allihies WWTP discharges to Ballydonegan Bay which is part of the Kenmare River SAC. *See Map in Appendix 3 for discharge locations.*
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site taking into account the following: o Size and scale o Land-take o Distance from the Natura 2000 site or key features of the site: o Resource requirements (water abstraction etc.) o Emissions (disposal to land, water or air) o Excavation Requirements o Transportation Requirements o Duration of construction, operation, decommissioning o Other.	Discharges could give rise to elevated nutrients entering Ownagappul River and Ardgroom Harbour. Increased nutrient levels may impact on the ecology of an area by changing the composition of floral communities and reducing the ability of less robust plants to survive. Increased nutrient levels may also result in increasing the invertebrate populations in the estuary, thereby increasing bird population levels. However the potential for the treatment plant to result in elevated nutrients within the waters is reduced by two main factors: 1 The treatment provided is considered as appropriate as set out in the Urban Wastewater Treatment Regulation standards for p.e <2000. 2 The treated effluent enters Ownagappul River and flows to Ardgroom Harbour which is a large and well exchanged body of water with unlimited dilution capacity. ***1 The treatment provided is appropriate.*** *Treated effluent from the Ardgroom WWTP and receiving water quality were sampled as part of the Certificate of Authorisation application in 2009 (see appendix 2 for effluent testing results). The results of monitoring indicate that the wastewater treatment plant is not having a negative effect on the receiving waters.* **Note 1**: See appendix 2 for effluent quality results for 2009. **Note 2**: The samples taken are grab samples. ***2** The treated effluent enters Ownagappul River which flows to Ardgroom Harbour which is a large and well exchanged body of water with unlimited dilution capacity.*
Describe any likely changes to the site arising as a result of: o Reduction in habitat area o Disturbance to key species o Habitat or species fragmentation o Reduction in species density o Changes in key indicators of	**Reduction in habitat area:** *Treated effluent is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species within Ardgroom Harbour from the operation of this facility.* **Disturbance to key species:** *The operation of the WWTP does not cause any disturbance to habitats & species within the SAC.* **Habitat or species fragmentation:** *No habitat fragmentation has been caused as a result of the operation of this facility.*

conservation value (water quality etc) ○ Climate Change	**Reduction in species density:** *Treated effluent is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species for which the SAC is designated.* **Changes in key indicators of conservation value eg water quality:** *While there is no ongoing monitoring of water quality for Ownagappul River & Ardgoom Harbour, some sampling and testing were done and submitted as part of the Wastewater Certificate of Authorisation Application. This testing, while insufficient for a complete analysis indicates that there is no deterioration in water quality associated with the Ardgroom discharge.*
Describe any likely impacts on the Natura 2000 site as a whole in terms of: ○ Interference with the key relationships that define the structure of the site ○ Interference with key relationships that define the function of the site	**Interference with the key relationships that define the structure of the site:** *The structure of the SAC is not impacted by the operation of this facility.* **Interference with key relationships that define the function of the site:** *The function of the SAC is not impacted by the operation of this facility.*
Describe from the above those elements of the project of plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	No significant impacts are predicted.

3. Finding of No Significant Effects Report Matrix

Name of project or plan	Ardgroom WWTP discharge
Name and location of Natura 2000 site	Glanmore Bog SAP & Kenmare River SAC
Description of the project or plan	Treatment in Ardgroom is by means of a preliminary, primary and secondary treatment, with tertiary treatment taking place using UV Radiation. The plant discharges to the adjacent Owenagappul River which flows into Ardgroom Harbour. The treatment plant has a design pe of 400.
Is the project or plan directly connected with or necessary to the management of the site	No

(provide details)?	
The assessment of significance of effects	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 Site.	Discharges from the Ardgroom WWTP either alone or in combination with discharges from other sources could give rise to elevated nutrients entering Ownagappul River and Ardgroom Harbour and surrounding waters. Increased nutrient levels may impact on the ecology of an area by changing the composition of floral communities and reducing the ability of less robust plants to survive. Increased nutrient levels may also result in increasing the invertebrate populations in the estuary, thereby increasing bird population levels. The effluent discharged from Ardgroom is considered as appropriately treated under the Urban Wastewater Treatment Regulations, it is considered that the discharge from Ardgroom is not contributing negatively on the SAC or SPA.
Explain why these effects are not considered significant.	Appropriate treatment is being carried out as laid down in the Urban Waste Water Treatment Regulations and is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. The wastewater discharging from the WWTP is of a high standard with UV treatment forming part of the process. No significant impacts are evident or predicted on species for which the SAC & SPA are designated.
List of agencies consulted: provide contact name and telephone or email address	National Parks and Wildlife Service - Web site
Response to consultation	

Data collected to carry out the assessment			
Who carried out the assessment	**Sources of data**	**Level of assessment completed**	**Where can the full results of the assessment be accessed and viewed**
Orla O'Brien, Cork County Council	Water Quality Monitoring Data CCC; Waste water Discharge Assessment certificate of Authorisation application, Report prepared by Cork County Council	Desktop review of cited data.	This report.

Appendix 1: Ecological Data

SITE SYNOPSIS

SITE NAME: GLANMORE BOG SAC

SITE CODE: 001879

Glanmore Bog is situated 3 km north-west of Hungry Hill, Co. Cork and 8 km south-west of the village of Lauragh, Co. Kerry. The site is underlain by Old Red Sandstone and rises in altitude from sea level near Cappul Bridge to 602 m at Eskatarriff at the north of the site.

The site is of conservation interest for its active blanket bog, an EU Habitats Directive Annex I priority habitat. One of the most important areas is a small hanging valley bog situated between the meanders of a mountain stream. Its vegetation is relatively uniform in character, dominated by Bog Cotton (*Eriophorum angustifolium)*, with Heather (*Calluna vulgaris*), Black Bog-rush (*Schoenus nigricans*) and an abundance of the moss *Racomitrium lanuginosum*. The bog is somewhat flushed and there are small, localized quaking areas which support Bogbean (*Menyanthes trifoliata*), Greater Tussock-sedge (*Carex paniculata*) and Star Sedge (*Carex echinata*). *Campylopus* moss species are also abundant and the rare *C. shawii*, an endemic species to Britain and Ireland, has been recorded from the site. Other areas of blanket bog occur along the ridge near Eskatarriff and in mosaic with heath and exposed rocks on the southern side of the Glanmore River. These bogs tend to be more Heather dominated.

Wet heath is the dominant habitat at the site and often occurs in association with upland grassland, exposed rock, bog and dry heath. The heath is dominated by Purple Moor-grass (*Molinia caerulea*), with ericoid species, such as Heather and Cross-leaved Heath (*Erica tetralix*), being relatively scarce. Other heath species present include Heath Bedstraw (*Galium saxatile*), Tormentil (*Potentilla erecta*), Mat-grass (*Nardus stricta*), Heath Rush (*Juncus squarrosus*) and Sharp-flowered Rush (*Juncus acutiflorus*).

Glenbeg Lough, an oligotrophic (nutrient-poor) lake, represents another EU Habitats Directive Annex I habitat. The vegetation of this lake includes Quillwort (*Isoetes lacustris*), Shoreweed (*Littorella uniflora*), Water Lobelia (*Lobelia dortmanna*), Floating Bur-reed (*Sparganium angustifolium*) and Six-stamened Waterwort (*Elatine hexandra*). Other species recorded include the stonewort *Nitella flexilis*, the pondweeds *Potamogeton natans* and *P. perfoliatus* and Common Reed (*Phragmites australis*). The steep slopes surrounding the lough support a mosaic of heath, upland grassland, siliceous rocks and gully streams. Gorse (*Ulex* sp.) occurs at the base near the lake edge, while St. Patrick's Cabbage (*Saxifraga spathularis*), Hard Fern (*Blechnum spicant*) and a range of relatively rare mosses, including such species as *Radula holtii*, *R. carringtonii*, *R. voluta*, *Acrobolus wilsonii*, *Daltonia splachnoides*, *Lejeunea hibernica*, *Antitrichia curtipendula*, *Dumorteria hirsuta* and *Leptodontium recurvifolium*, occur on the slopes.

The two main rivers within the site, the Ownagappul and the Glanmore, have examples of floating river vegetation, a habitat that is listed on Annex I of the EU habitats Directive. The Ownagappul River runs from Glenbeg Lough to the sea at Cappul Bridge. This fast-flowing, acidic river has a stone/gravel bottom and supports plant species typical of such oligotrophic waters, such as Bulbous Rush (*Juncus bulbosus*), Alternate Water-milfoil (*Myriophyllum alterniflorum*), Lesser Spearwort (*Ranunculus flammula*) and the moss *Fontinalis antipyretica*. The headwater streams of the Glanmore River occur in the eastern sector of the site and this river system has Pondweeds (*Potamogeton* spp.) and *Ranunculus* species.

Killarney Fern (*Trichomanes speciosum*), an Annex II species under the EU Habitats Directive and a legally protected species under the Flora (Protection) Order, 1999, occurs within the site.

Chough, a species listed under Annex I of the EU Birds Directive is regularly found within the site and two pairs probably breed. Other birds noted are Dipper, Stonechat, Snipe and Raven.

The site includes a population of Freshwater Pearl-mussel (*Margaritifera margaritifera*), a species listed on Annex II of the EU Habitats Directive.

Landuse is confined to sheep grazing on the uplands and steeper slopes. Cattle graze some of the lower slopes at Glenbeg Lough and around Ardgroom. Fishing is carried out on the lake. Outside the site some afforestation has taken place, but little occurs within the catchment of Glenbeg Lough or the Ownagappul River.

SITE SYNOPSIS

SITE NAME: KENMARE RIVER SAC

SITE CODE: 002158

Kenmare River, Co. Kerry, is a long and narrow, south-west facing bay. It is a deep, drowned glacial valley and the bedrock is mainly Old Red Sandstone which forms reefs along the middle of the bay throughout its length. Exposure to prevailing winds and swells at the mouth diminishes towards the head of the bay. Numerous islands and inlets along the length of the bay provide further areas of additional shelter in which a variety of habitats and unusual communities occur.

Kenmare River has a very wide range of marine communities from exposed coast to ultra-sheltered areas. The site contains three marine habitats listed on Annex I of the EU Habitats Directive, namely reefs, large shallow bay and caves. There is also an extremely high number of rare and notable marine species present (24) and some uncommon communities. Kenmare River is the only known site in Ireland for the northern sea-fan, *Swiftia pallida* and is the only known area where this species and the southern sea-fan *Eunicella verrucosa* co-occur. Midway along the south coast of Kenmare River, a series of sea caves stretch back into the cliff. They typically support encrusting sponges, ascidians and bryozoans.

In the more exposed areas within Kenmare River the sublittoral sediment is composed mainly of coarse shelly sand and gravel forming small dunes frequently with sparse bivalves including *Lutraria*. In sheltered areas the muddy sand has communities characterised by burrowing megafauna. Some areas have the Norwegian Prawn *Nephrops norvegicus* and others the burrowing sea cucumber *Neopentadactlya mixta*. Kenmare River is one of only four known locations in Ireland for the burrowing anemone *Pachycerianthus multiplicatus*. Communities characterised by burrowing brittlestars including the uncommon *Ophiopsila annulosa* also occur. Red calcareous free living algae generally termed 'maerl' (also known as 'coral') occur in the sheltered bays and at one site the rare burrowing brittlestar *Amphiura securigera* occurs.

The Annex I habitat 'perennial vegetation of stony banks' is well represented at two locations within Kenmare River – Pallas Harbour and Rossdohan Island. Characteristic species recorded here include Thrift (*Armeria maritima*), Common Scurvygrass (*Cochlearia officinalis*), Rock Samphire (*Crithmum maritimum*) and Sea Campion (*Silene vulgaris* subsp. *maritima*). Beaches in outer Kenmare River are composed of coarse, mobile sand and have sand hoppers in the high shore and polychaete worms in the low shore. More sheltered coves, sometimes backed by sand dunes, have sandhoppers in the upper shore, lugworm (*Arenicola marina*) in the mid-shore and the razor shell *Ensis arcuatus* and the burrowing sea-urchin *Echinocardium cordatum* in the lower shore.

Within the Derrynane Bay area on the south side of the Iveragh Peninsula there are good examples of a number of habitats listed on Annex I of the EU Habitats Directive including dry heath, fixed dunes, marram dunes, sea cliffs and salt meadows (both

Atlantic and Mediterranean types). Of particular note within the dry heath habitat here is the occurrence of the rare Kerry Lily (*Simethis planifolia*) which, except for one recently discovered site in Co. Cork, is unknown in Ireland outside of the Derrynane area. Kerry Lily is protected under the Flora (Protection) Order 1999. Several other locally uncommon plant species add to the importance of this area: Chaffweed (*Anagallis minima*), Crowberry (*Empetrum nigrum*), Madder (*Rubia peregrina*) and Roseroot (*Rhodiola rosea*).

Fixed dunes, a priority habitat on the Habitats Directive, occur at Derrynane. In damp slacks amongst the sand dunes, the rare snail *Vertigo angustior* has been found. This species is listed on Annex II of the EU Habitats Directive. The nationally endangered and protected Red Data Book species, Natterjack Toad, has also been recorded from this area and, following a re-introduction programme, has re-established itself at the site.

Kenmare River holds an important population of Common Seal (maximum annual count of 121, including pups, since 1989). Some 40 of these frequent the Greenane Islands and Brennel Island groups. Otters are also known to occur within the site. Both the Common Seal and the Otter are listed on Annex II of the EU Habitats Directive. Two internationally important roosts of the Lesser Horseshoe Bat, another species listed on Annex II of the EU Habitats Directive, are included in the site: approximately 100 bats were recorded hibernating in a souterrain near Dunkerron in 2001, while over 100 bats have been counted in recent summers in a two-storey cottage near Killaha.

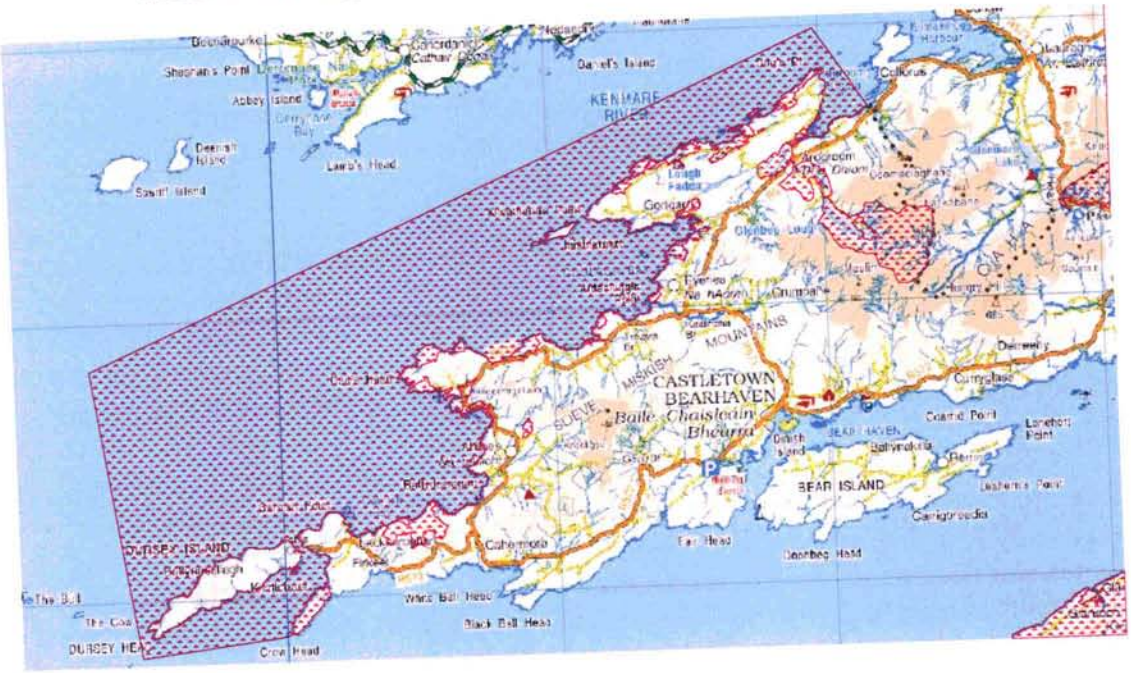
An Common/Arctic Tern (20+ pairs) have been recorded breeding on rocky islands in Derrynane Bay and on other islands within the site including Eyeries Island, Spanish Island and Brennel Island. In 1995 two pairs of the scarce Little Tern bred.

Recreational activities pose the greatest potential threat to many parts of Kenmare River. Within this large coastal site there are several resorts for water sports and a number of popular beaches. Bait digging is also a potential threat in some areas. Housing developments within the areas of dry heath present another possible threat to the integrity of the site. The seals and bats may be vulnerable to disturbance. Grazing at Derrynane is managed for the conservation of the dune habitats and the rare species they contain.

Kenmare River contains an exceptional complement of marine and terrestrial habitats, many of which are listed on Annex I of the EU Habitats Directive. The presence of a number of rare species, including two species listed on Annex II of the Directive and a protected plant, together with the ornithological interest of the area, adds further to the importance of the site.

20.8.2004

2 Map of Glanmore Bog SAC & Kenmare River SAC (Co Cork Only) & location of Ardgroom.



Treatment in Ardgroom is by means of a preliminary, primary and secondary treatment, with tertiary treatment taking place using UV Radiation. The plant discharges to the adjacent Owenagappul River which flows into Ardgroom Harbour. The treatment plant has a design pe of 400.

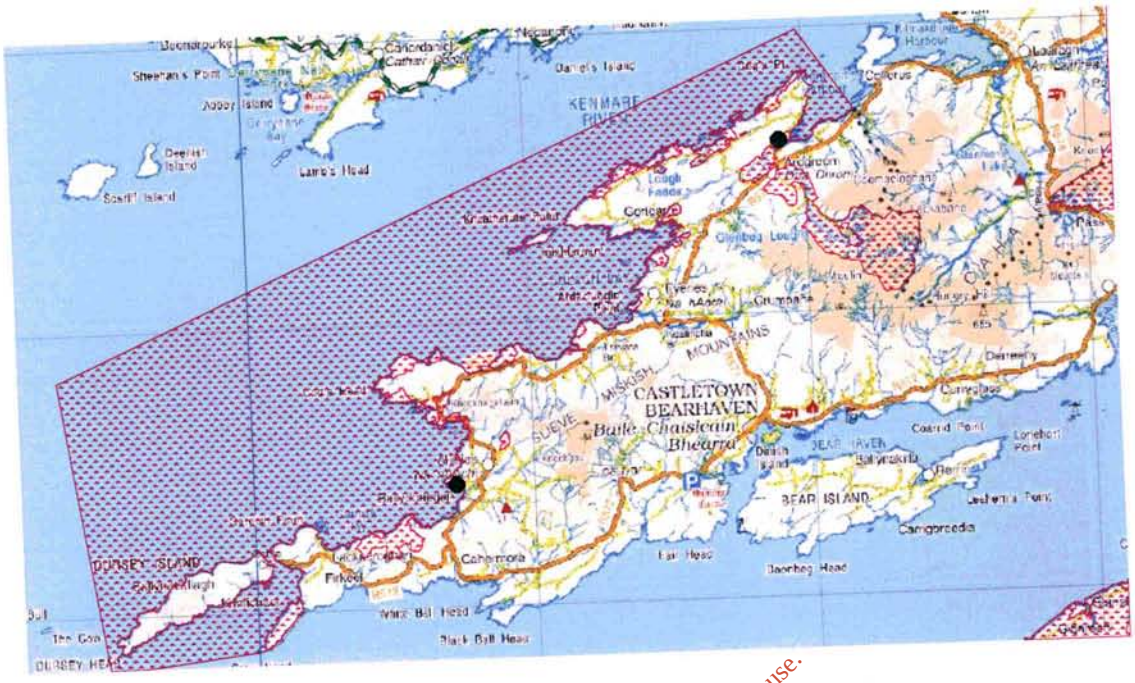
Appendix 2: Treated Effluent Quality Data 2009.

Attachment E4 Ardgroom analytical data for certification application

Sample Date	16/09/2009	16/09/2009		16/09/2009	16/09/2009		16/09/2009		16/09/2009
Sample	Influent to septic tank	Influent to WWTP		Effluent Discharge WWTP	Effluent Discharge Septic tank		River Upstream		River Downstream
Sample Code	GT1168	GT1170		GT1171	GT1169		GT1172		GT1173
Flow M^3/Day	No result	No result		No result	No result		No result		No result
pH	7.4	7.3		7.8	7.2		7.3		7.8
Temperature °C	No result	No result		No result	No result		No result		No result
Conductivity uS/cm 20°C	578	404		327	273		57		3.9
Suspended Solids mg/L	362	58		4	63		<2.5		<2.5
Ammonia-N mg/L	31.4	21.7		0.2	9		<0.1		<0.1
BOD mg/L	120	149		1	42		2		2
COD mg/L	462	214		24	214		<21		<21
TN-N mg/L	54.58	31.81		12.89	11.51		0.388		0.537
Nitrite-N mg/L	<0.1	<0.1		0.531	0.317		<0.1		<0.1
Nitrate-N mg/L	<0.5	<0.5		10.369	<0.5		<0.5		<0.5
TP-P mg/L	4.71	4.63		4.81	1.6		<0.05		<0.05
O-PO4-P mg/L	2.98	3.72		4.67	0.85		<0.05		<0.05
SO4 mg/L	<30	<30		<30	<30		<30		174.2
Phenols µg/L	No result	No result		<0.10	<0.10		No result		<0.10
Atrazine µg/L	No result	No result		<0.01	<0.01		No result		<0.01
Dichloromethane µg/L	No result	No result		<1	<1		No result		<1
Simazine µg/L	No result	No result		<0.01	<0.01		No result		<0.01
Toluene µg/L	No result	No result		<0.28	<0.28		No result		<0.28
Tributyltin µg/L	Not required	Not required		Not required	Not required		Not required		Not required
Xylenes µg/L	No result	No result		<0.73	<0.73		No result		<1
Arsenic µg/L	No result	No result		1.5	<0.96		No result		<0.96
Chromium ug/L	<20	<20		<20	<20		<20		<20
Copper ug/L	75.7	29.5		<20	<20		<20		<20
Cyanide µg/L	No result	No result		<5	<5		No result		<5
Fluoride µg/L	34	33		30	40		28		83
Lead ug/L	<20	<20		<20	<20		<20		<20
Nickel ug/L	<20	<20		<20	<20		<20		<20
Zinc ug/L	93.8	41		113.3	<20		<20		<20
Boron ug/L	<20	25.3		<20	<20		<20		<20
Cadmium ug/L	<20	<20		<20	<20		<20		254.4
Mercury µg/L	No result	No result		0.034	<0.03		No result		0.036
Selenium µg/L	No result	No result		<0.74	<0.74		No result		<0.74
Barium ug/L	26.5	<20		<20	<20		68.5		<20

Note samples analysed for Dangerous substances in discharge and downstream of discharge

Appendix 3:
Map showing locations of all discharges into Glanmore Bog SAC & Kenmare River SAC (Within Co Cork).



SECTION A: NON-TECHNICAL SUMMARY

Advice on completing this section is provided in the accompanying Guidance Note.

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the discharge of waste water associated with the waste water works. This description should also indicate, where applicable, the hours during which the waste water works is supervised or manned and days per week of this supervision.

The following information must be included in the non-technical summary:

A description of:

- the waste water works and the activities carried out therein,
- the sources of emissions from the waste water works,
- the nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works,
- further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused;
- measures planned to monitor emissions into the environment.

Supporting information should form **Attachment Nº A.1**

Non-Technical Summary

Ardgroom village is a small village located on the Beara peninsula north of Castetownbere in West Cork.

Waste water works and the activities carried out therein

The waste water in Ardgroom village was previously being treated via a septic tank located adjacent to the river Owenagappul, with a discharge into the river. A new wastewater treatment plant has recently been constructed for the village. The plant was constructed in 2008 as a joint venture between Cork County Council and a housing development in the village. Initially the new plant treated the wastewater from this housing development only but it has recently been connected to the village and is treating all wastewater within the agglomeration. This has resulted in the septic tank which was previously treating the wastewater from the village becoming redundant. The new wastewater treatment plant is located just north of the village. Treatment is by means of a preliminary, primary and secondary treatment, with tertiary treatment taking place using UV Radiation. The plant discharges to the adjacent Owenagappul River via 225mm diameter cast iron pipe.

Sources of emissions from the waste water works

The majority of the properties in the village are dwelling houses with the remainder being community based properties such as pubs, shops and church.

The existing PE is estimated at 220 peak summer population with a subsequent peak dry weather flow (DWF) of 48.4m^3 per day in the summer. A final effluent standard of 10 mg/l BOD; 15 mg/l SS is to be achieved from this new WWTP. For the purpose of this application the relevant PE chosen for the licence period is 400PE.

Nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment

The sources of wastewater in the village would all be considered domestic wastewater. The majority of the properties in the village are dwellings with the remainder being community based properties where all the wastewater from the properties would be considered domestic.

Proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works

The new wastewater treatment plant has a design pe of 400pe. The existing pe within the agglomeration is 220pe, (assuming a pe of 3 per dwelling). The new wastewater treatment plant is to be desludged regularly (approx every 3 months) by Cork County Council. The now redundant septic tank which up to recently treated all wastewater for the village had a design PE of 167.

Further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused;

At present all treatment plants under the control of Cork County Council are monitored and maintained by full time Cork County Council personnel and are desludged when deemed necessary, thus reducing the possibility of significant pollution. Ultraviolet Radiation treatment has been included in the new plant for the purposes of ensuring no negative impact on Ardgroom Harbour which is part of a designated Shellfish Area.

Measures planned to monitor emissions into the environment.

The emissions from new treatment plant can be monitored through the sampling points located in drawing ARDG B3–01 Rev A. The sampling point from the old septic tank (no longer in use) can be seen on drawing ARDG B4-01 Rev A.

AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.2, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
	√	

B.2 Location of Associated Waste Water Treatment Plant(s)

Give the location of the waste water treatment plant associated with the waste water works, if such a plant or plants exists.

New Wastewater Treatment Plant:

Name*:	Michael O'Driscoll
Address:	Cork County Council
	Foildarrig
	Castletownbere
	Co Cork
Grid ref (6E, 6N)	068945E, 055545N
Level of Treatment	Tertiary

*This should be the name of the person responsible for the supervision of the waste water treatment plant.

The village was connected to this new WWTP 12th Jan 2011.

Septic Tank:

Name*:	Michael O'Driscoll
Address:	Cork County Council
	Foildarrig
	Castletownbere
	Co Cork
Grid ref (6E, 6N)	068940E, 055193N
Level of Treatment	Primary

This tank is no longer accepts wastewater from the village of Ardgroom. The flow has been redirected to the new wastewater treatment plant listed above.

Attachment B.2 should contain appropriately scaled drawings / maps (≤A3) of the site boundary and overall site plan, including labelled discharge, monitoring and sampling points. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.1, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
	√	

B.3 Location of Primary Discharge Point

Give the location of the primary discharge point, as defined in the Waste Water Discharge (Authorisation) Regulation, associated with the waste water works.

Discharge to	Surface
Type of Discharge	225mm Cast Iron Pipe

Unique Point Code	SW01 - ARDG
Location	Ardgroom Outward
Grid ref (6E, 6N)	068941E, 055626N

Attachment B.3 should contain appropriately scaled drawings / maps (≤A3) of the discharge point, including labelled monitoring and sampling points associated with the discharge point. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing the drawings and tabular data requested in sections B.1, B.2, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	**Yes**	**No**
	√	

B.4 Location of Secondary Discharge Point(s)

Give the location of **all** secondary discharge point(s)* associated with the waste water works. Please refer to Guidance Note for information on Secondary discharge points.

Discharge to	Not Applicable
Type of Discharge	
Unique Point Code	
Location	
Grid ref (6E, 6N)	

*Where a septic tank is in existence simultaneous to a package plant within an agglomeration, discharges from the septic tank shall be considered as a secondary discharge.

Attachment B.4 should contain appropriately scaled drawings / maps (≤A3) of the discharge point(s), including labelled monitoring and sampling points associated with the discharge point(s). These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.5, C.1, D.2, E.3 and F.2.

Attachment included	**Yes**	**No**
	√	

B.5 Location of Storm Water Overflow Point(s)

Give the location of **all** storm water overflow point(s) associated with the waste water works.

Type of Discharge	Not Applicable
Unique Point Code	
Location	
Grid ref (6E, 6N)	

D.1(ii) Discharges to Groundwater

Details of all discharges of waste water from the agglomeration should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Discharge Point Details', 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions', should be completed for the primary discharge point from the agglomeration and for **each** secondary discharge point, where relevant. Table 'Discharge Point Details' should be completed for **each** storm water overflow. Individual Tables must be completed for each discharge point.

Where monitoring information is available for the influent to the waste water treatment plant this data should also be provided in response to Section D.1(ii).

Supporting information should form **Attachment D.1(ii)**

Attachment included	Yes	No
		√

D.1 (iii) Private Waste Water Treatment Plants

Provide information on all independently owned/operated private waste water treatment plants operating within the agglomeration. Submit a copy of the Section 4 discharge licence issued under the Water Pollution Acts 1977 to 1990, as amended for each discharge.

There are no private waste water treatment plants within the agglomeration boundary.

D.2 Tabular Data on Discharge Points

Applicants should submit the following information for each discharge point:

Table D.2:

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
Point Code Provide label ID's	Point Type (e.g., Primary/ Secondary/ Storm Water Overflow)	Local Authority Name (e.g., Donegal County Council)	Receiving Water Body Type (e.g., River, Lake, Groundwater, Transitional, Coastal)	Receiving Water Body Name (e.g., River Suir)	Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.)	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference
SW01	Primary	Cork County Council	River	Owenagappul River	SAC, pNHA	068941	055626

An individual record (i.e. row) is required for each discharge point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, E.3 and F.2.

E.3. Tabular data on Monitoring and Sampling Points

Applicants should submit the following information for each monitoring and sampling point:

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
Point Code Provide label ID's assigned in section E of application	Point Type (e.g., Primary, Secondary, Storm Water Overflow)	Monitoring Type M = Monitoring S = Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used
SW01	Primary	Sampling	068943	055550	N
aSW01-u	Upstream	Sampling	069010	054997	N
aSW01-d	Downstream	Sampling	069010	055721	N
SW02 (previously SW01)	Redundant (discharge from old septic tank)	Sampling	068940	055193	N

Note change in Point Code Label ID for Primary Discharge point. Use grid reference to confirm correct locations of sampling information.

An individual record (i.e., row) is required for each monitoring and sampling point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, D.2 and F.2.

E.4 Sampling Data

Regulation 24(i) of the Waste Water Discharge (Authorisation) Regulations 2007 requires all applicants in the case of an existing discharge to specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application.

Regulation 24(m) requires applicants to give details of compliance with any applicable monitoring requirements and treatment standards.

Attachment E.4 should contain any supporting information.

Attachment included	Yes	No
	√	

Highest Point to which Ordinary Tides flow

WWTP SITE LOCATION
E: 068945
N; 055545

SEPTIC TANK IS NOW REDUNDANT

SEPTIC TANK LOCATION
E: 068940
N; 055193

15.1
17.1
18.7
20.3
21.8
22.5
34.6
31.1

Church(Cath)
Ardgroom
Dwnagappul
10KV
CS

NOTES

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NORTH

LEGEND

AGGLOMERATION BOUNDARY

WWTP SITE BOUNDARY

No.	Date	Drwn	Chkd	Revision Description
A	Jun 2011	OOB		Notes added

Cork County Council, Western Division.

N.O'MAHONY,B.E.,
SENR.ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

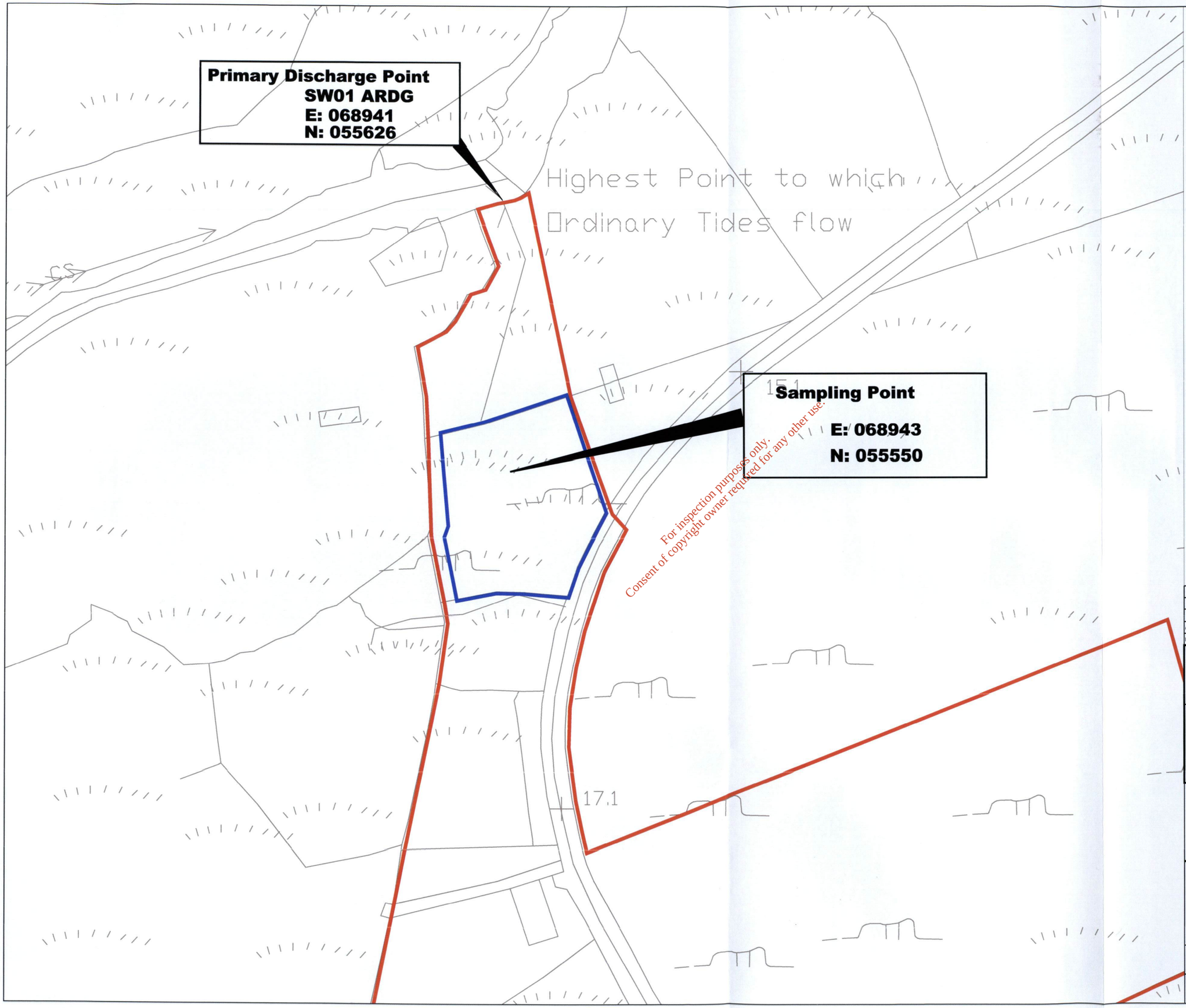
M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
ARDGROOM_WASTE_WATER DISCHARGE_CERTIFICATE APPLICATION

Drawing Title:
ATTACHMENT_B.2 WASTE_WATER TREATMENT_PLANT SITE_LOCATION

Prepared By:	Checked By:	Date:
OOB	DG	JULY.2009

Drawing number:	Scales:	Rev:
ARDG_B2_01	1/2000	A



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NORTH

LEGEND

AGGLOMERATION BOUNDARY

WWTP SITE BOUNDARY

No.	Date	Drwn	Chkd	Revision Description
A	Jan 2011	OOB		Secondary Discharge Point changed to Primary Discharge Point

Cork County Council, Western Division.

N.O'MAHONY,B.E.,
SENR.ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

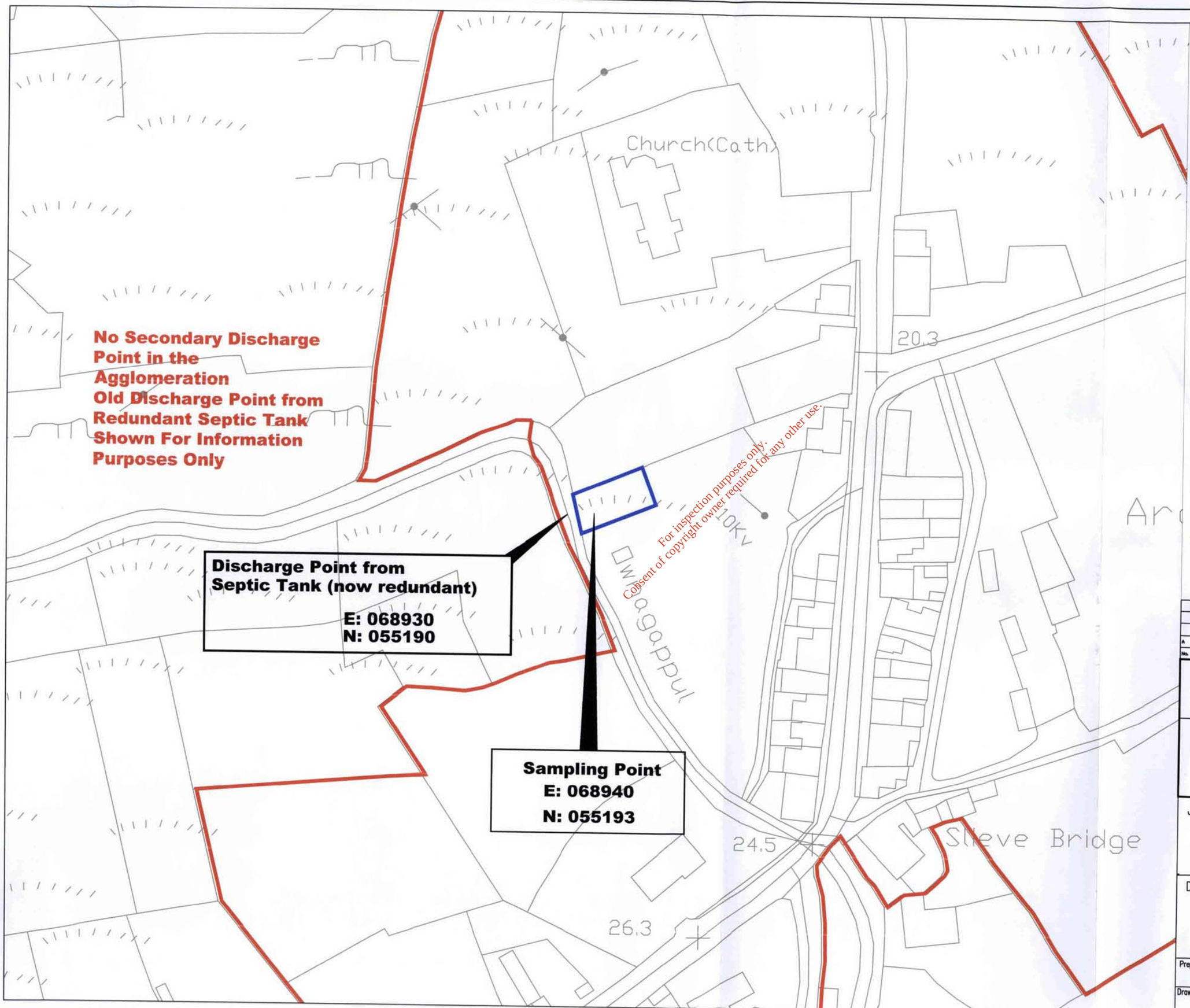
M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
ARDGROOM_WASTE_WATER DISCHARGE_CERTIFICATE APPLICATION

Drawing Title:
ATTACHMENT_B.3
PRIMARY_DISCHARGE_POINT LOCATION_PLAN

Prepared By:	Checked By:	Date:
OOB	DG	JULY.2009

Drawing number:	Scales:	Rev:
ARDG_B3_01	1/1000	A



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NORTH

LEGEND

AGGLOMERATION BOUNDARY

WWTP SITE BOUNDARY

No.	Date	Drwn	Chkd	Revision Description
A	Jan 2011	OOB		Removal of Secondary Discharge Point – Septic tank decommissioned

Cork County Council,
Western Division.

N.O'MAHONY,B.E.,
SENR.ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
ARDGROOM_WASTE_WATER DISCHARGE_CERTIFICATE APPLICATION

Drawing Title:
ATTACHMENT_B.4
SECONDARY_DISCHARGE_POINT LOCATION_PLAN

Prepared By:	Checked By:	Date:
OOB	DG	JULY.2009
Drawing number: ARDG_B4_01	Scales: 1/1000	Rev: A