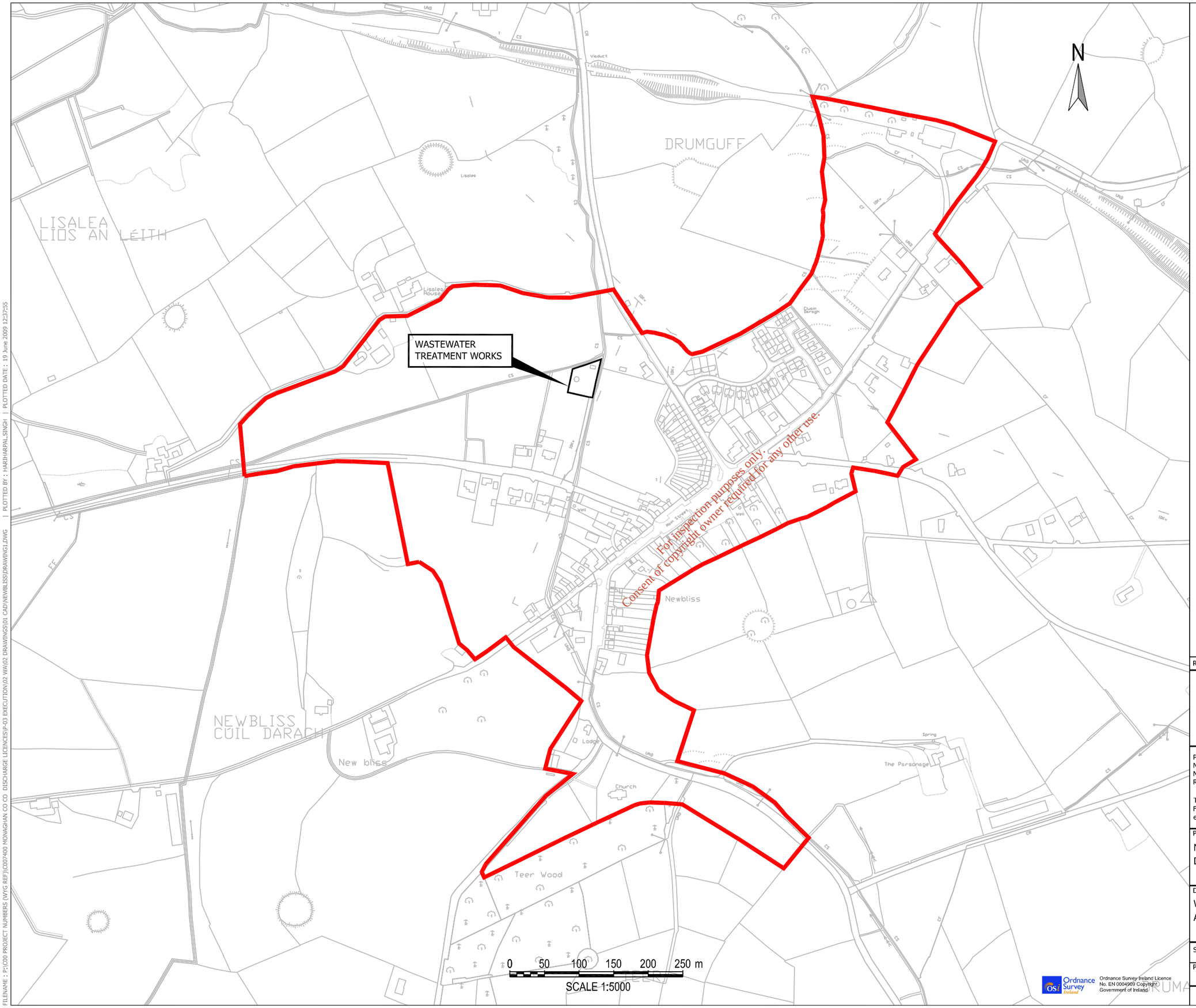
Attachment B.1



LEGEND:

LICENCE APPLICATION AREA

REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

Project:

NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:

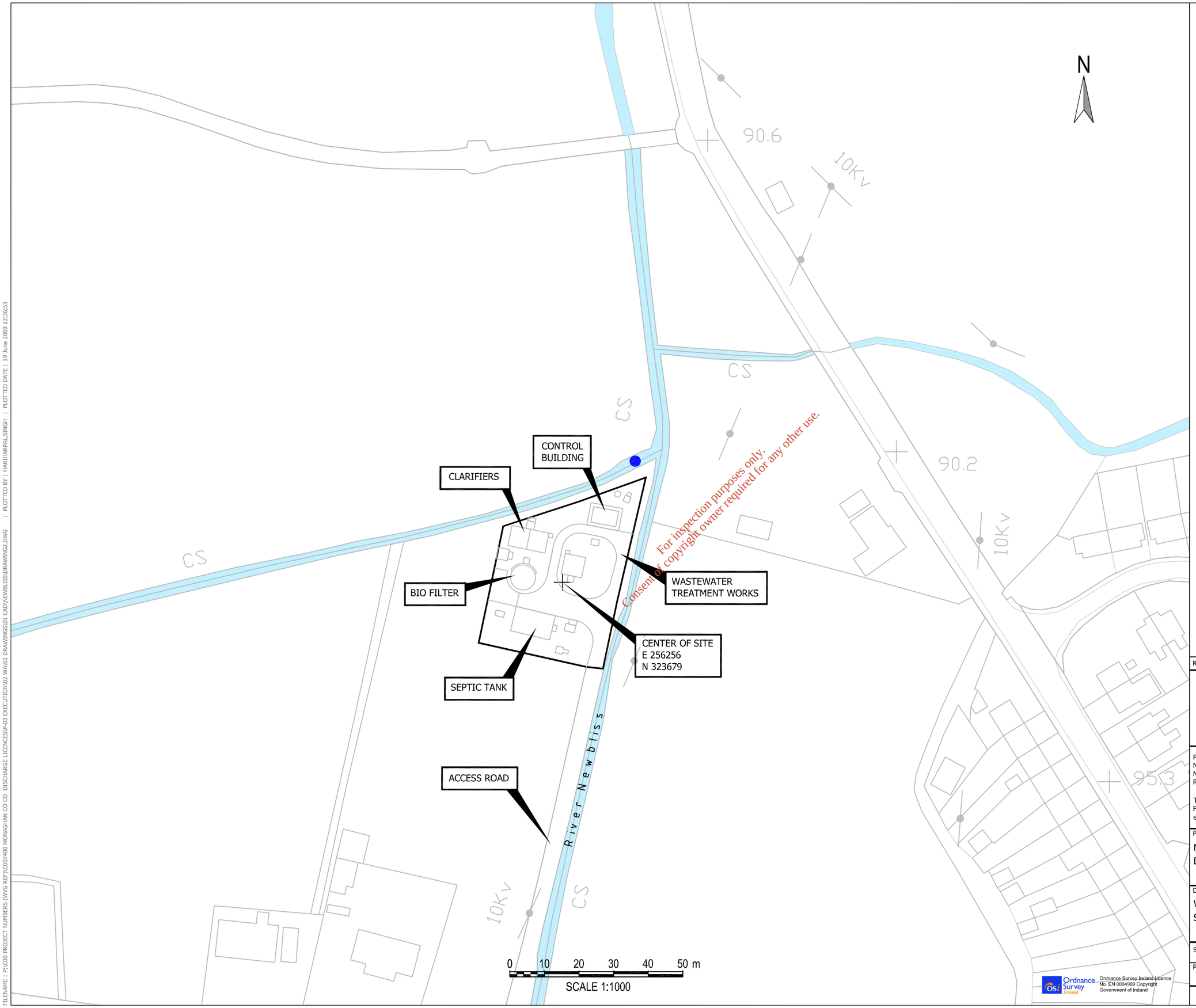
WASTE WATER TREATMENT WORKS
AGGLOMERATION PLAN

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	15.06.09	CS	15.06.09	TK	15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 1	0

FILENAME : P:\C00 PROJECT NUMBERS (WYG REF)\C007400 MONAGHAN CO CO DISCHARGE LICENCE\P-03 EXECUTION\02 WA\02 DRAWINGS\01 CAD\NEWBLISS\DRAWING1.DWG | PLOTTED BY : HARIHARPAL.SINGH | PLOTTED DATE : 19 June 2009 12:37:55

Attachment B.2



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

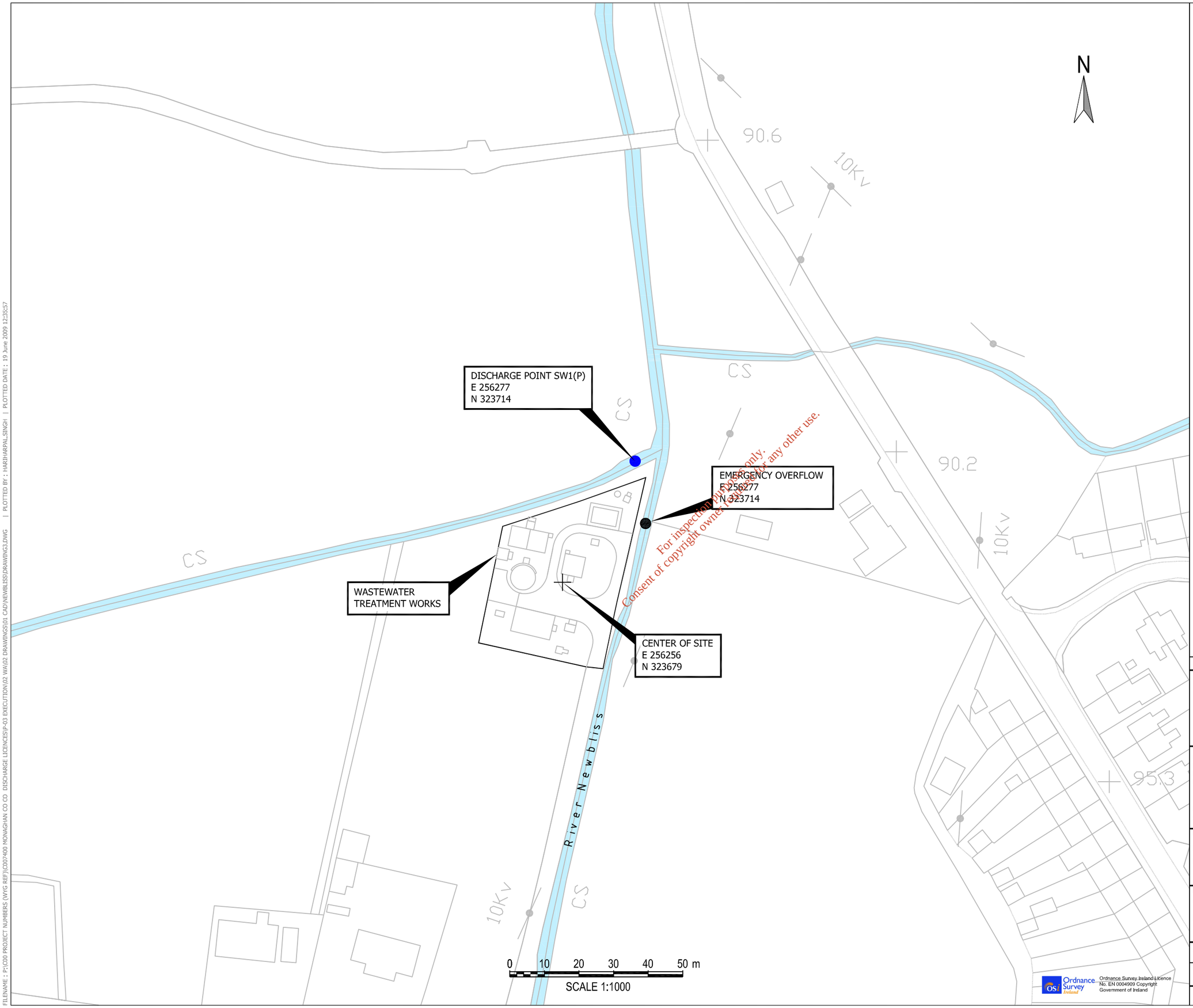
Drawing Title:
WASTE WATER TREATMENT PLANT
SITE PLAN & BOUNDARY

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS		CS		TK	

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 2	0

FILENAME : P:\C00 PROJECT NUMBERS (WYG REF)\C007400 MONAGHAN CO CO DISCHARGE LICENCES\P-03 EXECUTION\02 WA\02 DRAWINGS\01 CAD\NEWBLISS\DRAWING2.DWG | PLOTTED BY : HARIHARPAL.SINGH | PLOTTED DATE : 19 June 2009 12:36:53

Attachment B.3



LEGEND:

- DISCHARGE POINT

REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

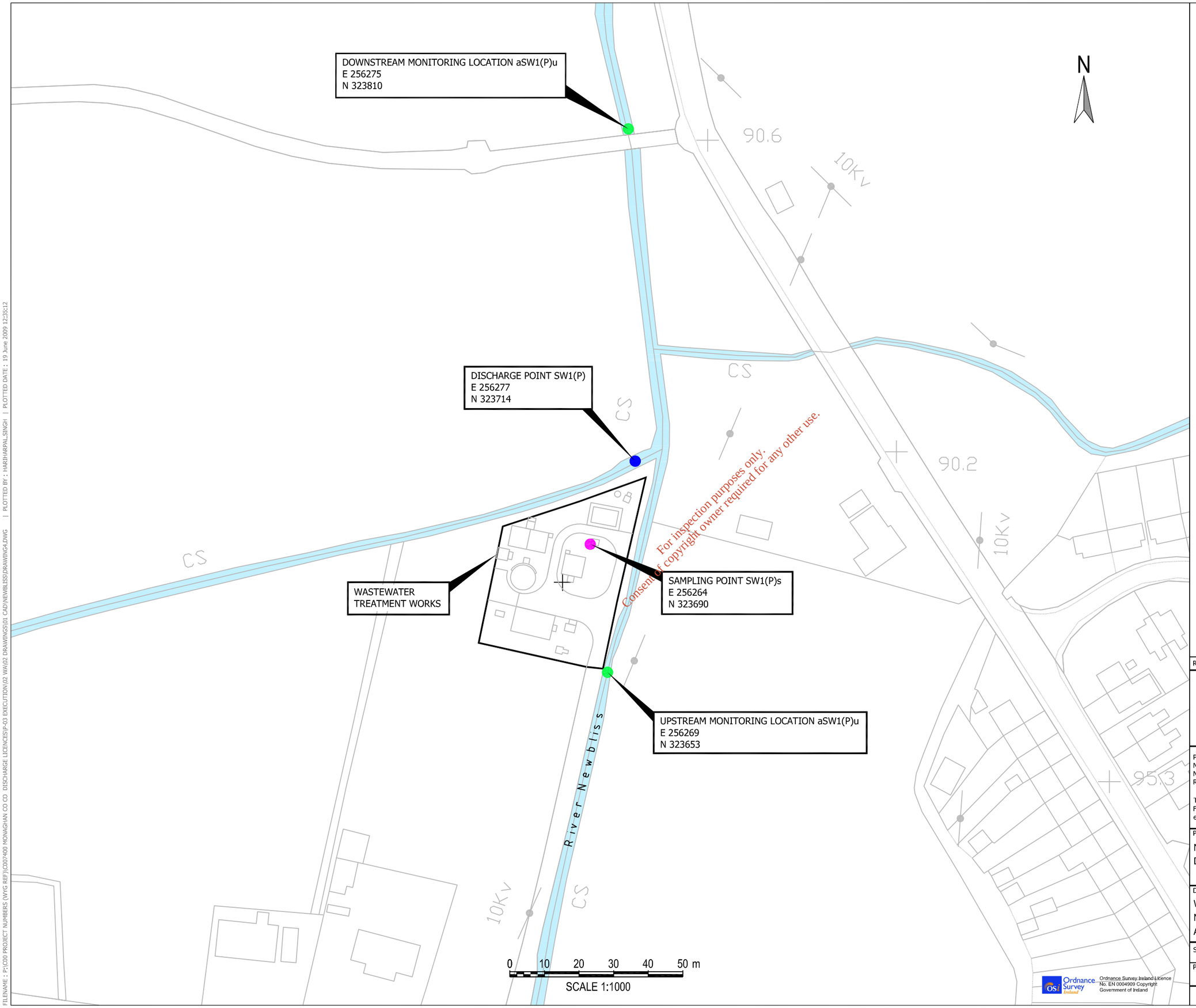
Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT PLANT
PRIMARY DISCHARGE POINT

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	15.06.09	CS	15.06.09	TK	15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 3	0

FILENAME : P:\C00 PROJECT NUMBERS (WYG REF)\C007400 MONAGHAN CO CO DISCHARGE LICENCES\P-03 EXECUTION\02 WA\02 DRAWINGS\01 CAD\NEWBLISS\DRAWING3.DWG | PLOTTED BY : HARIHARPAL.SINGH | PLOTTED DATE : 19 June 2009 12:35:57



LEGEND:

- SAMPLING POINT
- MONITORING LOCATION
- DISCHARGE POINT

REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT PLANT
MONITORING AND SAMPLING LOCATIONS
ASSOCIATED WITH PRIMARY DISCHARGE POINT

Scale @ A3	Drawn Date	Checked Date	Approved Date
AS SHOWN	HS 15.06.09	CS 15.06.09	TK 15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 4	0

FILENAME : P:\C00 PROJECT NUMBERS (WYG REF)\C007400 MONAGHAN CO CO DISCHARGE LICENCES\P-03 EXECUTION\02 WA\02 DRAWINGS\01 CAD\NEWBLISS\DRAWING4.DWG | PLOTTED BY : HARIHARPAL.SINGH | PLOTTED DATE : 19 June 2009 12:35:12

Attachment B.8

SITE NOTICE

Monaghan County Council

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

Notice is hereby given that Monaghan County Council of County Offices, The Glen, Monaghan, Co. Monaghan is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the **Newbliss Waste Water Works** at Newbliss, Co. Monaghan in accordance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).

The Waste Water Works comprises a network of gravity sewers, associated rising main, one pumping station and a Waste Water Treatment Plant serving Newbliss.

The primary discharge from the Waste Water Treatment Works is directly to the Newbliss River (Tributary of River Finn and Fane) at National Grid Reference 256277E, 323714N) in the townland of Newbliss Co. Monaghan. The associated Waste Water Treatment Plant is located at National Grid Reference 256256E, 323679N also in the townland of Newbliss, Co. Monaghan.

A copy of the waste water discharge licence application shall, as soon as practicable after receipt by the Environmental Protection Agency, be available for inspection or purchase at the

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1980 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie.

and at

- Monaghan County Council Offices, The Glen, Monaghan, Co Monaghan, Telephone: 047-30500, Fax: 047-82739

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

Signed: David Fallon, Director of Services, Water Section **Date:** 11th June 2009

Co Monaghan, Telephone: 047-30500, Fax: 047 82739
Submissions in relation to this application may be made to the Environmental Protection Agency at its headquarters described above.
Signed: David Fallon, Director of Services,
Date: 11th June 2009 Water Section

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

Notice is hereby given that Monaghan County Council of County Offices, The Glen, Monaghan, Co. Monaghan is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the **Ballinode Waste Water Works** at Quiglough, Ballinode, Co. Monaghan in accordance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).
The Waste Water Works comprises a network of gravity sewers, associated rising main and a Waste Water Treatment Plant serving Ballinode village, Co Monaghan.
The primary discharge from the Waste Water Treatment Works is directly to the Blackwater River (at National Grid Reference 263057E, 335886N) in the townland of Quiglough, Co. Monaghan. The associated Waste Water Treatment Plant is located at National Grid Reference 263024E 335856N also in the townland of Quiglough, Co. Monaghan.

A copy of the waste water discharge licence application shall, as soon as practicable after receipt by the Environmental Protection Agency, be available for inspection or purchase at the

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1980 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie.

and at

- Monaghan County Council Offices, the Glen, Monaghan, Co Monaghan, Telephone: 047-30500, Fax: 047 82739

Submissions in relation to this application may be made to the Environmental Protection Agency at its headquarters described above.
Signed: David Fallon, Director of Services,
Date: 11th June 2009 Water Section

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

Notice is hereby given that Monaghan County Council of County Offices, The Glen, Monaghan, Co. Monaghan is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the **Newbliss Waste Water Works** at Newbliss, Co. Monaghan in accordance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).
The Waste Water Works comprises a network of gravity sewers, associated rising main, one pumping station and a Waste Water Treatment Plant serving Newbliss.
The primary discharge from the Waste Water Treatment Works is directly to the Newbliss River (Tributary of River Finn and Fane) at National Grid Reference 256277E, 323714N) in the townland of Newbliss Co. Monaghan. The associated Waste Water Treatment Plant is located at National Grid Reference 256256E, 323679N also in the townland of Newbliss, Co. Monaghan.
A copy of the waste water discharge licence application shall, as soon as practicable after receipt by the Environmental Protection Agency, be available for inspection or purchase at the

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1980 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie.

and at

- Monaghan County Council Offices, the Glen, Monaghan, Co Monaghan, Telephone: 047-30500, Fax: 047 82739

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

Signed: David Fallon, Director of Services,
Date: 11th June 2009 Water Section

Submissions in relation to this application may be made to the Environmental Protection Agency at its headquarters described above.
Signed: David Fallon, Director of Services,
Date: 11th June 2009 Water Section

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

Notice is hereby given that Monaghan County Council of County Offices, The Glen, Monaghan, Co. Monaghan is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the **Knockaconny Waste Water Works** at Knockaconny, Co. Monaghan in accordance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).
The Waste Water Works comprises a network of gravity sewers and associated rising main and a Waste Water Treatment Plant serving Knockaconny.
The primary discharge from the Waste Water Treatment Works is directly to the Blackwater River (at National Grid Reference 268917E, 335781N) in the townland of Knockaconny Co. Monaghan. The associated Waste Water Treatment Plant is located at National Grid Reference 268948E 335744N also in the townland of Knockaconny, Co. Monaghan.
A copy of the waste water discharge licence application shall, as soon as practicable after receipt by the Environmental Protection Agency, be available for inspection or purchase at the

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1980 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie.

and at

- Monaghan County Council Offices, the Glen, Monaghan, Co Monaghan, Telephone: 047-30500, Fax: 047 82739

Submissions in relation to this application may be made to the Environmental Protection Agency at its headquarters described above.
Signed: David Fallon, Director of Services,
Date: 11th June 2009 Water Section

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

Notice is hereby given that Monaghan County Council of County Offices, The Glen, Monaghan, Co. Monaghan is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the **Smithboro Waste Water Works** at Magherarney, Smithboro, Co. Monaghan in accordance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).
The Waste Water Works comprises a network of gravity sewers and associated rising main and a Waste Water Treatment Plant serving Smithboro village.
The primary discharge from the Waste Water Treatment Works is directly to the Magherarney River (at National Grid Reference 257715E, 329730N) in the townland of Magherarney, Smithboro, Co. Monaghan. The associated Waste Water Treatment Plant is located at National Grid Reference 257696E 329765N also in the townland of Magherarney, Smithboro, Co. Monaghan.
A copy of the waste water discharge licence application shall, as soon as practicable after receipt by the Environmental Protection Agency, be available for inspection or purchase at the

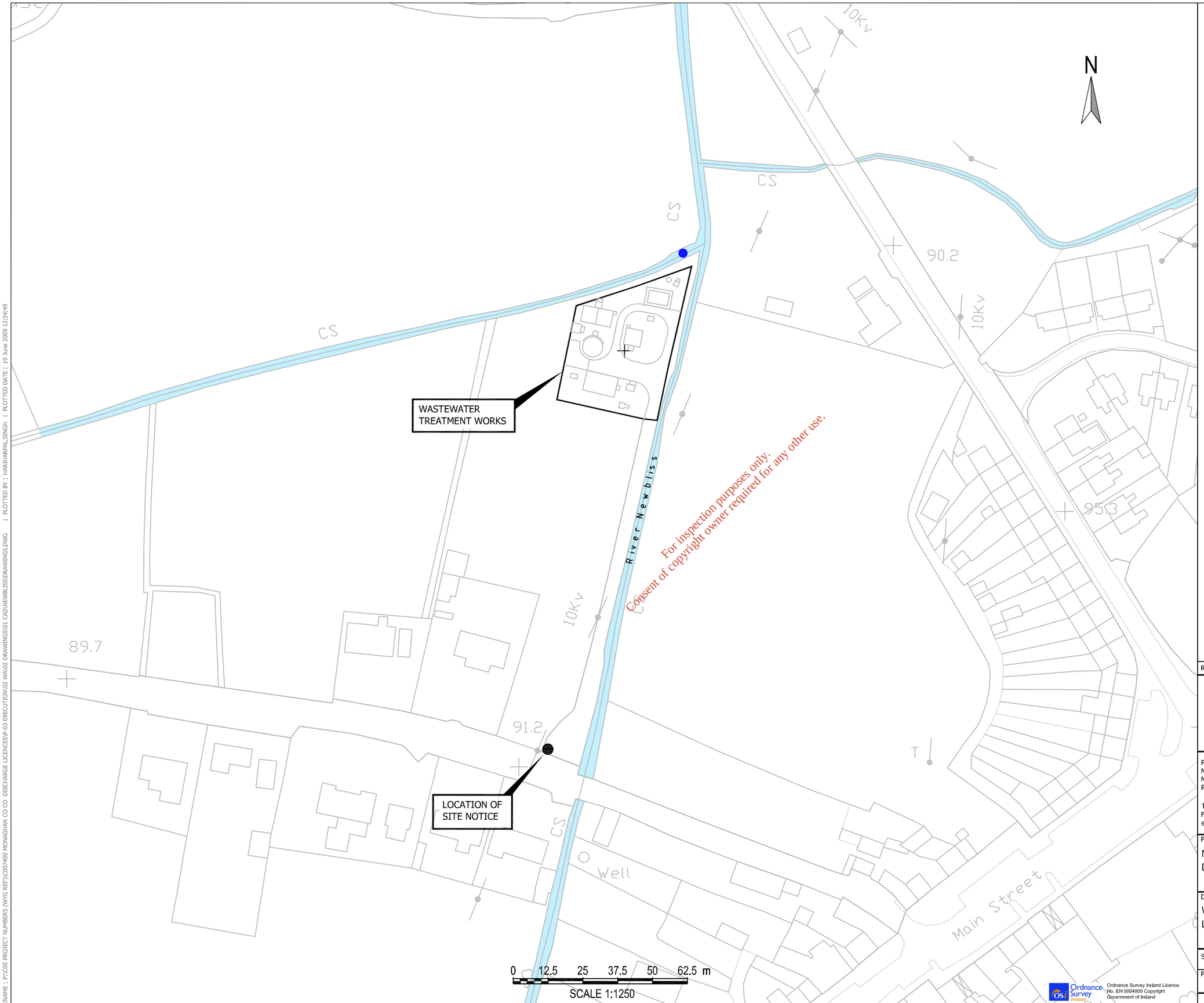
- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1980 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie.

and at

- Monaghan County Council Offices, the Glen, Monaghan, Co Monaghan, Telephone: 047-30500, Fax: 047 82739

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

Signed: David Fallon, Director of Services,
Date: 11th June 2009 Water Section



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

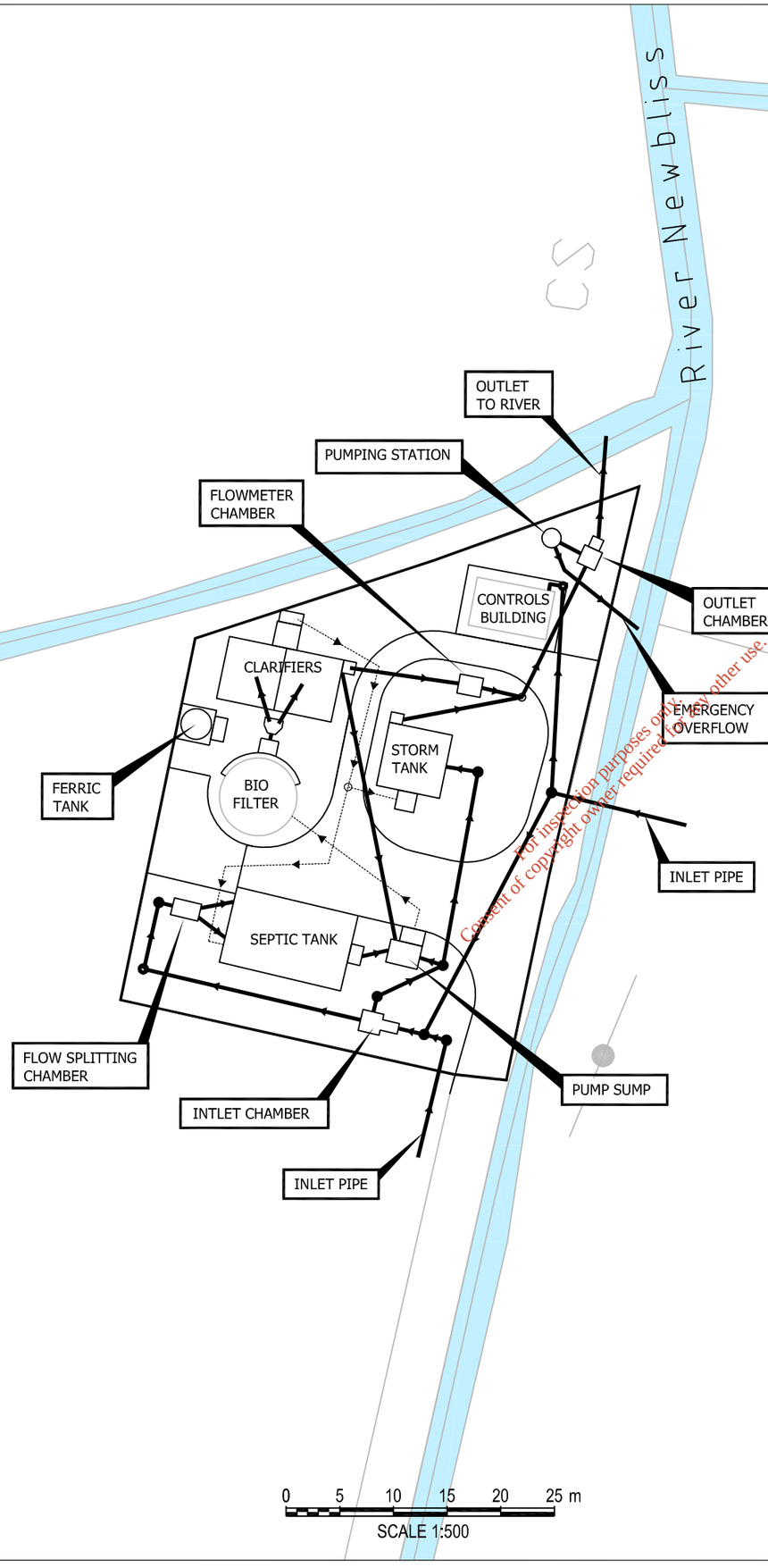
Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT PLANT
LOCATION OF SITE NOTICE

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	15.06.09	CS	15.06.09	TK	15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 5	0

Attachment C.1



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

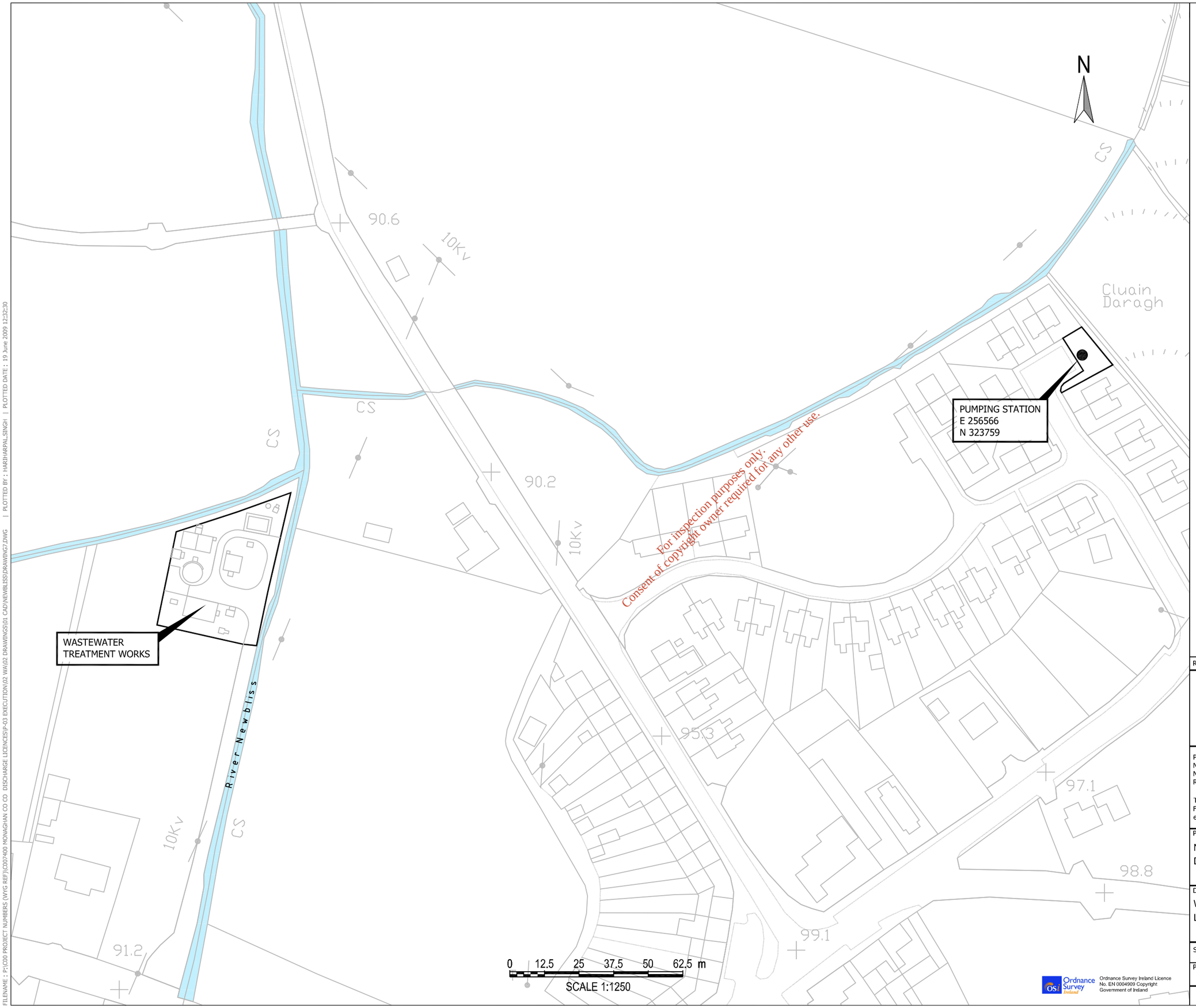
TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT PLANT
GENERAL ARRANGEMENT OF TREATMENT PLANT

Scale @ A3	Drawn Date	Checked Date	Approved Date
AS SHOWN	HS 15.06.09	CS 15.06.09	TK 15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 6	0



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

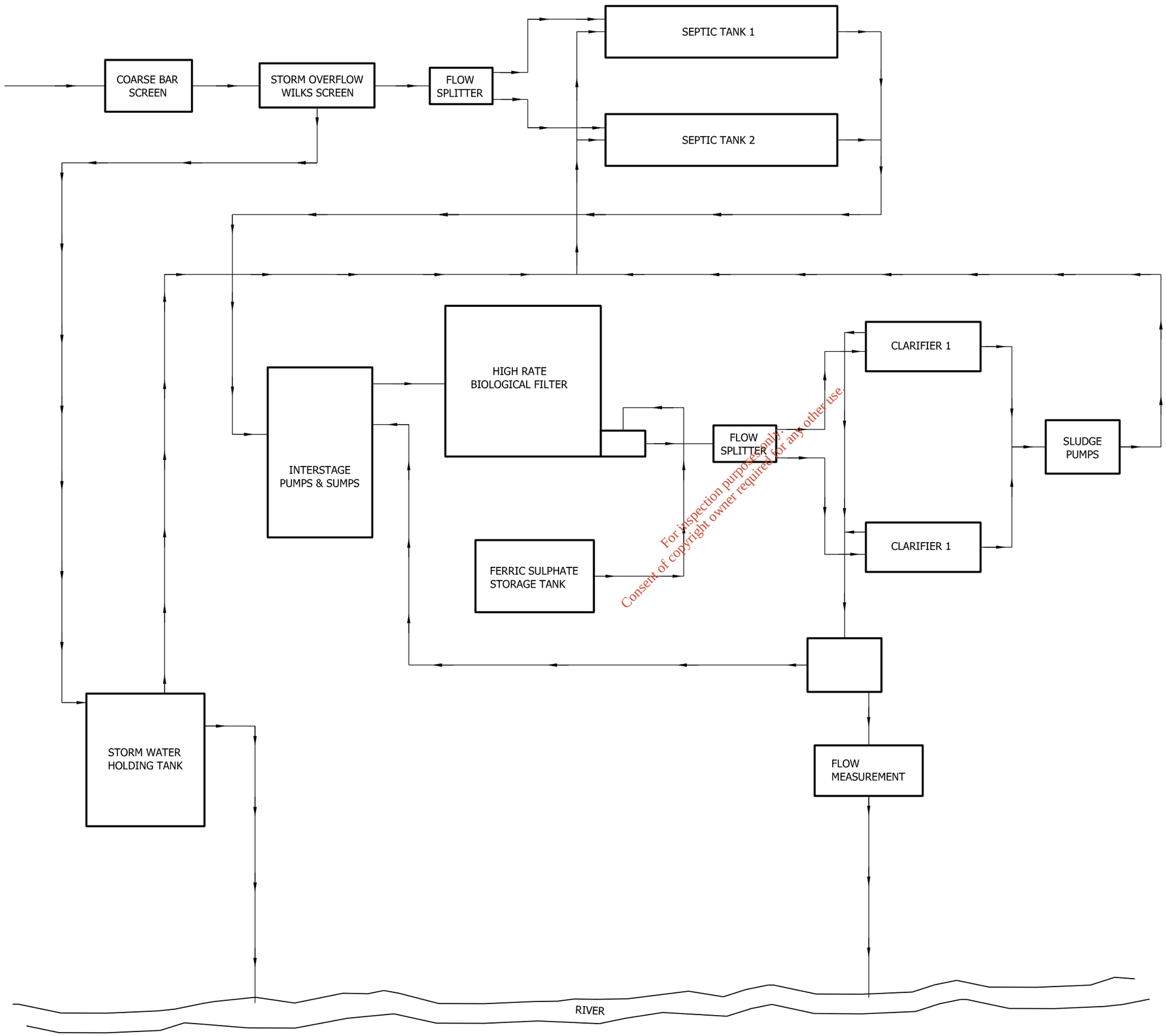
Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT PLANT
LOCATION OF PUMPING STATION

Scale @ A3	Drawn Date	Checked Date	Approved Date
AS SHOWN	HS 15.06.09	CS 15.06.09	TK 15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 7	0

FILENAME : P:\C00 PROJECT NUMBERS (WYG REF)\C007400 MONAGHAN CO CO DISCHARGE LICENCES\P-03 EXECUTION\02 WA\02 DRAWINGS\01 CAD\NEWBLISS\DRAWING7.DWG | PLOTTED BY : HARIHARPAL.SINGH | PLOTTED DATE : 19 June 2009 12:32:30



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: info@phmcc.com

Project:
NEWBLISS
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT PLANT
SCHEMATIC FLOW DIAGRAM OF TREATMENT PLANT

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	15.06.09	CS	15.06.09	TK	15.06.09

Project No.	Office	Type	Drawing No.	Revision
C007400			DRAWING 8	0

Attachment C.2

Attachment C.2.

Discharge Point/Storm Over Flow Code	Name	Easting	Northing	Type	Receiving Waters	Receiving Water System Type
SW1(P)	Newbliss WWTW	256277	323714	Open Pipe Discharge	Newbliss River	Pipe to Open Channel

Attachment D.1

Table D.1(i)(a): EMISSIONS TO SURFACE/GROUND WATERS (Primary Discharge Point)

Discharge Point Code: SW-1

Local Authority Ref No:		
Source of Emission:	Newbliss Waste Water Treatment Plant	
Location:	Newbliss, Co Monaghan	
Grid Ref (12 digits, 6E, 6N)	256277 / 323714	
Name of Receiving waters:	Newblis River	
Water Body:	River Water Body	
River Basin District	North Western IRBD	
Designation of Receiving Waters:	Not Designated	
Flow Rate in Receiving Waters:	0	$m^3.sec^{-1}$ Dry Weather Flow
	0.04	$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	DWF of river not available. The flow in the Newbliss River at Newbliss was estimated based on the estimated catchment area and using the flows from the Anlore Station.	

Emission Details:

(i) Volume emitted			
Normal/day	90 m^3	Maximum/day	163 m^3
Maximum rate/hour	6.7 m^3	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.001 m^3/sec		

Table D.1(i)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	24 hr flow proportional	= 7.1	
Temperature	°C	24 hr flow proportional	= 10	
Electrical Conductivity (@ 25°C)	µS/cm	24 hr flow proportional	= 618	
Suspended Solids	mg/l	24 hr flow proportional	= 105	9.45
Ammonia (as N)	mg/l	24 hr flow proportional	= 22.9779	2.068
Biochemical Oxygen Demand	mg/l	24 hr flow proportional	= 54	4.86
Chemical Oxygen Demand	mg/l	24 hr flow proportional	= 183	16.47
Total Nitrogen (as N)	mg/l	24 hr flow proportional	= 54	4.86
Nitrite (as N)	mg/l	24 hr flow proportional	= 1.273	0.11457
Nitrate (as N)	mg/l	24 hr flow proportional	= 10.32	0.9288
Total Phosphorous (as P)	mg/l	24 hr flow proportional	= 5.847	0.52623
OrthoPhosphate (as P)	mg/l	24 hr flow proportional	= 17.93	1.6137
Sulphate (SO_4)	mg/l	24 hr flow proportional	= 63.83	5.7447
Phenols (Sum)	µg/l	24 hr flow proportional	< 0.1	0

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Table D.1(i)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
Atrazine	µg/l	24 hr flow proportional	= 0.01	0
Dichloromethane	µg/l	24 hr flow proportional	< 1	0
Simazine	µg/l	24 hr flow proportional	< 0.01	0
Toluene	µg/l	24 hr flow proportional	< 0.28	0
Tributyltin	µg/l	24 hr flow proportional	< 0.02	0
Xylenes	µg/l	24 hr flow proportional	< 1	0
Arsenic	µg/l	24 hr flow proportional	< 0.96	0
Chromium	µg/l	24 hr flow proportional	< 0.93	0
Copper	µg/l	24 hr flow proportional	= 23	0.75555
Cyanide	µg/l	24 hr flow proportional	< 5	0
Flouride	µg/l	24 hr flow proportional	= 210	6.8985
Lead	µg/l	24 hr flow proportional	< 0.38	0
Nickel	µg/l	24 hr flow proportional	= 1.1	0.036135
Zinc	µg/l	24 hr flow proportional	= 30.5	1.001925
Boron	µg/l	24 hr flow proportional	< 4.2	0
Cadmium	µg/l	24 hr flow proportional	< 0.09	0
Mercury	µg/l	24 hr flow proportional	< 0.2	0
Selenium	µg/l	24 hr flow proportional	= 2	0.0657
Barium	µg/l	24 hr flow proportional	= 3.8	0.12483

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Influent	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP (mg P/l)	Ortho P mg/l P	Total N mg/l N	NH_3-N mg/l N	TON mg/l N	TKN mg/l N	Nitrate NO_3	Nitrite NO_2	Conductivity uscm	pH	Phenols Total	Sulphate	Temp
Influent	25/01/2007	C	139	279	54														
Influent	20/02/2007	C	92	374	110														
Influent	27/03/2007	C	182	458	139														
Influent	24/05/2007	C	298	676	376														
Influent	24/07/2007	C	150	344	63														
Influent	22/08/2007	C	105	303	126														
Influent	24/10/2007	C	490	1026	372														
Influent	28/11/2007	C	118	309	111														
Influent	19/02/2008	C	285	615	114	0.91	0.30	2.80	48.86		0.14	48.72							
Influent	26/03/2008	C	220	638	148	4.42	1.44	13.57	4.83		0.35	4.48							
Influent	30/04/2008	C	390	578	167	13.20	4.30	40.48	71.00	19.70									
Influent	28/05/2008	C	177	582	219	8.50	2.77	26.07	56.00	38.10									
Influent	15/07/2008	C	492	810	142	8.60	2.80	26.37	47.00	28.30									
Influent	27/08/2008	C	430	626	117.6	0.18	0.06	0.55	91	33.80									
Influent	24/09/2008	C	178	278	77	7.86	2.56	24.09	42.72		0.16	42.56							
Influent	12/11/2008	C	40	95	42	0.96	0.31	2.95	10.11		0.03	10.08							
Influent	24/03/2009	C	300	630	144	4.76	1.55	14.59	48.49		0.33	48.16							
Influent	14/04/2009	C	450	687	221	7.96	2.59	4.40	40.82	39.38	0.50	40.32	0.45	0.05	1460.0	7.90	30.08	140.53	11.50

Table D.1 (iv) Influent Monitoring Data

Attachment D.2

Attachment D2

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
SW1(P)	Primary	Monaghan County Council	River	Newbliss River	Not designated	256277	323714	N

Attachment E.1

TABLE E.1(i): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Primary and Secondary Discharge Points

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)
SW-1	365	32850

Attachment E.2

Irish National Accreditation Board

Wilton Park House, Wilton Place, Dublin 2, Ireland. Tel +353 1 6073003 Fax +353 1 6073109 E-mail inab@inab.ie Web www.inab.ie

ACCREDITATION CERTIFICATE

Euro Environmental Services

Unit 35, Boyne Business Park, Drogheda, Co Louth

Testing Laboratory

Registration Number

119T

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard

ISO/IEC 17025:2005 2nd Edition

"General Requirements for the Competence of Testing and Calibration Laboratories"

(This Certificate must only be read in conjunction with the Annexed Schedule of Accreditation)

Date of award of Accreditation: 16:08:2002
Date of last renewal of Accreditation: 14:09:2007
Expiry Date of this certificate of Accreditation: 14:09:2012

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: Tom Dempsey
Mr Tom Dempsey

Chairperson: Máire C Walsh
Dr Máire Walsh

Issued on 14 September 2007

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

Irish National Accreditation Board

Wilton Park House
Wilton Place
Dublin 2

Tel: 353-1-607 3003
Fax: 353-1-607 3109
Email: inab@inab.ie
http://www.inab.ie

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

Permanent Laboratory:
Category A

Schedule of Accreditation

EURO environmental services

Chemical Testing Laboratory

Initial Accreditation Date: 09-10-2000

Postal Address:	Unit 35 Boyne Business Park Drogheda Co Louth
Telephone:	+ 353 41 984 5440
Fax:	+ 353 41 984 6171
Email:	info@euroenv.ie
Web:	www.euroenv.ie
Contact:	Natalie O'Brien
Facilities:	Public Testing Facility

Irish National Accreditation Board

Wilton Park House
Wilton Place
Dublin 2

Tel: 353-1-607 3003
Fax: 353-1-607 3109
Email: inab@inab.ie
http://www.inab.ie

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

Permanent Laboratory:
Category A

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish organisation for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation undertaking testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

GLOSSARY OF TERMS

Facilities:

Public calibration/testing service: Commercial operations which actively seek work from others.

Conditionally available for public calibration/testing: Established for another primary purpose but, more commonly than not, is available for outside work.

Normally not available for public calibration/testing: Unavailable for public calibration/testing more often than not.

Testing and Calibration Categories:

Category A: Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.

Category B: Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.

Category C: Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.

Category D: Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using
(a) portable test equipment
(b) a site laboratory
(c) a mobile laboratory or
(d) equipment from a mobile or site laboratory

Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report.
Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will on request verify the status and scope.

EURO environmental services

Chemical Testing Laboratory

ISO 17025 IVNAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

Permanent Laboratory:
Category A

SCOPE OF ACCREDITATION

INAB Classification number **Materials/products tested**	**Type of test/properties measured** **Range of measurement**	**Standard specifications** **Equipment/techniques used**
766 Waters		Documented in-house methods based on
.01 Waters for potable and domestic purposes	PH(4-13) pH units	Standard Methods for the examination of Water and Wastewater, 20th Edition Method 4500-H^+B – SOP 110
05 Trade Wastes *Industrial Waters*	Conductivity (5µs – 100,000 µscm^{-1})	Standard Methods for the examination of Water and wastewater, 20th Edition Method 2510B – SOP 112
	BOD (2-6mg/L)	Standard Methods for the examination of Water and wastewater, 20th Edition Method 5210B – SOP 113
	COD (5-60,000 mg/L)	Standard Methods for the examination of water and wastewater, 20th Edition Method 5220D – SOP 107
766 Waters		
.01 Waters for potable and domestic purposes	Chloride (20 –10,000mg/L)	Standard Methods for the examination of water and wastewater, 20th Edition Method 4500 – C-E – SOP 100
.04 Sewage .05 Trade Wastes *Industrial Waters*	Ammonia (0.2 – 1000 mg/L as N)	Standard Methods for the examination of water and wastewater, 20th Edition Method 4500 NH_3F – SOP 114
.99 Other Waters *Surface Waters* *Groundwaters*	Total Oxidised Nitrogen (TON) (1 – 8 mg/L as N)	Standard Methods for the examination of water and wastewater, 20th Edition Method 4500 $N0_3$H – SOP 151

EURO environmental services

Chemical Testing Laboratory

ISO 17025 IANAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 119T

Permanent Laboratory: Category A

SCOPE OF ACCREDITATION

INAB Classification number **Materials/products tested**	**Type of test/properties measured** **Range of measurement**	**Standard specifications** **Equipment/techniques used**
766 Waters .01 Waters for potable and domestic purposes .04 Sewage .05 Trade Wastes *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Orthophosphate (0.1 – 1000 mg/L as P)	Documented in-house methods based on Standard Methods for the examination of water and wastewater, 20th Edition. Method 4500 – P E – SOP 117
	Sulphate (10 – 30 mg/L as SO_4)	Standard Methods for the examination of water and wastewater, 20th Edition. Method 4500-S O_4^2E– SOP 119
	Total Phosphate (0.1 – 0.5 mg/L as P) (0.5 – 4 mg/L as P)	Standard methods for the examination of water and wastewater, 20th Edition. Method 4500-P B – SOP 166
	Na, Ca, K and Mg ICP-MS run (0.5 – 100 ppm)	Standard methods for the examination of water and wastewater, 20th Edition. Method 3120 B – SOP 184
	BTEX (Benzene, Toluene, Ethylbenzene and Xylenes): Benzene (5 – 100µg/L) Ethylbenzene (5 – 100µg/L) Toluene (5 – 100µg/L) o-xylene (5 – 100µg/L) m,p-xylene (10 – 200µg/L)	Based on USEPA methods, 524.2 SOP 179
	THMs (Trihalomethanes): Chlororform Bromochloromethane Dibromocloromethane Bromoform (5 - 200µg/L)	Based on USEPA methods, 524.2 SOP 186

EURO environmental services

Chemical Testing Laboratory

ISO 17025 IVNAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 119T

Permanent Laboratory: Category A

SCOPE OF ACCREDITATION

INAB Classification number **Materials/products tested**	**Type of test/properties measured** **Range of measurement**	**Standard specifications** **Equipment/techniques used**
766 Waters		
.01 Waters for potable and domestic purposes .05 Trade Wastes *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Hardness (Total) (100 – 400 mg/L $CaCO_3$)	Standard Methods for the Examination of Water and Wastewater, 20th Edition Method 2340 C SOP 111
	Alkalinity (Total) (50 – 10,000 mg/L $CaCO_3$)	Standard Methods for the Examination of Water and Wastewater, 20th Edition Method 2320 B SOP 102
.04 Sewage .05 Trade Wastes *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Colour (Apparent) (10 – 500ptCo Units)	Standard Methods for the Examination Of Water and Wastewater, 20th Edition Method 2120 B SOP 108
	Turbidity (0.01 – 1100 NTU)	Standard Methods for the Examination Of Water and Wastewater, 20th Edition Method 2130 A SOP 109

Attachment E.3

Attachment E.3

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW1(P)s	Primary	S	256264	323690	N
aSW1(P)u	Primary	M	256269	323653	N
aSW1(P)d	Primary	M	256275	323810	N

Attachment E.4

TABLE 1- ATTACHMENT E4

Newbliss Effluent

Effluent	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP mg P/l	Ortho P mg/l P	Total N mg/l N	NH3-N mg/l N	Nitrate NO3	Nitrite NO2	TON mg/l N	TKN mg/l N	Conductivity uscm	pH	Phenols Total	Sulphate	Temp
Effluent	25.01.2007	C	21	74	23	1.63	0.53	4.986		2.84	11.10								
Effluent	20.02.2007	C	40	174	44	3.03	0.99	9.292		22.98	0.83								
Effluent	27.03.2007	C	18	88	35	3.30	1.07	10.120		5.10	74.46								
Effluent	25.04.2007	C	24	93	38	4.30	1.40	13.186		2.70	84.50								
Effluent	24.05.2007	C	31	105	45	5.00	1.63	15.333		14.00	96.40								
Effluent	24.07.2007	C	13	49	31	3.23	1.05	9.899	15.72		11.72	4							
Effluent	22.08.2007	C	<2	37	25	5.85	1.90	17.930	20.22		11.22	9							
Effluent	24.10.2007	C	25	98	49	2.86	0.93	8.755	32.98		12.82	20.16							
Effluent	28.11.2007	C	7	48	33	2.14	0.70	6.562			22.61	<1							
Effluent	28.01.2008	C	2	36	28	0.32	0.10	0.975	9.13		6.89	2.24							
Effluent	19.02.2008	C	6	41	35	1.48	0.48	4.551	30.36		20.84	9.52							
Effluent	26.03.2008	C	2	46	32	1.70	0.55	5.223	14.19		11.39	2.8							
Effluent	30.04.2008	C	9	46	28.4	1.80	0.59	5.524	31.00	2.90									
Effluent	28.05.2008	C	42	146	54	3.30	1.07	10.120	54.00	13.80									
Effluent	15.07.2008	C	35	124	70	2.39	0.78	7.329	32.00	9.90									
Effluent	27.08.2008	C	13	55	39	1.90	0.62	5.826	24.80	4.00									
Effluent	24.09.2008	C	48	183	105	5.45	1.78	16.719	4.33		0.41	3.92							
Effluent	12.11.2008	C	2	33	6	0.85	0.28	2.610	8.67		7.55	1.12							
Effluent	08.12.2008	C	26	120	27	2.59	0.84	7.936	28.21		13.65	14.56							
Effluent	14.01.2009	C	4	56	13	3.89	1.27	11.920	19.53		7.77	11.76							
Effluent	24.03.2009	C	54	168	49	2.05	0.67	6.274	30.27		0.03	30.24							
Effluent	14.04.2009	C	48	69	21	3.70	1.20	3.486	19.43	5.56	11.59	7.84	10.32	1.273	618	7.1	<0.1	63.83	10

Newbliss

TABLE 2 - ATTACHMENT E4

aSW1(P)u Upstream Monitoring Point

U.S.W	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP mg P/l	Ortho P mg/l P	Total N mg/l N	NH_3-N mg/l N	Nitrate NO3	Nitrite NO_2	TON mg/l N	TKN mg/l N	Conductivity uscm	pH	Phenols Total	Sulphate	Temp
U.S.W	25.01.2007	G	<1.5		6	0.04	0.01	0.110		0.13	0.89								
U.S.W	24.07.2007	G	<2	34	16	0.22	0.07	0.684	1.52		0.52	1.00							
U.S.W	22.08.2007	G	<2	33	5	0.53	0.17	1.622	8.77		0.77	8.00							
U.S.W	24.10.2007	G	<2	21	6	0.14	0.05	0.439	2.18		0.50	1.68							
U.S.W	28.11.2007	G	3	44	25	0.35	0.11	1.079	3.96		2.28	1.68							
U.S.W	19.02.2008	G	2	20	3	0.09	0.03	0.288	5.67		0.63	5.04							
U.S.W	30.04.2008	G	4	42.9	15.6	0.14	0.05	0.429	1.30	0.05									
U.S.W	15.07.2008	G	3	37	12.8	0.17	0.06	0.521	1.90	0.01									
U.S.W	24.09.2008	G	2	23	4	0.13	0.04	0.386	1.31		0.31	1.00							
U.S.W	12.11.2008	G	2	5	3	0.07	0.02	0.227	1.33		0.33	1.00							
U.S.W	24.03.2009	G	2	28	9	0.10	0.03	0.301	1.41		0.41	1.00							
U.S.W	14.04.2009	G	<2	34	18	0.14	0.05	0.028	<1	0.05	0.40	<1	0.38	0.02	266.00	7.70	<0.1	6.92	9.80

TABLE 3 - ATTACHMENT E4

aSW1(P)d Downstream Monitoring Point

D.S.	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP mg P/l	Ortho P mg/l P	Total N mg/l N	NH_3-N mg/l N	Nitrate NO_3	Nitrite NO_2	TON mg/l N	TKN mg/l N	Conductivity uscm	pH	Phenols Total	Sulphate	Temp
D.S.	25.01.2007	G	<1.5		6	0.04	0.01	0.117		0.17	1.87								
D.S.	24.07.2007	G	<2	33	8	0.18	0.06	0.552	2.88		0.88	2							
D.S.	22.08.2007	G	<2	34	7	0.66	0.22	2.036	6.39		1.39	5							
D.S.	24.10.2007	G	<2	26	9	0.13	0.04	0.411	4.67		1.87	2.8							
D.S.	28.11.2007	G	3	44	36	0.297	0.10	0.911	3.73		2.05	1.68							
D.S.	19.02.2008	G	2	17	4	0.084	0.03	0.258	7.12		1.52	5.6							
D.S.	30.04.2008	G	4	38.2	10.3	0.160	0.05	0.491	1.70	0.13									
D.S.	15.07.2008	G	3	28	17.2	0.130	0.04	0.399	2.00	0.01									
D.S.	24.09.2008	G	2	38	8	0.141	0.05	0.432	1.96		0.96	2							
D.S.	12.11.2008	G	2	6	3	0.072	0.02	0.221	1.63		0.63	1							
D.S.	24.03.2009	G	2	31	8	0.337	0.11	1.033	3.34		1.10	2.24							
D.S.	14.04.2009	G	2	37	16	0.148	0.05	0.028	1.92	0.25	1.36	<1	1.33	0.027	287	7.6	<0.1	12.35	9.2

Attachment F.1

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	256275 / 323810

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	24/09/08	12/11/08	24/03/09	14/04/09			
pH				= 7.6	Grab	0.01	Method 4500-H+/Electrometry
Temperature				= 9.2	Grab	0	0
Electrical Conductivity (@ 25°C)				= 287	Grab	1	Method 2510 B/Electrometry
Suspended Solids	= 8	= 3	= 8	= 16	Grab	0.5	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)				= 0.25	Grab	3	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	= 2	= 2	= 2	= 2	Grab	0.06	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 38	= 6	= 31	= 37	Grab	2	Method 5220 D/Spectrophotometry
Dissolved Oxygen				= 0	Grab	5	DO Meter
Hardness (as $CaCO_3$)				= 0	Grab	0	0
Total Nitrogen (as N)	= 1.96	= 1.63	= 3.34	= 1.92	Grab	0	Calculation
Nitrite (as N)				= 0.027	Grab	1	Method 4500-NO2-B/Colorimetry
Nitrate (as N)				= 1.33	Grab	0.003	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.14	= 0.07	= 34	= 0.15	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)	= 0.43	= 0.22	= 1.03	= 0.03	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)				= 12.35	Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)				= 0.1	Grab	0.1	EPA Method 525 GCMS

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	No Hardness or Dissolved Oxygen Data Available.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	256275 / 323810

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	14/04/09						
Atrazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Dichloromethane	< 1				Grab	1	USEPA Method 524 GCMS
Simazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Toluene	< 0.28				Grab	0.28	USEPA Method 524.2 GCMS
Tributyltin	< 0.02				Grab	0.02	Subcontracted Test GCMS
Xylenes	< 1				Grab	1	USEPA Method 524.2 GCMS
Arsenic	< 0.96				Grab	0.96	USEPA Method 3125B ICPMS
Chromium	< 0.93				Grab	0.93	USEPA Method 3125B ICPMS
Copper	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 170				Grab	0.03	Method 4500 F - E Colorimetry
Lead	< 0.38				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 1.5				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	< 4.6				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 19				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	< 0.74				Grab	0.74	USEPA Method 3125B ICPMS

Barium	= 25.8				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	256239 / 323653

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	24/09/08	12/11/08	24/03/09	14/04/09			
pH				= 7.7	Grab	0.01	Method 4500-H+/Electrometry
Temperature				= 9.8	Grab	0	0
Electrical Conductivity (@ 25°C)				= 266	Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	= 4	= 3	= 9	= 18	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)				= 0.05	Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	= 2	= 2	= 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 23	= 5	= 28	= 34	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen				= 0	Grab	0	DO Meter
Hardness (as $CaCO_3$)				= 0	Grab	0	0
Total Nitrogen (as N)	= 1.31	= 1.33	= 1.41	< 1	Grab	1	Calculation
Nitrite (as N)				= 0.016	Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)				= 0.38	Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.13	= 0.07	= 0.1	= 0.14	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)	= 0.39	= 0.23	= 0.3	= 0.03	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)				= 6.92	Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)				< 0.1	Grab	0.1	EPA Method 525 GCMS

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	No Hardness or Dissolved Oxygen Data.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	256239 / 323653

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	14/04/09						
Atrazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Dichloromethane	< 1				Grab	1	USEPA Method 524 GCMS
Simazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Toluene	< 0.28				Grab	0.28	USEPA Method 524.2 GCMS
Tributyltin	< 0.02				Grab	0.02	Subcontracted Test GCMS
Xylenes	< 1				Grab	1	USEPA Method 524.2 GCMS
Arsenic	< 0.96				Grab	0.96	USEPA Method 3125B ICPMS
Chromium	< 0.93				Grab	0.93	USEPA Method 3125B ICPMS
Copper	= 2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 160				Grab	0.03	Method 4500 F - E Colorimetry
Lead	< 0.38				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 1.5				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	< 4.6				Grab	4.6	USEPA Method 3125B ICPMS
Boron	< 4.2				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 1				Grab	0.74	USEPA Method 3125B ICPMS

Barium	= 31.8				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

Attachment G.2

water matters

"Help us plan!"

north western
international
river basin district

North South Shared Aquatic Resource (NS SHARE)

Summary Leaflet

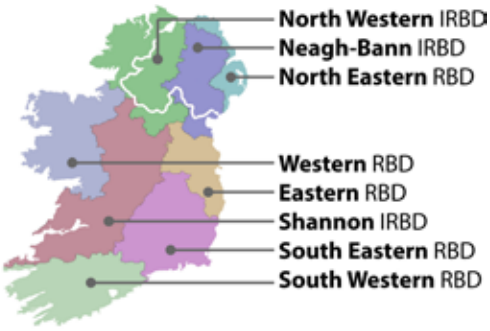
Draft River Basin Management Plan for the North Western International River Basin District

December 2008

The Draft River Basin District Management Plan

The European Union Water Framework Directive was adopted in 2000. It requires governments to manage all of their waters: rivers, canals, lakes, reservoirs, groundwaters, wetlands, estuaries and coastal waters. Member States must ensure that their waters achieve at least good status by 2015 and that their status doesn't deteriorate.

The Directive requires the preparation of a management plan for all of the waters in an area called a River Basin District. Some 400 river basins on the island of Ireland have been grouped and assigned to a total of eight River Basin Districts; one of these lies wholly in Northern Ireland, four lie wholly in Ireland and three are International River Basin Districts, one of which is the North Western District.



Since 2000, the District's local authorities and the Northern Ireland Environment Agency have been working on the implementation of the Water Framework Directive. We have met all of the deadlines and our performance has been amongst the best in the European Union.

We have actively sought people's views at every stage of the implementation process. Management plans are considered by the District's Advisory Council (Ireland) and by the Catchment and National Stakeholder Groups (Northern Ireland). We produced a series of consultation documents and we discussed significant water management issues with interest groups, public authorities and local authorities at a series of public consultation events in 2007 and 2008.

The next stage is the production of a River Basin District Management Plan. It will cover the six-year period from 2009 until 2015; any remaining issues or new problems will be tackled in two further six-year plans, 2015–2021 and 2021–2027.

We have produced a draft of the plan and we are beginning a process of consultation to elicit views on the draft. In Ireland the final version of this plan must be adopted by all local authorities in the District, whilst in Northern Ireland the plan must be approved by the Environment Minister. The plan will come into effect at the end of 2009.

How the plan was developed

We followed a nine-step process in developing the plan. Our approach was structured: find out the issues, decide what action to take and make a plan.

What are our key water issues?	We investigated which water issues are causing problems, what actions we could take to solve them and where we should focus these actions.
What is the status of our waters?	Comprehensive monitoring established the condition of our waters; identifying where they are satisfactory and where they must be improved.
What do we plan to achieve?	We identified sustainable objectives for our waters.
What measures must we take?	The Water Framework Directive stipulates mandatory measures. We identified actions under these measures, setting out existing and new plans and programmes to ensure full and effective implementation.
What will these mandatory measures achieve?	We assessed how effective these mandatory measures will be in meeting our objectives and have identified cases where extra effort may be needed to improve our waters.
What further measures can we take?	We identified supplementary measures for the cases where the mandatory measures alone would not be sufficient to achieve our objectives.
What will supplementary measures achieve?	We assessed whether the combination of measures would achieve our objectives and how long it would take.
What are our objectives in the North Western District?	We outline the objectives we plan to achieve and specify where extended timescales or lower objectives are necessary.
What is our action plan for the North Western District?	The outcome of this planning process is a tailored action plan for the North Western District. We have proposed a detailed suite of measures setting out what, where and when actions are needed and who will do them.

North Western District: current status

The status of our surface waters and groundwaters is summarised in these two tables. These tables include the whole international district's waters: those in Northern Ireland, those in Ireland and the shared waters (those water bodies which lie along the border).

Surface water status in the North Western District

Surface Water Category	High	Good	Moderate	Poor	Bad	Yet to be Determined
Rivers and canals (number) % of total	(61) 7.0	(283) 32.7	(342) 39.5	(165) 19.1	(10) 1.2	(5) 0.6
Lakes and reservoirs (km^2) % of total	(9.5) 3.4	(28.8) 10.2	(227.4) 80.6	(13.5) 4.9	(3.1) 1.1	(0) 0
Estuaries (km^2) % of total	(11.5) 8.7	(0) 0	(120.5) 91.2			(0.2) 0.1
Coastal (km^2) % of total	(239.0) 10.7	(0) 0	(212.5) 9.5			(1,778.5) 79.8

Groundwater status in the North Western District

Groundwater	Good	Poor
Chemical Status (km^2) % of total	(12,077) 100	(0) 0
Quantitative Status (km^2) % of total	(12,077) 100	(0) 0
Combined Status (km^2) % of total	(12,077) 100	(0) 0

Protected Areas

There are 186 protected areas amongst the shared waters of the North Western International River Basin District. In the whole District there are 477 protected areas. These include drinking water sources such as Gartan Lough and Lower Lough Erne, shellfish waters such as Mulroy Bay and parts of Lough Foyle, bathing waters such as Murvagh and Benone beaches, nutrient sensitive areas such as Killybegs Harbour and Upper Lough Erne and Special Areas of Conservation and Special Protection Areas such As Lough Melvin and River Foyle and Tributaries.

Pressures

The main pressures on our waters come from:

- wastewater and industrial discharges
- landfills, quarries, mines and contaminated land
- agriculture
- wastewater from unsewered properties
- forestry
- usage and discharge of dangerous substances
- physical modifications
- abstractions
- local and future issues. In the North Western District, they include climate change, aquaculture, invasive alien species, and cruising and boating as well as the need to protect high quality areas and to manage shared waters issues properly.

We can achieve the greatest gain by concentrating our efforts on those issues that pose the greatest threat to our water environment. Two key sectors stand out, agriculture and the water industry. Both Northern Ireland Environment Agency and the Environmental Protection Agency have identified the need to take action in response to these sectors in the River Basin Management Plan. *"Discharges from municipal wastewater treatment works and from agricultural activities are the principal suspected causes of less than satisfactory water in the State. Industrial discharges and discharges from several other activities have also been identified as contributing to a lesser extent".* (Environmental Protection Agency, 2008)

Measures and objectives

The measures to improve our waters fall into three categories:

- the implementation of 11 key directives, specified under the Water Framework Directive and already transposed into domestic legislation
- the implementation of other stipulated measures required by the Water Framework Directive
- the use of additional or supplementary measures.

Basic measures

The first two categories are referred to as **basic measures**. They are:

The 11 key EU Directives	Other stipulated measures
Bathing waters	Cost recovery for water use
Birds	Promotion of efficient and sustainable water use
Habitats	Protection of drinking water sources
Drinking waters	Control of abstraction and impoundment
Major accidents	Control of point source discharges
Environmental impact assessment	Control of diffuse source discharges
Sewage sludge	Authorisation of discharges to groundwaters
Urban wastewater treatment	Control of priority substances
Plant protection products	Controls on physical modifications to surface waters
Nitrates	Controls on other activities impacting on water status
Integrated pollution prevention control	Prevention or reduction of the impact of accidental pollution incidents

Supplementary measures

A range of possible supplementary measures has been identified by a series of technical studies. Some are already being taken: they include farm based environmental protection schemes and implementation of a suite of forestry good practice guidelines. Other possible measures are codes of practice, voluntary agreements, demand reduction and rehabilitation programmes and legal, administrative and economic instruments.

Supplementary measures range from **reducing** the pressure at source through **remediation** by technical or engineering solutions to **relocation** of the pressure. They have to be technically feasible; the combination of supplementary measures must be the most cost-effective and the cost of these combinations of measures must not be significantly greater than the benefits gained. The impacts of the supplementary measures on the wider environment have to be considered, through Strategic Environmental Assessment, to ensure that they are sustainable.

Our objectives for each category of waters

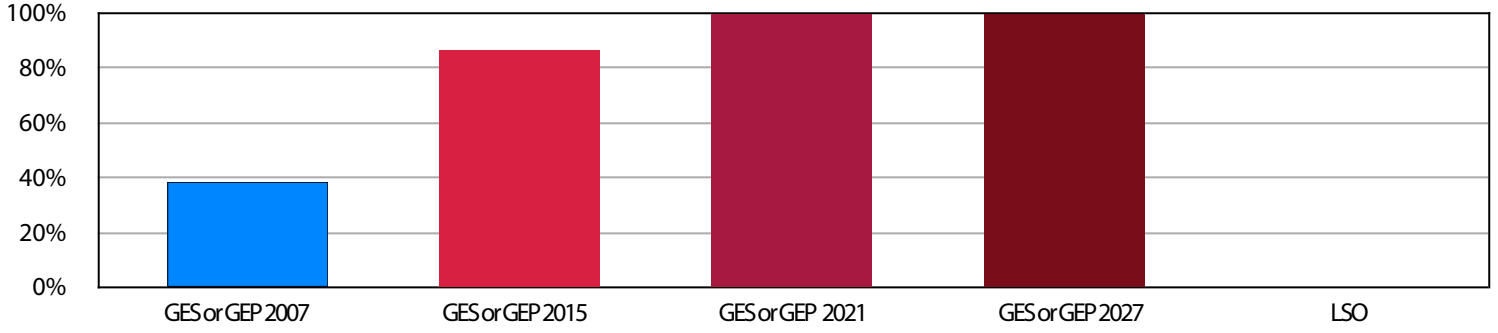
These charts show the improvements we expect in each category of waters over three cycles of the river basin district planning process.

GES or **GEP** means **good ecological status** or **good ecological potential**, in other words compliant with the Water Framework Directive. The standard of good ecological potential is applied to artificial and heavily modified waters (such as canals and reservoirs) where the benefits to humans need to be retained.

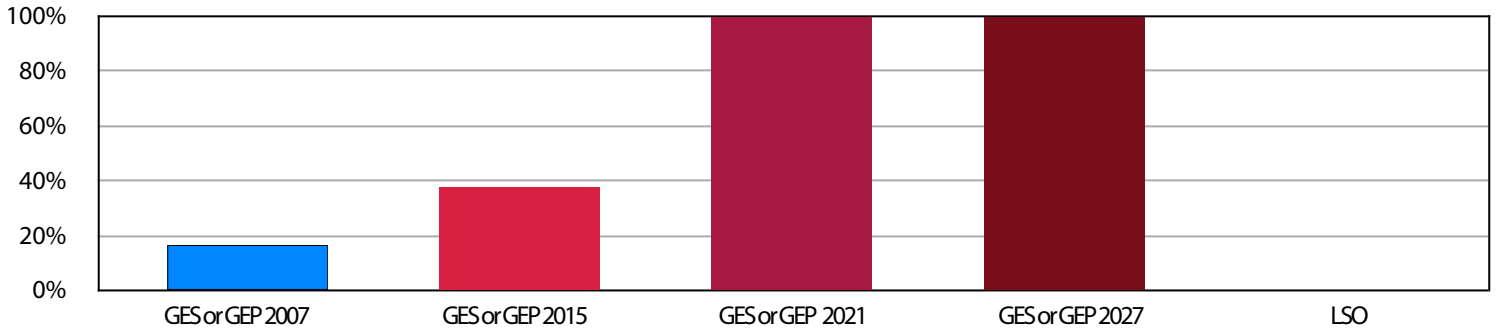
LSO means **less stringent objective**, which means that the waters won't achieve good status or good potential before 2027.

Rivers and Canals (number)

0.1% of rivers and canals are unclassified

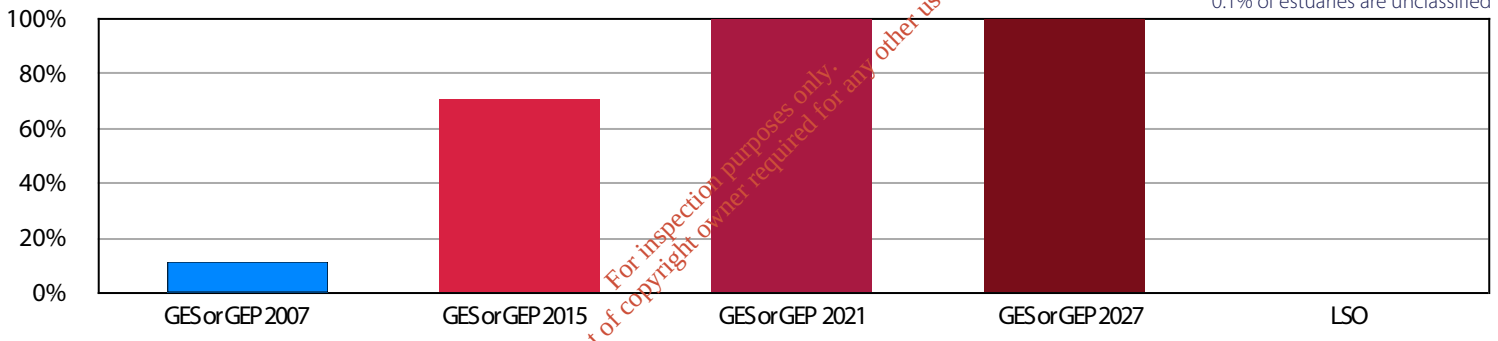


Lakes and Reservoirs (km²)



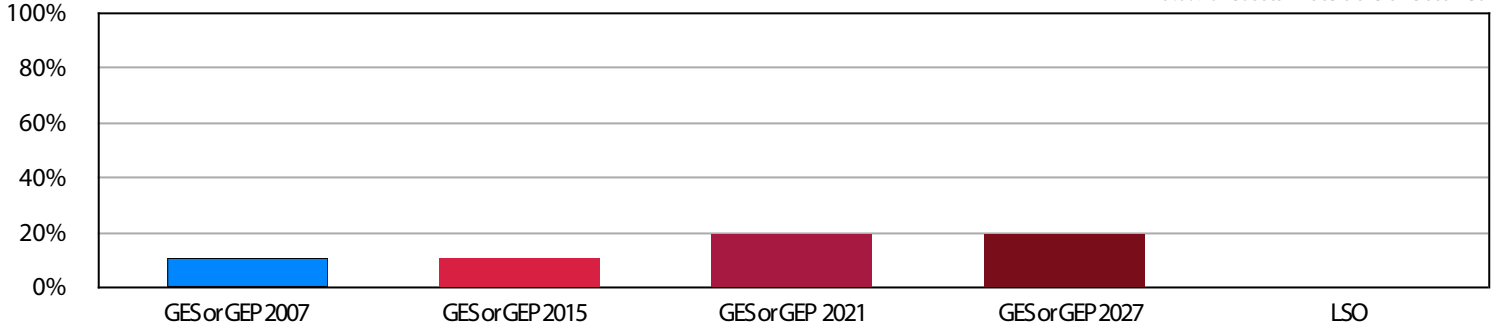
Estuaries (km²)

0.1% of estuaries are unclassified

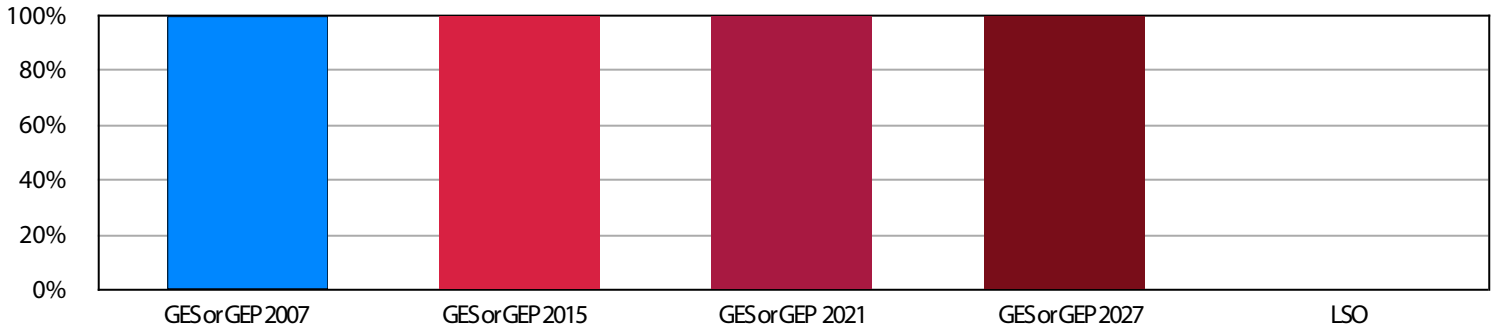


Coastal Waters (km²)

79.8% of coastal waters are unclassified



Groundwaters (km²)



What happens next

The full text of the draft plan is available on www.wfdireland.ie. along with background documents including technical studies into our key water issues, our register of protected areas, and documents detailing monitoring programmes and status development, economics, objectives, programmes of measures and links to plans and programmes. There is also a list of the District's relevant authorities and stakeholders, as well as documents on climate change and Strategic Environmental Assessment. Our interactive webmap viewing tool can also be accessed at www.wfdireland.ie.

Comments, views and suggestions may be sent by 22 June 2009 to:

Dr Tony McNally
North Western International River Basin District Project
Donegal County Council
Enterprise Fund Business Centre
Ballyraine
Letterkenny
Co Donegal
tmcnally@donegalcoco.ie

Early responses would be appreciated to allow more time to clarify and resolve issues that may arise.

We will comply with data protection requirements and will use information that you provide to compile a digest of responses. Please let us know if you wish your response to remain anonymous: if you do, we will include your comments in the digest without saying who made them. If you want to add new comments or information you can contact our website at any stage (www.nwirbd.com).

Implementation

The North Western International River Basin District is cross-border; partly in Ireland and partly in Northern Ireland. This leaflet refers to the draft River Basin Management Plans for the District which were issued by the county councils of Donegal, Cavan, Leitrim, Longford, Monaghan and Sligo and by the Northern Ireland Environment Agency. Preparation of the draft plans has been closely coordinated between the two jurisdictions and these coordinated arrangements are outlined in the document entitled ***Working Together*** (www.wfdireland.ie)

The task of implementing the management plans will fall mainly to the statutory authorities. In the case of the North Western District, it is envisaged that a unit will be set up by Donegal County Council to coordinate the work of Ireland's statutory authorities and to coordinate work with the Northern Ireland Environment Agency. In Ireland, implementation of the plans will be coordinated by the Department of the Environment, Heritage and Local Government, working together with the local authorities, the Environmental Protection Agency and other relevant public authorities. In Northern Ireland, work will be coordinated by the Department of the Environment and Northern Ireland Environment Agency, through the Interdepartmental Working Group, which includes the four main government departments responsible for implementing the plan.

Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998

MONAGHAN COUNTY COUNCIL

4th Implementation Report

July 2006

Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998.

4th Implementation Report

Monaghan Co Council.

Introduction:

The Phosphorus Regulations (1998) require the Monaghan Co Council to protect satisfactory waters and to improve unsatisfactory waters. Water quality interim targets have been set for 2007.However Monaghan Co Council has applied for an extension to 2013. (In the 2004 EPA audit, an EPA officer advised against reliance on the 2013 deadline as the more stringent Water Framework Directive deadline of 2015 for both good chemical and biological status will also need to be complied with.)
The Phosphorus Regulations require Monaghan Co Council to submit a biennial implementation report to the Environment Protection Agency. The 4th Implementation Report is due for submission to the Agency on 31/7/2006.

Section 1. Water Quality in Co Monaghan

River Monitoring

Baseline Data

The baseline data for the County, established from the EPA's Biological Monitoring Programme (Q Ratings) since 1995 indicates that **30%** of river stations monitored were of satisfactory quality (Q rating ≥4) while **70%** of stations monitored were unsatisfactory (Q rating ≤ 3-4). Table 1.1 refers.

Current Status Rivers

This 4th Implementation Report relates to the reporting period Jan 2004 to Dec 2005. Reference to physio-chemical data in this document relates to water quality monitoring carried out by Monaghan Co Council in the period Jan 2004 to Dec 2005.
Reference to river current Q ratings, relate to the Q rating assigned by the EPA. The 06 Hydrometric area was monitored in 2003 while the 03 and 36 Hydrometric areas were monitored in 2004. Table 1.1.refers
Current data indicates

- 33% (22 out of 66) of river stations monitored are classified as unpolluted (Q ratings > 4 - 2003/04 data). This figure is low by national standards.
- 24% (16No.) of river monitoring stations show an improvement in Q rating from baseline data

- 27% (18No.) of stations monitored show a decline in Q rating.
- 71% (55 out of 77) of stations with Q data and/or Median P values achieve standards set out in Section 3(2) of the Phosphorus Regulations. Section 3(2) allows compliance with the Phosphorus Regulation targets by achieving either the standards set for Q rating or MRP (Molybdate Reactive Phosphate) value.

Water Quality Trends: Rivers

Q Ratings

Since the 95-97 baseline period no significant improvement in overall biological water quality in the County is apparent. Although 24% of sites monitored in the 2003 and 2004 do show an improvement from baseline data, a further 27% of sites monitored show a decline in quality. Since the mid 90's there are no longer any pristine sites (Q 5) recorded in Co Monaghan. However the improvements in the Erne catchment noted in 2004 are promising.

Physio-chemical Data:

Water quality data does provide some information on water quality trends in the county. A decline in river phosphate levels has been noted in some rural areas. However, many other river stations do not show a similar decline as yet.

Noticeable water quality improvements have followed the upgrading of urban wastewater treatment plants and upgrading/removal of industrial treatment plant discharges. The Blackwater River below Monaghan Town and the Proules River below Carrickmacross have improved from baseline quality. However water quality in these river stretches – designated as "sensitive waters" under the Urban Waste Water Regulations, remains unsatisfactory (as defined by the EPA). Continued urban development is placing additional pressures on infrastructure and water quality downstream of urban areas. Discharges of untreated or partially treated urban waste waters via storm overflows or overloaded collection systems can have significant effects on water quality and these problems have been referred to Water Services for examination and appropriate remediation.

Since Jan. 2004 the frequency of river monitoring has been increased to 12 samples per annum every 2 years. Median P values are now available for almost all EPA Q rated sites. Results for Median P levels are shown in Table 1.1.

Lake Monitoring

Monaghan Co Council's lake monitoring programmes for 2004 and 2005 have been completed and results reported to the EPA. A total of 50 lakes have been monitored at sampling frequency of one lake sample per annum for the smaller lakes and two to four lake samples for the larger lakes. Lake sampling is resource intensive and Monaghan's sampling frequency has remained low. However the new Water Framework Directive Monitoring Programme, due to commence in Dec 2006 requires a review of sampling frequency – final details have yet to be decided.

Currently lake sampling is carried out in the summer months with the assistance of Civil Defence staff (2 persons) and equipment (boat and pickup truck) and a summer student. The current sample collection takes 10 to 12 days approximately. Water samples are analysed by the EPA Laboratory in Monaghan Town.

Due to low frequency of lake sampling only the Chlorophyll level can be used for classification purposes and compliance checking. If the Total Phosphorus (TP) parameter were to be included a minimum of 10 samples per annum would be required.

Lake Water Supply Sources
Work is currently ongoing to integrate the protection of the 23 lakes used as water supply sources into development planning and control. Maps of surface water sources are included in the current Draft Co Development Plan for Co Monaghan.

Current Status - Lakes

Lake Trophic Status (2004/2005)
The lake trophic status shown in Table 1.2 is derived from the maximum Chlorophyll level measured in the period 2004 to 2005. Current data indicates 46% of lakes comply with requirements of the Phosphorus Regulations based on chlorophyll levels only. Table 1:2 refers

Note:
Lake chlorophyll levels can fluctuate significantly throughout the year. Chlorophyll levels do not always indicate the same degree of eutrophication as do the available Total Phosphorus levels. Total Phosphorus levels in some lakes in Co Monaghan are extremely high.

Water Quality Trends: Lakes
The 2004/2005 lake data indicates an increased number of lakes in the satisfactory category (i.e oligotrophic and mesotrophic). However the high number of lakes (over 80%) with elevated Total Phosphorus levels is a cause for concern.
Tables A and B below show a comparison of current lake trophic status with baseline status and Lake Total Phosphorus (TP) levels for the 2001 to 2005 period..

Table A: Comparison of Lake Data 1995-2003

Annual Max Chlorophyll level ppb	Trophic Status	Baseline data 95-2001 (no. of lakes)	Current Trophic (2004/2005) Classification (no. of lakes)
<8	Oligotrophic		6
≥8 <25	Mesotrophic	11	9
≥25<75	Eutrophic	19	24
≥75	Hypertrophic	16	11

Table B: Lake Total Phosphorus Levels –Average Value of 2001 to 2005 data

Total Phosphorus Average Conc (ppb) 2001-2005 (MCC data)	No. of Lakes in each category
<30	8
30-59	16
60-99	17
>100	10

Water Framework Directive lakes:
Lakes proposed for additional monitoring under the Proposed WFD Monitoring Programme and their current trophic status includes:

Lake	Currrent Status
Avaghon lake	Mesotrophic (– but algal blooms noted in recent years)
Drumlona	Eutrophic
Emy	Mesotrophic
Egish	Eutrophic.
Inner	Hypertrophic
Naglack	Hypertrophic
Monalty	Hypertrophic
Muckno	Hypertrophic
White	Eutrophic
Dromore	Status unknown

Groundwater Quality
The Phosphorus Regulations 1998 deal with surface waters and although ground water quality may impact on surface waters sufficient data is not available in relation to this aspect. The situation regarding groundwater quality will be addressed as the Water Framework Directive is rolled out. A Groundwater Protection Scheme for Co Monaghan has been produced by the GSI. Work is currently ongoing to integrate the Groundwater Protection Scheme into planning decision making and maps of groundwater sources and resources are included in the current Draft Co Development Plan.

Section 2. Implementation of Measures

Monaghan Co Council's Measures Report in 1999 identified a need for additional resources to implement proposals to protect and improve water quality. Although additional staff were recruited following completion of negotiations under BLG (Better Local Government) in 2001, the Phosphorus Team has since lost 2 experienced Environmental Officers. One Environmental Officer (temp) is now in training.

Use of Consultants

In 2005 additional resources were allocated to employ consultants *(RPS Consultant Engineers*) to carry out farm surveys and to highlight farms that will require follow up action by the Council staff. However, without experienced field staff in-house catchment survey work and the necessary follow up of problem premises is currently suspended with a review of the situation due in October 2006.

Monaghan Co Council continue to use the services of Conservation Services to carry out detailed Biological Surveys of rivers. This work highlights "hot spots" and a number of such "hot spots" are awaiting follow-up surveys.

In the 2004-2005 period the Phosphorus Team has been involved in a number of specific work areas as follows:

- Catchment surveys - initially work has been concentrated moderately polluted river stretches and unsatisfactory lakes**.** Work has progressed well but extensive areas of the County are as yet not surveyed**.** See Map in Appendix 1 outlining Progress.
- Database management and updating GIS programme
- Review and updating of water quality monitoring programmes and the introduction of additional Biological Monitoring using a private consultant.
- A survey and report of Urban Wastewater Treatment plants and collection systems.
- Continued enforcement of Water Pollution Acts and Waste Management Act.
- Awareness raising to achieve sectoral involvement in protection and improvement of water quality.

The Phosphorus Team also tries to work closely with Planning control staff, other Environment Section staff and Water Services Section although more integration in this area is deemed necessary.

Future Developments in the area of Water Management

During 2004 a number of Projects relating to water quality issues in Co Monaghan have been initiated. These include:

- North South SHARE Project on River Basin Management Planning.
- Blackwater Regional Partnership TRACE Project on the Definition and Mitigation of Excessive Multi-source Nutrient Loss to Water, lead by University of Ulster and Queens University, Belfast.
- Churchill Oram Source Protection Pilot Scheme led by the National Federation of Group Water Schemes and the Freshwater Studies Unit at DKIT.
- Blackwater Vital Signs Schools project .

- Monaghan Co Council has participated in the Erne Blackwater Surface Waters Working Group.
- The County Development Board has included the Improvement of Water Quality in Co Monaghan as an Action in the CDB Strategy for Co Monaghan.

Monaghan Co Council will provide available water quality data for the Project leaders and is involved as Steering Group members and/or in an advisory role.
The benefits of such projects are expected to be increased knowledge of water quality issues, improved water quality management, improved public and sectoral participation. and increased awareness.

Section 3. Progress to Date

There is evidence that the biological quality of rivers continues to decline in Co Monaghan. Of particular concern is the recent loss of pristine and high quality sites in upland areas. It is expected that resource intensive catchment survey work, additional monitoring, enforcement and in some cases changes in land use or other measures will be required to bring about water quality improvements. It is expected that the turn-around period between intensive catchment survey work, enterprise improvements and water quality improvements could be a minimum of 2-3 years depending on catchment characteristics.

Improvements in Hydrometric Area 36 (Erne Catchment)
Promising results were evident in the 2004 EPA Biological Monitoring of Hydrometric Area 36 (Erne Catchment).

Although Monaghan Co Council have completed catchment survey work in sub-catchments of the Erne River (Bunnoe and Maghery Rivers have been surveyed in 2002 and 2003) improvements are also noted in other sub-catchments. It is suspected that the intensive surveillance and enforcement work carried out by the Northern Regional Fisheries Board (NRFB) for several years has contributed significantly to improvements in water quality in this area. Discussions with the Eastern and Northern Regional Fisheries Boards have revealed that additional resources have been dedicated to surveillance and enforcement work in the NRFB area for a number of years.

Progress has been made in pursuing measures set out to tackle water pollution in Co Monaghan. Improvement in the chemical data at some river stations is evident, upgrading of industrial treatment plants continues and investment in Water Services is ongoing. Progress in various work areas is detailed below and in Table 3,4, and 5 attached in Appendix 2. However additional resources are considered necessary to successfully identify and follow up on pollution sources in the county.

Catchment Surveys

Catchment surveys commenced in May 2002 with a focus on small rural catchments where water quality was classified as moderately polluted. All agricultural, industrial and commercial premises were surveyed in each catchment. Communal septic tanks and village areas were also surveyed. The aim of catchment surveys was to identify and eliminate point sources of pollution and identify potential diffuse sources of pollution for further attention.
Over the period Jan 2004 to Dec 2005, a total of 352 premises (mainly agricultural) were surveyed. 110 advisory letters were issued, 21 Section 12 Notices were issued. A total of 450 reinspections of silage making facilities (including facilities surveyed pre 2004) and 158 reinspections of medium and high-risk wintering facilities were reinspected in the summer and winter periods respectively.

Current Status of Catchment Survey Work Table (refer to Map of progress Appendix 1)
Table C

Catchment /River	Survey By	Comments
Emy Lough catchment	2003, MCC Staff	Limited follow up of due
Mountain Water Tributary	2004/05 -TRACE Project	Pollution mitigation measures due to be installed in 2006
Scotstown River	2004, MCC Staff	Follow up inspections due
Blackwater (upper reaches)	2004, MCC Staff	Follow up inspections due
Maghery, Kilcoran and Magherarney Lakes	2002 MCC	Limited follow up due
Lough Oony	2003 MCC	Follow up on 1 farm due
Conawary River	2005/06 MCC	Follow up inspections due
Ballagh lake	2006 MCC	Follow up inspections due
Clontibret Stream	2003/04 MCC	Follow up inspections due
Bunnoe River and Annamakerrig Lake	2003 MCC	Limited follow up due
Drum lake	2003 MCC	Limited follow up due
Avaghon lake Stream, Mullanary and Corkeeran Lakes	2002 MCC	Limited follow up due
Namachree Lake	2002 MCC	Follow up on 1 septic tank due
Milltown lake Catchment	2005/06 Dundalk Inst. Of Tech.	Extensive monitoring completed – Farm and septic tank survey due 2006
Rossdreenagh River	2006 RPS on behalf of MCC	All follow up outstanding. (MCC to carry out follow up
Inner Lough	2003 NRFB	

Database Management and Mapping

Consultants completed a GIS Mapping Project and Sludge Management Plan for Co Monaghan in Spring of 2002. The GIS Project provides a comprehensive mapping tool for catchment survey work. As the catchment surveys progress it is intended that data on all enterprises are entered on an access database and mapped using GPS.

Due to the extent of agricultural activities in the County and their potential impact on the environment, work commenced in 1999 on collection of relevant agricultural data. A comprehensive database on intensive agricultural enterprises, soil phosphorus returns, and a poultry manure waste tracking system has been established.

Monitoring Programmes

Lake Monitoring Programme
As detailed in Section 2 page 3.

River Monitoring
From Jan 2004 monthly river water samples have been collected and each river monitored for one 12 month period every two years. This work is contracted out to the EPA Regional Lab, Monaghan Town. The river sampling programme has been extended to include all river stations Q rated since 1995.

Additional Monitoring
Additional Monitoring Programmes carried out to identify "Hot Spots" and provide additional information of water quality in selected catchments and their tributaries are shown on Table D below.

Table D

River	Type of Monitoring	Comments
R Blackwater (03/B/01), and Tributaries including 03/S/02, 03/S01,	Physio-chemical, flow and biological monitoring in 2002-2003 period	Partial catchment survey work carried out in 2004– survey follow up due.
Mountain Water (03 M01) and Tributaries	Physio-chemical and biological monitoring – 2003-2004 period	Some problem areas identified – catchment awaiting survey
Emy Lough Stream	Physio-chemical and biological monitoring in 2004	Mini catchment survey completed 2003.
Finn River (36/F/01) and Tributaries	Physio-chemical monitoring 2004	Not yet scheduled for catchment Survey
Avaghon Lake Stream (36 A07)	Post survey Biological Monitoring	Catchment surveyed 2002, Lake outflow identified as significant
Maghery River (36/M/03)	Post survey Biological Monitoring	Both catchment survey in 2002 and Biological Monitoring 2005 failed to pinpoint source of low Q values in the upper reaches.
Knappagh (36/K/01)	Biological Monitoring (partial survey)	Suspected source ceased, River Q improved.
Conawary Lower (03/C/01) and tributaries	Physiochemical Monitoring	Catchment Survey 2005/06. Follow up due.
Proules (06/P/01)	Biological Monitoring (partial Survey)	Mini catchment Survey- urban sources of pollution identified

General Activities under the Water Pollution and Waste Management Act:

General activities of the Environment Section in the reporting period 2004 to 2005 Monaghan Co Council include the following enforcement work under the Water Pollution and Waste Management Acts.
11 cases referred for prosecution under of the WPA and WMA
28 Section 12 notices have been issued
17 Section 55 Notices have been issued.
The Council's Environment Section continues to investigate environmental complaints. Approximately 800 environmental complaints were received in From Jan 2004 to Dec 2005, many of which related to illegal dumping and litter. 58 water pollution complaints were investigated in same period.

Industrial Discharges
Significant improvements have been carried out by Industry in Co Monaghan. There are currently 22 "active" Licences issued under Section 4 of the Water Pollution Act. The are currently Section 4 Licence applications under consideration Almost all active Licences have been inspected at least once in the 2004 to 2005 period and monitoring of discharges is ongoing.
No prosecution cases for breaches of Section 4 of the WPA were taken in this period.

Landfill
Monaghan Co Council's Landfill being operated under a Licence from the EPA.

Awareness Raising During 2004 and 2005

The Phosphorus Teams Awareness Raising Programme has included the following activities:
Information / Public Meetings, During the reporting period a total of 5 meetings with the following groups were organized, IFA, Northern and Eastern Regional Fisheries Boards, and an Industry Group. Council staff gave presentations at 3 meetings organized by the IFA Co Executive and IFA Waste Management Committee. Presentations were given at 4 REPS meetings at the request of a REPS Planner. The Co Development Board Environment and Agriculture Working Group, the Erne Blackwater Surface Water working Group and TRACE Steering Group Meetings have also increased networking and information sharing between Council, stakeholders and research bodies.
Catchment Information Leaflets
Individual information leaflets with local water quality information have been produced for each catchment surveyed. Leaflets are distributed to each premises surveyed. See Appendix 2.
Information Leaflets on *Managing Phosphorus in Farming* (2 No) and *Prevent Silage Pollution* have been produced and pre 2004 were circulated via the Dairy CoOps. We continue to send out these leaflets where a need /problem is identified. A leaflet on *Septic Tank and Wastewater Treatment System Guidelines* has been produced and is distributed

to households with problem or suspect septic tanks. From June 2006 it is proposed to circulate the "Septic Tank/Treatment System "leaflet with planning approval notices.
Press Articles and Adverts/ Radio A total of 25 articles and adverts relating to water quality appeared on local press. Adverts related to Good Farming Practice, slurry spreading and silage making. Articles on general water quality were placed in 2 Council Environment Bulletins.
Advisory Letters. Approximately 80 farmers were sent advisory letters in relation to Soil Testing for Phosphorus. Over 110 advisory letters have been issued following catchment surveys.
One to one Site meetings Staff have carried out over 400 site visits in relation to catchment surveys and water pollution complaints during the2004 and 2005 period.

Liaison with the Planning Section

Environment section staff continues to liaise with the Planning Section regarding environmental assessment and control of new developments. A very substantial (two and a half fold) increase in the number of planning files examined by the environment section was recorded in the 2004-2005 period. In the period 2004 to 2005 the environment section have examined and reported on 761 planning files that include 205 agricultural, 201 housing schemes, 364 industrial/commercial developments and 9 public schemes. Contributions have been submitted to the proposed Development Plan to improve aspects of sustainable development.

Period	Agricultural	Comm./Industrial	Housing Dev/ other	Other	Totals
2003-2003	113	93	52		258
2004-2005	205	346	201	9	761

Liaison with Water Services:

A member of the Phosphorus Team surveyed 21 local authority operated waste water treatment plants in early 2005. A report is currently in preparation and will be presented to management and discussed with Water Services in late 2006.

Problems Encountered

The continued decline in water quality is still evident.
Development pressures are a cause for concern. A very substantial increase in development activity is evident. Criteria for sustainable development would be useful.
Monitoring of new developments to ensure compliance with planning conditions attached to protect waters is considered necessary but as yet not undertaken.

Staff Retention – the Phosphorus Team lost 2 fully trained members of staff one in May 2004 and the second in May 2006. Some slow down in catchment survey work is evident as a result. In addition to replacement of staff members with trained officers it is essential that further resources will be required to achieve the targets set in the Phosphorus Regulations and to build capacity within the council to implement the required programme of measures that will accompany the River Basin Management Plans under the Water Framework Directive.
Lack of integration of environmental protection policies into the activities of various sectors (particularly in the recent past).
Cross border pollution incidents can be more difficult to resolve.
It would be beneficial to develop a reliable risk assessment tool for diffuse source pollution.
Computer facilities/tools for the interrogation of environmental data and trend analysis are also considered necessary.
The local authority role of "poacher" and "gamekeeper" can give rise to concerns by the public of the effectiveness of local authority's pollution control role.

Successes to date

The review of CAP and the changes in farm payments from production based payments to single payments scheme is likely to benefit water quality in the medium to long term.
Information meetings resulted in offers of cooperation and are considered very beneficial.
Good relationships with industry and improvements in industrial wastewater treatment in recent years.
Cooperation with the IFA is resulting in regular contacts with farming groups. Staff are encountering a positive response to site inspections on farms.
The EPA biological monitoring for one of the three catchments surveyed by council staff in the 2002/2003 period indicated significant improvements in water quality in 2004. The other two catchments remain as yet moderately polluted – requiring further investigation.
Improvements in the Biological Quality of the Erne Catchment are promising (page 8 refers)
Participation in projects described on page 6 should result in better knowledge of activities contributing to water pollution, effective mitigation measures and improved participation.

Summary

Co Monaghan faces a particular set of problems in relation to water quality, which to some extent are unique to this county. It is a drumlin county, with heavy soils in many areas resulting in high runoff risk. The extent of intensive agricultural activities in Co Monaghan poses problems for the recovery /disposal of agricultural waste in an environmentally sustainable manner. In addition many of the county's rivers have low assimilative capacity.

Rapidly expanding industrial and commercial activities, rural housing and expansion of urban areas need to be controlled and monitored. Monaghan Co Council need a fully resourced and dedicated Team to progress measures set out in the Measures and Implementation Reports
There will be ongoing review of measures to maximize effectiveness of measures to improve water quality in the county.