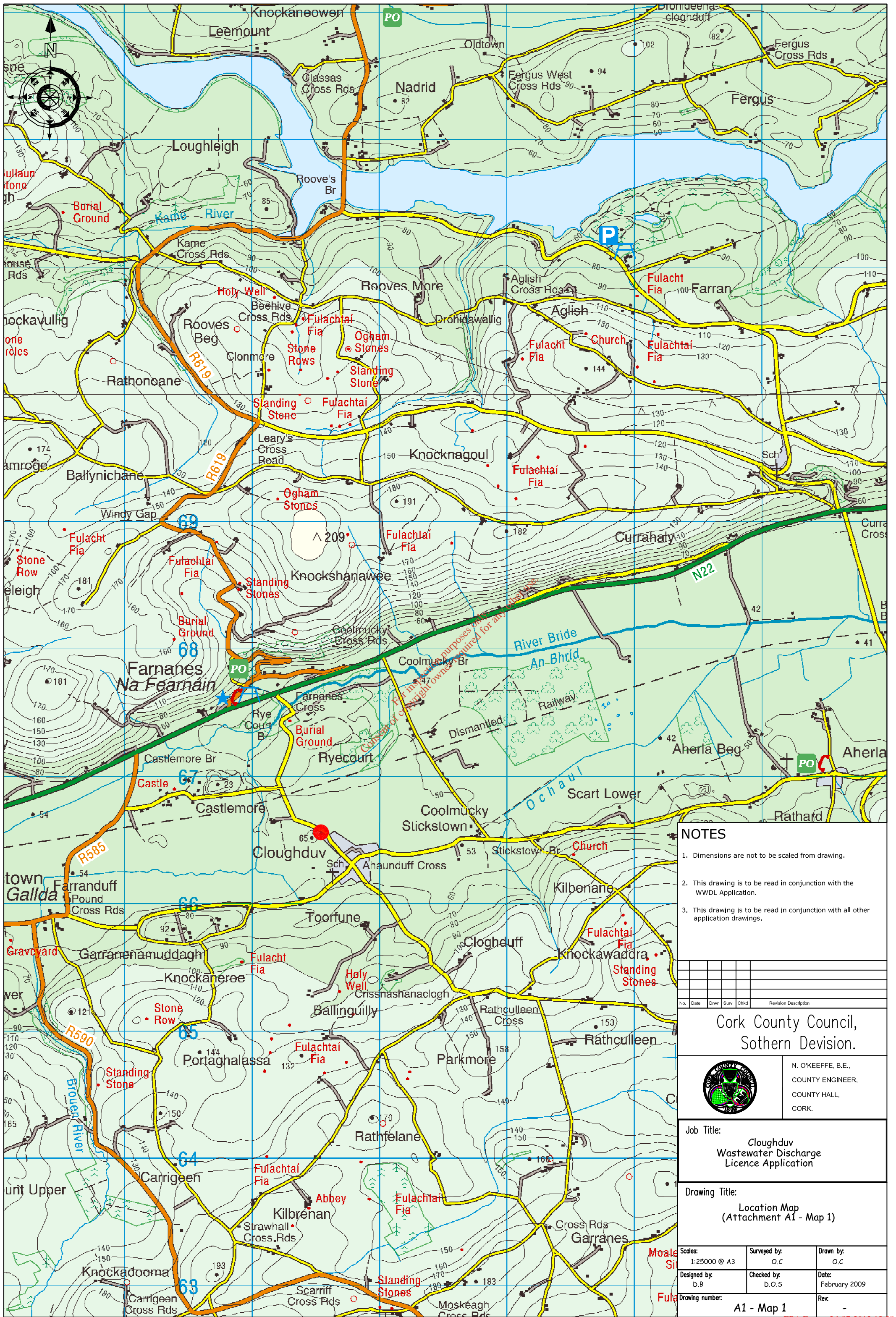


Attachments Table of Contents:

Attachment	Description
A1 Map 1	1:25,000 Location Map
A1 Map 2	Site Location of WWTP & Pumping Stations
A1 Map 3	Existing Site Layout
A1 Map 4	Proposed Site Layout
B1 Map 5	Agglomeration Boundary
B2 Map 6	Location of WWTP
B3 Map 7	Location of Existing Primary Discharge Point
B3 Map 8	Location of Proposed Primary Discharge Point
B4 Map 9	Location of Proposed Secondary discharge Point
B5	Not Applicable
B6	Part VIII Planning
B7	Not Applicable
B8 Map 10	Location of Site Notice
B8	Notice and Advertisement
B10	WSIP Programme
B11	Not Applicable
B12	Not Applicable
C1 Map 11	Location of WWTP
C1 Drg 1	Schematic Showing Existing Treatment Plant Process
C1 Drg 2	Schematic Showing Proposed Treatment Plant Process
C2 Map 12	Location of Discharge Outfalls
C2 Drg 3	Head Wall Detail and Long Section of Proposed Outfall
Section D2	Discharge Points
E2	Details of Accreditation or Certification of Analysis
Section E3	Monitoring & Sampling Points
E4	Monitoring Data
F1	Laboratory Test Results Dixon Brosnan River Bride Assessment SWRBD Status Report Upstream & Downstream Sampling
F1 Map 13	Extent of the Water Body (River Bride)
F2	Not Applicable
G1	WSIP Programme Funding Approval for Service Land Initiative
G2	WSIP Programme Laboratory Test Results
G3	WSIP Programme
G4	Not Applicable
Online Data	Online Data submitted to the EPA including Annex



- NOTES**
1. Dimensions are not to be scaled from drawing.
 2. This drawing is to be read in conjunction with the WWDL Application.
 3. This drawing is to be read in conjunction with all other application drawings.

No.	Date	Drawn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.

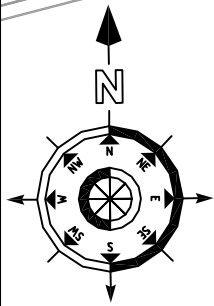


N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Location Map
(Attachment A1 - Map 1)

Scales: 1:25000 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: A1 - Map 1	Rev: -	



Waste Water Treatment Plant

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Templemartin Dispy School

Pumping Station

Aharuff Cross

Church

NOTES

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No.	Date	Drwn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.

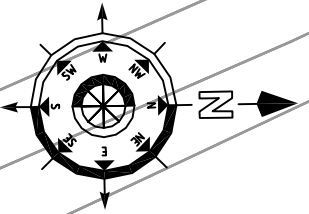


N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Site Location of W.W.T.P
& Pumping Station
(Attachment A1 - Map 2)

Scales: 1:2500 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: A1 - Map 2	Rev:	-



NOTES

1. Dimensions are not to be scaled from drawing.
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No.	Date	Drawn	Surv.	Checked	Revision Description

**Cork County Council,
Southern Division.**

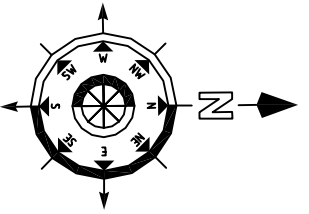


**N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.**

Job Title:
Cloughduv
Wastewater Discharge
Licence Application


Drawing Title:
Existing Site Layout
Attachment A1 - Map 3

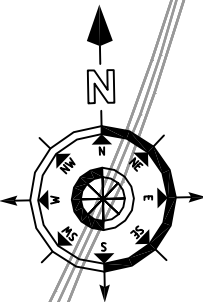
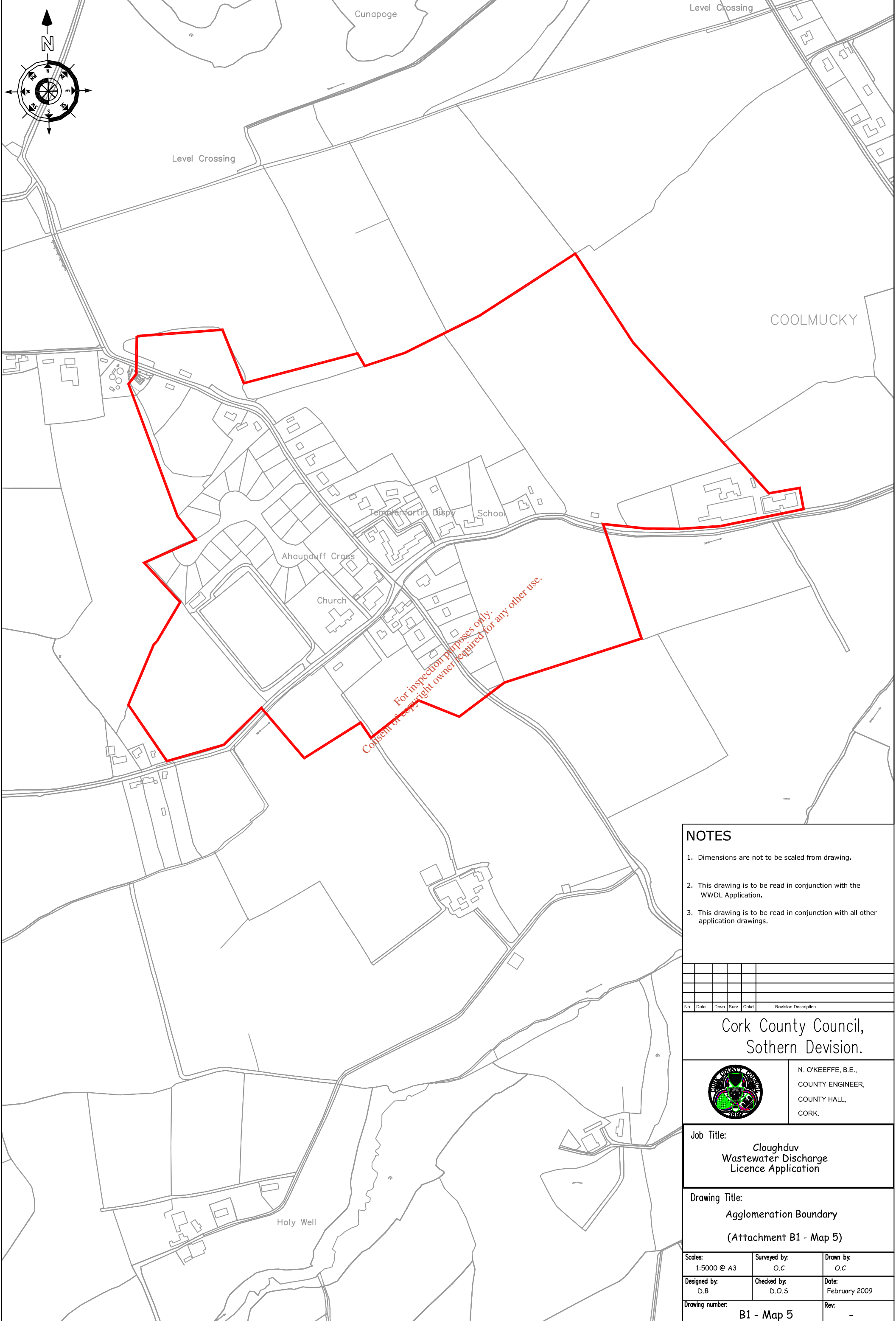
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Designed by: D.B.	Checked by: D.O.S.	Date: February 2009
Drawing number: A1 - Map 3	Rev: -	



NOTES

1. Dimensions are not to be scaled from drawing.
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3. This drawing is to be read in conjunction with all other application drawings.

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No.	Date	Drawn	Sized	Checked	Revision Description																									
Designed by: D.B	Checked by: D.O.S																													
Drawn by: O.C	Date: February 2009																													



- NOTES**
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No.	Date	Drwn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.

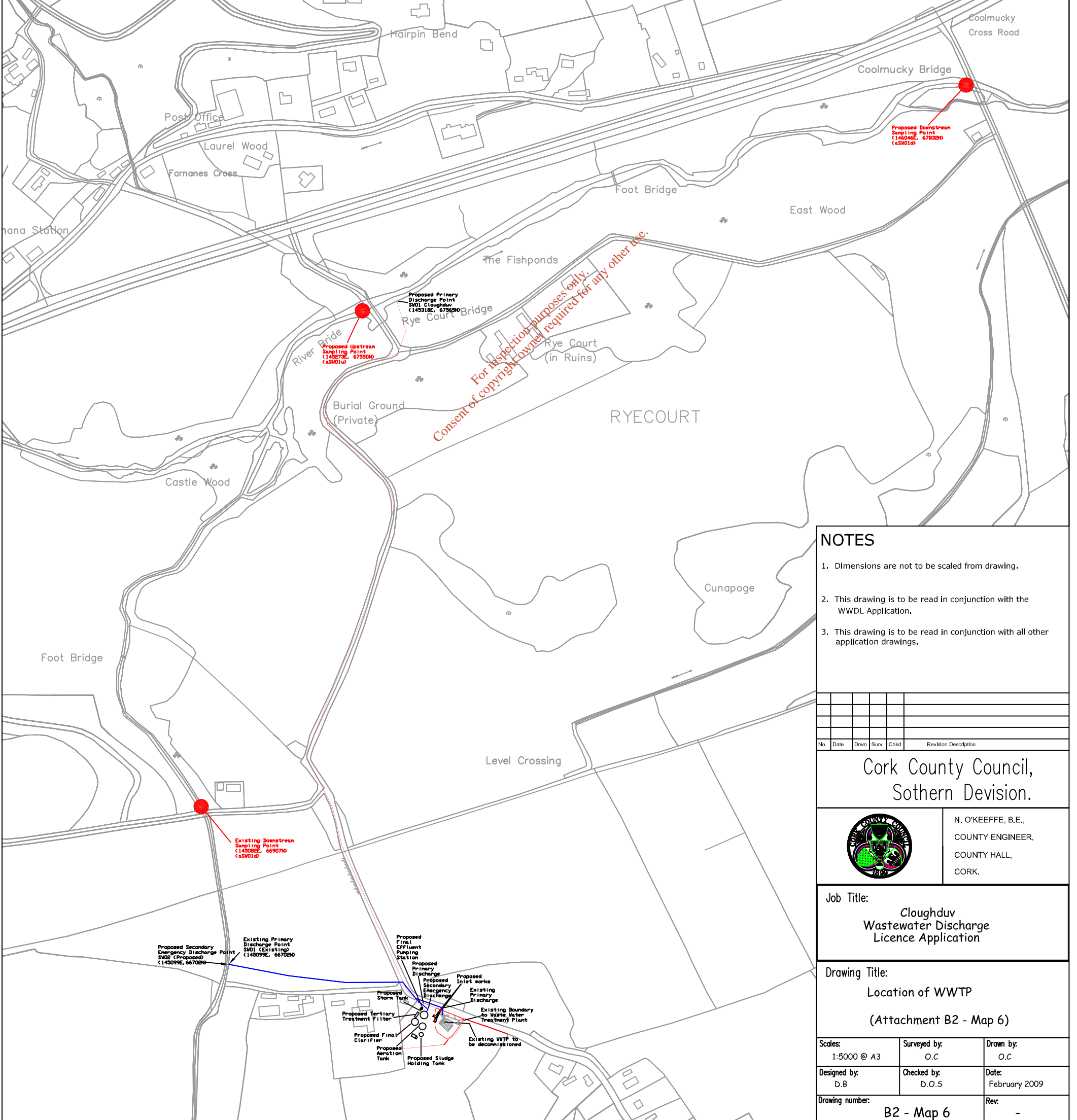
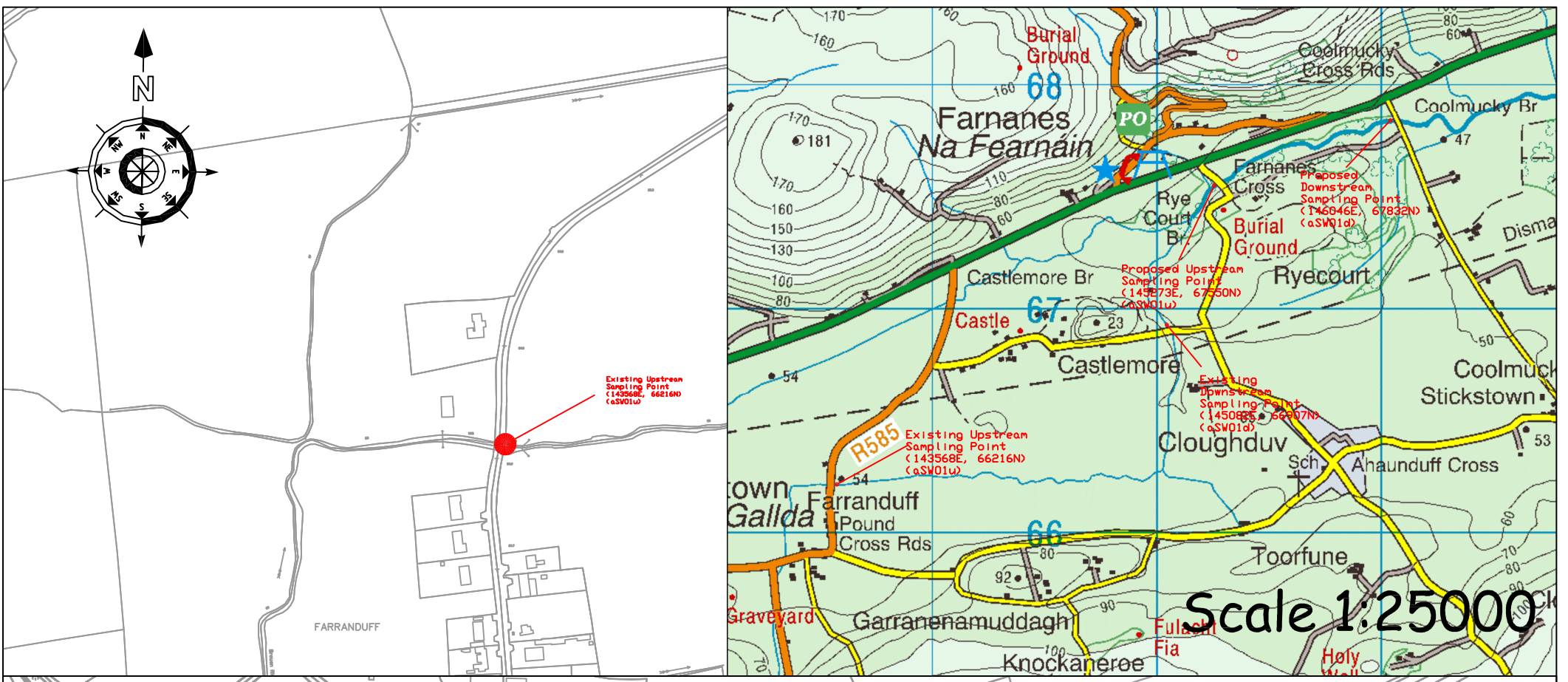


N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Agglomeration Boundary
(Attachment B1 - Map 5)


Scales: 1:5000 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: B1 - Map 5	Rev: -	



- NOTES**
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No.	Date	Drwn	Surv	Chkd	Revision Description

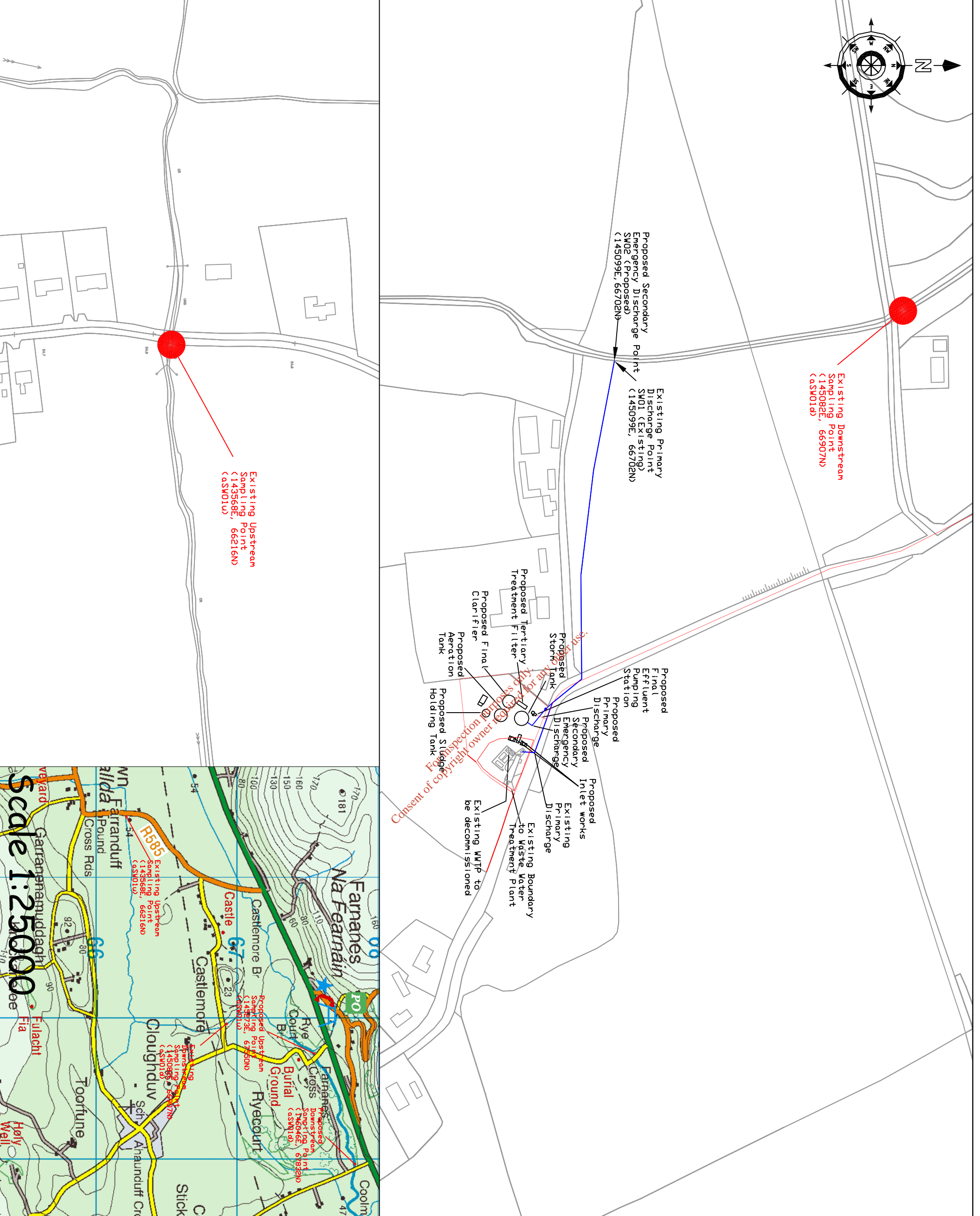
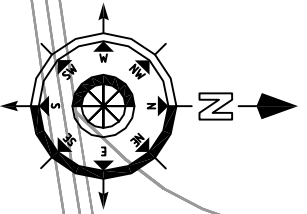
Cork County Council,
Sothern Devison.

 N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Location of WWTP
(Attachment B2 - Map 6)

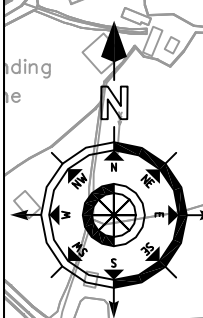
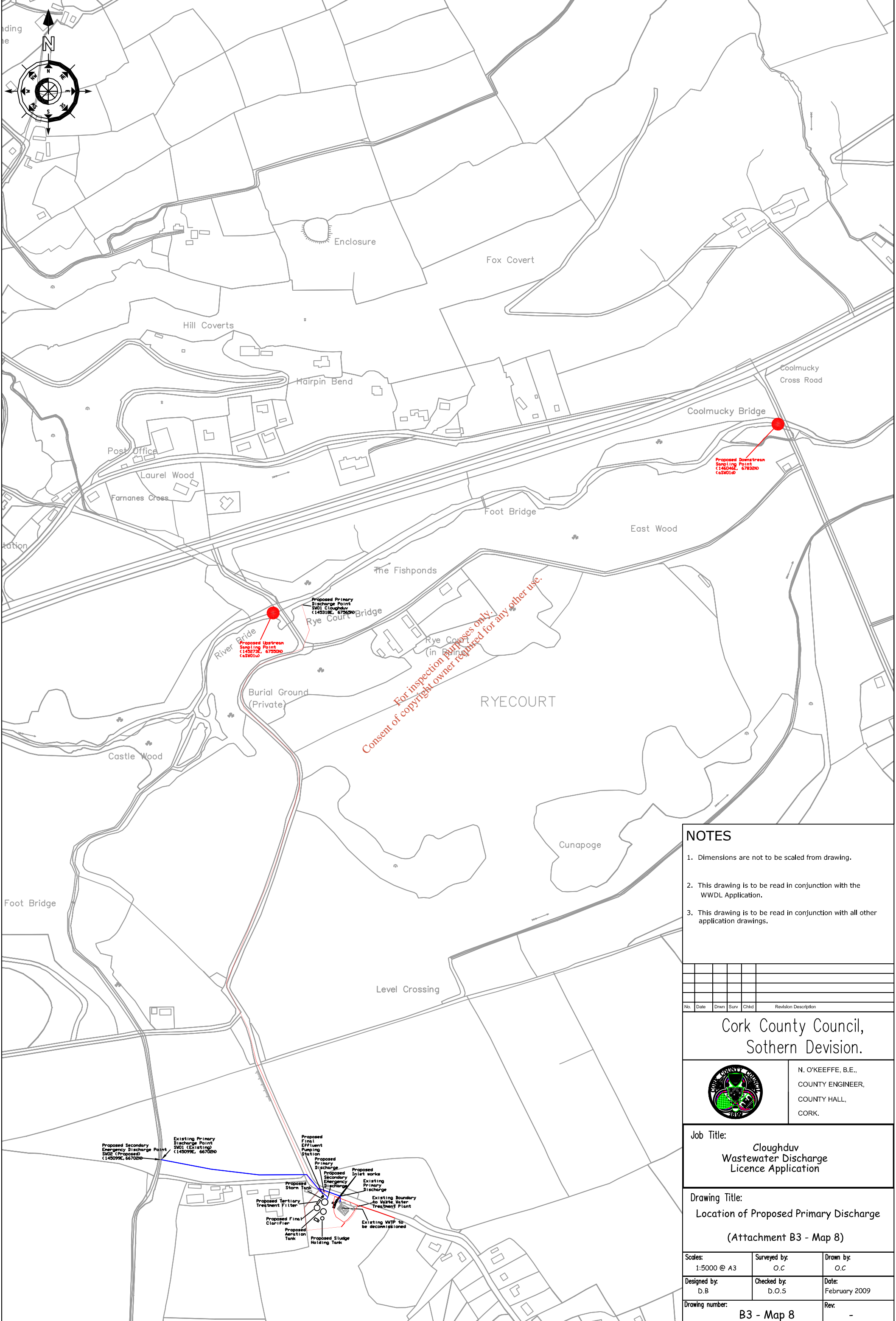
Scales: 1:5000 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: B2 - Map 6	Rev: -	



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<h2 style="margin: 0;">NOTES</h2> <ol style="list-style-type: none"> 1. Dimensions are not to be scaled from drawing. 2. This drawing is to be read in conjunction with the WWDL Application. 3. This drawing is to be read in conjunction with all other application drawings. 			
<h3 style="margin: 0;">Cork County Council, Southern Division.</h3>			
<p style="margin: 0;">N. O'KEEFFE, B.E., COUNTY ENGINEER, COUNTY HALL, CORK.</p>			
<p>Job Title: Cloughduv Wastewater Discharge Licence Application</p>			
<p>Drawing Title: Location of Existing Primary Discharge Attachment B3 - Map 7</p>			
<p>Scales: 1:2500 @ A3</p>		<p>Drawn by: O.C.</p>	
<p>Designed by: D.B.</p>		<p>Checked by: D.O.S.</p>	
<p>Drawing number: B3 - Map 7</p>		<p>Date: February 2009</p>	
		<p>Rev: -</p>	



- NOTES**
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 3. This drawing is to be read in conjunction with all other application drawings.

No.	Date	Drwn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.

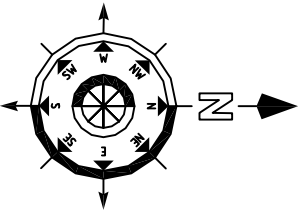


N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
**Cloughduv
Wastewater Discharge
Licence Application**

Drawing Title:
**Location of Proposed Primary Discharge
(Attachment B3 - Map 8)**

Scales: 1:5000 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: B3 - Map 8	Rev:	-

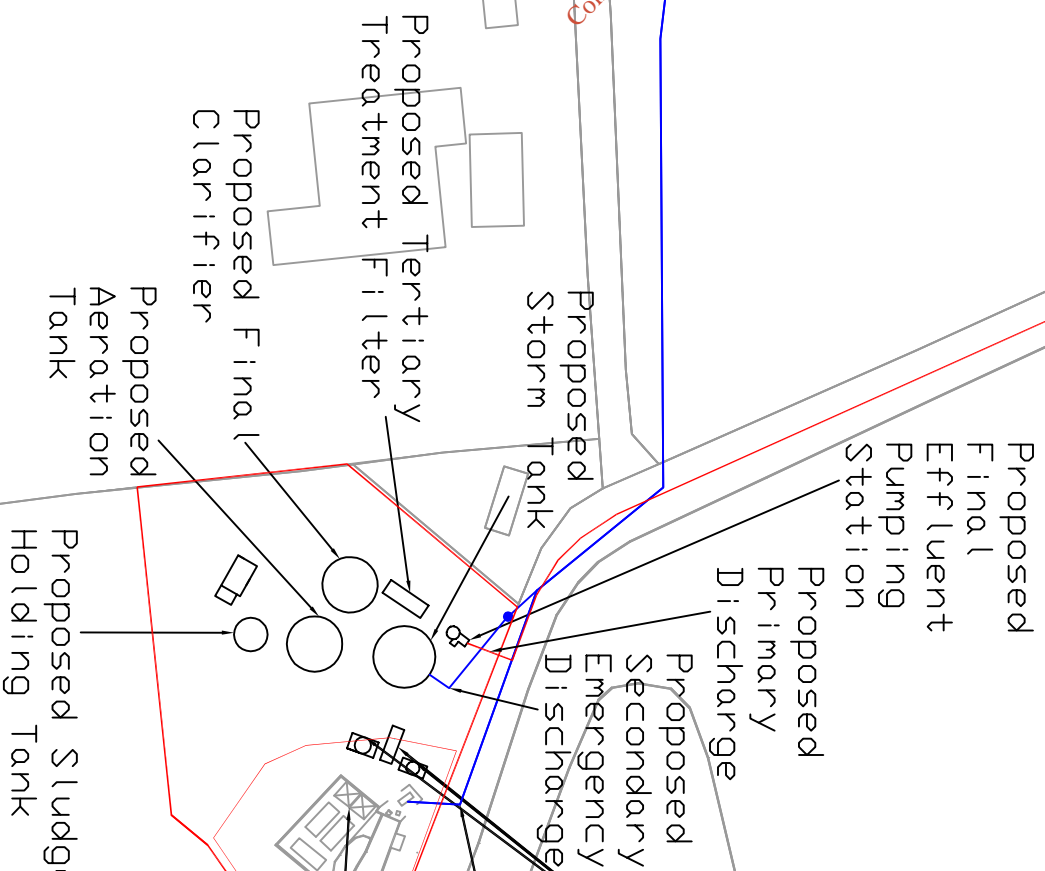


Existing Downstream
Sampling Point
(145082E, 66907N)
(aSW01d)

Proposed Secondary
Emergency Discharge Point
SW02 (Proposed)
(145099E, 66702N)

Existing Primary
Discharge Point
SW01 (Existing)
(145099E, 66702N)

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NOTES

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3. This drawing is to be read in conjunction with all other application drawings.

No.	Date	Drawn	Issue	Checked	Revision Description

Cork County Council,
Southern Division.



N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Location of Proposed Secondary Discharge
Attachment B4 - Map 9

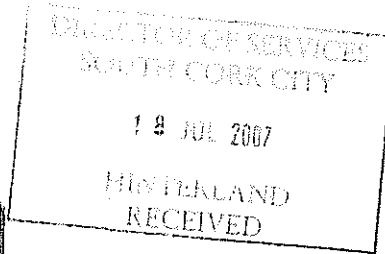
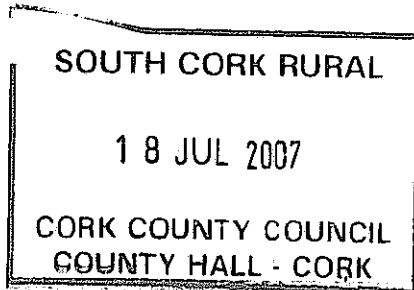
Scales:	1:1250 @ A3	Surveyed by:	O.C.	Drawn by:	O.C.
Designed by:	D.B.	Checked by:	D.O.S.	Date:	February 2009
Drawing number:	B4 - Map 9	Rev:	-		

Comhairle Contae Chorcaí
Cork County Council

County Hall,
Cork, Ireland.
Tel: (021) 4276891 • Fax: (021) 4276321
Web: www.corkcoco.ie
Halla an Chontae,
Corcaigh, Éire.
Fón: (021) 4276891 • Faics: (021) 4276321
Suíomh Gréasáin: www.corkcoco.ie



Mr. Kevin O'Regan
Administrative Officer
Water Services Capital
South Cork Rural
Floor 4.



17th July, 2007.

Re: Report under Article 179(3)(b) of the Planning & Development Act, 2000.
Report under Article 81 of the Planning & Development Regulations, 2001.

Proposed Extension/Upgrade to the Wastewater Treatment Plant in
Cloughduv, Co. Cork.

At the meeting of Cork County Council held on 9th July, 2007, the recommendation of
the Southern Committee was approved in respect of the above.

I attach copy letter dated 9th July, 2007, from the Senior Executive Officer,
Corporate Affairs.

S. O'Donnell
P.P. VALERIE HAYES
A/SENIOR EXECUTIVE OFFICER
SOUTH CORK HINTERLAND.

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Comhairle Contae Chorcaí
Cork County Council

Ms. Valerie Hayes,
A/Senior Executive Officer,
South Cork – City Hinterland.

County Hall,
Cork, Ireland.
Tel: (021) 4276891 • Fax: (021) 4276321
Web: www.corkcoco.ie
Halla an Chontae,
Corcaigh, Éire.
Fón: (021) 4276891 • Faics: (021) 4276321
Suíomh Gréasáin: www.corkcoco.ie



Direct Dial: 021-4285457
Email: helen.bowman@corkcoco.ie

9th July, 2007.

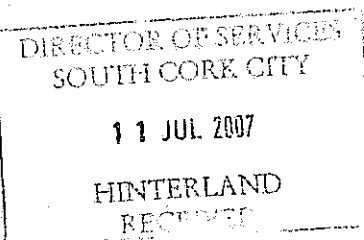
Re: Report under Article 179(3)(b) of the Planning & Development Act, 2000

- Proposed extension to the Waste Water Treatment Plant and Construction of an Underground Pumping Station at Killeens, Co. Cork.
- Proposed extension/upgrade to the Waste Water Treatment Plant in Cloughduv, Co. Cork.
- Construction of 3 no. Houses at Richmond Court, Bandon, Co. Cork.
- Proposed Construction of a Waste Water Treatment Plant at Mogeely, Co. Cork.

I refer to your letter dated 19th June, 2007, in connection with the above.

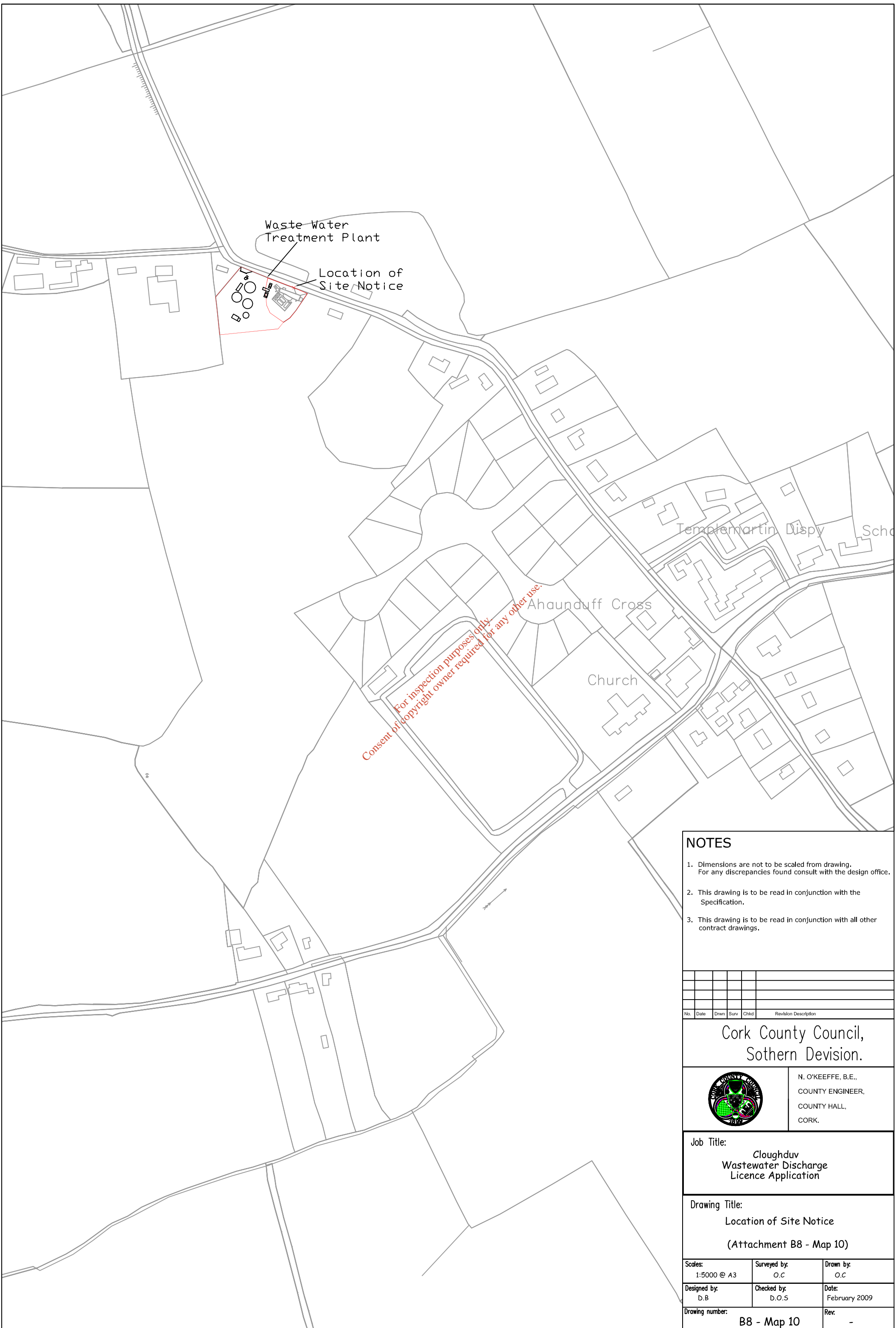
At the meeting of Cork County Council held on 9th July, 2007 the recommendations of the Southern Committee were approved.

MAURICE MANNING,
SENIOR EXECUTIVE OFFICER.



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NOTES

- 1. Dimensions are not to be scaled from drawing. For any discrepancies found consult with the design office.
- 2. This drawing is to be read in conjunction with the Specification.
- 3. This drawing is to be read in conjunction with all other contract drawings.

No.	Date	Drwn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.



N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Location of Site Notice
(Attachment B8 - Map 10)

Scales: 1:5000 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: B8 - Map 10	Rev:	-

Newspaper Advertisement

Cork County Council Southern Division

**APPLICATION TO THE ENVIRONMENTAL
PROTECTION AGENCY FOR A WASTEWATER
DISCHARGE LICENCE**

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, Water Services Southern Division of Cork County Council, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the Agglomeration of Cloughduv at the following locations:

Plant Name	Location	National Grid Ref.
Cloughduv WWTP	Coolmucky, Cloughduv	E145395 N066630

Discharge	Function	Townland	Receptor	Grid Reference
Primary	Main	Coolmucky	River Brouen	E145099 N066702
Primary (Proposed)	Main	Ryecourt	River Bride	E145318 N067565

A copy of the application for the Waste Water Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall as soon as is practicable after receipt by the Agency be available for inspection or purchase at the

- **Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335599 Telephone: 053-9160600 Fax: 053-9160699 Email:info@epa.ie**

and at

- **Cork County Council Offices, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Telephone: 021 - 4276891 Fax: 021 - 4276321.**

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above

Cork County Council Southern Division



CORK COUNTY COUNCIL

SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, Water Services Southern Division of Cork County Council, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the Agglomeration of Cloughdub at the following locations:

Plant Name	Location	National Grid Ref.
Cloughdub WWTP	Coolmucky, Cloughdub	E145395 N066630

Discharge	Function	Townland	Receptor	Grid Reference
Primary	Main	Coolmucky	River Brouen	E145099 N066702
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and at

- **Cork County Council Offices, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Telephone: 021 - 4276891 Fax: 021 - 4276321.**

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above

Cork County

Water Services Investment Programme 2007 - 2009

Schemes at Construction	W/S	Est. Cost	Schemes to start 2009 contd.	W/S	Est. Cost
Cork North			Cork South		
Mitchelstown Sewerage Scheme (Nutrient Removal)	S	221,000	Ballincollig Sewerage Scheme (Upgrade) (G)	S	22,248,000
Cork South			Cork Lower Harbour Sewerage Scheme (excl. Crosshaven SS)	S	73,542,000
Ballyvourney/ Ballymakeery Sewerage Scheme	S	3,049,000	Shannagarry/ Garryvoe/ Ballycotton Sewerage Scheme	S	3,780,000
Cobh/ Midleton/ Carrigtwohill Water Supply Scheme	W	10,135,000	Youghal Sewerage Scheme	S	14,420,000
Cork Lower Harbour Sewerage Scheme (Crosshaven SS) (G)	S	4,850,000	Cork West		
Cork Water Strategy Study (G)	W	941,000	Ballydehob Sewerage Scheme	S	683,000
Kinsale Sewerage Scheme	S	20,000,000	Bantry Water Supply Scheme	W	14,935,000
Midleton Sewerage Scheme (Infiltration Reduction) (G)	S	2,078,000	Clonakilty Sewerage Scheme (Plant Capacity Increase)	S	3,677,000
		41,274,000	Courtmacsherry/ Timoleague Sewerage Scheme	S	2,472,000
Schemes to start 2007			Dunmanway Regional Water Supply Scheme Stage 1	W	12,669,000
					164,629,000
Cork North			Serviced Land Initiative		
North Cork Grouped DBO Wastewater Treatment Plant (Buttevant, Doneraile & Kilbrin)	S	5,150,000	Cork North		
Cork West			Ballycough Water Supply Scheme	W	139,000
Skibbereen Sewerage Scheme	S	20,000,000	Ballyhooley Improvement Scheme	W/S	139,000
		25,150,000	Broghill-Rathgoggin Sewerage Scheme	S	406,000
Schemes to start 2008			Bweeng Water Supply Scheme	W	115,000
Cork North			Churchtown Sewerage Scheme (incl. Water)	W/S	543,000
Mallow/ Ballyvinter Regional Water Supply Scheme (H) W		8,662,000	Clondulane Sewage Treatment Plant	S	417,000
Mallow Sewerage Scheme (H)	S	3,408,000	Freemount Sewerage Scheme	S	150,000
Cork South			Pike Road Sewerage Scheme (incl. Water)	W/S	2,080,000
Ballincollig Sewerage Scheme (Nutrient Removal) (G)	S	948,000	Rathcormac Sewerage Scheme (incl. Water)	W/S	555,000
Ballingeary Sewerage Scheme	S	1,296,000	Spa Glen Sewerage Scheme	S	736,000
Bandon Sewerage Scheme Stage 2	S	14,729,000	Uplands Fermoy Sewerage Scheme (incl. Water)	W/S	1,174,000
City Environs (CASP) Strategic Study (G)	S	153,000	Watergrasshill Water Supply Scheme (incl. Sewerage) (G)	W/S	4,151,000
Cloghroe Sewerage Scheme (Upgrade)	S	683,000	Cork South		
Coachford Water Supply Scheme	W	1,318,000	Ballincollig Sewerage Scheme (Barry's Rd Foul and Storm Drainage) (G)	S	1,164,000
Garretstown Sewerage Scheme	S	2,153,000	Belgooley, Water Supply Scheme (incl. Sewerage)	W/S	2,913,000
Inniscarra Water Treatment Plant Extension Phase 1	W	2,678,000	Blamey Water Supply Scheme (Ext. to Station Rd) (G)	W	416,000
Little Island Sewerage Scheme (G)	S	2,200,000	Carrigtwohill Sewerage Scheme (Treatment and Storm Drain) (G)	S	7,632,000
Cork West			Castlematyr Wastewater Treatment Plant Extension	S	1,200,000
Bantry Sewerage Scheme	S	7,148,000	Crookstown Sewerage Scheme (incl. Water)	W/S	1,200,000
Dunmanway Sewerage Scheme	S	2,153,000	Dripsey Water Supply Scheme (incl. Sewerage)	W/S	1,112,000
Leap/ Baltimore Water Supply Scheme	W	6,365,000	Glounthane Sewerage Scheme (G)	S	1,576,000
Schull Water Supply Scheme	W	5,253,000	Innishannon Sewerage Scheme	S	277,000
		61,137,000	Innishannon Wastewater Treatment Plant	S	694,000
Schemes to start 2009			Kerrypike Sewerage Scheme	S	832,000
Cork North			Kerrypike Water Supply Scheme	W	416,000
Banteer/Dromahane Regional Water Supply Scheme	W	1,576,000	Killeagh Wastewater Treatment Plant Extension	S	1,200,000
Conna Regional Water Supply Scheme Extension	W	2,627,000	Killeagh Water Supply Scheme (includes Sewerage)	W/S	485,000
Cork NE Water Supply Scheme	W	4,326,000	Killeens Sewerage Scheme	S	420,000
Cork NW Regional Water Supply Scheme	W	6,046,000	Kinagleary Sewerage Scheme	S	694,000
Millstreet Wastewater Treatment Plant (Upgrade)	S	1,628,000	Midleton Wastewater Treatment Plant Extension	S	4,050,000

Cork County contd.

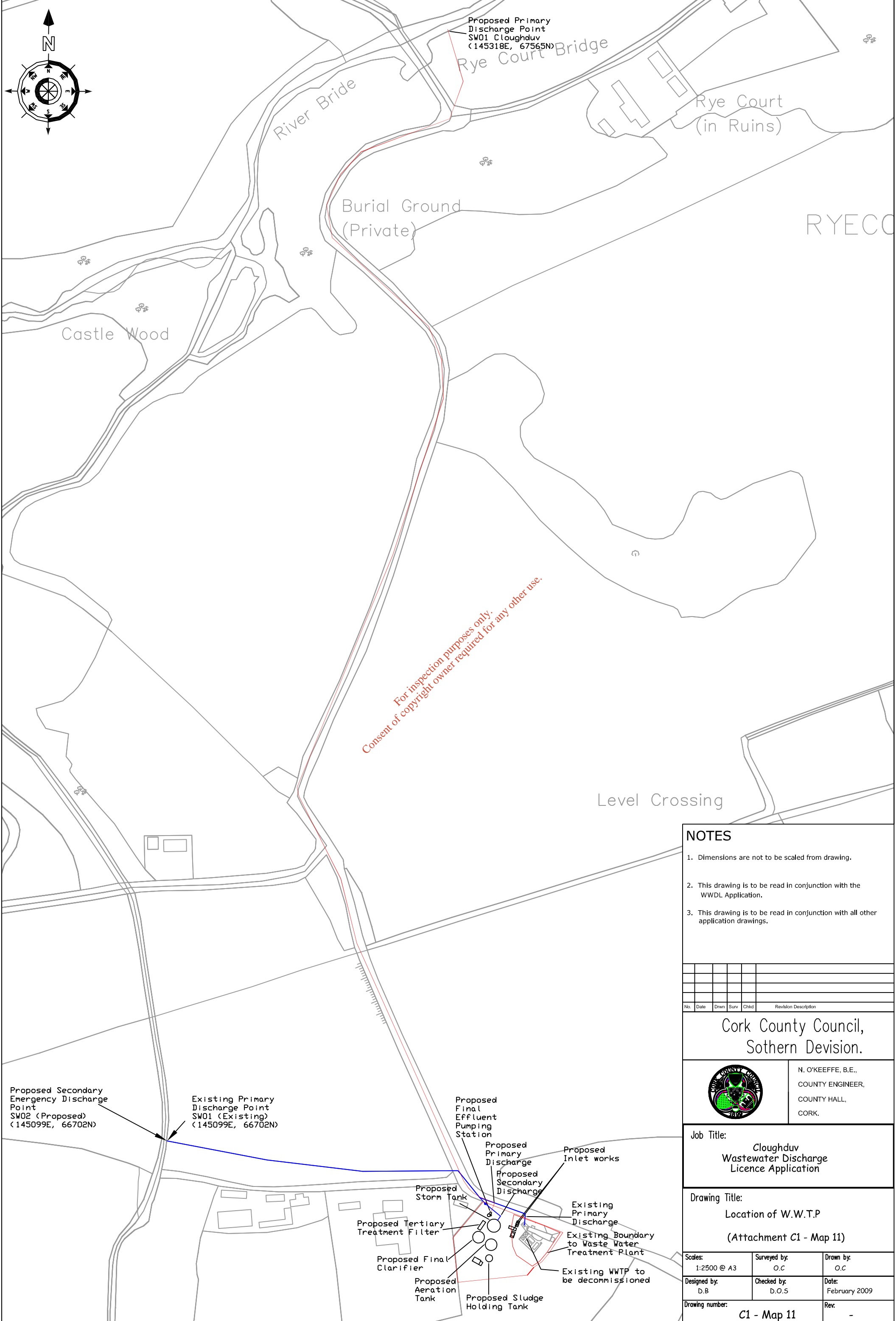
Water Services Investment Programme 2007 - 2009

Serviced Land Initiative contd.	W/S	Est. Cost	Schemes to Advance through Planning cond.	W/S	Est. Cost
Cork South contd.			Cork South		
Mogeely, Castlemartyr & Ladysbridge Water Supply Scheme	W	2,566,000	Carrigtwohill Sewerage Scheme (G)	S	20,000,000
North Cobh Sewerage Scheme (G)	S	3,193,000	Cork Sludge Management (G)	S	14,420,000
Riverstick Water Supply Scheme (incl. Sewerage)	W/S	525,000	Cork Water Supply Scheme (Storage - Mount Emla, Ballincollig & Chetwind) (G)	W	8,500,000
Rochestown Water Supply Scheme	W	2,700,000	Inniscarra Water Treatment Plant (Sludge Treatment)(G)W		5,356,000
Saleen Sewerage Scheme	S	1,051,000	Macroom Sewerage Scheme	S	5,150,000
Youghal Water Supply Scheme	W	2,300,000	Minane Bridge Water Supply Scheme	W	1,421,000
Cork West			Cork West		
Castletownshend Sewerage Scheme	S	1,576,000	Bantry Regional Water Supply Scheme (Distribution)	W	9,455,000
		50,797,000	Cape Clear Water Supply Scheme	W	1,679,000
Rural Towns & Villages Initiative			Rural Towns & Villages Initiative		
Cork North			Cork North		
Buttevant Sewerage Scheme (Collection System)	S	2,446,000	Castletownbere Regional Water Supply Scheme	W	8,405,000
Doneraile Sewerage Scheme (Collection System)	S	1,738,000	Glengarriff Sewerage Scheme	S	2,500,000
			Roscarberry/Owenahincha Sewerage Scheme	S	1,576,000
			Skibbereen Regional Water Supply Scheme Stage 4	W	7,880,000
					95,646,000
Cork South			Water Conservation Allocation		
Innishannon (Ballinadee/ Ballinspittle/ Garrettstown) Water Supply Scheme	W	6,726,000	Asset Management Study		300,000
Cork West			South Western River Basin District (WFD) Project¹		
Ballylicky Sewerage Scheme	S	2,158,000			9,400,000
Baltimore Sewerage Scheme	S	3,162,000			
Castletownbere Sewerage Scheme	S	3,202,000			
Schull Sewerage Scheme	S	3,523,000			
		24,950,000	Programme Total		485,489,000
Schemes to Advance through Planning					
Cork North					
Mitchelstown North Galtees Water Supply Scheme	W	3,152,000			
Mitchelstown Sewerage Scheme	S	3,000,000			
Newmarket Sewerage Scheme	S	3,152,000			

¹ This project is being led by Cork County Council on behalf of other authorities in the River Basin District

(H) Refers to a Hub as designated in the National Spatial Strategy

(G) Refers to a Gateway as designated in the National Spatial Strategy




NOTES

1. Dimensions are not to be scaled from drawing.
2. This drawing is to be read in conjunction with the WWDL Application.
3. This drawing is to be read in conjunction with all other application drawings.

No.	Date	Drwn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.



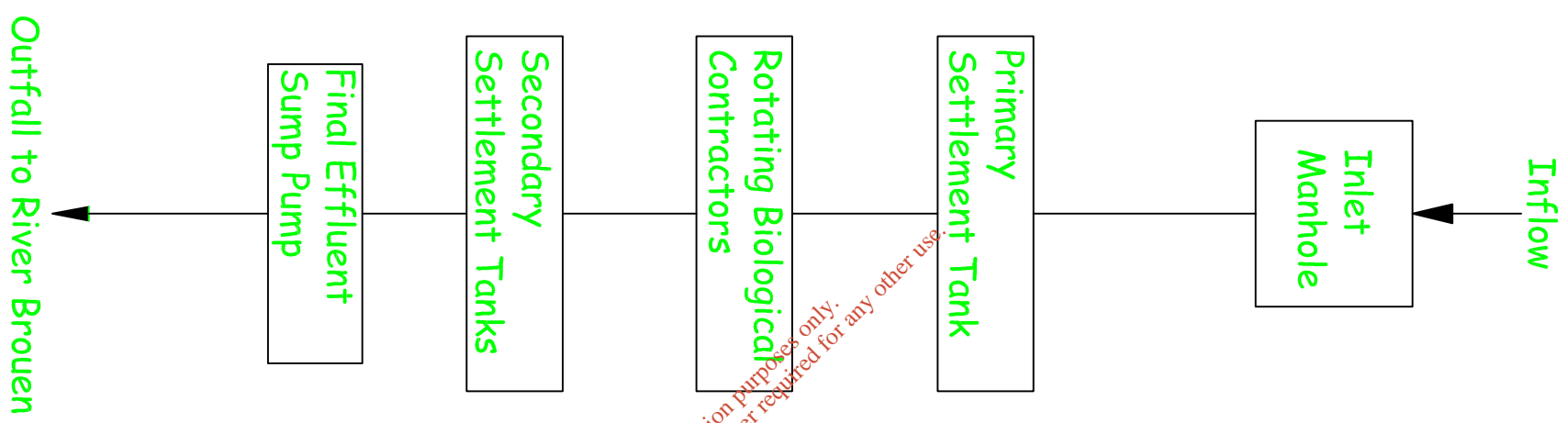
N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Location of W.W.T.P
(Attachment C1 - Map 11)

Scales: 1:2500 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: D.B	Checked by: D.O.S	Date: February 2009
Drawing number: C1 - Map 11	Rev:	-

- NOTES**
1. Dimensions are not to be scaled from drawing.
 2. This drawing is to be read in conjunction with the WWDL Application.
 3. This drawing is to be read in conjunction with all other application drawings.



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No.	Date	Drawn/Checked	Revision Description

Cork County Council,
Southern Division.



N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CDRJK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Schematic showing Existing
Treatment Plant process
Attachment C1 - Drawing 1

Scales: NTS	Surveyed by: O.C	Drawn by: O.C
Designed by: T.O.H	Checked by: D.O.S	Date: February 2009
Drawing number: C1 - Drawing 1	Rev: -	

Inflow

Inlet Pumping Station

Inlet Screening & Grit Removal

Forward Feed Pumping Station

Storm Tank

Aeration Tank

Clarifier

Sludge Tank

Disposal Offsite

Tertiary treatment

Final Effluent Pumping Station

Outfall to River Bride

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NOTES

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- 2. This drawing is to be read in conjunction with the WWDL Application.
- 3. This drawing is to be read in conjunction with all other application drawings.

No.	Date	Drawn/Checked	Revision Description

Cork County Council,
Southern Division.

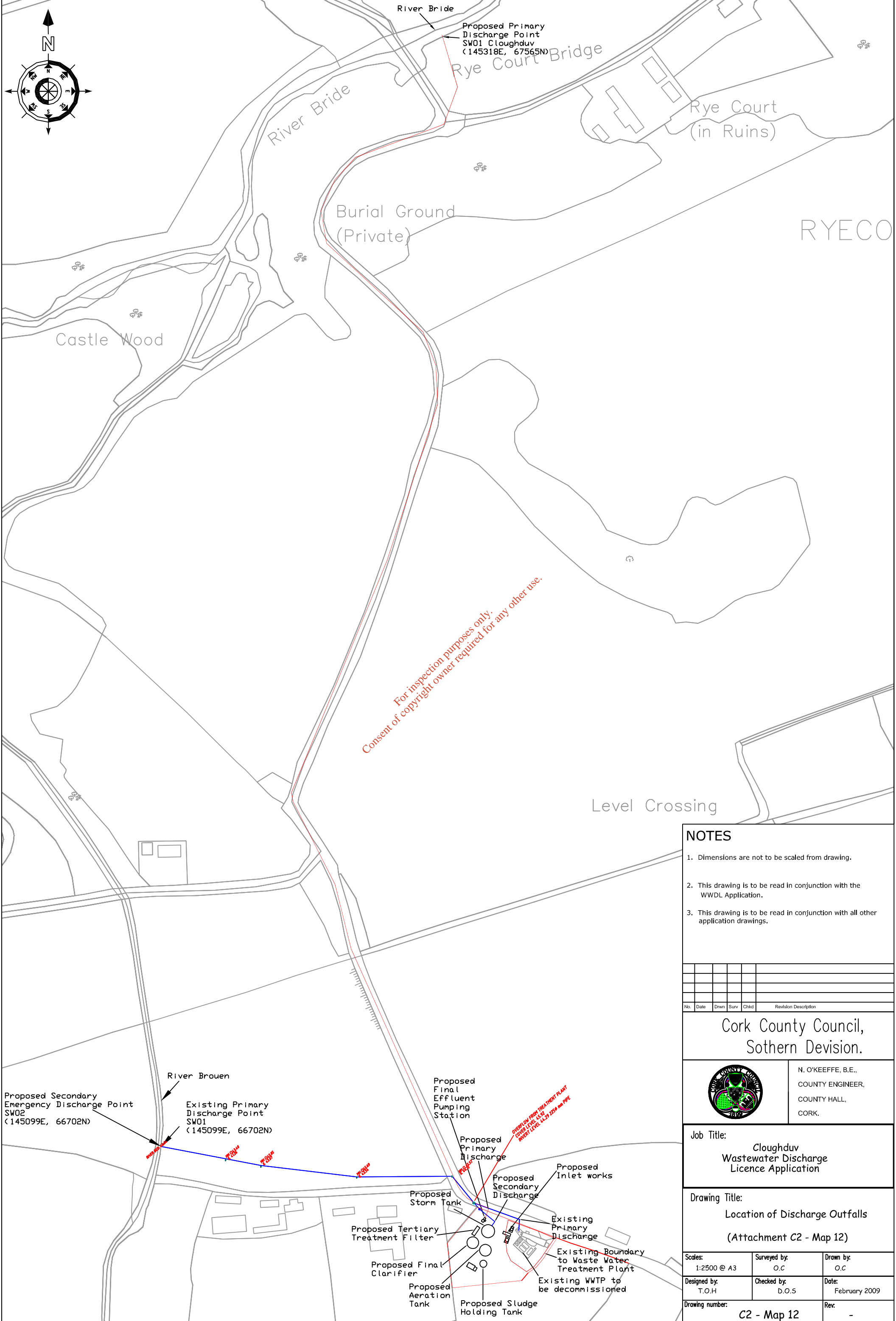
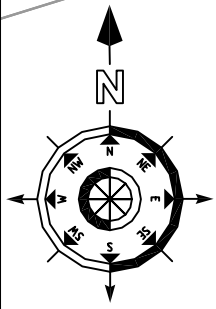


N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CDRJK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Schematic showing Proposed
Treatment Plant process
Attachment C1 - Drawing 2

Scales:	NTS	Surveyed by:	O.C.	Drawn by:	O.C.
Designed by:	D.B.	Checked by:	D.O.S.	Date:	February 2009
Drawing number:	C1 - Drawing 2			Rev:	-



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NOTES

1. Dimensions are not to be scaled from drawing.
2. This drawing is to be read in conjunction with the WWDL Application.
3. This drawing is to be read in conjunction with all other application drawings.

No.	Date	Drawn	Surv	Chkd	Revision Description

Cork County Council,
Sothern Devison.



N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Cloughduv
Wastewater Discharge
Licence Application

Drawing Title:
Location of Discharge Outfalls
(Attachment C2 - Map 12)

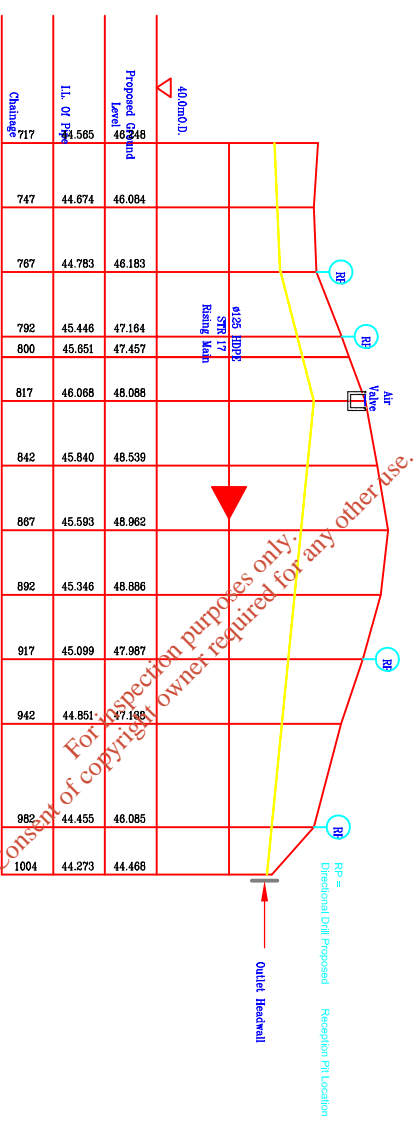
Scales: 1:2500 @ A3	Surveyed by: O.C	Drawn by: O.C
Designed by: T.O.H	Checked by: D.O.S	Date: February 2009
Drawing number: C2 - Map 12	Rev: -	

NOTES

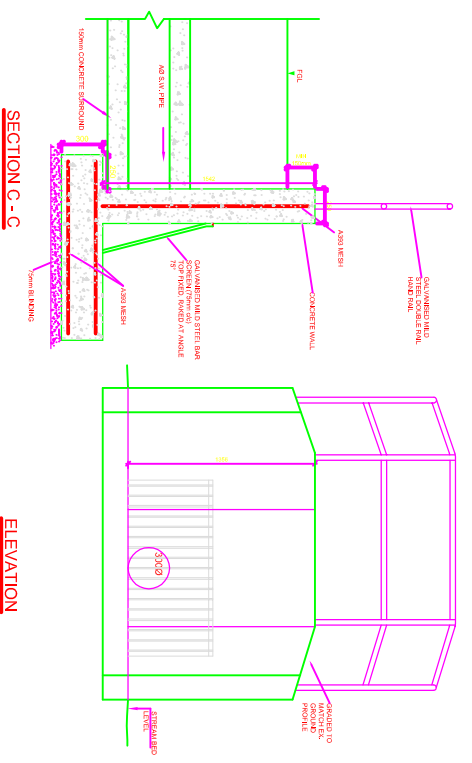
1. Dimensions are not to be scaled from drawing. For any discrepancies found consult with the design office.
2. This drawing is to be read in conjunction with the Specification.
3. This drawing is to be read in conjunction with all other contract drawings.



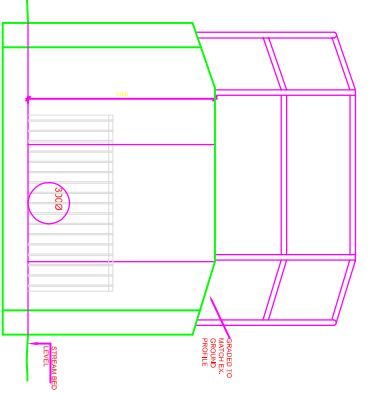
Cloughduv W.W.T.P. To
Rye Court Bridge
Scale 1:100



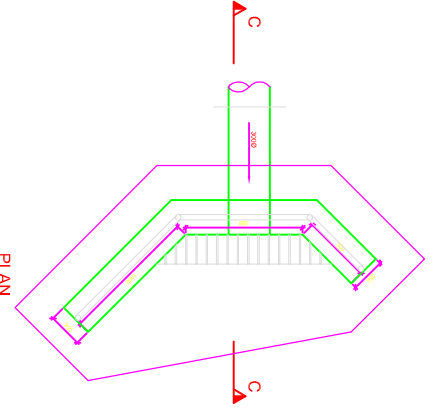
Cloughduv W.W.T.P. To
Rye Court Bridge
Scale 1:100



SECTION C-C



ELEVATION



TYPICAL OUTFALL DETAIL
SCALE 1:20

<p>Cork County Council, Southern Division.</p>	
<p>N. O'KEEFE, B.E., COUNTY ENGINEER, COUNTY HALL, CORK.</p>	
<p>Job Title: Cloughduv Wastewater Discharge Licence Application</p>	
<p>Drawing Title: Head Wall Detail and Long Section of Proposed Outfall Attachment C2 - Drawing 3</p>	
<p>Scales: 1:5000 @ A3</p>	<p>Surveyed by: O.C.</p>
<p>Designed by: D.B.</p>	<p>Checked by: D.O.S.</p>
<p>Drawing number: C2 - Drawing 3</p>	<p>Drawn by: O.C.</p>
	<p>Date: February 2009</p>
	<p>Rev: -</p>



Laboratory Test Report
Cork County Council
Waste Water Laboratory
Inniscarra, Co. Cork

Industry Name Cloughduv Wastewater Plant
Address Cloughduv,
C. Cork

Industry Code No. 392
Report Ref No. T19-02-09-005
Issued to D. Bennett
WBLP
CCC

Licence No. Type S

Licence	Volume	ph	B.O.D.	C.O.D.	S.Solids	TP-P	Code	Comments
Limit	m3		mg/l	mg/l	mg/l	mg/l		
	99999	11.99	25	125	35	99		
		3.99						
Date								
10/07/08			* 145	* 326	* 269	10.58	GS626	G Sampled from preclarifier tank
24/09/08			* 75	* 126	* 102		GS995	G
09/10/08			* 54	* 206	* 89		GS1029	G
18/12/08			* 66	* 133	* 61		GS1403	G
15/01/09		7.4	* 39	66	* 63	7.5	GT059	G TN-N=30.9mg/l,OPO4-P=5.
% Compl.	***	100	0	20	0	100	***	***
Average	**** **	7.40	75.80	171.40	116.80	9.04	**** **	**** **

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The samples are received at the Laboratory on the day of sampling. The above test methods are based on Standard Methods for the examination of Water and Waste Water, 21st Edition 2005, APHA, AWWA, WEF. C = Composite Sample, G = Grab Sample. The compliance value may be varied on items marked with an * by the application of uncertainty of measurement values on reverse Page Chemical Procedure Numbers(CP No.) for INAB accredited tests are as follows:
CP NO. 1 = B.O.D. CP NO. 3 = S.S. CP NO.20 = TP-P
CP NO. 5 = pH CP NO. 6 = C.O.D. CP NO. 7 = Cl⁻ CP NO.22=Ammonia(KONELAB)
CP NO.23 = OPO4-P(KONELAB) CP NO.24 = Chloride (KONELAB) CP NO.25=Sulphate(KONELAB)
This report relates only to the samples listed above. This report shall not be reproduced except in full and only with the approval of the testing laboratory. Cork County Council is not accredited by INAB for tests marked with \$. Kg loadings based on flows as supplied by the company. ~ indicates results that have been edited.

Reported by: V. Hannon Date: 19/2/09

Ms. V. Hannon Technical Manager
Deputy Technical Manager

CTR 001 Issue No 86 November 2007 19th October 2008

Wastewater Laboratory Cork County Council- Test Report Addendum

- a. Sample date reported in column 1 on this report is the date of collection of the sample from the industry name and address as outlined at the top of the report.
- b. Cork County Council wastewater laboratory are not accredited for sample collection.
- c. Data reported in (d) below is defined in section 5.10.3 (c) in wastewater laboratory quality manual.

d. Table of Uncertainty Of Measurement – Estimate Of Values For Accredited Tests

Chemical Procedure No.	range	Test Name	Estimated Uncertainty	Units
CP No. 1	1 - 8 mg/l	Biochemical Oxygen Demand (BOD)	± 0.30	mg/l
CP No. 1	9 - 70 mg/l	Biochemical Oxygen Demand (BOD)	± 3.2	mg/l
CP No. 1	71 - 700 mg/l	Biochemical Oxygen Demand (BOD)	± 40	mg/l
CP No. 3	35 mg/l	Suspended Solids (SS)	± 6.4	mg/l
CP No. 3	200 - 400mg/l	Suspended Solids (SS)	± 41.6	mg/l
CP No. 3	700 - 1000mg/l	Suspended Solids (SS)	± 80.0	mg/l
CP No. 5	2 - 12	pH	± 0.12	pH Units
CP No. 6	< 6 mg/l	Chemical Oxygen Demand (COD LR)	± 5.6	mg/l
CP No. 6	15 - 75 mg/l	Chemical Oxygen Demand (COD LR)	± 10.6	mg/l
CP No. 6	100 - 135 mg/l	Chemical Oxygen Demand (COD LR)	± 17.4	mg/l
CP No. 6	120 - 1500mg/l	Chemical Oxygen Demand (COD) High Range	± 26.8	mg/l
CP No. 20	0.2 - 2.5 mg/l	Total Phosphorus (TP, P)	± 0.22	mg/l
CP No. 22	0.1 - 0.9 mg/l	Ammonia (Konelab)	± 0.04	mg/l
CP No. 22	1.0 - 2.0 mg/l	Ammonia (Konelab)	± 0.10	mg/l
CP No. 22	2 - 10 mg/l	Ammonia (Konelab)	± 0.32	mg/l
CP No. 22	11 - 19 mg/l	Ammonia (Konelab)	± 0.72	mg/l
CP No. 22	20 - 25 mg/l	Ammonia (Konelab)	± 1.56	mg/l
CP No. 23	0.05 - 1.00 mg/l	Orthophosphate as P (Konelab)	± 0.04	mg/l
CP No. 24	25.00 - 99.00 mg/l	Chloride (Konelab)	± 3.04	mg/l
CP No. 24	100.00 - 200.00 mg/l	Chloride (Konelab)	± 11.16	mg/l
CP No. 25	30.00 - 199.00 mg/l	Sulphate (Konelab)	± 3.42	mg/l
CP No. 25	200.00 - 250.00 mg/l	Sulphate (Konelab)	± 8.70	mg/l

January 2009

The raw data used to evaluate the above estimations is stored in the Wastewater Laboratory, Cork County Council.

The method followed is located in the Uncertainty of Measurement file and in the Eurachem Guidelines for Quantifying Uncertainty in Analytical Measurement.

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW01 (existing)	Primary	S	145099	66702	Y
aSW01u (Brouen)	u/s	S	143568	66216	Y
aSW01d (Brouen)	d/s	S	145082	66907	Y
SW01 (proposed)	Primary	S	145318	67565	Y
aSW01u (Bride)	u/s	S	145273	67550	Y
aSW01d (Bride)	d/s	S	146046	67832	Y

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Attachment E4 Cloughduv Inlet Table E4

Sample Date	15/01/2009	Average	Kg/Day	Kg/year
Sample	Influent	maximum		
Sample Code	GT058		na	na
Flow M ³ /Day	*	1008	na	na
pH	7.4	7.4	na	na
Temperature °C	*	*	na	na
Cond 20°C	616	616	na	na
SS mg/L	174	174	175.4	64021
NH ₃ mg/L	27.8	27.8	28.02	10228.2
BOD mg/L	180	180	181.44	66225.6
COD mg/L	437	437	440.5	160781.04
TN mg/L	32.2	32.2	32.46	11847.02
Nitrite mg/L	0.00951	0.00951	0.00959	3.499
Nitrate mg/L	3.3	3.3	3.326	1214.14
TP mg/L	8.6	8.6	8.669	3164.1
O-PO ₄ -P mg/L	4.51	4.51	4.546	1659.32
SO ₄ mg/L	49.1	49.1	49.493	18064.87
Phenols µg/L	5.22	5.22	0.0053	1.92
Atrazine µg/L	<0.01	<0.01	<0.000011	<0.0037
Dichloromethane µg/L	<1	<1		
Simazine µg/L	<0.01	<0.01	<0.000011	<0.0037
Toluene µg/L	30.52	30.52	0.0308	11.229
Tributyltin µg/L	*	*	*	*
Xylenes µg/L	<1	<1	<0.001	<0.368
Arsenic µg/L	<0.96	<0.96		
Chromium mg/L	<0.02	<0.02	<0.0202	<7.358
Copper mg/L	0.124	0.124	0.12499	45.622
Cyanide µg/L	5	5	0.00504	1.8396
Fluoride µg/L	40	40	0.0403	14.72
Lead mg/L	<0.02	<0.02	<0.0202	<7.358
Nickel mg/L	<0.02	<0.02	<0.0202	<7.358
Zinc mg/L	0.062	0.062	0.0625	22.811
Boron mg/L	<0.02	<0.02	<0.0202	<7.358
Cadmium mg/L	<0.02	<0.02	<0.0202	<7.358
Mercury µg/L	<0.2	<0.2	0.000202	0.0736
Selenium µg/L	1	1	0.001	0.368

Note Maximum volume is 1008 m3 per day

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Barium mg/L	<0.02	<0.02	<0.0202	<7.358
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Attachment E4 Cloughduv Discharge Outlet Table E4

Sample Date	10/07/2008	24/09/2008	09/10/2008	18/12/2008	15/01/2009			
Sample	Effluent	Effluent	Effluent	Effluent	Effluent	Average	Kg/Day	Kg/year
Sample Code	GS626	GS995	GS1029	GS1403	GT059	mg/L		
Flow M ³ /Day	*	*	*	*	*	1008		
pH	*	*	*	*	7.4	7.4	*	*
Temperature °C	*	*	*	*	*	*	*	*
Cond 20°C	857	*	*	*	583	720	725.76	264902.4
SS mg/L	269	102	89	61	63	116.8	117.7344	42973.056
NH ₃ mg/L	42.9	*	*	*	30.7	36.8	37.0944	13539.456
BOD mg/L	145	75	54.2	65.5	39	75.74	76.34592	27866.261
COD mg/L	326	126	206	133	66	171.4	172.7712	63061.488
TN mg/L	67	*	*	*	30.9	48.95	49.3416	18009.684
Nitrite mg/L	*	*	*	*	0.805	0.805	0.81144	296.1756
Nitrate mg/L	*	*	*	*	4.11	4.11	4.14288	1512.1512
TP mg/L	10.58	*	*	*	7.5	9.04	9.11232	3325.9968
O-PO ₄ -P mg/L	9.08	*	*	*	5.03	7.055	7.11144	2595.6756
SO ₄ mg/L	*	*	*	*	<30	<30	<30.24	<11037.6
Phenols µg/L	*	*	*	*	*	*	*	*
Atrazine µg/L	*	*	*	*	<0.01	<0.00001	<0.00001008	<0.0036792
Dichloromethane	*	*	*	*	<1	<1	<1.008	<367.92
Simazine µg/L	*	*	*	*	<0.01	<0.01	<0.01008	<3.6792
Toluene µg/L	*	*	*	*	<1	<1	<1.008	<367.92
Tributyltin µg/L	*	*	*	*	*	*	*	*
Xylenes µg/L	*	*	*	*	<1	<1	<1.008	<367.92
Arsenic µg/L	*	*	*	*	<0.96	<0.96	<0.96768	<353.2032
Chromium mg/L	<0.02	*	*	<0.02	<0.02	<0.02	<0.02016	<7.3584
Copper mg/L	0.201	*	*	0.049	0.049	0.125	0.126	45.99
Cyanide µg/L	*	*	*	*	6	6	6.048	2207.52
Fluoride µg/L	*	*	*	*	39	39	39.312	14348.88
Lead mg/L	<0.02	*	*	<0.02	<0.02	<0.02	<0.02016	<7.3584
Nickel mg/L	<0.02	*	*	<0.02	<0.02	<0.02	<0.02016	<7.3584
Zinc mg/L	0.112	*	*	<0.02	<0.02	0.044	0.044352	16.18848
Boron mg/L	0.042	*	*	0.04	<0.02	0.031	0.031248	11.40552
Cadmium mg/L	<0.02	*	*	<0.02	<0.02	<0.02	<0.02016	<7.3584
Mercury µg/L	*	*	*	*	<0.2	<0.2	<0.2016	<73.584
Selenium µg/L	*	*	*	*	1.4	1.4	1.4112	515.088

Maximum Flow

Values recorded as 1/2 of LOD for stistical purposes

Note Maximum volume is 1008 m3 per day

Barium mg/L	0.034	*	*	<0.02	<0.02	0.018	0.018144	6.62256
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Attachment E4 Cloughduv Upstream Table E4

Sample Date	15/01/2009	Average			
Sample	River				
Sample Code	GT060				
Flow M ³ /Day	*	*			
pH	7.7	7.7			
Temperature °C	*	*			
Cond 20°C	192	192			
SS mg/L	<2.5	<2.5			
NH ₃ mg/L	<01	<01			
BOD mg/L	<1.0	<1.0			
COD mg/L	<21	<21			
TN mg/L	4.5	4.5			
Nitrite mg/L	0.086	0.086			
Nitrate mg/L	3.92	3.92			
TP mg/L	<0.20	<0.20			
O-PO ₄ -P mg/L	0.05	0.05			
SO ₄ mg/L	<30	<30			
Phenols µg/L	<0.10	<0.10			
Atrazine µg/L	<0.01	<0.01			
Dichloromethane µg/L	<1	<1			
Simazine µg/L	<0.01	<0.01			
Toluene µg/L	<1	<1			
Tributyltin µg/L	*	*			
Xylenes µg/L	<1	<1			
Arsenic µg/L	<0.96	<0.96			
Chromium mg/L	0	0			
Copper mg/L	<0.02	<0.02			
Cyanide µg/L	5	5			
Fluoride µg/L	33	33			
Lead mg/L	<0.02	<0.02			
Nickel mg/L	<0.02	<0.02			
Zinc mg/L	<0.02	<0.02			
Boron mg/L	<0.02	<0.02			
Cadmium mg/L	<0.02	<0.02			
Mercury µg/L	<0.2	<0.2			
Selenium µg/L	1.1	1.1			
Barium mg/L	0.029	0.029			

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Attachment E4 Cloughduv Downstream Table E4

Sample Date	24/09/2008	15/01/2009			
Sample	River	River	Average		
Sample Code	GS996	GT057			
Flow M ³ /Day	*	*			
pH	*	7.6	7.6		
Temperature °C	*	*	*		
Cond 20°C	*	196	196		
SS mg/L	*	5	5		
NH ₃ mg/L	*	<0.1	<0.1		
BOD mg/L	*	<10	<10		
COD mg/L	*	35	35		
TN mg/L	*	3.8	3.8		
Nitrite mg/L	*	0.00951	0.00951		
Nitrate mg/L	*	3.32	3.32		
TP mg/L	*	<0.20	<0.20		
O-PO ₄ -P mg/L	<0.05	<0.05	<0.05		
SO ₄ mg/L	*	<30	<30		
Phenols µg/L	*	<0.10	<0.10		
Atrazine µg/L	*	<0.01	<0.01		
Dichloromethane	*	<1	<1		
Simazine µg/L	*	<0.01	<0.01		
Toluene µg/L	*	<1	<1		
Tributyltin µg/L	*	*	*		
Xylenes µg/L	*	<1	<1		
Arsenic µg/L	*	<0.96	<0.96		
Chromium mg/L	*	<0.02	<0.02		
Copper mg/L	*	<0.02	<0.02		
Cyanide µg/L	*	<5	<5		
Fluoride µg/L	*	36	36		
Lead mg/L	*	<0.02	<0.02		
Nickel mg/L	*	<0.02	<0.02		
Zinc mg/L	*	<0.02	<0.02		
Boron mg/L	*	<0.02	<0.02		
Cadmium mg/L	*	<0.02	<0.02		
Mercury µg/L	*	<0.2	<0.2		
Selenium µg/L	*	1.2	1.2		

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Barium mg/L	*	<0.02	<0.02			
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