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Cork County Council

Wastewater Discharge Licence Application
under S.I. 684 of 2007 Regulations

Agglomeration Name: Youghal

Attachments

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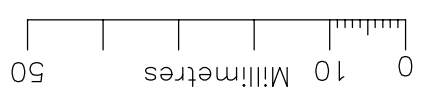
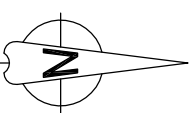
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Attachment B.1
Agglomeration Boundary

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Drawing Status **FINAL**

Drawing Title

SECTION B.1 AGGLOMERATION BOUNDARY

Original Scale

1:20000

Drawn PC Checked AF Authorised KM

Date 16.09.08 Date 16.09.08 Date 16.09.08

Size **A3**

Drawing Number

DRAWING 1

Revision

0

ATKINS

YOUGHAL WASTE WATER
DISCHARGE LICENCE

Cork County Council
County Hall
Cork

Client

Rev	Description	By	Date	Chk'd	Auth

Project

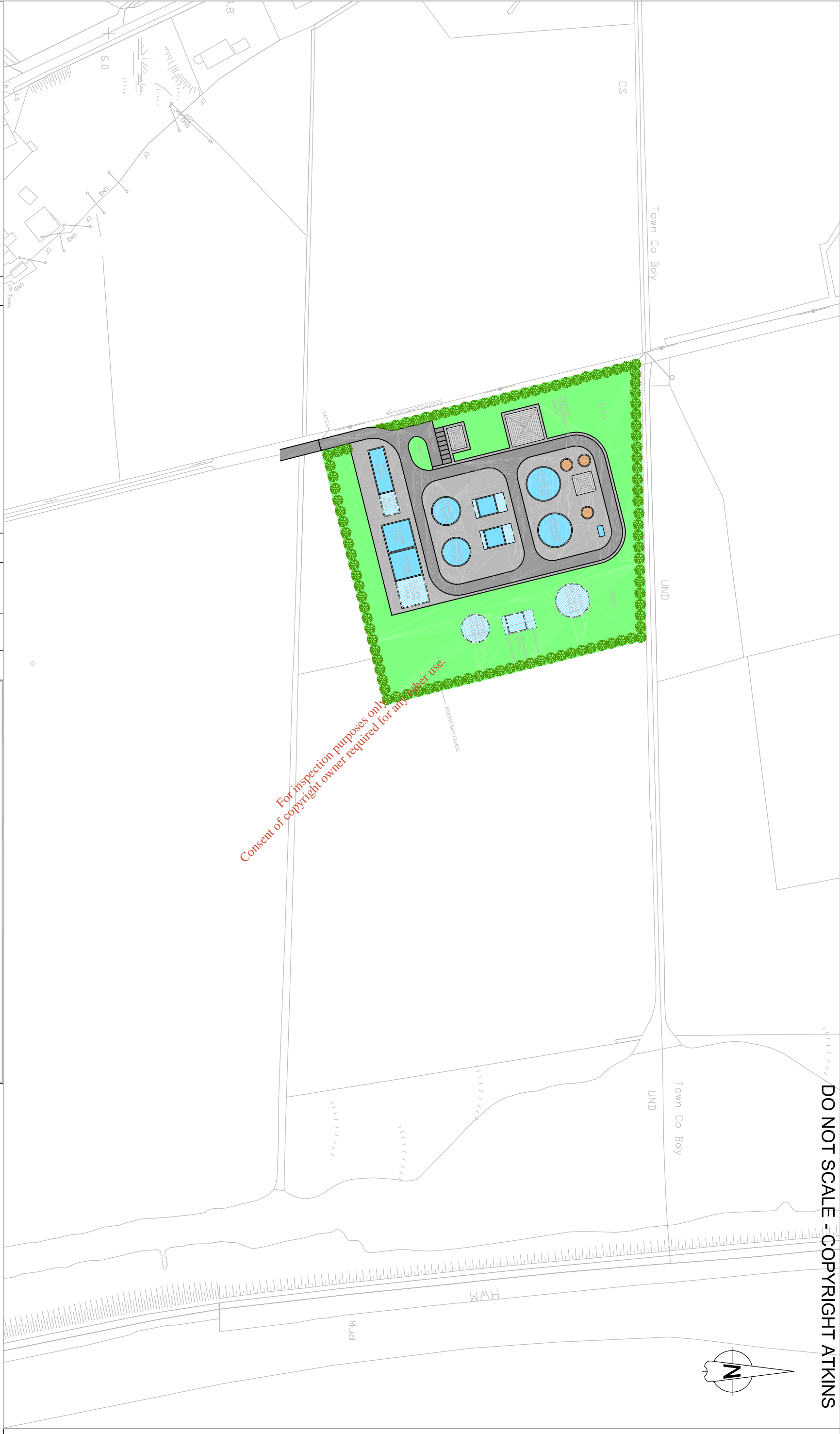
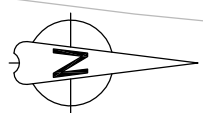
YOUGHAL WASTE WATER
DISCHARGE LICENCE

Attachment B.2

Location of Associated Waste Water Treatment Plant

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County Hall
Cork

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Project
YOUGHAL WASTE WATER
DISCHARGE LICENCE

Drawing Title
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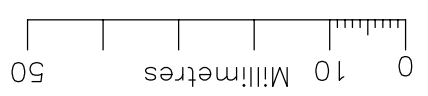
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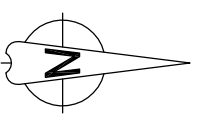
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Drawing Status
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Attachment B.3
Primary Discharge Location

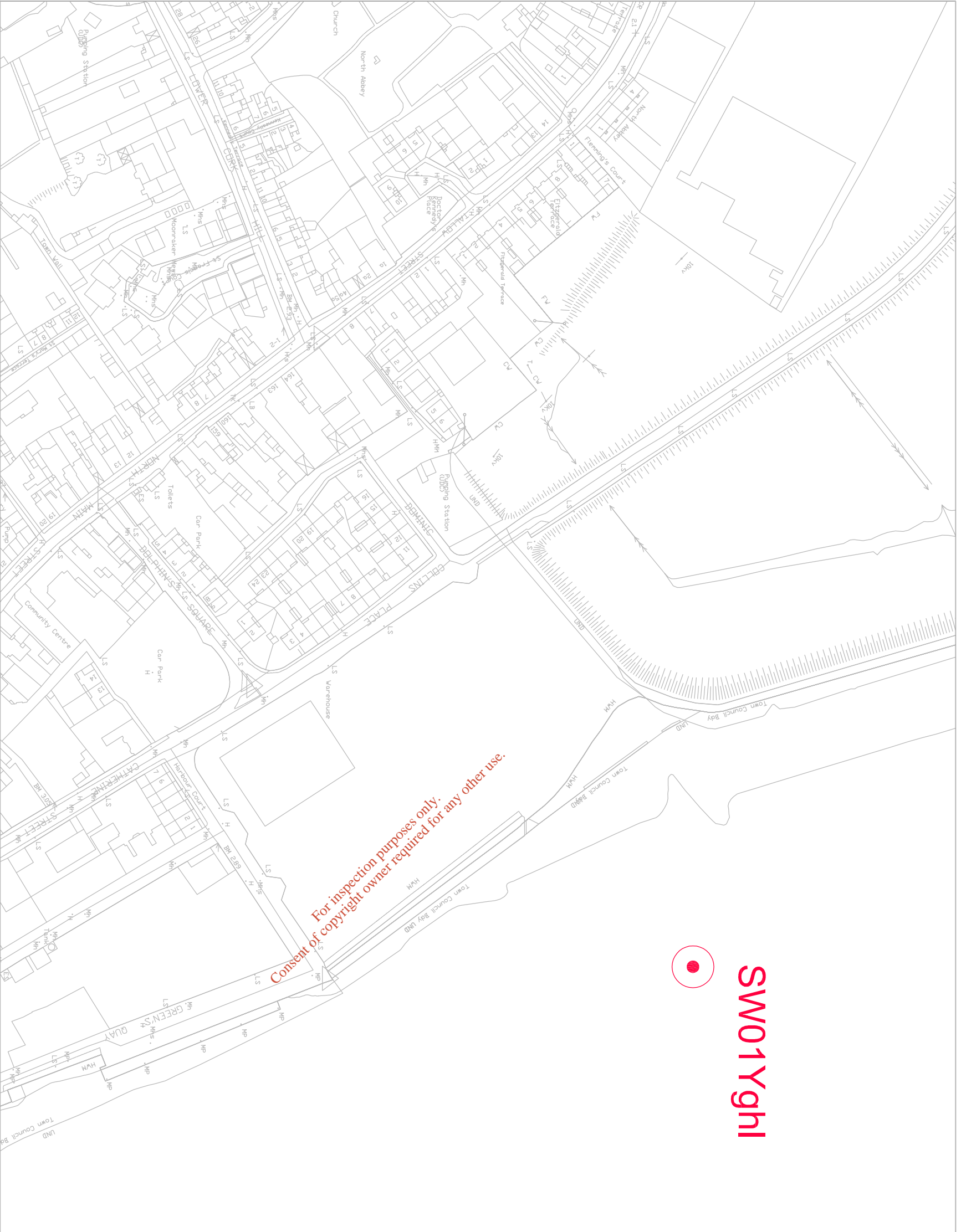
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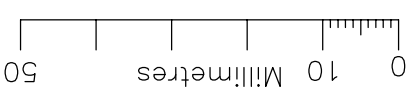
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**YOUGHAL WASTE WATER
DISCHARGE LICENCE**

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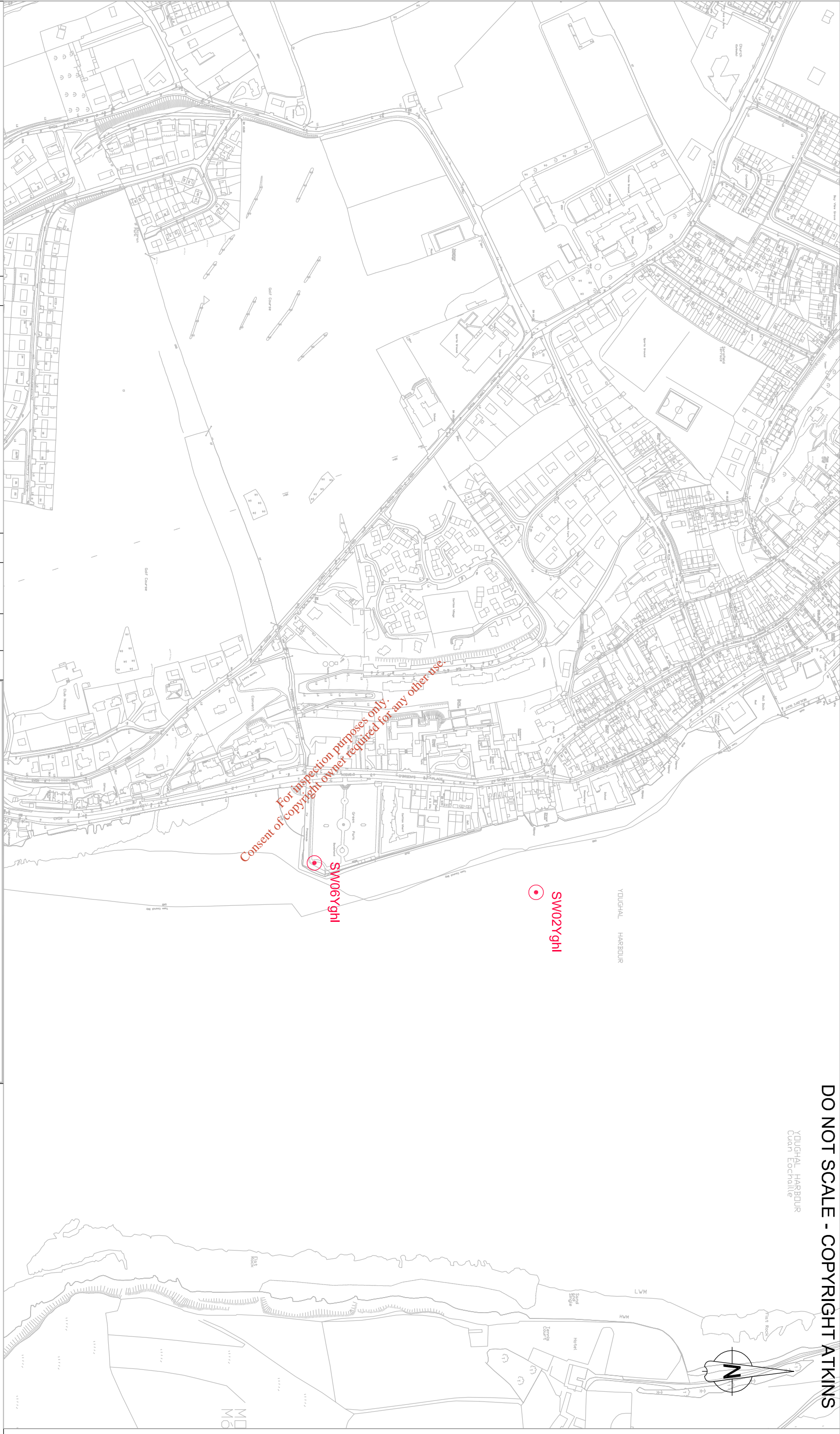
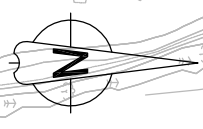


Attachment B.4
Secondary Discharge Location

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YOUGHAL HARBOUR
Cuan Eochaille



FINAL	Drawing Status	
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YOUGHAL WASTE WATER DISCHARGE LICENCE

Cork County Council
County Hall
Cork

Client

Rev	Description	By	Date	Chk'd	Auth

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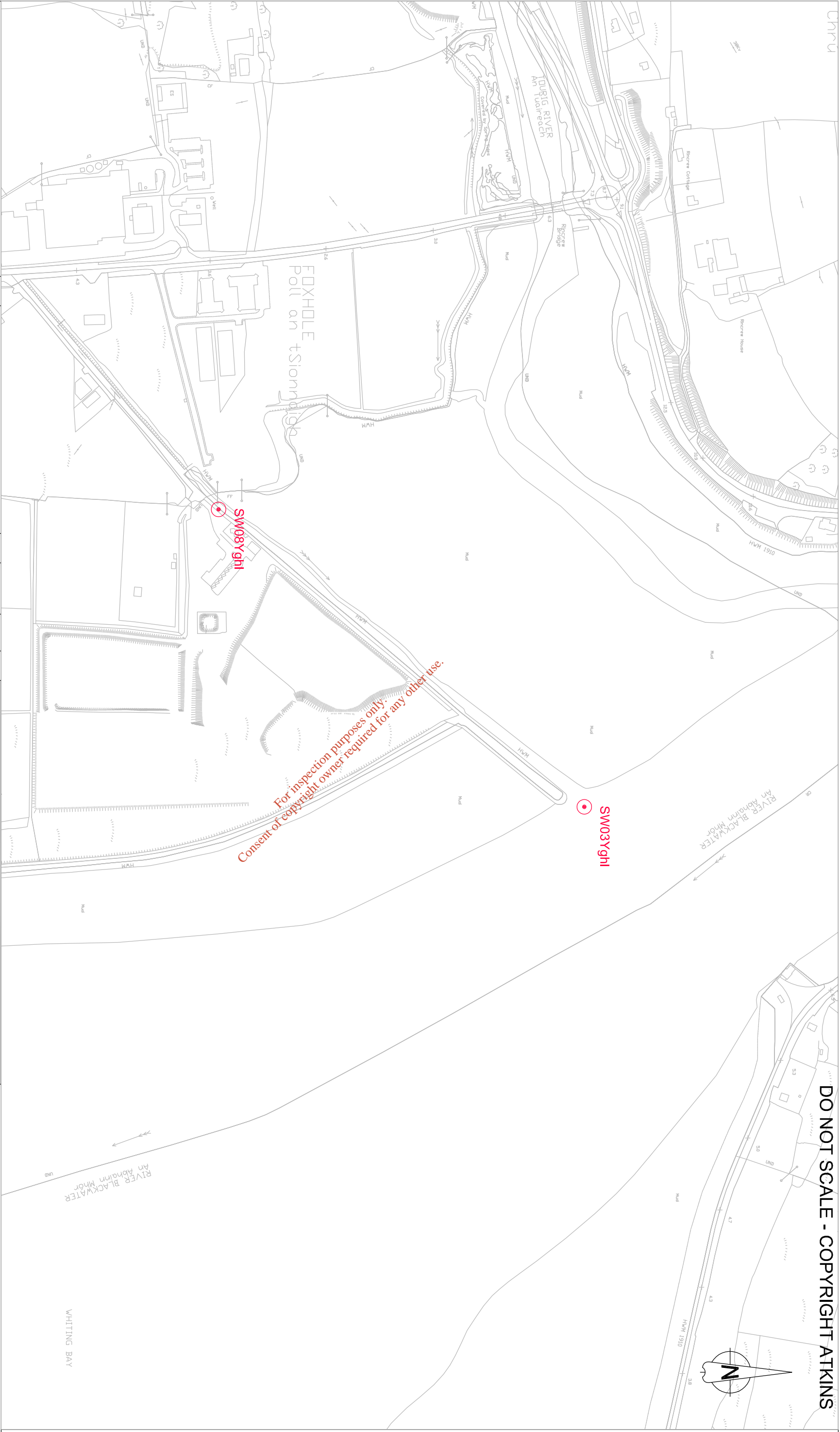
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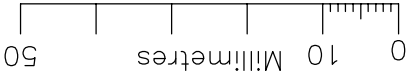
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Drawing Title

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DISCHARGE LICENCE**

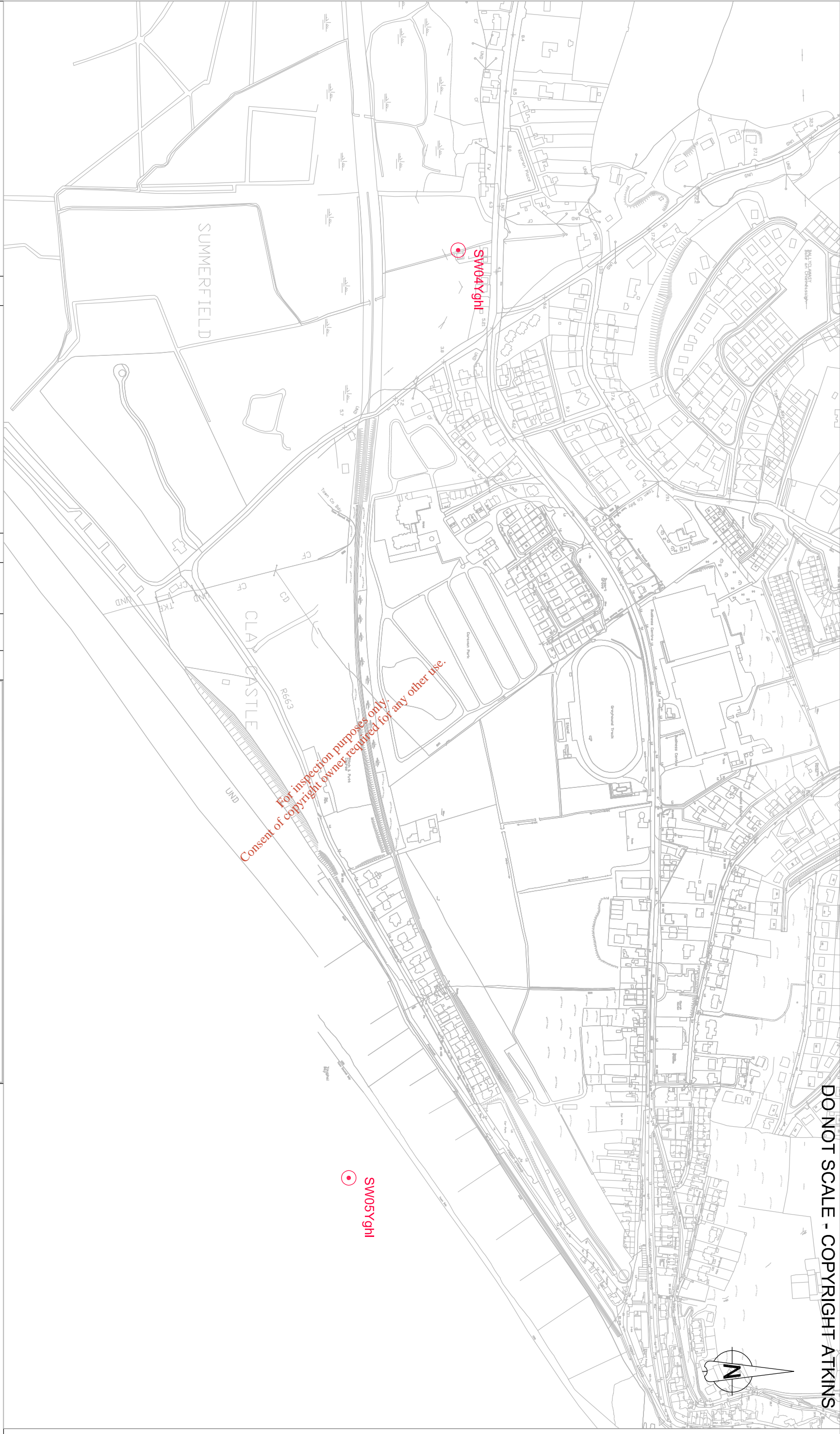
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Cork**

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Rev	Description	By	Date	Chk'd	Auth

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YOUGHAL WASTE WATER
DISCHARGE LICENCE

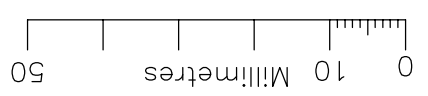
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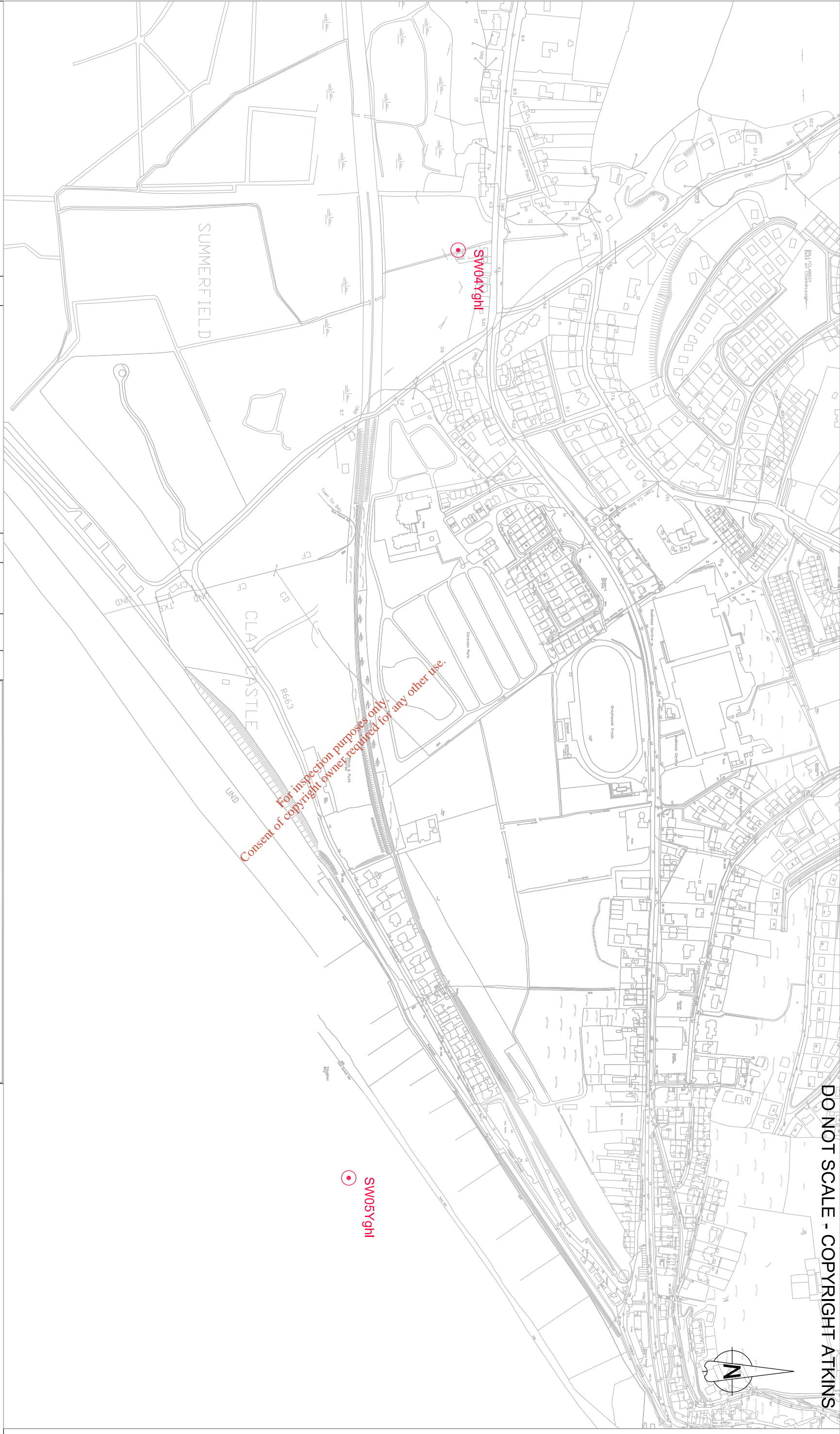
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DRAWING 6

Drawing Status
FINAL



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YOUGHAL WASTE WATER
DISCHARGE LICENCE

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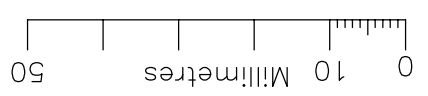
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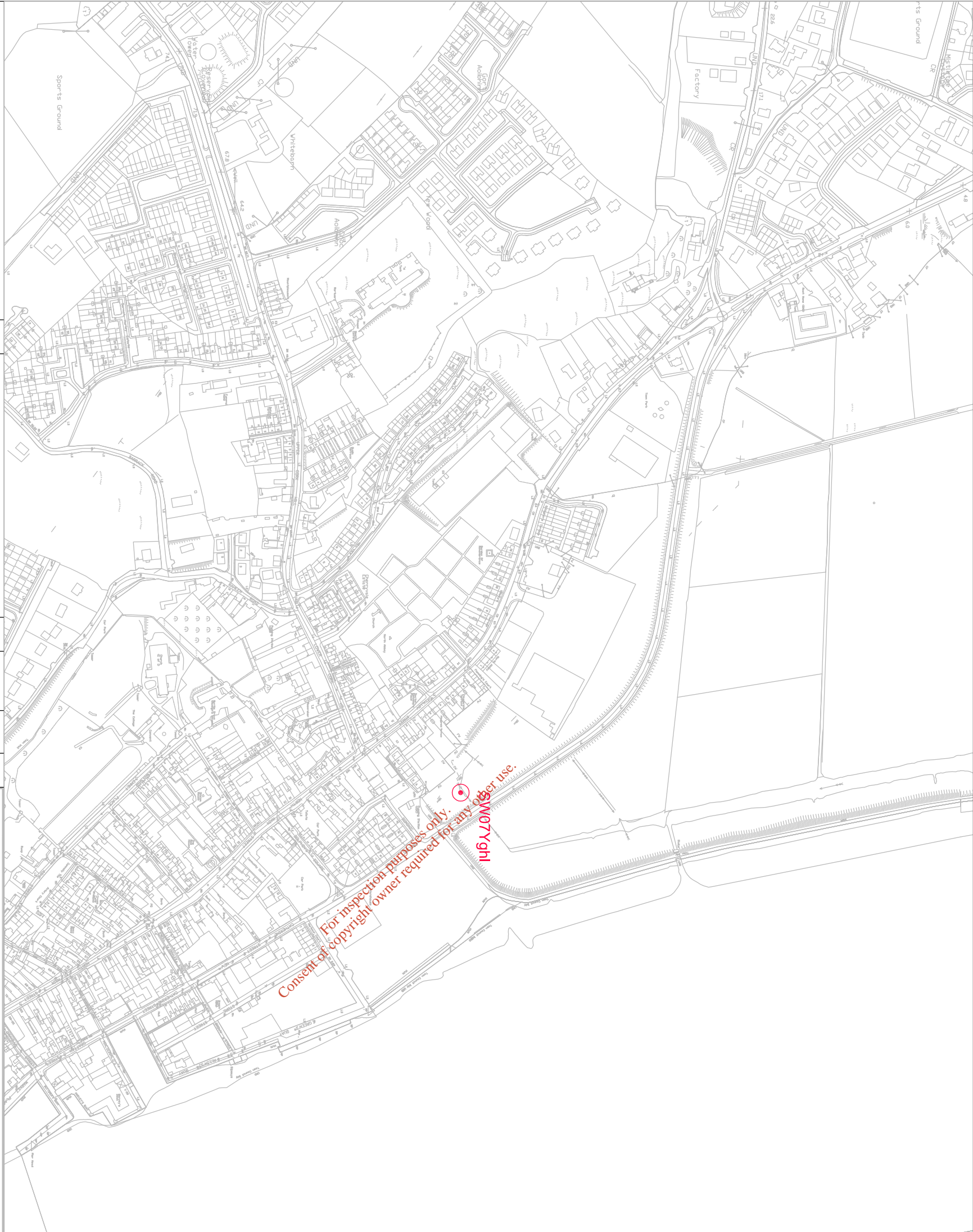
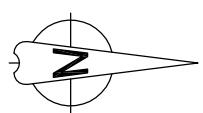
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Revision
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Drawing Status
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DISCHARGE LICENCE

Drawing Title

SECTION B.4 (4 of 4)
SECONDARY DISCHARGE POINT

Original Scale

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Size

Date	Date	Date
16.09.08	16.09.08	16.09.08

Date

Drawing Number

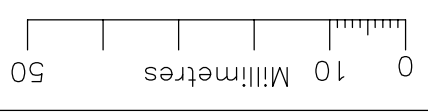
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Revision

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FINAL

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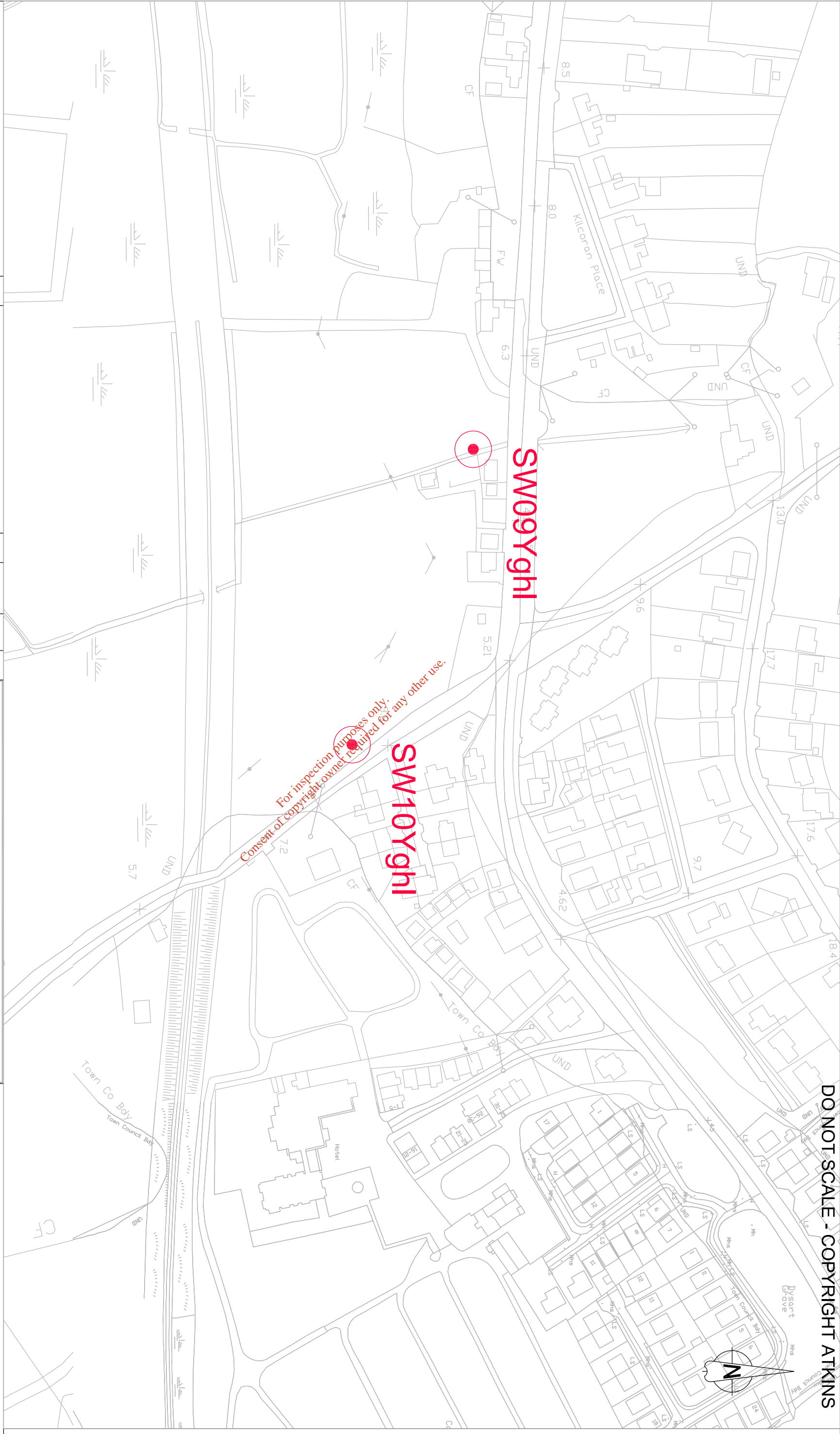


Attachment B.5

Storm Water Overflow Location

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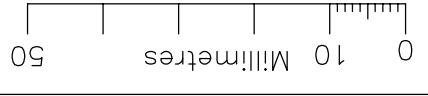
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SECTION B.5
STORM WATER OVERFLOW

Rev	Description	By	Date	Chk'd	Auth

Project

YOUGHAL WASTE WATER DISCHARGE LICENCE

Drawing Title		Original Scale		Drawn		Checked		Authorised		Size	
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Drawing Number		Date		Date		Date		Date		Revision	
DRAWING 8		16.09.08		16.09.08		16.09.08		16.09.08		0	

Attachment B.6

Youghal Main Drainage Scheme - EIS

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Attachment B.7 (iii)

Other Relevant Water Service Authorities

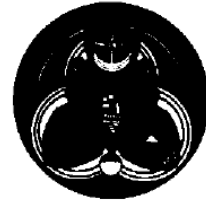
Letter to Waterford County Council

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Comhairle Contae Chorcaí
Cork County Council

Mr. John O'Flynn,
Director of Services & County Engineer,
Waterford County Council,
Civic Offices,
Dungarvan,
Co. Waterford

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



3rd Sept. 2008

**RE: Waste Water Discharge (Authorisation) Regulations 2007 (SI. 684 of 2007).
Application for Discharge Licence for Youghal.**

Dear Sir,

I refer to above and in particular to Regulation 13. This Regulation requires Cork County Council to give written notice to Waterford County Council in relation to Cork County Council's intention to apply to the Environmental Protection Agency (EPA) for a Wastewater Discharge Licence. The licence is in respect of the Waste Water Works serving Youghal town and environs.

Waste water from the town is currently discharged to the Blackwater Estuary and the sea via three main outfalls at Paxes Lane near Green Park, Dunnes Park and Foxhole near the Youghal Landfill site. Parts of these flows are comminuted before being discharged. Currently, there is no waste water treatment other than a holding tank and comminutors on the Dunnes Park and Paxes Lane outfalls.

It is intended to submit the Environmental Impact Statement associated with the proposed provision of a Waste Water Treatment Plant in the Youghal Mudlands to the Agency along with the Application for the existing network.

The application will be submitted to the EPA on/before 22nd September, 2008.

This application, including any further information as may be furnished to the EPA in respect of the Application, will, as soon as is practicable after receipt by the EPA, be available for inspection or purchase at:

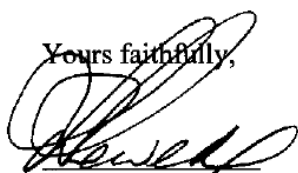
EPA Headquarters, PO Box 3000, Johnstown Castle Estate, Co. Wexford (Tel 053-9160600; Fax 053-9160699; Email info@epa.ie)



Cork County Council, Area Operations South, Floor 5, County Hall, Cork.
{Tel 021 4285304; Fax 021 4343255;}

Submissions in relation to the Application may be made to the EPA at its headquarters. If you require any clarification in respect of the above, please contact the undersigned.

Yours faithfully,



Patricia Power
Director of Services

CC: Ms Valerie Hannon, A/Senior Executive Scientist, Environmental Directorate,
Cork County Council.

CC: Head of Corporate Affairs, Waterford County Council.

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Attachment B.8
Notices and Advertisements

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Attachment B.8.1

Site Notice

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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, Cork County Council, County Hall, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the Youghal Agglomeration at the following locations:

Discharge	Function	Townland	Receptor	Grid Reference
Primary	Major Outfall	Dunnes Park	Lower Blackwater Estuary	E210513 N078480
Secondary	Minor Outfall	Paxes Lane	Lower Blackwater Estuary	E210996 N077419
Secondary	Minor Outfall	Foxhole	Lower Blackwater Estuary	E210128 N080410
Secondary	Emergency	Summerfield (Cross)	Youghal Bay	E209253 N076191
Secondary	Emergency	Front Strand	Youghal Bay	E210517 N076042
Secondary	Emergency	Green Park	Lower Blackwater Estuary	E210956 N077117
Secondary	Emergency	Dunnes Park	Lower Blackwater Estuary	E210262 N078412
Secondary	Emergency	Foxhole	Lower Blackwater Estuary	E209723 N079912

Cork County Council propose to provide a wastewater treatment plant at Youghal Mudlands, Youghal Co Cork Grid Reference (E209857 N079153). It is proposed to discharge treated wastewater from this plant to the Lower Blackwater Estuary. The proposed location is detailed in the table below

Discharge	Function	Townland	Receptor	Grid Reference
Primary (Proposed)	Major Outfall	Ferry Point	Lower Blackwater Estuary	E210852 N078125

It is intended to submit the Environmental Impact Statement associated with the proposed provision of a Waste Water Treatment Plant in the Youghal Mudlands to the Agency along with the Application.

A copy of the application for the Waste Water Discharge Licence, the Environmental Impact Statement 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

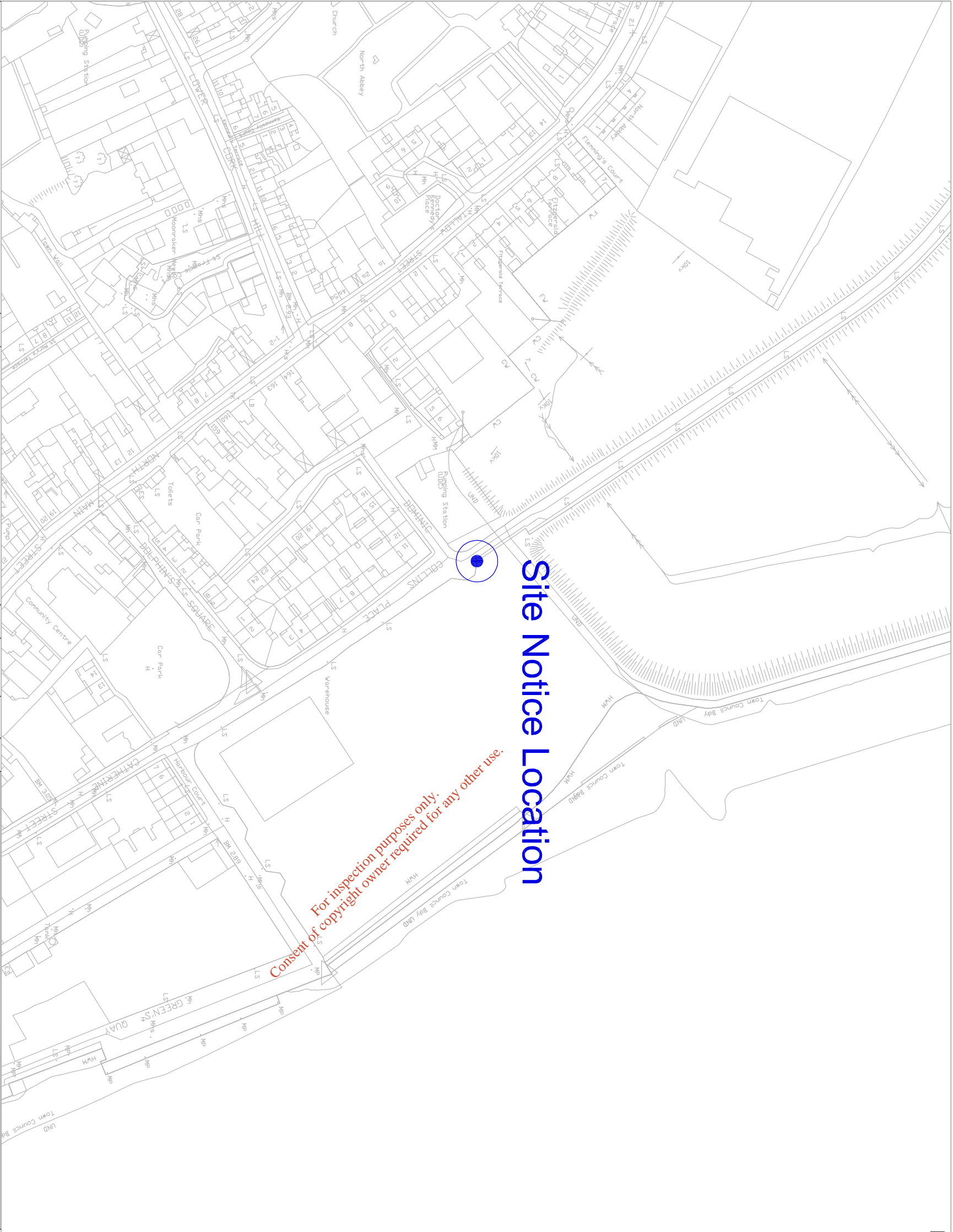
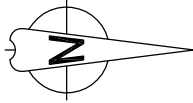
- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie and at
- Cork County Council Offices, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Telephone: 021-4276891 Fax: 021-4276321.

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

Attachment B.8.2

Site Notice Location

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Site Notice Location

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Cork County Council
County Hall
Cork

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YOUGHAL WASTE WATER
DISCHARGE LICENCE

SECTION B.8
SITE NOTICE LOCATION

Drawing Title

Original Scale

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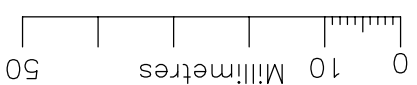
DRAWING 9

Revision

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Drawing Status

FINAL



Attachment B.8.3

Newspaper Notice

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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, Cork County Council, County Hall, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the Youghal Agglomeration at the following locations:

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Secondary	Minor Outfall	Foxhole	Lower Blackwater Estuary	E210128 N080410
Secondary	Emergency	Summerfield (Cross)	Youghal Bay	E209253 N076191
Secondary	Emergency	Front Strand	Youghal Bay	E210517 N076042
Secondary	Emergency	Green Park	Lower Blackwater Estuary	E210956 N077117
Secondary	Emergency	Dunnes Park	Lower Blackwater Estuary	E210262 N078412
Secondary	Emergency	Foxhole	Lower Blackwater Estuary	E209723 N079912

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Primary (Proposed)	Major Outfall	Ferry Point	Lower Blackwater Estuary	E210852 N078125

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- 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.

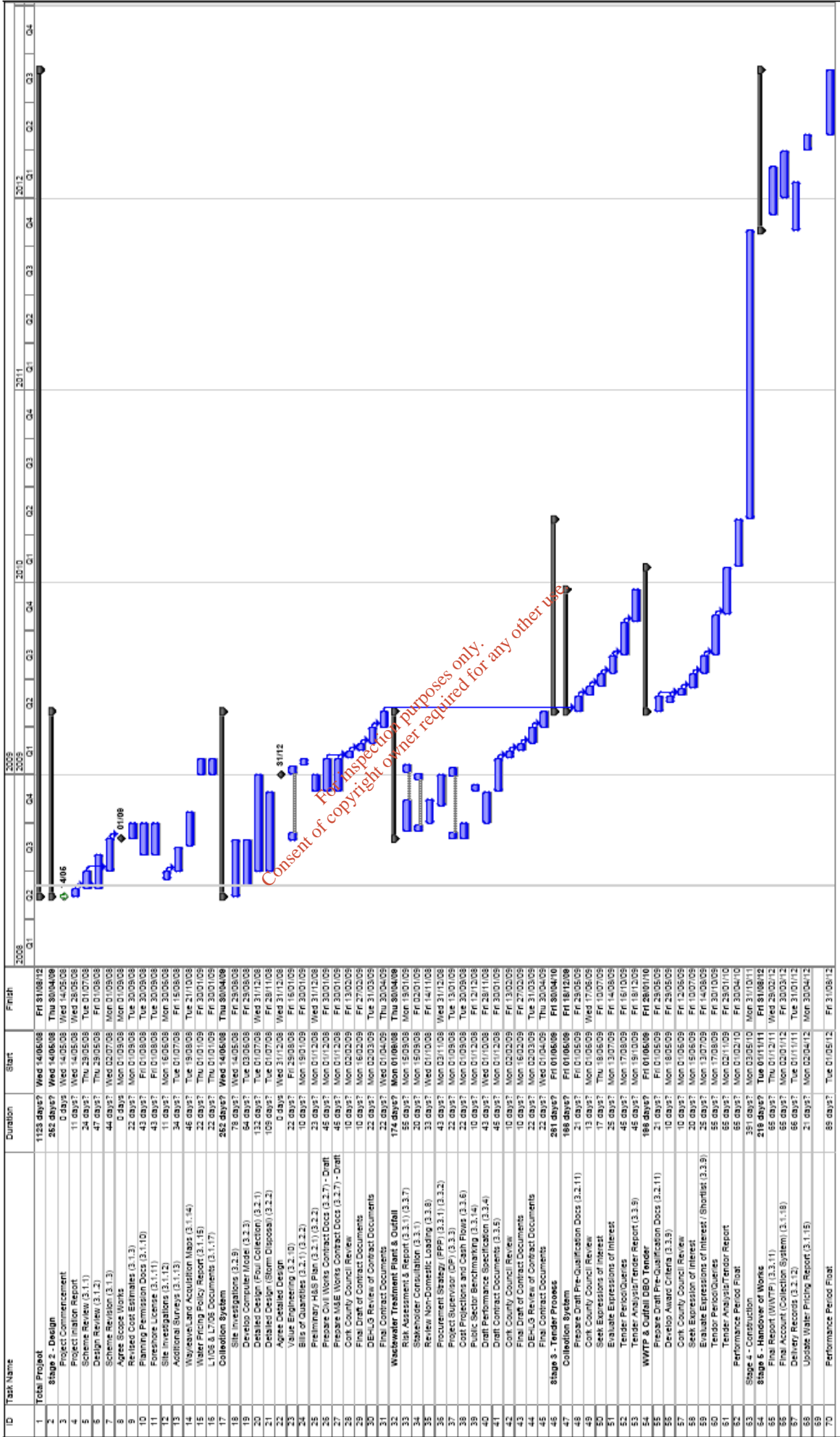
Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

Attachment B.10

Capital Investment Programme

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Youghal Main Drainage Scheme – Programme of Works



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	Shannagary/ Garryvoe/ Ballycotton Sewerage Scheme	S	3,780,000
Cobh/ Middleton/ 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
Middleton 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			Ballyclough Water Supply Scheme	W	139,000
Skibbereen Sewerage Scheme	S	20,000,000	Ballyhooley Improvement Scheme	WS	139,000
		25,150,000	Broghil/ Rathcloggin Sewerage Scheme	S	406,000
Schemes to start 2008			Bweening Water Supply Scheme	W	115,000
Cork North			Churchtown Sewerage Scheme (incl. Water)	WS	543,000
Mallow/ Ballyvinter Regional Water Supply Scheme (H)	W	8,652,000	Clondulane Sewage Treatment Plant	S	417,000
Mallow Sewerage Scheme (H)	S	5,408,000	Freemount Sewerage Scheme	S	150,000
Cork South			Pike Road Sewerage Scheme (incl. Water)	WS	2,080,000
Ballincollig Sewerage Scheme (Nutrient Removal) (G)	S	948,000	Rathormac Sewerage Scheme (incl. Water)	WS	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)	WS	1,174,000
City Environs (CASP) Strategic Study (G)	S	153,000	Watergrasshill Water Supply Scheme (incl. Sewerage) (G)	WS	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)	WS	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)	WS	1,200,000
Dunmanway Sewerage Scheme	S	2,153,000	Dripsey Water Supply Scheme (incl. Sewerage)	WS	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)	WS	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	Middleton Wastewater Treatment Plant Extension	S	4,050,000

Attachment B.11
Significant Correspondence
(PAE 2008/68)

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Comhairle Contae Chorcaí Cork County Council

Environment Directorate,
Inniscarra, Co. Cork.

An Rannóg Comhshaoil,
Inis Cara, Co. Chorcaí.

Fón: (021) 4532700 . Faics: (021) 4532727

Suíomh Gréasáin: www.corkcoco.ie



Web: www.corkcoco.ie

**Ms Jacinta Reynolds
Senior Executive Scientist**

08th February 2008

Re : Youghal Bathing Water 2007 – PAE 2008/68

Dear Jacinta,

1. Please find attached report request re Youghal Bathing Water 2007.
2. Please note that the person dealing with this file is **Suzanne Monaghan** to whom all correspondence and queries re this matter should be addressed.
3. Please note that a report re this matter is requested by the **28th February 2008**.
4. please forward a copy of this report to this office for our files.

Nicholas Bond
Environmental Enforcement
Environment Directorate

e-mail: nicholas.bond@corkcoco.ie
Tel No: (021) 4532700 Fax No: (021) 4532777

EPA Headquarters
P.O. Box 3000
Johnstown Castle Estate
Co. Wexford
27/02/2008

Dear Ms Monaghan

Please find detailed below response to PAE 2008/68 regarding Youghal Front Strand

RE: PAE 2008/68 Youghal Front Strand

The following outlines the non compliance with the EU Mandatory breach for the Faecal Coliform Standard of 2000 cfu/ml, the result obtained on the date of the breach, 17/07/2007 being 2400 cfu/ml.

Sampling at a designated sampling location at Youghal Front Strand commenced on 22/05/2007 with a 10 sample programme notified to An Taisce with the Beach Blue Flag application in Feb 2007.

A number of inflows discharge to Youghal Harbour and the sea area (Map attached)

1. A small stream originating approx 1 mile west of the beach follows a steep route through Summerfield and discharges via a sluice and tidal flap valve onto the Front Strand Beach.
2. A sewage holding tank and associated pumping station is also located approx 150m west of the beach, this pumps to one of the two sea outfall pumping stations located at Green Park and Paxes Lane (near town centre quays).
3. A storm overflow, which only occurs in the event of pump failures, from the holding tank as outlined above discharges approx 50M out to sea from the Front Strand.

The Front Strand stream was sampled on 7 occasions during the Bathing Season (results attached) in 2007. The breach of the standard for Faecal Coliform on 17/07/07 occurred following a period of wet weather. Met Office data (see attached) for a nearby station at Glendine Waterworks was obtained and shows rainfall from 01/06/07 to 15/07/07 at 226.5mm which is 930% greater than 06 data for the same period (24.3mm). The weather at the time of sampling was noted as wet with 7.3mm rain on 17/07/07.

On obtaining the poor water results, the following immediate actions were taken;

- ❖ Area office notified to immediately post a Notice on Front Strand restricting swimming
- ❖ In addition to a check of the daily pump recordings ,a survey of the pumping station was carried out by town foreman to ensure that no breakdowns or overflows had occurred to contribute to the exceedence in bacterial quality of the bathing water.
- ❖ The Inspection and daily records noted that the pumps were working as normal with no overflows having occurred
- ❖ Follow-up sampling of the Beach on 23/07/2007 was carried out.
- ❖ Sample results were clear and the swimming restriction notice was lifted on the 24/07/07

Possible Cause of Breach:

1. Abnormal Rainfall over period of time –
2. Impact of abnormal rainfall on stream.
3. Possible impact of Blackwater River inputs which discharges to Youghal Estuary nearby

Our Investigations:

- ❖ Pumping Station - remedial works carried out to raise the weir wall at the holding tank (front strand) in 1998 ensures that overflows would now only occur if pumps failed.
- ❖ Pump records for days prior to and on 17/07/07 showed that all pumps were working normally.
- ❖ Pump inspections and hours run are noted twice daily by the town foreman
- ❖ Stream Inspection was carried out by Environmental Staff and the Town Foreman on 23/07/2007 and no discharges to the stream were noted.
- ❖ From the results of stream samples taken on 25/07/07 and bearing in mind the small flow from this stream bacterial levels would not be considered to be elevated sufficiently to cause a breach of the mandatory Bathing Water value. (the stream inflow is located approx 100m south of the bathing water sampling location)

The more likely cause is the previously mentioned abnormal amounts of rainfall in June and early July, with associated SW winds resulting in high flows in the Blackwater estuary and thereby possibly affecting tidal patterns in the bay and on shore

Future plans to monitor water quality at Youghal Main Beach;

- ❖ Environment to put in place a pre-season bacterial monitoring programme from April 2008 of stream at Beach outfall and upstream of town to ascertain pre season background levels.
- ❖ Environment to review estuary monitoring data (EPA chemical database) to determine if any deterioration occurred coinciding with the abnormal weather.
- ❖ Infrastructure directorate to progress the construction of Youghal Main Drainage and Wastewater Treatment Plant 2009.

Other Planned Work;

- ❖ Implement new Bathing Water Regulations when implemented into Irish Law

Attachments;

- ❖ Bathing Water Results Youghal Main Beach 2007
- ❖ Stream discharge Water Results Youghal Main Beach 2007
- ❖ Map showing outfalls

Yours Sincerely

David Sheehan
Executive Scientist

Copy: J. Reynolds Senior Scientist, Pat O'Mahony Senior Engineer, Patricia Power DoS Nicholas Bond Senior Exec. Engineer

Attachment F.1

Assessment of Impact on Receiving Surface or Ground Water

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SITE SYNOPSIS

SITE NAME: BLACKWATER CALLOWS SPA

SITE CODE: 004094

This site comprises the stretch of the River Blackwater that runs in a west to east direction between Fermoy and Lismore, a distance of almost 25 km. The site includes the river channel and strips of seasonally-flooded grassland within the flood plain. Sandstone ridges parallel to the river confine the area of flooding to a relatively narrow corridor. The lower stretch, from Ballyduff to Lismore, is more subject to flooding than the upper part.

The river channel has a well-developed aquatic plant community, which includes such species as Pond Water-crowfoot (*Ranunculus peltatus*), Water-crowfoot (*Ranunculus* spp.), Canadian Pondweed (*Elodea canadensis*), pondweeds (*Potamogeton* spp.), water-milfoil (*Myriophyllum* spp.) and water-starwort (*Callitriche* spp.). Emergent swamp vegetation, comprised of species such as Common Club-rush (*Scirpus lacustris*), Common Reed (*Phragmites australis*) and Unbranched Bur-reed (*Sparganium emersum*), occurs in places. Marshes are present in some areas adjacent to the river and includes species such as Marsh Marigold (*Caltha palustris*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*), amongst others. The grassland adjacent to the rivers of the site is mostly improved, though substantial areas are still liable to flooding. The grassland most prone to flooding is characterised by such species as Yellow-flag (*Iris pseudacorus*), Meadow-sweet (*Filipendula ulmaria*), Meadow Buttercup (*Ranunculus acris*), Purple Loosestrife (*Lythrum salicaria*) and rushes (*Juncus* spp.). Wet woodland, comprised mostly of willows (*Salix* spp.) and Alder (*Alnus glutinosa*), fringe the river in places, whilst oakwoods occur in a few locations above the floodplain (mostly outside of the site).

The site is of high ornithological interest on account of the populations of wintering waterfowl that use it. Whooper Swan occurs in numbers of international importance (170) - all figures are average peaks for the 5 seasons 1995/96-99/00. Bewick's Swan was regular at the site in significant numbers up to the mid 1990s. However, only four birds were recorded in the winter of 1997/98 and two in the winter of 1998/99, and the species is no longer considered to be a regular visitor. This decline is in line with a national decrease in numbers and a marked contraction in range. The site supports a large population of Wigeon (2,313), as well as Teal (898), Mallard (398) and Shoveler (26). The Wigeon and Teal populations are of national importance. The callow grasslands are particularly suited to Black-tailed Godwit (251), a nationally important population that on occasions exceeds the threshold for international importance. Other waders that occur regularly are Lapwing (221) and Curlew (534). Black-headed Gull (323) is a feature of the site during winter. The birds feed mainly on the areas of grassland, the majority of which are improved, that flood seasonally. Some feeding also occurs outside of the site, while birds also leave the site to avail of suitable roosts.

Little Egret is a feature of the site throughout the year as there is a breeding colony downstream. The river system provides an important feeding area for these birds.

The River Blackwater is a noted salmonid fishery, and the river also has Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), River Lamprey (*L. fluviatilis*) and Twaite Shad (*Alosa fallax fallax*). Otter is frequent throughout the site.

While water quality in the system is mostly good there are localised stretches which have been polluted from agricultural run-off and from point sources. Pollution remains a general threat to water quality within site.

This site is of importance for its populations of wintering waterfowl, including an internationally important population of Whooper Swan and nationally important populations of Wigeon, Teal and Black-tailed Godwit. The presence of Whooper Swan, as well as Little Egret, is of particular note as these species are listed on Annex I of the E.U. Birds Directive.

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18.4.2005

SITE SYNOPSIS

SITE NAME: BLACKWATER ESTUARY SPA

SITE CODE: 004028

The Blackwater Estuary SPA is a moderately-sized, sheltered south-facing estuary, which extends from Youghal New Bridge to the Ferry Point peninsula, close to where the river enters the sea. It comprises a section of the main channel of the River Blackwater. At low tide, intertidal flats are exposed on both sides of the channel. On the eastern side the intertidal channel is included as far as Kinsalebeg and Moord Cross Roads is included, while on the west side the site includes part of the estuary of the Tourig River as far as Rincrew Bridge.

The intertidal sediments are mostly muds or sandy muds reflecting the sheltered conditions of the estuary. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are frequent on the mudflats during summer, and Bladder Wrack (*Fucus vesiculosus*) occurs on the upper more stony shorelines. The sediments have a macrofauna typical of muddy sands, with polychaete worms such as Lugworm (*Arenicola marina*), Ragworm (*Hediste diversicolor*) and the marine bristle worm *Nephtys hombergii* being common. Bivalves are also well represented, especially Peppery Furrow-shell (*Scrobicularia plana*), but also Sand Gaper (*Mya arenaria*), Baltic Tellin (*Macoma balthica*) and Common Cockle (*Cerastoderma edule*). Among the brown seaweed on the shoreline, the Shore Crab (*Carcinus maenas*) and the Rough Periwinkle (*Littorina saxatilis*) are found. Salt marshes fringe the estuarine channels, especially in the sheltered creeks.

The Blackwater Estuary is of high ornithological importance for wintering waterfowl, providing good quality feeding areas for an excellent diversity of waterfowl species. At high tide, the birds roost along the shoreline and salt marsh fringe, especially in the Kinsalebeg area. Some birds may leave the site to roost in fields above the shoreline. The site supports an internationally important population of Black-tailed Godwit (934), and has a further eight species with nationally important populations (all figures are average peaks for the five winters 1995/96 to 1999/2000): Shelduck (151), Wigeon (1,232), Golden Plover (2,947), Lapwing (3,988), Dunlin (2,016), Curlew (1,194), Redshank (634) and Greenshank (30). A population of Bar-tailed Godwit (172) is very close to the threshold for national importance.

Other species which occur in significant numbers include Grey Heron (27), Teal (527), Mallard (148), Oystercatcher (508), Grey Plover (53), Knot (50) and Turnstone (56). The site also supports Brent Goose (19), Red-breasted Merganser (8), Shoveler (23), Ringed Plover (29) and Cormorant (60). The site is also notable for supporting large concentrations of gulls in autumn and winter, including Black-headed Gull (549), Common Gull (253), Lesser Black-backed Gull (602), Great Black-backed Gull (227) and Herring Gull (86).

Little Egret uses the site regularly during the year as there is a breeding colony upstream. The estuary provides an important feeding area for these birds (15, with a maximum of 26).

The Blackwater Estuary SPA is an internationally important wetland site on account of the population of Black-tailed Godwit it supports. It is also of high importance in a national context, with eight species having populations which exceed the thresholds for national importance. The occurrence of Little Egret, Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site has been well-studied, with detailed monthly counts extending back to 1974.

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SITE SYNOPSIS

SITE NAME: BLACKWATER RIVER (CORK/WATERFORD)

SITE CODE: 002170

The River Blackwater is one of the largest rivers in Ireland, draining a major part of Co. Cork and five ranges of mountains. In times of heavy rainfall the levels can fluctuate widely by more than 12 feet on the gauge at Careysville. The peaty nature of the terrain in the upper reaches and of some of the tributaries gives the water a pronounced dark colour. The site consists of the freshwater stretches of the River Blackwater as far upstream as Ballydesmond, the tidal stretches as far as Youghal Harbour and many tributaries, the larger of which includes the Licky, Bride, Flesk, Chimneyfield, Finisk, Araglin, Awbeg (Buttevant), Clyda, Glen, Allow, Dalua, Brogeen, Rathcool, Finnow, Owentaraglin and Awnaskirtaun. The extent of the Blackwater and its tributaries in this site, flows through the counties of Kerry, Cork, Limerick, Tipperary and Waterford. Towns along, but not in the site, include Rathmore, Millstreet, Kanturk, Banteer, Mallow, Buttevant, Doneraile, Castletownroche, Fermoy, Ballyduff, Rathcormac, Tallow, Lismore, Cappoquin and Youghal.

The Blackwater rises in boggy land of east Kerry, where Namurian grits and shales build the low heather-covered plateaux. Near Kanturk the plateaux enclose a basin of productive Coal Measures. On leaving the Namurian rocks the Blackwater turns eastwards along the northern slopes of the Boggeraghs before entering the narrow limestone strike vale at Mallow. The valley deepens as first the Nagles Mountains and then the Knockmealdowns impinge upon it. Interesting geological features along this stretch of the Blackwater Valley include limestone cliffs and caves near the villages and small towns of Killavullen and Ballyhooly; the Killavullen caves contain fossil material from the end of the glacial period. The associated basic soils in this area support the growth of plant communities which are rare in Cork because in general the county's rocks are acidic. At Cappoquin the river suddenly turns south and cuts through high ridges of Old Red Sandstone. The Araglin valley is predominantly underlain by sandstone, with limestone occurring in the lower reaches near Fermoy.

The site is a candidate SAC selected for alluvial wet woodlands and Yew wood, both priority habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for floating river vegetation, estuaries, tidal mudflats, *Salicornia* mudflats, Atlantic salt meadows, Mediterranean salt meadows, perennial vegetation of stony banks and old Oak woodlands, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive - Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Crayfish, Twaite Shad, Atlantic Salmon, Otter and the plant, Killarney Fern.

Wet woodlands are found where river embankments, particularly on the River Bride, have broken down and where the channel edges in the steep-sided valley between Cappoquin and Youghal are subject to daily inundation. The river side of the embankments was often used for willow growing in the past (most recently at Cappoquin) so that the channel is lined by narrow woods of White and Almond-leaved Willow (*Salix alba* and *S. triandra*) with isolated Crack Willow (*S. fragilis*) and Osier (*S. viminalis*). Grey Willow (*S. cinerea*) spreads naturally into the sites and occasionally, as at Villierstown on the Blackwater and Sapperton on the Bride, forms woods with a distinctive mix of woodland and marsh plants, including Gypsywort (*Lycopus europaeus*), Guelder Rose (*Viburnum opulus*), Bittersweet (*Solanum dulcamara*) and various mosses and algae. These wet woodlands form one of the most extensive tracts of the wet woodland habitat in the country.

A small stand of Yew (*Taxus baccata*) woodland, a rare habitat in Ireland and the EU, occurs within the site. This is on a limestone ridge at Dromana, near Villierstown. While there are some patches of the wood with a canopy of Yew and some very old trees, the quality is generally poor due to the dominance of non-native and invasive species such as Sycamore, Beech and Douglas Fir (*Pseudotsuga menziesii*). However, the future prospect for this Yew wood is good as the site is proposed for restoration under a Coillte EU Life Programme. Owing to its rarity, Yew woodland is listed with priority status on Annex I of the EU Habitats Directive.

Marshes and reedbeds cover most of the flat areas beside the rivers and often occur in mosaic with the wet woodland. Common Reed (*Phragmites australis*) is ubiquitous and is harvested for thatching. There is also much Marsh Marigold (*Caltha palustris*) and, at the edges of the reeds, the Greater and Lesser Pond-sedge (*Carex riparia* and *C. acutiformis*). Hemlock Water-dropwort (*Oenanthe crocata*), Wild Angelica (*Angelica sylvestris*), Reed Canary-grass (*Phalaris arundinacea*), Meadowsweet (*Filipendula ulmaria*), Nettle (*Urtica dioica*), Purple Loosestrife (*Lythrum salicaria*), Marsh Valerian (*Valeriana officinalis*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*).

At Banteer there are a number of hollows in the sediments of the floodplain where subsidence and subterranean drainage have created isolated wetlands, sunk below the level of the surrounding fields. The water rises and falls in these holes depending on the watertable and several different communities have developed on the acidic or neutral sediments. Many of the ponds are ringed about with Grey Willows, rooted in the mineral soils but sometimes collapsed into the water. Beneath the densest stands are woodland herbs like Yellow Pimpernel (*Lysimachia nemorum*) with locally abundant Starwort (*Callitriche stagnalis*) and Marsh Ragwort (*Senecio palustris*). One of the depressions has Silver Birch (*Betula pendula*), Ash (*Fraxinus excelsior*), Crab Apple (*Malus sylvestris*) and a little Oak (*Quercus robur*) in addition to the willows.

Floating river vegetation is found along much of the freshwater stretches within the site. The species list is quite extensive and includes Pond Water-crowfoot (*Ranunculus peltatus*), Water-crowfoot (*Ranunculus* spp.), Canadian Pondweed (*Elodea canadensis*), Broad-leaved Pondweed (*Potamogeton natans*), Pondweed (*Potamogeton* spp.), Water Milfoil (*Myriophyllum* spp.), Common Club-rush (*Scirpus*

lacustris), Water-starwort (*Callitriche* spp.), Lesser Water-parsnip (*Berula erecta*) particularly on the Awbeg, Water-cress (*Nasturtium officinale*), Hemlock Water-dropwort, Fine-leaved Water-dropwort (*O. aquatica*), Common Duckweed (*Lemna minor*), Yellow Water-lily (*Nuphar lutea*), Unbranched Bur-reed (*Sparganium emersum*) and the moss *Fontinalis antipyretica*.

The grassland adjacent to the rivers of the site is generally heavily improved, although liable to flooding in many places. However, fields of more species-rich wet grassland with species such as Yellow-flag (*Iris pseudacorus*), Meadow-sweet, Meadow Buttercup (*Ranunculus acris*) and rushes (*Juncus* spp.) occur occasionally. Extensive fields of wet grassland also occur at Annagh Bog on the Awbeg. These fields are dominated by Tufted Hair-grass (*Deschampsia cespitosa*) and rushes.

The Blackwater Valley has a number of dry woodlands; these have mostly been managed by the estates in which they occur, frequently with the introduction of Beech (*Fagus sylvatica*) and a few conifers, and sometimes of Rhododendron (*Rhododendron ponticum*) and Laurel. Oak woodland is well developed on sandstone about Ballinatrav, with the acid Oak woodland community of Holly (*Ilex aquifolium*), Bilberry (*Vaccinium myrtillus*), Greater Woodrush (*Luzula sylvatica*) and Buckler Ferns (*Dryopteris affinis*, *D. aemula*) occurring in one place. Irish Spurge (*Euphorbia hyberna*) continues eastwards on acid rocks from its headquarters to the west but there are many plants of richer soils, for example Wood Violet (*Viola reichenbachiana*), Goldilocks (*Ranunculus auricomus*), Broad-leaved Helleborine (*Epipactis helleborine*) and Red Campion (*Silene dioica*). Oak woodland is also found in Rincrew, Carrigane, Glendine, Newport and Dromana. The spread of Rhododendron is locally a problem, as is over-grazing. A few limestone rocks stand over the river in places showing traces of a less acidic woodland type with Ash, False Brome (*Brachypodium sylvaticum*) and Early-purple Orchid (*Orchis mascula*).

In the vicinity of Lismore, two deep valleys cut in Old Red Sandstone join to form the Owenashad River before flowing into the Blackwater at Lismore. These valleys retain something close to their original cover of Oak with Downy Birch (*Betula pubescens*), Holly and Hazel (*Corylus avellana*) also occurring. There has been much planting of Beech (as well as some of coniferous species) among the Oak on the shallower slopes and here both Rhododendron and Cherry Laurel (*Prunus laurocerasus*) have invaded the woodland.

The Oak wood community in the Lismore and Glenmore valleys is of the classical upland type, in which some Rowan (*Sorbus aucuparia*) and Downy Birch occur. Honeysuckle (*Lonicera periclymenum*) and Ivy (*Hedera helix*) cover many of the trees while Greater Woodrush, Bluebell (*Hyacinthoides non-scripta*), Wood Sorrel (*Oxalis acetosella*) and, locally, Bilberry dominate the ground flora. Ferns present on the site include Hard Fern (*Blechnum spicant*), Male Fern (*Dryopteris filix-mas*), Buckler Ferns (*D. dilatata*, *D. aemula*) and Lady Fern (*Athyrium filix-femina*). There are many mosses present and large species such as *Rhytidiadelphus* spp., *Polytrichum formosum*, *Mnium hornum* and *Dicranum* spp. are noticeable. The lichen flora is important and includes 'old forest' species which imply a continuity of woodland here since ancient times. Tree Lungwort (*Lobaria* spp.) is the most conspicuous and is widespread.

The Araglin valley consists predominantly of broadleaved woodland. Oak and Beech are joined by Hazel, Wild Cherry (*Prunus avium*) and Goat Willow (*Salix caprea*). The ground flora is relatively rich with Pignut (*Conopodium majus*), Wild Garlic (*Allium ursinum*), Garlic Mustard (*Alliaria petiolata*) and Wild Strawberry (*Fragaria vesca*). The presence of Ivy Broomrape (*Orobanche hederæ*), a local species within Ireland, suggests that the woodland, along with its attendant Ivy is long established.

Along the lower reaches of the Awbeg River, the valley sides are generally cloaked with mixed deciduous woodland of estate origin. The dominant species is Beech, although a range of other species are also present, e.g. Sycamore (*Acer pseudoplatanus*), Ash and Horse-chestnut (*Aesculus hippocastanum*). In places the alien invasive species, Cherry Laurel, dominates the understorey. Parts of the woodlands are more semi-natural in composition, being dominated by Ash with Hawthorn (*Crataegus monogyna*) and Spindle (*Euonymus europæa*) also present. However, the most natural areas of woodland appear to be the wet areas dominated by Alder and willows (*Salix* spp.). The ground flora of the dry woodland areas features species such as Pignut, Wood Avens (*Geum urbanum*), Ivy and Soft Shield-fern (*Polystichum setiferum*), while the ground flora of the wet woodland areas contains characteristic species such as Remote Sedge (*Carex remota*) and Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*).

In places along the upper Bride, scrubby, semi-natural deciduous woodland of Willow, Oak and Rowan occurs with abundant Great Woodrush in the ground flora.

The Bunaglanna River passes down a very steep valley, flowing in a north-south direction to meet the Bride River. It flows through blanket bog to heath and then scattered woodland. The higher levels of moisture here enable a vigorous moss and fern community to flourish, along with a well-developed epiphyte community on the tree trunks and branches.

At Banteer a type of wetland occurs near the railway line which offers a complete contrast to the others. Old turf banks are colonised by Royal Fern (*Osmunda regalis*) and Eared Willow (*Salix aurita*) and between them there is a sheet of Bottle Sedge (*Carex rostrata*), Marsh Cinquefoil (*Potentilla palustris*), Bogbean (*Menyanthes trifoliata*), Marsh St. John's-wort (*Hypericum elodes*) and the mosses *Sphagnum auriculatum* and *Aulacomnium palustre*. The cover is a scraw with characteristic species like Marsh Willowherb (*Epilobium palustre*) and Marsh Orchid (*Dactylorhiza incarnata*).

The soil high up the Lismore valleys and in rocky places is poor in nutrients but it becomes richer where streams enter and also along the valley bottoms. In such sites Wood Speedwell (*Veronica montana*), Wood Anemone (*Anemone nemorosa*), Enchanter's Nightshade (*Circaea lutetiana*), Barren Strawberry (*Potentilla sterilis*) and Shield Fern occur. There is some Wild Garlic, Three-nerved Sandwort (*Moehringia trinervia*) and Early-purple Orchid (*Orchis mascula*) locally, with Opposite-leaved Golden-saxifrage, Meadowsweet and Bugle in wet places. A Hazel stand at the base of the Glenakeeffe valley shows this community well.

The area has been subject to much tree felling in the recent past and re-sprouting stumps have given rise to areas of bushy Hazel, Holly, Rusty Willow (*Salix cinerea* subsp. *oleifolia*) and Downy Birch. The ground in the clearings is heathy with Heather (*Calluna vulgaris*), Slender St John's-wort (*Hypericum pulchrum*) and the occasional Broom (*Cytisus scoparius*) occurring.

The estuary and the other Habitats Directive Annex I habitats within it form a large component of the site. Very extensive areas of intertidal flats, comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. The main expanses occur at the southern end of the site with the best examples at Kinsalebeg in Co. Waterford and between Youghal and the main bridge north of it across the river in Co. Cork. Other areas occur along the tributaries of the Licky in east Co. Waterford and Glendine, Newport, Bride and Killahaly Rivers in Waterford west of the Blackwater and large tracts along the Tourig River in Co. Cork. There are narrow bands of intertidal flats along the main river as far north as Camphire Island. Patches of green algae (filamentous, *Ulva* species and *Enteromorpha* sp.) occur in places, while fucoid algae are common on the more stony flats even as high upstream as Glenassy or Coneen.

The area of saltmarsh within the site is small. The best examples occur at the mouths of the tributaries and in the townlands of Foxhole and Blackbog. Those found are generally characteristic of Atlantic salt meadows. The species list at Foxhole consists of Common Saltmarsh-grass (*Puccinellia maritima*), small amounts of Greater Sea-spurrey (*Spergularia media*), Glasswort (*Salicornia* sp.), Sea Arrowgrass (*Triglochin maritima*), Annual Sea-blite (*Suaeda maritima*) and Sea Purslane (*Halimione portulacoides*) - the latter a very recent coloniser - at the edges. Some Sea Aster (*Aster tripolium*) occurs, generally with Creeping Bent (*Agrostis stolonifera*). Sea Couch-grass (*Elymus pycnanthus*) and small isolated clumps of Sea Club-rush (*Scirpus maritimus*) are also seen. On the Tourig River additional saltmarsh species found include Lavender (*Limonium* spp.), Sea Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common Scurvy-grass (*Cochlearia officinalis*) and Sea Plantain (*Plantago maritima*). Oraches (*Atriplex* spp.) are found on channel edges.

The shingle spit at Ferrypoint supports a good example of perennial vegetation of stony banks. The spit is composed of small stones and cobbles and has a well developed and diverse flora. At the lowest part, Sea Beet (*Beta vulgaris*), Curled Dock (*Rumex crispus*) and Yellow-horned Poppy (*Glaucium flavum*) occur with at a slightly higher level Sea Mayweed (*Tripleurospermum maritimum*), Cleavers (*Galium aparine*), Rock Samphire (*Crithmum maritimum*), Sandwort (*Honkenya peploides*), Spear-leaved Orache (*Atriplex prostrata*) and Babington's Orache (*A. glabriuscula*). Other species present include Sea Rocket (*Cakile maritima*), Herb Robert (*Geranium robertianum*), Red Fescue (*Festuca rubra*) and Kidney Vetch (*Anthyllis vulneraria*). The top of the spit is more vegetated and includes lichens and bryophytes (including *Tortula ruraliformis* and *Rhytidiadelphus squarrosus*).

The site supports several Red Data Book plant species, i.e. Starved Wood Sedge (*Carex depauperata*), Killarney Fern (*Trichomanes speciosum*), Pennyroyal (*Mentha pulegium*), Bird's-nest Orchid (*Neottia nidus-avis*), Golden Dock (*Rumex maritimus*) and Bird Cherry (*Prunus padus*). The first three of these are also protected under the

Flora (Protection) Order 1999. The following plants, relatively rare nationally, are also found within the site: Toothwort (*Lathraea squamaria*) associated with woodlands on the Awbeg and Blackwater; Summer Snowflake (*Leucojum aestivum*) and Flowering Rush (*Butomus umbellatus*) on the Blackwater; Common Calamint (*Calamintha ascendens*), Red Campion (*Silene dioica*), Sand Leek (*Allium scorodoprasum*) and Wood Club-rush (*Scirpus sylvaticus*) on the Awbeg.

The site is also important for the presence of several Habitats Directive Annex II animal species, including Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), River Lamprey (*L. fluviatilis*), Twaite Shad (*Alosa fallax fallax*), Freshwater Pearl-mussel (*Margaritifera margaritifera*), Otter (*Lutra lutra*) and Salmon (*Salmo salar*). The Awbeg supports a population of White-clawed Crayfish (*Austropotamobius pallipes*). This threatened species has been recorded from a number of locations and its remains are also frequently found in Otter spraints, particularly in the lower reaches of the river. The freshwater stretches of the Blackwater and Bride Rivers are designated salmonid rivers.

The Blackwater is noted for its enormous run of salmon over the years. The river is characterised by mighty pools, lovely streams, glides and generally, a good push of water coming through except in very low water. Spring salmon fishing can be carried out as far upstream as Fermoy and is very highly regarded especially at Careysville. The Bride, main Blackwater upstream of Fermoy and some of the tributaries are more associated with grilse fishing.

The site supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. The bat species Natterer's Bat, Daubenton's Bat, Whiskered Bat, Brown Long-eared Bat and Pipistrelle, are to be seen feeding along the river, roosting under the old bridges and in old buildings.

Common Frog, a Red Data Book species that is also legally protected (Wildlife Act, 1976), occurs throughout the site. The rare bush cricket, *Metrioptera roselii* (Orthoptera: Tettigoniidae), has been recorded in the reed/willow vegetation of the river embankment on the Lower Blackwater River. The Swan Mussel (*Anodonta cygnea*), a scarce species nationally, occurs at a few sites along the freshwater stretches of the Blackwater.

Several bird species listed on Annex I of the E.U. Birds Directive are found on the site. Some use it as a staging area, others are vagrants, while others use it more regularly. Internationally important numbers of Whooper Swan (average peak 174, 1994/95-95/96) and nationally important numbers Bewick's Swan (average peak 35, 1994/95-95/96) use the Blackwater Callows. Golden Plover occur in regionally important numbers on the Blackwater Estuary (average peak 885, 1984/85-86/87) and on the River Bride (absolute max. 2141, 1994/95). Staging Terns visit the site annually (Sandwich Tern (>300) and Arctic/Common Tern (>200), average peak 1974-1994). The site also supports populations of the following: Red Throated Diver, Great Northern Diver, Barnacle Goose, Ruff, Wood Sandpiper and Greenland White-fronted Goose. Three breeding territories for Peregrine Falcon are known along the Blackwater Valley. This, the Awbeg and the Bride River are also thought to support at

least 30 pairs of Kingfisher. Little Egret now breed at the site (12 pairs in 1997, 19 pairs in 1998) and this represents about 90% of the breeding population in Ireland.

The site holds important numbers of wintering waterfowl. Both the Blackwater Callows and the Blackwater Estuary Special Protection Areas (SPAs) hold internationally important numbers of Black-tailed Godwit (average peak 847, 1994/95-95/96 on the callows, average peak 845, 1974/75-93/94 in the estuary). The Blackwater Callows also hold Wigeon (average peak 2752), Teal (average peak 1316), Mallard (average peak 427), Shoveler (average peak 28), Lapwing (average peak 880), Curlew (average peak 416) and Black-headed Gull (average peak 396) (counts from 1994/95-95/96). Numbers of birds using the Blackwater Estuary, given as the mean of the highest monthly maxima over 20 years (1974-94), are Shelduck (137 +10 breeding pairs), Wigeon (780), Teal (280), Mallard (320 + 10 breeding pairs), Goldeneye (11-97), Oystercatcher (340), Ringed Plover (50 + 4 breeding pairs), Grey Plover (36), Lapwing (1680), Knot (150), Dunlin (2293), Snipe (272), Black-tailed Godwit (845), Bar-tailed Godwit (130), Curlew (920), Redshank (340), Turnstone (130), Black-headed Gull (4000) and Lesser Black-backed Gull (172). The greatest numbers (75%) of the wintering waterfowl of the estuary are located in the Kinsalebeg area on the east of the estuary in Co. Waterford. The remainder are concentrated along the Tourig Estuary on the Co. Cork side.

The river and river margins also support many Heron, non-breeding Cormorant and Mute Swan (average peak 53, 1994/95-95/96 in the Blackwater Callows). Heron occurs all along the Bride and Blackwater Rivers - 2 or 3 pairs at Dromana Rock; c. 25 pairs in the woodland opposite; 8 pairs at Ardsallagh Wood and c. 20 pairs at Rincrew Wood have been recorded. Some of these are quite large and significant heronries. Significant numbers of Cormorant are found north of the bridge at Youghal and there are some important roosts present at Ardsallagh Wood, downstream of Strancally Castle and at the mouth of the Newport River. Of note are the high numbers of wintering Pochard (e.g. 275 individuals in 1997) found at Ballyhay quarry on the Awbeg, the best site for Pochard in County Cork.

Other important species found within the site include Long-eared Owl, which occurs all along the Blackwater River, and Barn Owl, a Red Data Book species, which is found in some old buildings and in Castlehyde west of Fermoy. Reed Warbler, a scarce breeding species in Ireland, was found for the first time in the site in 1998 at two locations. It is not known whether or not this species breeds on the site, although it is known to nearby to the south of Youghal. Dipper occurs on the rivers.

Landuse at the site is mainly centred on agricultural activities. The banks of much of the site and the callows, which extend almost from Fermoy to Cappoquin, are dominated by improved grasslands which are drained and heavily fertilised. These areas are grazed and used for silage production. Slurry is spread over much of this area. Arable crops are grown. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of Habitats Directive Annex II animal species within it. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the Blackwater and its tributaries and there are a number of Angler Associations, some with a number of

beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. Other recreational activities such as boating, golfing and walking are also popular. Water skiing is carried out at Villierstown. Parts of Doneraile Park and Anne's Grove are included in the site: both areas are primarily managed for amenity purposes. There is some hunting of game birds and Mink within the site. Ballyhay quarry is still actively quarried for sand and gravel. Several industrial developments, which discharge into the river, border the site.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, dredging of the upper reaches of the Awbeg, overgrazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel.

Overall, the River Blackwater is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive respectively; furthermore it is of high conservation value for the populations of bird species that use it. Two Special Protection Areas, designated under the E.U. Birds Directive, are also located within the site - Blackwater Callows and Blackwater Estuary. Additionally, the importance of the site is enhanced by the presence of a suite of uncommon plant species.

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