

ATTACHMENT No: A.1
NON TECHNICAL SUMMARY

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ATTACHMENT No: A.1 NON TECHNICAL SUMMARY

1.0 The waste water works and the activities carried out

The village of Mullaghmore is located on a peninsula on the Northern Sligo Coast towards the Leitrim border. The existing population equivalent of Mullaghmore is approximately 1,200 P.E. This figure was taken from the Mullaghmore Sewerage Scheme Preliminary Report completed in December 2008. The waste water collection system in Mullaghmore includes both combined and separate sewers. Surface runoff is largely drained through the existing combined sewer network system. There is also a small length of separate surface water collection pipework however this is not dealt with any further as part of this application.

Sewage from the village is conveyed via a combined collection network to a septic tank located on the shore at the northeast side of the village. This tank discharges to the sea via a 300mm diameter 230m long outfall pipe. The septic tank was constructed in 1963 and has a liquid holding capacity of 73m³. The tank consists of an inlet chamber, main sewage septic tank, overflow weir and outlet chamber.

Under the Water Services Investment Programme 2007-2009, the Mullaghmore grouped sewerage scheme was approved for funding in 2008. Sligo County Council appointed RPS Consulting Engineers to prepare a Preliminary Report in January 2007. This report was completed in December 2008. The report recommends renovation and extension of the existing combined sewer network and a new WwTP to ultimately cater for 2,400 PE. The main findings of the Preliminary Report are summarised in Section 5.0 of this Non-Technical Summary.

2.0 The sources of emissions from the waste water works

The primary discharge from the septic tank is to the sea at Donegal Bay. The performance of the septic tank in removing solids is not known as no monitoring of the influent or effluent of the tank is carried out by Sligo County Council due to Health and Safety access issues.

During storm conditions flows in excess of its septic tank hydraulic capacity discharge directly into the sea through a bypass overflow system. Discharge is to the sea through the same outfall pipe as the primary discharge pipe. It is not known how often over flow occurs.

3.0 The nature and quantities of emissions from the waste water works (into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment)

The performance of the septic tank in removing solids is not known as no monitoring of the influent or effluent of the tank is carried out by Sligo County Council due to Health and Safety access issues. However, for the purposes of this application, a two day flow and load survey was carried out the results of which are summarized below.

Influent				
Date	Cert No.	Daily Flow (m3)	BOD Load (kg)	
13-14.10.08	15292	327.875	7.54	
14-15.10.08	15293	398.784	3.19	
Effluent				
Date	Cert No.	Daily Flow (m3)	COD Load (kg)	BOD Load (kg)
13-14.10.08	15298	333.755	11.35	5.01
14-15.10.08	15300	398.671	14.35	4.39

Effluent	13-14.10.08	14-15.10.08
pH	7.6	7.6
Temperature	16.5	15.8
Ammonia	0.735	0.941
Total-P	0.516	0.736
Ortho-P	0.429	0.458
Conductivity	786	1125
Nitrate	2.5	1.6
Nitrite	0.136	0.147
Total Nitrogen	8.652	7.75
Sulphate	64.16	73.81
T.S.S	12	17
Hardness	N/R	N/R
Phenols	<10	<10

BOD5	15	11
COD	34	36
Dissolved Oxygen	9.9	10.3

4.0 Identification of significant effects of the emissions on the environment

Emissions from the existing septic tank and proposed WwTP are to the sea at Donegal Bay. A preliminary assessment of the receiving water with respect to various EU Directives and National (Water Quality) Regulations was carried out as part of the Preliminary Report. The assessment indicates that there is adequate assimilative capacity for the current discharge. The Preliminary Report recommends that an assessment of tidal movements and effluent dispersion within Donegal Bay be carried out to determine the impact of future effluent discharge on the quality of the receiving waters and adjacent designated areas.

This section of Donegal Bay is designated under the Bunduff Lough and Machair/Trawalua/Mullaghmore candidate SAC. The NPWS have been asked to comment on the likely effect of the discharge on this SAC (detailed in Section F of this application).

5.0 The proposed technology and other techniques for preventing or reducing emissions/pollution from the waste water works

Under the Water Services Investment Programme 2007-2009, the Mullaghmore grouped sewerage scheme was approved for funding in 2008. Sligo County Council appointed RPS Consulting Engineers to prepare a Preliminary Report in January 2007. This report was completed in December 2008. The report recommended that the existing combined network in Mullaghmore is renovated and extended to cater for future development. A surface storm water collection system has been proposed. Both the foul and stormwater collection systems have been designed to upgrade the existing systems and cater for current and future populations up to the year 2027. The foul sewerage network will discharge to the proposed WwTP and will be designed to carry a hydraulic load of 6DWF.

A two stage programme for the development of a new Waste Water Treatment Plant is outlined in the Report. The new plant will initially cater for a PE of 1,700 and ultimately 2,400 PE. Depending on the results of the hydrodynamic modelling, it is proposed to treat all flows up to a minimum of 3DWF and a maximum of 6DWF. Wastewater flows in excess of 3DWF and less than 6DWF will either be diverted to a storm-balancing tank or receive full secondary treatment. Flows in excess of 6DWF will be discharged to the sea.

It is proposed that foul flows from the current and future developments of the town be conveyed through the existing foul sewers to a proposed pumping station adjacent to the existing septic tank and subsequently pumped to the proposed WwTP. The pumping station should be designed to cater for a flow of 37l/s equivalent to 6DWF from a population equivalent of 2,400. The pump sump should be sized for a 2 hour foul retention period at the design flow rate which is equivalent to 12 hours storage at average dry weather flow. Due to the limited amount of separation in the network it is also recommended that flows in excess of 6DWF arriving at the proposed pumping station temporarily (in storm condition) be stored in the existing septic tank and subsequently be pumped through the proposed pumping station to the WwTP.

The report recommends that the collection system should be procured as a traditional contract with the WwTP being bundled with Ballygawley treatment plant and procured as a DBO contract.

6.0 Measures planned to monitor emissions into the environment

As part of the new WwTP monitoring equipment as required complying with required legislation will be provided.

7.0 Other

The existing septic tank and network is maintained by a caretaker from Sligo County Council and on average is visited a few times a week to ensure that it is operating correctly.

ATTACHMENT No: B.1
BOUNDARY OF AGGLOMERATION

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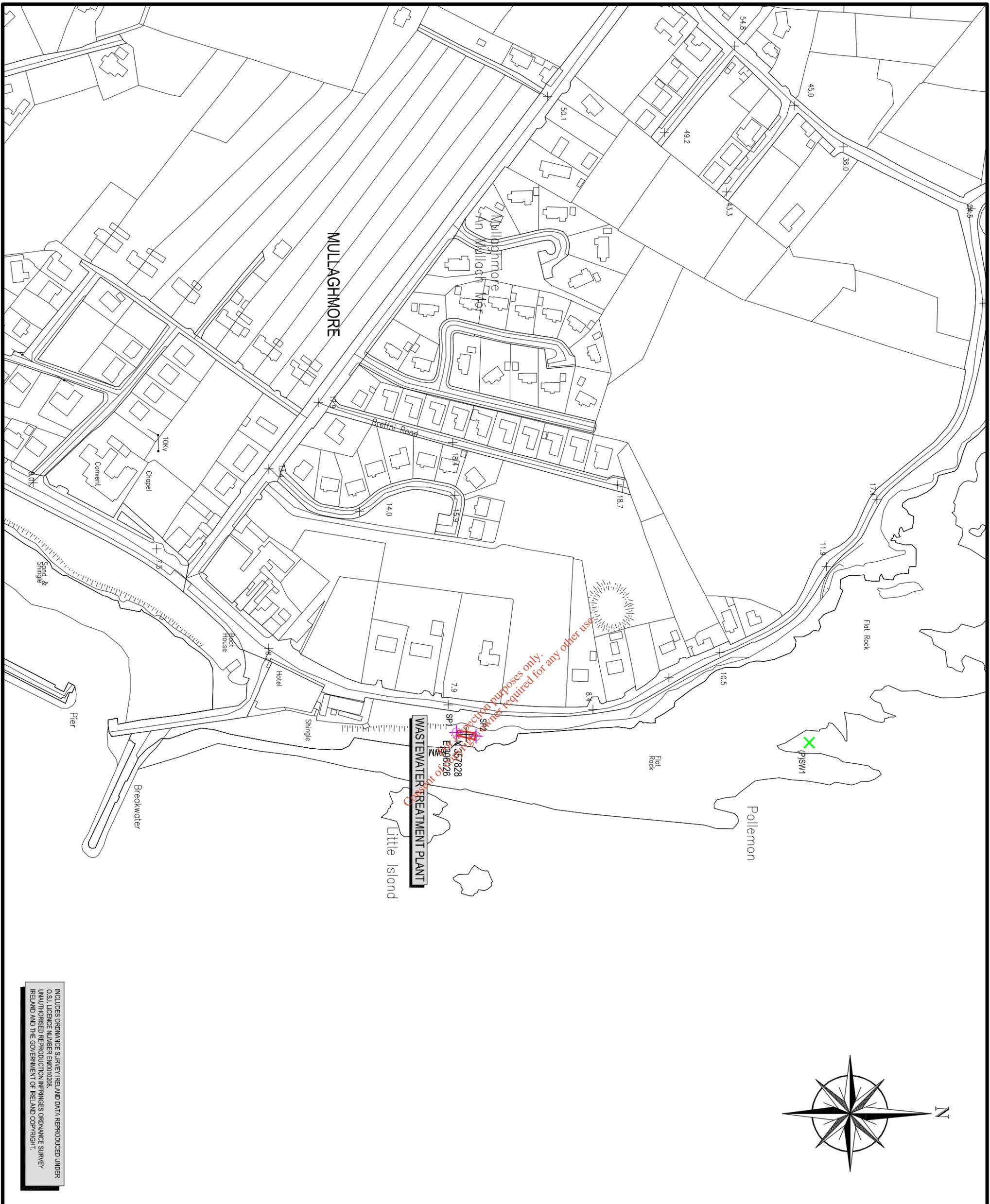
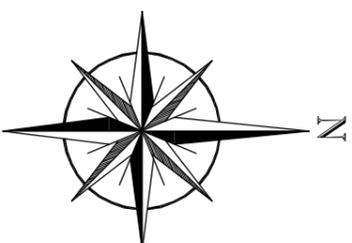
ATTACHMENT No: B.2
LOCATION OF WwTP

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LEGEND

- SITE BOUNDARY OF WWT/P
- ⊕ WWT/P SAMPLING POINT
- ✕ PRIMARY DISCHARGE POINT (P/SW1)

POINT	NORTHING	EASTING
(P/SW1)	358077	171070
SP1 (INFLUENT)	357821	171063
SP2 (EFFLUENT)	357835	171065



SIGNED: _____
 PRINT NAME: _____
 POSITION: _____
 DATE: _____
 FOR SLIGO COUNTY COUNCIL

REV.	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

SLIGO COUNTY COUNCIL

PROJECT
 MULLAGHMORE
 WASTEWATER TREATMENT PLANT

TITLE
 DISCHARGE LICENCE
 WWT/P OVERALL SITE PLAN

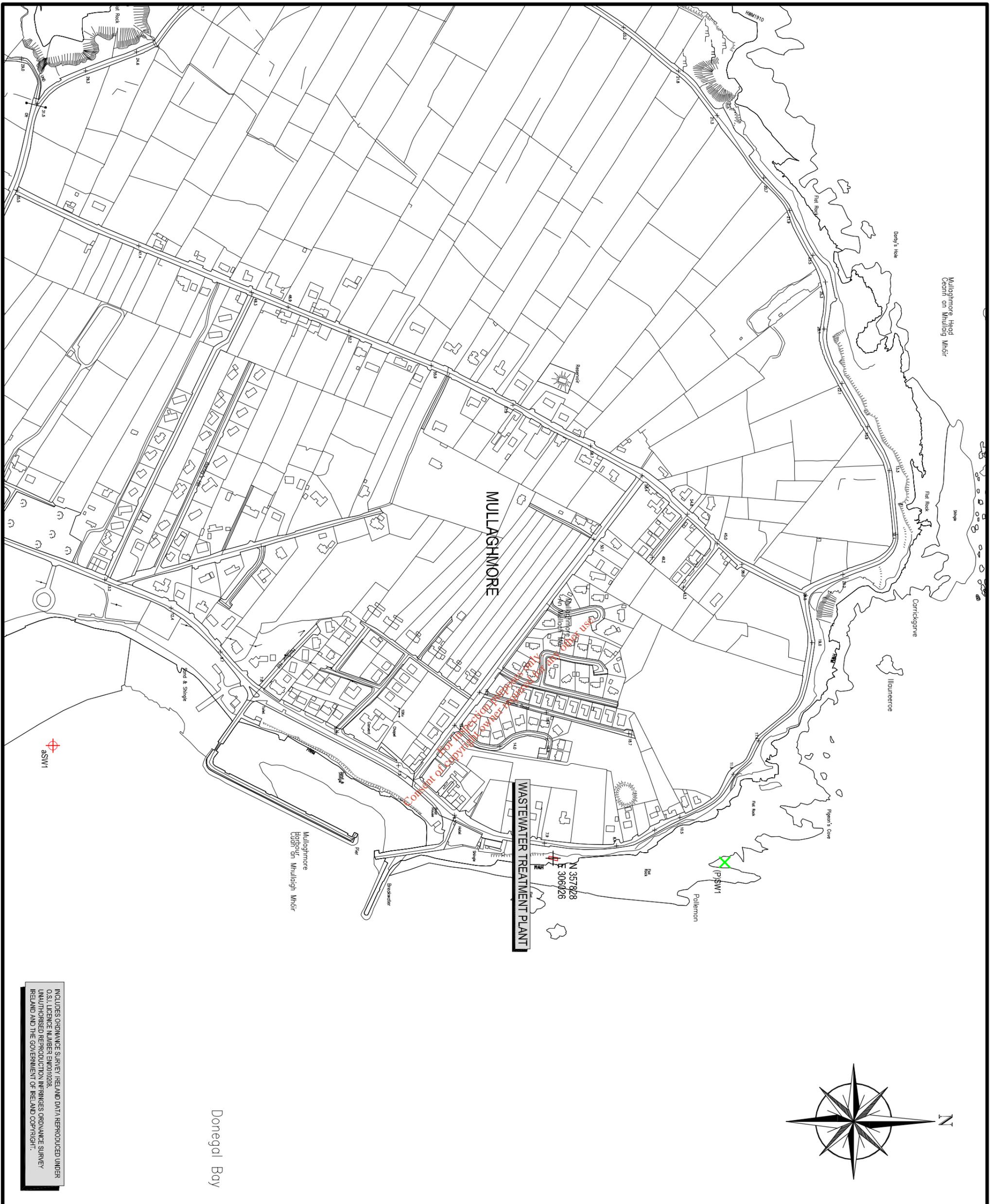
SCALES
 1:2500

DRAWN	D. Smithers
DATE	31.07.09
SECTION	B.2
DRAWING NO.	02
REV.	-

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ATTACHMENT No: B.3
LOCATION OF PRIMARY DISCHARGE POINT

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NOTES

LEGEND

- SITE BOUNDARY OF WWTP
- ⊕ ASW1 AMBIENT MONITORING POINT
- ⊗ (P)SW1 PRIMARY DISCHARGE POINT

POINT	NORTHING	EASTING
(P)SW1	358077	171070
ASW1	357100	170900

SIGNED: _____
 PRINT NAME: _____
 POSITION: _____
 DATE: _____

FOR SLIGO COUNTY COUNCIL

REV	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

SLIGO COUNTY COUNCIL

PROJECT
 MULLAGHMORE
 WASTEWATER TREATMENT PLANT

TITLE
 DISCHARGE LICENCE
 PRIMARY DISCHARGE POINT

SCALES
 1:5000

DATE
 31.01.09

SECTION
 B.3

DRAWING NO.
 03

REV
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ATTACHMENT No: B.8
NOTICE OF APPLICATION

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Public Notices



SLIGO LOCAL

SLIGO COUNTY COUNCIL

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

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, Sligo County Council, County Buildings, Riverside, Co. Sligo, is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for discharges from the **Mullaghmore Septic Tank, Mullaghmore, Co. Sligo.**

The application concerns the primary discharge from the Septic Tank at Mullaghmore E171070 N358077.

Treated effluent is discharged to the sea at Mullaghmore.

The National Grid Reference of the centre point of the Septic Tank is E306026 N357828. The treatment is provided by the septic tank.

A copy of Sligo County Councils Licence Application and any further information which may be furnished to the Agency will be available for inspection or purchase at the Environmental Protection Agency Headquarters, Johnstown Castle Estate, Wexford, and at the offices of Sligo County Council, County Buildings, Riverside, Sligo after the **28th of February 2009.**

Any submissions in relation to this application may be made to the Environmental Protection Agency Headquarters at the above address.

T. Kilfeather,
Director of Services.

PLANNING AND DEVELOPMENT ACTS 2000 – 2007 NOTICE OF PROPOSED DEVELOPMENT UNDER PART 8 OF THE PLANNING AND DEVELOPMENT REGULATIONS, 2001(SI 600 OF 2001) - 2008.

Markievicz Bridge – Repairs and New Footbridge.

Notice is hereby given pursuant to Article 81(1) of the Planning and Development Regulations, 2001 - 2008, that Sligo Borough Council proposes to carry out the following works at Markievicz Bridge, also known as New Bridge, (a protected structure no. 177 in the Sligo and Environs Development Plan 2004-10), at Kempton Promenade in the townland of Rathquarter, and at Kennedy Parade in the townland of Abbeyquarter North and in the Garvoge River, in Sligo City:

- Repair works to existing bridge, piers and abutments including scour prevention measures in the Garvoge River,
- Illumination of the existing arched bridge structure,
- The construction of two new bridge piers on the upstream side of the existing structure in the Garvoge River,
- The construction of a new independently supported footbridge on the upstream side of the existing bridge,
- Minor modifications to J F Kennedy Parade and Kempton Promenade to provide bank seats for the new footbridge and the realignment of the foot ways and parapets,
- Minor ancillary works associated with services, etc.

The proposed development consists of the carrying out of works to protected structure no. 177 as set out in the Sligo and Environs Development Plan 2004-10.

Plans and particulars relating to the proposed development are available for inspection or purchase (at a fee not exceeding the reasonable cost of making a copy), during office hours at Sligo Borough Council, City Hall, Quay Street, Sligo and Sligo County Council, Design Section, Business Centre, Market Yard, Sligo, from **Wednesday 18th February to Thursday 2nd April 2009 (both days inclusive).**

For further information contact: Mr. G. Salter, Senior Executive Engineer at 071 9111962 or Mr. E. Brennan, Chief Technician at 071 9111958.

Submissions and observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the development would be situated, may be made in writing to the Town Clerk, City Hall, Quay Street, Sligo to be received not later than **4.00pm on Friday 17th April, 2009.** Any submissions or observations received by Sligo Borough Council shall also be made available for inspection (or purchase on payment of a specified fee not exceeding the reasonable cost of making such a copy) by members of the public.

13 of 69

D. Breen,
Director of Services.



SLIGO COUNTY COUNCIL

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

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, Sligo County Council, County Buildings, Riverside, Co. Sligo, is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for discharges from the **Mullaghmore Septic Tank, Mullaghmore, Co. Sligo.**

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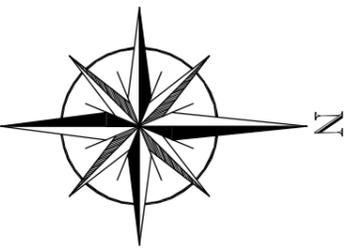
The National Grid Reference of the centre point of the Septic Tank is E306026 N357828. The treatment is provided by the septic tank.

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Any submissions in relation to this application may be made to the Environmental Protection Agency Headquarters at the above address.

Signed

Mr. T. Kilfeather,
Director of Infrastructural Services



NOTES

LEGEND

- SITE BOUNDARY OF WWTP
- ◆ SITE NOTICE LOCATION

SIGNED: _____
 PRINT NAME: _____
 POSITION: _____
 DATE: _____

FOR SLIGO COUNTY COUNCIL

REV	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

SLIGO COUNTY COUNCIL

PROJECT

MULLAGHMORE
 WASTEWATER TREATMENT PLANT

TITLE

DISCHARGE LICENCE
 SITE NOTICE LOCATION

SCALES	1:2500	DRAWN	D. Smithers
DATE	31.01.09	DRAWING NO.	B.8 05
SECTION		REV	

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ATTACHMENT No: B.9
POPULATION EQUIVALENT OF AGGLOMERATION

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ATTACHMENT No: B. 9 POPULATION EQUIVALENT OF AGGLOMERATION

Population Equivalent	1,200
Data Compiled (Year)	2008
Method	Census 2006, An Post Geo Directory Information (Feb 2007), Commercial activities

As part of the Preliminary Report an assessment of the existing PE and future PE in Mullaghmore for 20 years was carried out. The current population equivalent of Mullaghmore is 1,200. A description of how this figure was achieved is detailed below.

In the 2006 Census the average number of persons per household in County Sligo was 2.7. However a slightly higher occupancy rate of 2.85 was used to determine the current and future population based on information provided by Sligo County Council. To assess the current peak season PE the occupancy rates were combined with An Post Geo Directory information as shown below.

Category	No. of Buildings	Occupancy Rate (PE/Unit)	Population Equivalent
Year Round Domestic Residents	52	2.85	147
Additional, peak season dwelling house residence	153	3.5	536
Houses with current planning permission	20	3	60
Apartments with planning permission	4	1.9	8
TOTAL RESIDENTIAL POPULATION			750

The current commercial population equivalent figures as shown below were provided by Sligo County Council in June 2007.

Category	No. of Buildings	Description	Occupancy Rate (PE/unit)	Population Equivalent
Caravans	108		2	216
Self catering holiday accommodation	12		3.5	42
Peak summertime day-trippers (approx 400)			400 trippers @0.055PE/tripper	22
Hotels	2	43 rooms 2 bed/room + 90 customers in bar + 18 staff	1.25 PE/bed, 0.17 PE/customer & 0.5 PE/staff	132
Shops	2		1	2
Conference Centre	1	30 customers and 8 staff	0.33 PE/customer & 0.5 PE/staff	14
Sailing Club	1	25 children & 5 staff	0.33 PE/customer & 0.5 PE/staff	11
Restaurant	1	35 customers + 6 staff	0.25 PE/customer & 0.5 PE/staff	12
TOTAL				451

Future Population Estimates

A local area plan for Mullaghmore has not been prepared. An increased annual average population of 4% was assumed in the PR as a reasonable estimate until the year 2027 resulting in an ultimate domestic design pe of 1643 persons.

In regards to commercial/other development it is assumed that the effluent will have a similar load to the domestic flows due to the mix of activities. Assuming an annual growth rate of 2.5% the ultimate commercial/other design pe is 737

persons. This results in a total of 2,380 which has been rounded to 2,400 as the ultimate design pe in 2027.

B.9 (ii) Pending Development

- Houses and Apartments with granted planning permission are included in the current pe of 1200

Category	No. of Buildings	Occupancy Rate (PE/Unit)	Population Equivalent
Houses with current planning permission	20	3	60
Apartments with planning permission	4	1.9	8

- In relation to the percentage of the projected p.e. to be contributed by non-domestic sources, exact figures for this are unknown. Sligo County Council do not have a total figure of permitted but undeveloped commercial developments. In Mullaghmore 12sq m of retail floorspace is permitted but undeveloped. This would equate to a very low p.e.
- The proposed waste water treatment works has been designed for a current p.e. of 1,200 which **includes** domestic planning permissions granted.

ATTACHMENT No: B.10
CAPITAL INVESTMENT PROGRAMME

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Sligo

Water Services Investment Programme 2007 - 2009

Schemes at Construction	W/S	Est. Cost.
Sligo & Environs Water Supply Scheme Stage 2 (G)	W	14,700,000
Sligo Wastewater Treatment Plant (DBO Contract)(G)	S	24,000,000
		38,700,000
Schemes to start 2007		
Enniscrone Sewerage Scheme	S	3,100,000
		3,100,000
Schemes to start 2008		
Ballygawley, Mullaghmore, Ballinacarrow* & Cliffoney* Grouped Sewerage Scheme	S	6,500,000
Mullaghmore Water Supply Scheme Stage 2	W	1,430,000
Sligo Sewerage Scheme (Network Improvement)(G)	S	5,300,000
		13,230,000
Schemes to start 2009		
Carrowroe Sewerage Scheme	S	2,300,000
Lough Talt Water Supply Scheme	W	1,870,000
Rosses Point/ Cregg/ Ballincar Sewerage Scheme	S	4,500,000
		8,670,000
Serviced Land Initiative		
Grange, Strandhill & Tubbercurry Grouped Sewerage Improvement Scheme	S	4,250,000
Teesan/Lisnalurg Sewerage Scheme	S	1,420,000
Ballinacarrow Sewerage Scheme*	S	-
Cliffoney Sewerage Scheme*	S	-
*Previously listed with grouped scheme above		5,670,000
Schemes to Advance through Planning		
Ballymote Sewerage Scheme (Upgrade)	S	5,000,000
Collooney Sewerage Scheme (Upgrade)	S	5,000,000
North Sligo Regional Water Supply Scheme Phase 2	W	3,570,000
Sligo & Environs Water Supply Scheme Phase 3 (G)	W	4,080,000
		17,650,000
Water Conservation Allocation		2,652,000
Asset Management Study		60,000
Programme Total		89,732,000

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

ATTACHMENT No: C.1
OPERATIONAL INFORMATION REQUIREMENTS

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ATTACHMENT No: C1 OPERATIONAL INFORMATION REQUIREMENTS

C.1.1 Storm Water Overflows

There is a storm water overflow from the septic tank. It is not known how often this overflows.

C.1.2 Pumping Stations

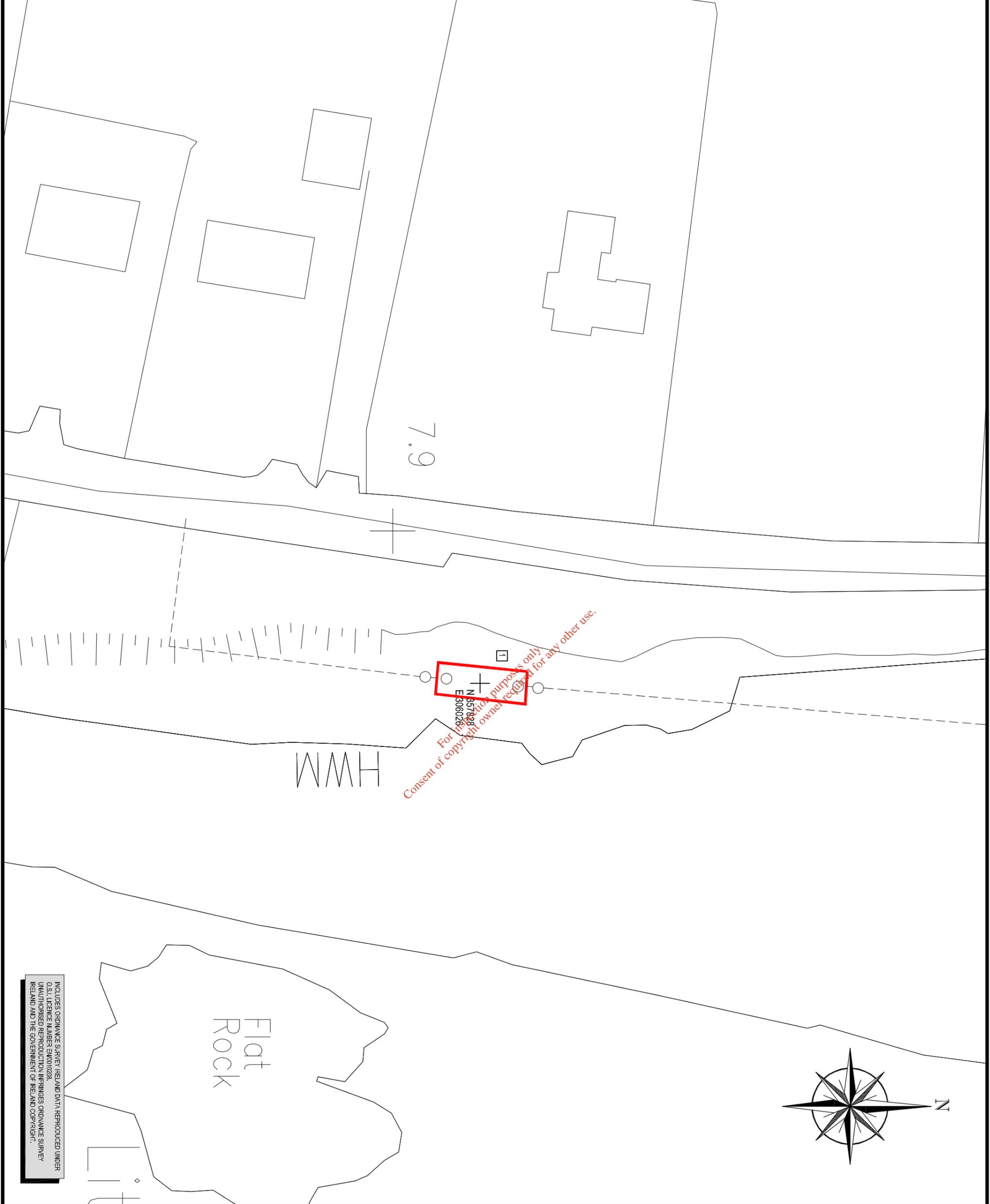
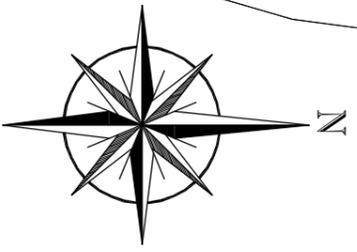
At present there are no pumping stations in Mullaghmore.

It is proposed that foul flows from the current and future developments of the town be conveyed through the existing foul sewers to a proposed pumping station adjacent to the existing septic tank and subsequently pumped to the proposed WwTP. The pumping station should be designed to cater for a flow of 37l/s equivalent to 6DWF from a population equivalent of 2,400. The pump sump should be sized for a 2 hour foul retention period at the design flow rate which is equivalent to 12 hours storage at average dry weather flow. Due to the limited amount of separation in the network it is also recommended that flows in excess of 6DWF arriving at the proposed pumping station temporarily (in storm condition) be stored in the existing septic tank and subsequently be pumped through the proposed pumping station to the WwTP.

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LEGEND

- SITE BOUNDARY OF WWTP
- - - - PROCESS LINES
- T SEPTIC TANK



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N 357828
 E 306026

WWTTP

Flat Rock

7.9

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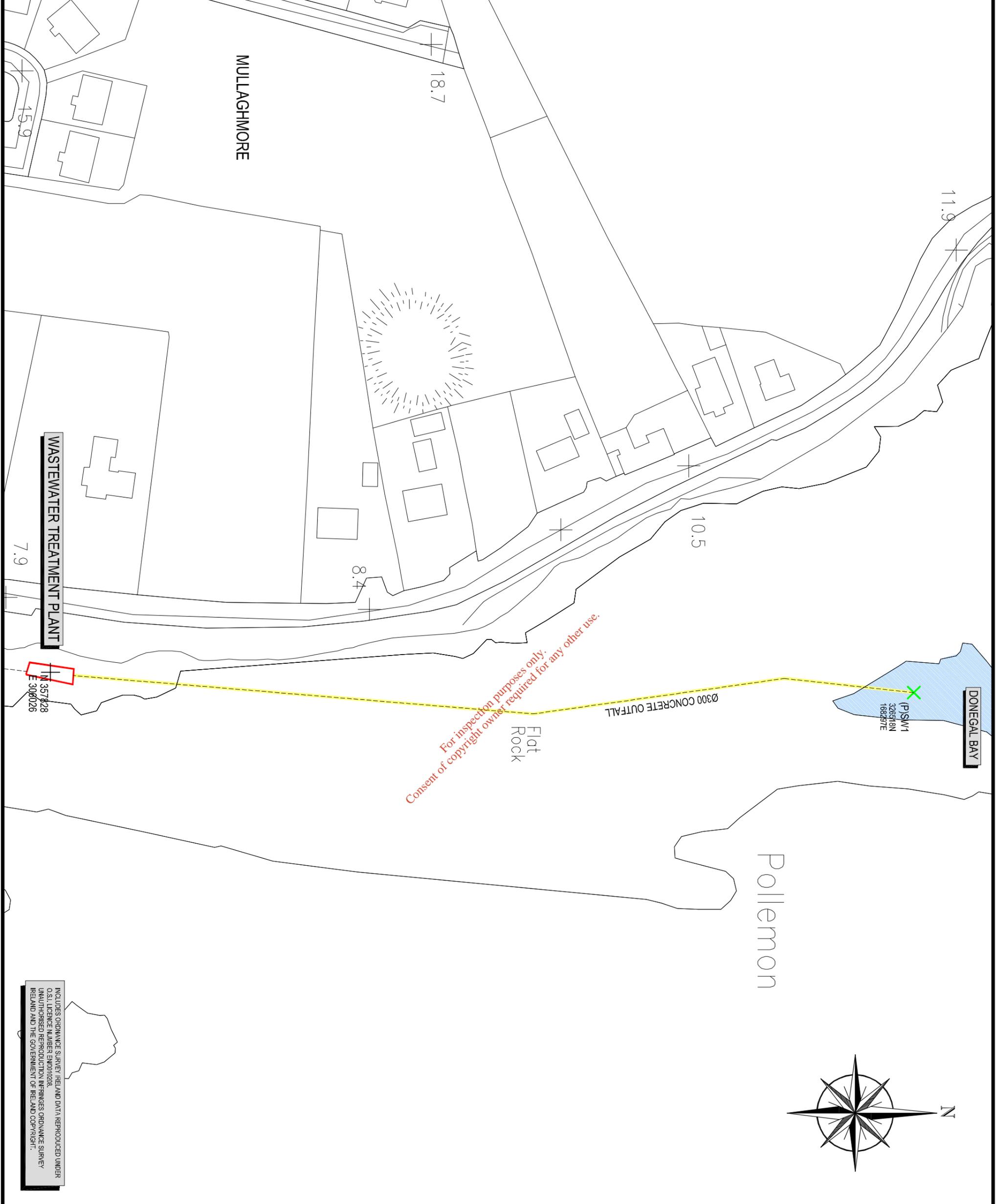
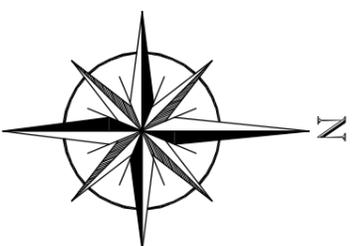
DISCHARGE LICENCE			
SLIGO COUNTY COUNCIL			
PROJECT MULLAGHMORE WASTEWATER TREATMENT PLANT			
TITLE DISCHARGE LICENCE WWTP LAYOUT PLAN			
SCALES	DRAWN	DATE	REV
1:500	D. Smithers	31.07.09	
COORDINATE	SECTION	DRAWING NO.	REV
C.1	06		-

ATTACHMENT No: C.2
OUTFALL DESIGN AND CONSTRUCTION

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LEGEND

- SITE BOUNDARY OF WWTP
- PROCESS LINES
- OUTFALL LINE
- X PRIMARY DISCHARGE POINT (PSW1)



SIGNED: _____

PRINT NAME: _____

POSITION: _____

DATE: _____

FOR SLIGO COUNTY COUNCIL

REV	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

SLIGO COUNTY COUNCIL

PROJECT

MULLAGHMORE
WASTEWATER TREATMENT PLANT

TITLE

DISCHARGE LICENCE
OUTFALL LOCATION

SCALES

1:1000

DATE

31.01.09

SECTION

C 2

DRAWING NO.

08

REV

-

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ATTACHMENT D1
DETAILS OF INFLUENT

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Flow & Load Report

Mullagmore
Wastewater Treatment Plant, Co. Sligo

October 2008

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Site ID:

200508MG/10/08

Client:

Nicholas O'Dwyer Consulting Engineers

Nutgrove House

Nutgrove Avenue

Dublin 14

Job number	200508MG
Quotation number	NQ200508
Date of commencement	13 October 2008
Nutrisolv project manager	Mr. S. Reid
Number of monitoring locations	3

Sampling locations:

Site 1: Influent Flow Monitoring & Sampling, Mullagmore Wastewater Treatment Plant

Site 2: Effluent, Flow Monitoring & Sampling, Mullagmore Wastewater Treatment Plant

Site 3: Sea Grab Sample

Introduction

The Mullagmore 2 day flow and load survey was conducted as part of the County Sligo Monitoring Survey for Waste Water Discharge License Applications.

All monitoring locations were agreed with the engineer prior to commencement of the programme. The Mullagmore monitoring programme was part of Set 2 of 3 as determined by the tender documentation.

A pre-monitoring site investigation was conducted prior to installation at Mullagmore and it was agreed that sampling and flow monitoring would be conducted on the influent and effluent lines. A raingauge was installed for the duration of the monitoring period. The sea sampling location was given to ENSEN.ie by the Environmental Department of Sligo County Council.

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1.0 Monitoring Programme - location & objectives:

1. Take flow proportional samples from the influent and effluent lines to Mullagmore WWTP.
2. Monitor flow on the influent and effluent lines of Mullagmore WWTP.
3. Have effluent samples tested for the listed parameters.
4. Have the influent samples tested for BOD only.
5. Take sea grab samples on both days of the programme.
6. Record relevant site notes on observations made during the course of the monitoring period.

Flow was recorded using Isco 730 Bubbler flow modules with appropriate flow pokes. Data was recorded at 2 minute intervals and hourly and daily summaries were compiled. Samples were taken using Isco 6712 programmable samplers. Where appropriate, the sampler was connected to the flow meter and operated on a flow proportional basis.

Recorded daily flows and analytical data are given in this report. Reference should be made to the attached files '200508, County Sligo DL, Set 2, Flow Data, 10/08.xls' and '200508, County Sligo DL, Set 2, Analytical Data, 10/08.xls'.

Note: Reference should be made to all site notes in section 3.

Plate 1: Mullagmore WWTP Influent Sampling & Flow Monitoring Location



Plate 2: Mullagmore WWTP Effluent Sampling & Flow Monitoring Location



2.0 Results

2.1 Mullagmore WWTP Influent Data

2.1.1 Daily Flow and Analytical Data

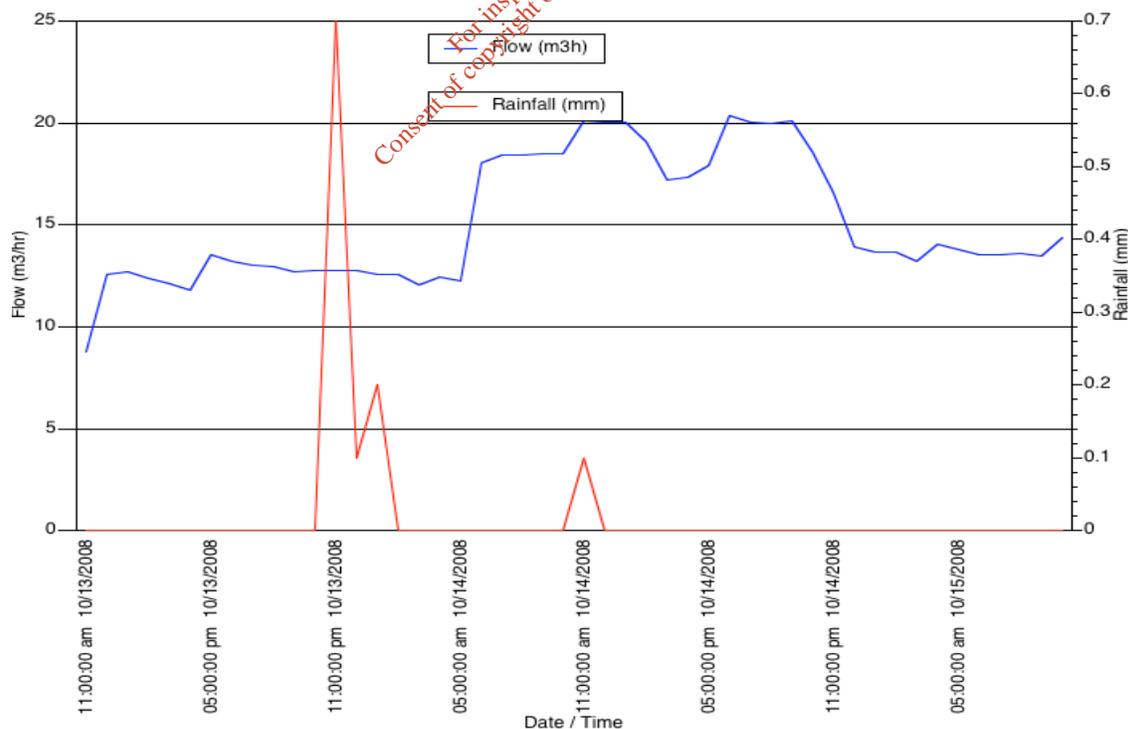
Table 1: Daily Flow & Load Values for Mullagmore WWTP Influent Stream

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13-14.10.08	15292	327.875	7.54
14-15.10.08	15293	398.184	3.19

Table 2: Daily Analytical Results for Mullagmore WWTP Influent Stream

Parameter	Units	13-14.10.08	14-15.10.08
BOD5	mg/l	23	8

Graph 1: Mullagmore Influent Hrly Flow & Rainfall, 13-15 October 2008



2.2 Mullagmore WWTP Effluent Data

2.2.1 Daily Flow and Analytical Data

Table 3: Daily Flow & Load Values for Mullagmore WWTP Effluent Stream

Date	Cert No.	Daily Flow (m3)	COD Load (kg)	BOD Load (kg)
13-14.10.08	15298	333.755	11.35	5.01
14-15.10.08	15300	398.671	14.35	4.39

Table 4: Daily Analytical Results for Mullagmore WWTP Effluent Stream

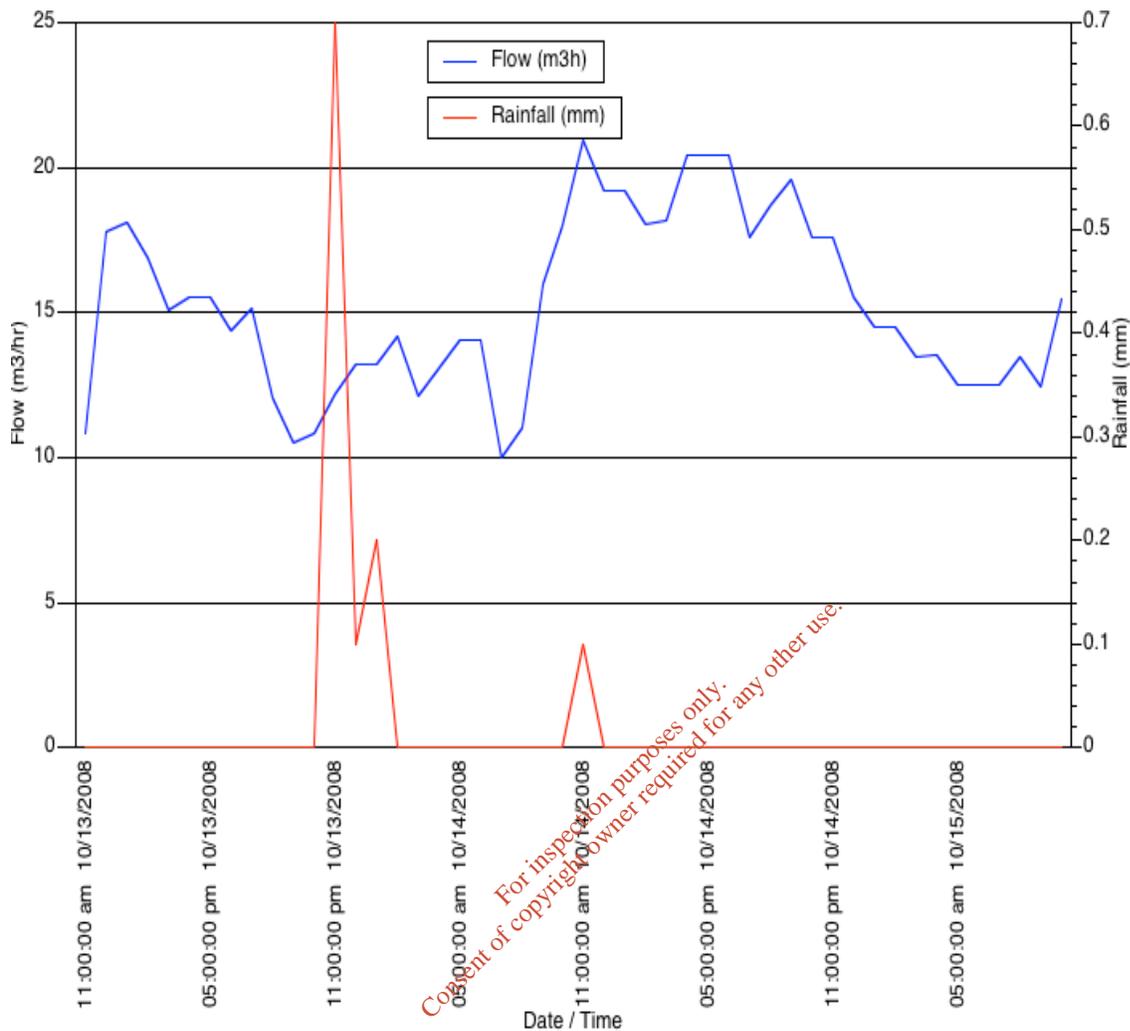
Parameter	Units	13-14.10.08	14-15.10.08
pH	Units	7.6	7.6
Temperature	oC	16.5	15.8
Ammonia	mg/l as NH3	0.735	0.941
Total-P	mg/l as P	0.516	0.736
Ortho-P	mg/l as PO4	0.429	0.458
Conductivity	µS/cm	786	1125
Nitrate	mg/l as N	2.5	1.6
Nitrite	mg/l as N	0.136	0.147
Total Nitrogen	mg/l as N	8.652	7.75
Sulphate	mg/l as SO4	64.16	73.81
T.S.S	mg/l	12	17
Hardness	mg/l	N/R	N/R
Phenols	µg/l	<10	<10
Antrazine	µg/l	<1	<1
Simazine	µg/l	<1	<1
Dichloromethane	µg/l	<1	<1
Toluene	µg/l	<1	<1
Xylene	µg/l	<1	<1
Tributyltin	µg/l	<0.02	<0.02

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 Directors Paul O'Dwyer (Managing) Mark McConnell

Arsenic	µg/l	<1	<1
Chromium	µg/l	5	6
Copper	µg/l	13	10
Cyanide	µg/l	<50	<50
Fluoride	µg/l	226	251
Lead	µg/l	1	<1
Zinc	µg/l	25	25
Nickel	µg/l	4	4
Boron	µg/l	3750	130
Cadnium	µg/l	0.9	0.2
Mercury	µg/l	<0.1	<0.1
Selenium	µg/l	2	2
Barium	µg/l	<10	50
BOD5	mg/l	15	11
COD	mg/l	34	36
Dissolved Oxygen	mg/l	9.9	10.3

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Graph 2: Mullagmore Effluent Hrly Flow v Rainfall, 13-15 October 2008



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2.3 Mullagmore Sea Grab Sample Data

2.3.1 Daily Analytical Data

Table 5: Daily Analytical Results for Mullagmore Sea Grab Sample

Parameter	Units	14.10.08	15.10.08
pH	units	8.1	8.1
Temperature	oC	16.5	15.5
Ammonia	mg/l as NH3	0.0268	0.0331
Total-P	mg/l as P	<0.02	<0.02
Ortho-P	mg/l as PO4	<0.02	<0.02
Conductivity	µs/cm	45670	49370
Nitrate	mg/l as N	0.9	0.7
Nitrite	mg/l as N	0.002	0.007
Total Nitrogen	mg/l as N	11.14	10.35
Sulphate	mg/l as SO4	2276.7	2371.8
T.S.S	mg/l	10	108
Hardness	mg/l	N/R	N/R
Phenols	µg/l	<10	<10
Antrazine	µg/l	<1	<1
Simazine	µg/l	<1	<1
Dichloromethane	µg/l	<1	<1
Toluene	µg/l	<1	<1
Xylene	µg/l	<1	<1
Tributyltin	µg/l	<0.02	<0.02
Arsenic	µg/l	16	18
Chromium	µg/l	5	5
Copper	µg/l	3	3
Cyanide	µg/l	<50	<50
Fluoride	µg/l	750	789
Lead	µg/l	<1	<1
Zinc	µg/l	13	12
Nickel	µg/l	5	5
Boron	µg/l	140	4090
Cadnium	µg/l	<0.1	<0.1
Mercury	µg/l	<0.1	<0.1
Selenium	µg/l	31	28

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 Directors Paul O'Dwyer (Managing) Mark McConnell

Barium	µg/l	50	<10
BOD5	mg/l	2	<2
COD	mg/l	20	25
Dissolved Oxygen	mg/l	12.1	12.15

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General Materials and Methods

Flow meters: Nutrisolv F&L surveys are conducted using a variety of equipment for measuring flow.

- Area velocity probes.
- Flow inserts with bubbleometer depth measurement.
- Pump station monitors.
- Ultrasonic level detectors

In each case the parameter measured is logged as raw data and converted to flow using an appropriate mathematical algorithm.

Samplers used are peristaltic pump based 24 bottle and single bottle samplers. Samplers will take flow or time paced samples. A very wide range of sample types can be accommodated.

Other monitors:

A range of parameters can also be logged - pH, Turbidity, rainfall, Dissolved Oxygen.

Additional parameters by request.

3. Site Notes

A pre-survey site investigation was conducted on 29 September 2008. The site was checked for suitability, representation and safety for both personnel and equipment.

After consideration of the proposed monitoring sites and the possible limitations, it was agreed with Sinead Hanrahan to proceed with flow monitoring and sampling on the influent and effluent lines.

Installation and decommissioning notes are given below. Further site notes are given only when deviations occurred from the normal operation of the monitoring programme.

Installation: 13 October 2008

Influent: A 6" flow monitor was calibrated and installed. Sampler installed and programmed to take flow proportional samples over a 24hr period.

Instant flow: 10.918 m³/hr.

Effluent: A 10" flow monitor was calibrated and installed. Sampler was programmed to take flow proportional samples over a 24hr period.

Instant flow: 10.441 m³/hr.

Rain gauge: Calibrated and Installed

Decommission: 15 October 2008

Re-calibration of the flow meters gave a 0% calibration deviation for both the influent and effluent flow meters.

All samples and volumes were taken correctly.

ATTACHMENT D2 DETAILS OF DISCHARGE POINTS

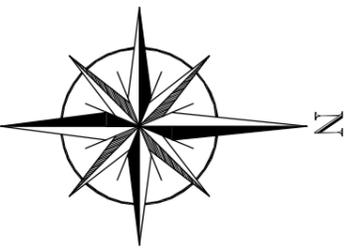
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PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
SW1	Primary	Sligo County Council	Coastal	Donegal Bay	Candidate SAC	171070	358077	Y

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LEGEND

- SITE BOUNDARY OF WWTP
- ✕ PRIMARY DISCHARGE POINT
- ✕ (P)SW1
- ✕ SECONDARY DISCHARGE POINT (NONE)
- ✕ (S)SW1
- ✕ STORM WATER OVERFLOW POINT (NONE)
- ✕ SWX



POINT	NORTHING	EASTING
(P)SW1	368077	171070

SIGNED: _____

PRINT NAME: _____

POSITION: _____

DATE: _____

FOR SLIGO COUNTY COUNCIL

REV	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

SLIGO COUNTY COUNCIL

PROJECT

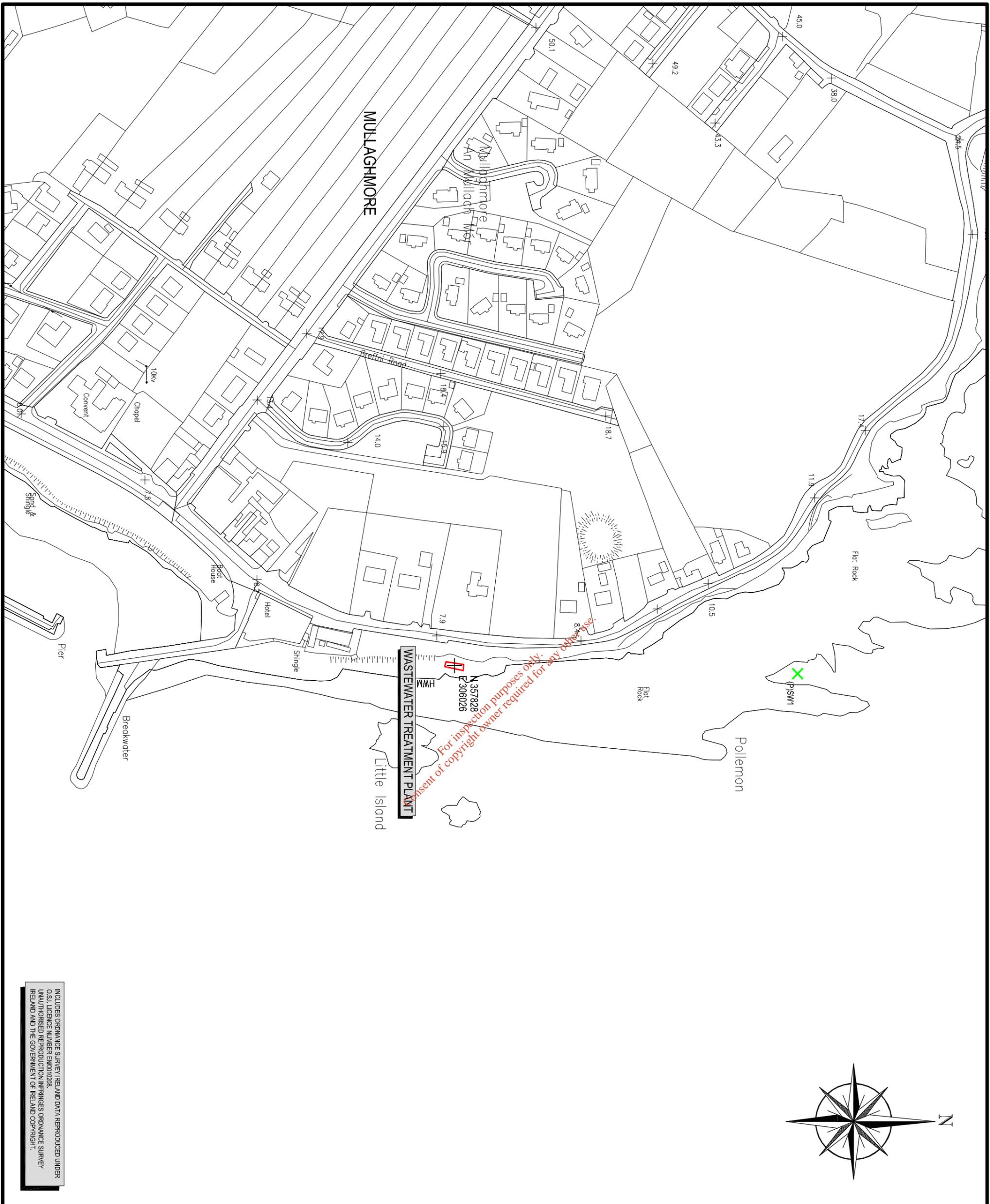
MULLAGHMORE WASTEWATER TREATMENT PLANT

TITLE

DISCHARGE LICENCE DISCHARGE POINTS

SCALE	DRAWN	DATE	SECTION	DRAWING NO.	REV
1:2500	D. Smithers	31.01.09	D.2	09	-

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WASTEWATER TREATMENT PLANT

N 357828
E 306026

(P)SW1

Pollemon

Flat Rock

Little Island

Shingle

Hotel

Boat House

Breckwater

Pier

Sand & Shingle

Chapel

Convent

MULLAGHMORE

Breefnor Road

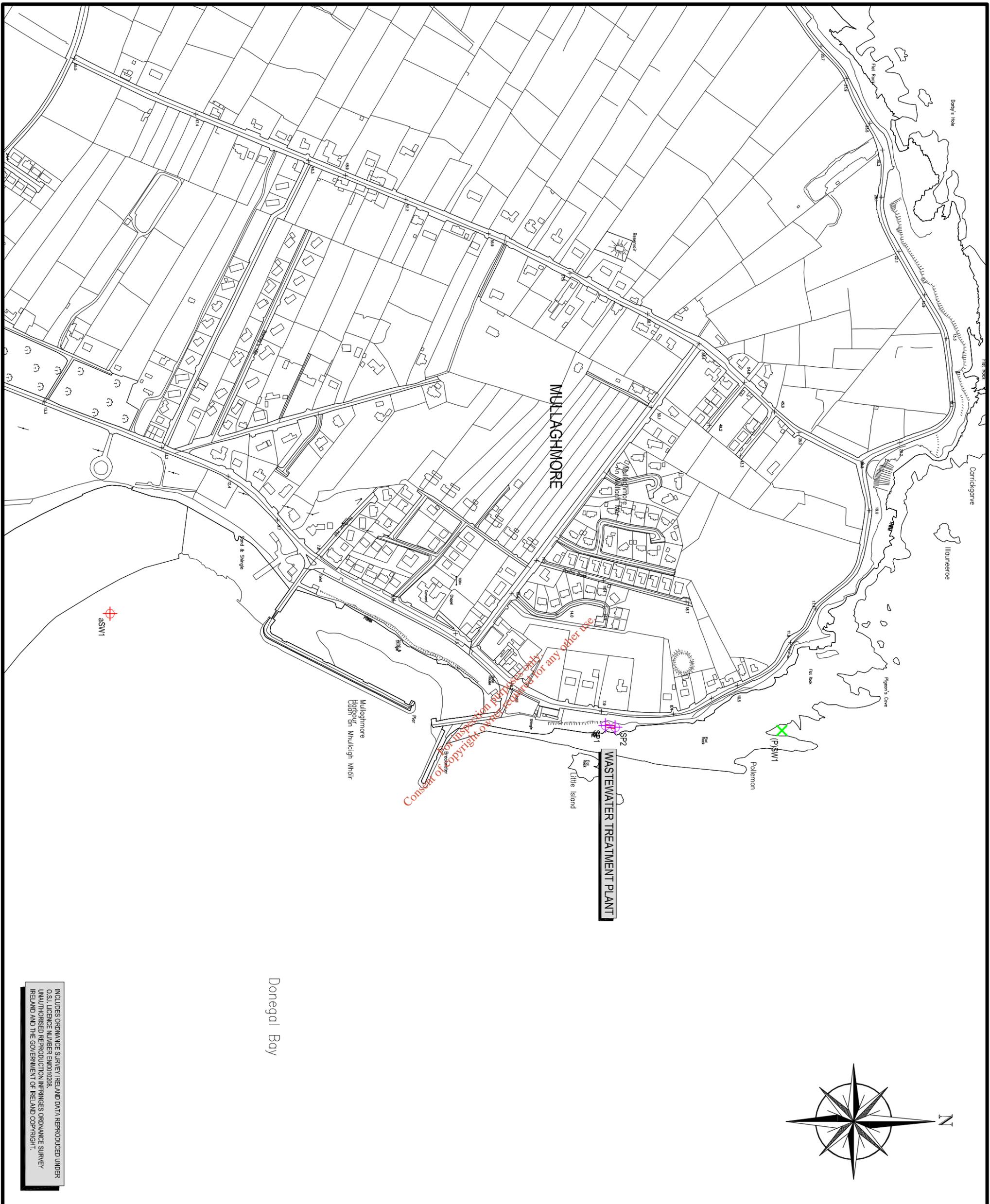
Mullaghmore
Mullaghmore
Mullaghmore

ATTACHMENT E3
DETAILS OF MONITORING AND SAMPLING POINTS

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PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
aSW1	Primary	S	170900	357100	N
SP1	Influent Sampling Point	S	171063	357821	N
SP2	Effluent Sampling Point	S	171065	357835	N

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NOTES

LEGEND

- SITE BOUNDARY OF WWTP
- + WWTP SAMPLING POINT
- + AMBIENT MONITORING POINT
- + PRIMARY DISCHARGE POINT

POINT	NORTHING	EASTING
SP1 (INFLUENT)	357821	171063
SP2 (EFFLUENT)	357835	171065
ASW1	357100	170900
(P)SW1	358077	171070

SIGNED: _____
 PRINT NAME: _____
 POSITION: _____
 DATE: _____

FOR SLIGO COUNTY COUNCIL

REV	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

SLIGO COUNTY COUNCIL

MULLAGHMORE WASTEWATER TREATMENT PLANT

DISCHARGE LICENCE MONITORING & SAMPLING POINTS

SCALES	1:5000	DRAWN	D.Smithers
DATE	31.01.09	SECTION	E.3
CD REFERENCE	E2 20080446-10	DRAWING NO.	10
		REV	-

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ATTACHMENT E4
SAMPLING DATA

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Please see Flow and Load Report provided in Response to D.1

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ATTACHMENT F1
IMPACT ON RECEIVING WATERS

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ATTACHMENT No: F. 1 ASSESSMENT OF IMPACT ON RECEIVING WATER

- Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Emissions from the existing septic tank and proposed WwTP are to the sea at Donegal Bay. A preliminary assessment of the receiving water with respect to various EU Directives and National (Water Quality) Regulations was carried out as part of the Preliminary Report. The assessment indicates that there is adequate assimilative capacity for the current discharge. The Preliminary Report recommends that an assessment of tidal movements and effluent dispersion within Donegal Bay be carried out to determine the impact of future effluent discharge on the quality of the receiving waters and adjacent designated areas. This will determine appropriate treatment standards.

- Tables F.1(i)(a) & (b) should be completed for the primary discharge point. Surface water monitoring locations upstream and downstream of the discharge point shall be screened for those substances listed in Tables F.1(i)(a) & (b). Monitoring of surface water shall be carried out at not less than two points, one upstream from the discharge location and one downstream.

These tables are completed in the web based section of the Application.

- For discharges from secondary discharge points Tables F.1(ii)(a) & (b) should be completed. Furthermore, provide summary details and an assessment of the impacts of any existing or proposed emissions on the surface water or ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made.

Not Applicable.

- Provide details of the extent and type of ground emissions at the works. For larger discharges to groundwaters, e.g., from Integrated Constructed Wetlands, large scale percolation areas, etc., a comprehensive report must be completed which should include, inter alia, topography, meteorological data, water quality, geology, hydrology, and hydrogeology. The latter must in particular present the aquifer classification and vulnerability. The Geological Survey of Ireland Groundwater Protection Scheme Dept of the Environment and Local Government, Geological Survey of Ireland, EPA

(1999) methodology should be used for any such classification. This report should also identify all surface water bodies and water wells that may be at risk as a result of the ground discharge.

Not Applicable.

- o Describe the existing environment in terms of water quality with particular reference to environmental quality standards or other legislative standards. Submit a copy of the **most recent water quality management plan or catchment management plan in place for the receiving water body**. Give details of any designation under any Council Directive or Regulations that apply in relation to the receiving water.

Currently a River Basin Management project for the Western Region is being prepared. This is currently at draft stage. The Western Region includes major lakes such as Loughs Arrow, Carrowmore, Conn, Corrib and Mask, river systems such as the Bonet, Clare, Robe, Moy and Owenmore and the related estuaries, and groundwaters and coastal waters out to a distance of one nautical mile or more. This plan is at draft stage at present.

- o Provide a statement as to whether or not emissions of main polluting substances (as defined in the *Dangerous Substances Regulations S.I. No. 12 of 2001*) to water are likely to impair the environment.

Monitoring for dangerous substances in the final effluent and at an ambient monitoring point was carried out on two occasions.

Calculations to determine total concentration of Metals and Other Substances in the receiving water were carried out and are attached.

AMBIENT MONITORING POINT

Concentrations of Table 1 parameters, Pesticides and Solvents in the receiving water (sea) are lower than the prescribed maxima for all parameters.

Concentrations of Table 2 parameters, Metals and Other Substances in the receiving water (sea) are lower than the prescribed maxima for all parameters.

EFFLUENT MONITORING POINT

Concentrations of Table 1 and 2 parameters in the effluent are lower than the prescribed for all parameters except Copper.

The average (average of samples carried out on two occasions) measured effluent concentration of Copper is 11.5ug/l This compares with a prescribed maxima for tidal waters of 5ug/l, which would be achieved once a dilution factor of 2 is provided.

 Nicholas O'Dwyer CONSULTING ENGINEERS					Calculation Sheet	
Project Number:	20391	Rev	Date	By		
Calc Ref:	SH09012009	1.0	26/01/09	S.Hanrahan		
Sheet:	1 of 1					

						Data Source
PresentDWF from WWTW		270			m ³ /d	NOD Calcs
River Name		N/A				
DWF of river		N/A			m ³ /d	EPA
95%ile flow in river		N/A			m ³ /d	EPA
Mean annual flow in river		N/A			m ³ /d	NOD Calcs
	Dangerous Substances Regulations Value NB for TIDAL WATERS	Measured Effluent Concentration	Comment	Calculated Effluent Load	Calculated Effluent Load	
Parameter	ug/l	ug/l		mg/d	kg/d	
Copper	5.000	11.5	POTENTIAL HIGH	3105.000	3.105	
Arsenic	20	<1				
Chromium	15	5.5	OK	1485.000	1.485	
Cyanide	10	<50				
Flouride	1500	239	OK	64530.000	64.530	
Lead	5	1	OK	270.000	0.270	
Nickel	25	4	OK	1080.000	1.080	
Zinc	40	25	OK	6750.000	6.750	

- o In circumstances where water abstraction points exist downstream of any discharge describe measures to be undertaken to ensure that discharges from the waste water works will not have a significant effect on faecal coliform, salmonella and protozoan pathogen numbers, e.g., Cryptosporidium and Giardia, in the receiving water environment.

Not Applicable.

- o Indicate whether or not emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have a significant effect on –
 - a site (until the adoption, in respect of the site, of a decision by the European Commission under Article 21 of Council Directive 92/43/EEC for the purposes of the third paragraph of Article 4(2) of that Directive) —
 - notified for the purposes of Regulation 4 of the Natural Habitats Regulations, subject to any amendments made to it by virtue of Regulation 5 of those Regulations,

- (ii) details of which have been transmitted to the Commission in accordance with Regulation 5(4) of the Natural Habitats Regulations, or
- (iii) added by virtue of Regulation 6 of the Natural Habitats Regulations to the list transmitted to the Commission in accordance with Regulation 5(4) of those Regulations,
- (b) a site adopted by the European Commission as a site of Community importance for the purposes of Article 4(2) of Council Directive 92/43/EEC¹ in accordance with the procedures laid down in Article 21 of that Directive,
- (c) a special area of conservation within the meaning of the Natural Habitats Regulations, or
- (d) an area classified pursuant to Article 4(1) or 4(2) of Council Directive 79/409/EEC²;

¹Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ No. L 206, 22.07.1992)

²Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ No. L 103, 25.4.1979)

This section of Donegal Bay is designated under the Bunduff Lough and Machair/Trawalua/Mullaghmore candidate SAC. The NPWS have been asked to comment on the likely effect of the discharge on this SAC. A copy of this correspondence is attached.

- o Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.

Not Applicable.

- o This section should also contain full details of any modelling of discharges from the agglomeration. Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment F.1.**

Emissions from the existing septic tank and proposed WwTP are to the sea at Donegal Bay. A preliminary assessment of the receiving water with respect to various EU Directives and National (Water Quality) Regulations was carried out as part of the Preliminary Report. The assessment indicates that there is adequate assimilative capacity for the current discharge.

The Preliminary Report recommends that an assessment of tidal movements and effluent dispersion within Donegal Bay be carried out to determine the impact of effluent discharge on the quality of the receiving waters and adjacent designated areas. This will determine appropriate treatment standards.

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SITE SYNOPSIS

**SITE NAME: BUNDUFF LOUGH AND MACHAIR/TRAWALUA/
MULLAGHMORE**

SITE CODE: 000625

This site is situated on the south side of Donegal Bay, 5 km south-west of Bundoran. The part of the site west of Mullaghmore Head is very exposed to the prevailing wind and swells from the Atlantic, whereas the Head itself affords moderate shelter to the eastern part of the site. The underlying geology is of sedimentary rocks including limestone, shale and sandstone. Windblown sand is common in places, covering much of the underlying rocks and shingle.

The site is a candidate SAC selected for fixed dune, machair and orchid-rich grassland, all priority habitats on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for other habitats listed on Annex I of the directive – alkaline fen, reefs, Marram dunes, large shallow inlets and bays and tidal mudflats. In addition, the site is also selected as a candidate SAC for the liverwort, Petalwort, a plant listed on Annex II of the E.U. Habitats Directive.

Machair, is common throughout the site. It occurs mostly in the flat areas between the dune ridges and the areas of alkaline fen/marsh vegetation. Although areas with typical dry machair grassland can be found close to dunes ridges, much of the habitat is wetter than is usually seen and there are large areas that are considered to be transitional to alkaline fen, another Annex I habitat. Typical 'dry' machair grassland species present include Red Fescue (*Festuca rubra*), Wild Thyme (*Thymus praecox*), Daisy (*Bellis perennis*), Ribwort Plantain (*Plantago lanceolata*), Common Bird's-foot-trefoil (*Lotus corniculatus*) and Lady's Bedstraw (*Galium verum*). The plant species indicative of fen conditions include Bog Pimpernel (*Anagallis tenella*), Flea Sedge (*Carex pulicaris*), Common Sedge (*Carex nigra*), Marsh Pennywort (*Hydrocotyle vulgaris*), Knotted Pearlwort (*Sagina nodosa*), Common Twayblade (*Listera ovata*), Ragged Robin (*Lychnis flos-cuculi*) and Lesser Spearwort (*Ranunculus flammula*). The fen vegetation is best developed to the south-west of the Bunduff Lough. In addition to the species already mentioned, notable fen species which occur include Grass-of-parnassia (*Parnassia palustris*), Common Spotted Orchid (*Dactylorhiza fuchsii*) and the spectacular Marsh Helleborine (*Epipactis palustris*). Moss cover is well developed, frequently attaining 90% cover. Typical species include *Campylium stellatum*, *Drepanocladus revolvens*, *Ctenidium molluscum*, *Calliargon cuspidatum* and *Philonotis fontana*, most of which indicate the presence of wet, base-rich conditions. These areas of wet machair/alkaline fen are very species-rich, often containing 40-50 plant species in an area of 4m². The Annex II liverwort species *Petalophyllum ralfsii* has been recently recorded from areas of machair within the site.

Fixed dunes habitat is well represented at the site. Areas of fixed dunes with a high cover of herbs and mosses are found on the dune systems at both Bunduff strand and

Trawalua. The habitat typically occurs as a prominent zone on gently sloping ground between the more exposed and species-poor white dune vegetation and the flat areas of dune grassland that comprise the machair plains. The vegetation is typically dominated by Marram (*Ammophila arenaria*) and Red Fescue (*Festuca rubra*) and these species are generally accompanied by species such as Lady's Bedstraw (*Galium verum*), Yorkshire Fog (*Holcus lanatus*), Ribwort Plantain (*Plantago lanceolata*), Eyebright (*Euphrasia officinalis* agg), Wild Thyme (*Thymus praecox*), clovers (*Trifolium* spp.) and the mosses *Rhytidiadelphus squarrosus*, *Homalothecium lutescens*, *Brachythecium albicans* and *Callergon cuspidatum*. In addition, the distinctive lichen, *Peltigera canina* agg., is quite frequent. Other noteworthy components of the vegetation are Pyramidal Orchid (*Anacamptis pyramidalis*) and, occasionally, Bee Orchid (*Ophrys apifera*). At Bunduff, well back from the high dune areas, there are also extensive areas of fixed dune grassland without Marram occurring on unusual, low sandy mounds. These distinctive areas are dominated by mosses and with a high cover of Wild Thyme, Glaucous Sedge (*Carex flacca*) and Hairy Rock-creep (*Arabis hirsuta*). The rare, parasitic plant, Dodder (*Cuscuta epithimum*), grows in, and in close association with, this moss-rich habitat.

Bunduff Lough is a shallow, sandy-bottomed lake situated at the back of the dunes and machair. The marginal vegetation of the lake is well-developed and dominated by Sea Club-rush (*Scirpus maritimus*), Common Reed (*Phragmites australis*), Bulrush (*Typha latifolia*) and Water Horsetail (*Equisetum fluviatile*). Where the substrate is stony and unable to support the reedswamp community, the margins of the lough are dominated by Amphibious Bistort (*Polygonum amphibium*). At the north-eastern end of the lough, where conditions are drier, a typical wet grassland occurs. Here, Rough Meadow-grass (*Poa trivialis*), Yorkshire Fog (*Holcus lanatus*), Soft Rush (*Juncus effusus*) and Marsh Cinquefoil (*Potentilla palustris*) are dominant.

Trawalua Strand, a fine sandy beach, is backed by high Marram (*Ammophila arenaria*) dunes and flat machair areas, similar to those drier areas of Bunduff. These two dune areas are separated by Mullaghmore Point and Classiebawn Woods. Classiebawn Wood is a plantation woodland of Maritime Pine (*Pinus pinaster*) with a very interesting ground flora, including plants such as Marsh Helleborine, Broad-leaved Helleborine (*Epipactis helleborine*), Common Twayblade (*Listera ovata*) and Fragrant Orchid (*Gymnadenia conopsea*). This area is rich in invertebrates especially butterflies, moths and hoverflies; the Hairy Dragonfly (*Brachytron pratense*) has been recorded here.

The marine area included in the site displays a well developed zonation of benthic communities and high species richness in the littoral sediments. The low shore is dominated by the burrowing urchin *Echionocardium cordatum* with razor shell species (*Ensis siliqua* and *E. ensis*) abundant. The exposed rocky shore is of interest from both ecological and geological viewpoints. Marine invertebrates present include the Purple Sea-urchin (*Paracentrotus lividus*). Shag, Fulmar, Raven and Chough are all reported from the cliffs here. The Green Hairstreak butterfly (*Callophrys rubi*) has also been recorded from the cliff tops. Heath, dominated by Crowberry (*Empetrum nigrum*), occurs near Skerrydoo.

Bunduff Lough is locally important for waterfowl. In winter, Whooper Swan (57), Teal (64) and Mallard (61) are regular, along with Golden Plover (150) at certain times (figures are average maxima for winters 1994/95 to 1995/96). Resident species include Coot, Water Rail, Mute Swan and Little Grebe. Both Whooper Swan and Golden Plover are listed on Annex I of the EU Birds Directive. The site also provides habitat for breeding waders, notably Lapwing (16 pairs in 1996) and Snipe (5 pairs in 1996).

The machair and dunes within this site are grazed by sheep and cattle. Amenity use close to Mullaghmore village is high, with fishing and shooting also occurring nearby. Bunduff Strand is a busy recreational beach and water sports are popular here. A sewage discharge at Thumb Rock may be having a deleterious effect on water quality and sediment communities.

This extensive coastal site contains a good range of habitats including several listed on Annex I of the E.U. Habitats Directive. The machair found on the site is of particular importance because it is intact and has not been sub-divided by fences.

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16.1.2003

16 January 2009

Our Ref: 20438/sh/160109

National Parks and Wildlife Service
7 Ely Place
Dublin 2

**RE: EPA WASTE WATER DISCHARGE LICENCE
NPWS Assessment Recommendation**

Dear Sir/Madam,

We are preparing Wastewater Discharge Licences Applications for four wastewater treatment plants in County Sligo;

Agglomeration Name	Receiving Waters	Designation	E.I.S.
Rosses Point (Approximate PE 1679)	Sligo Harbour	Cummen Bay/Sligo Bay SAC & SPA Drumcliff Bay	No
Mullaghmore (Approximate PE 1241)	Mullaghmore Harbour	Bunduff Lough And Machair/Trawalua/Mullaghmore SAC	No
Coolaney (Approximate PE 1488)	Owenbeg River	Unshin River SAC	No
Gurteen (Approximate PE 1595)	Owenmore River	Not Designated at Gurteen	No

All of the above waste water treatment plants are existing and fully operational. The licence applications will include information on waste assimilative capacity, storm overflows, design population equivalents, flows and treatment standards etc.

The licence applications will be submitted to the EPA on the 28/02/09.

The EPA guidelines for the waste water discharge licence application state that;

Information on the receiving waters should be given with details of;

- *Discharges, either from the waste water works or in proximity to the waste water works, likely to have a significant effect on a European site. If deemed likely to have a significant effect an appropriate assessment of the implications for the site in view of the sites conservation objectives must be carried out. **The determination of the likely effect on a European site shall be carried out in consultation with the National Parks and Wildlife Service. Evidence of this consultation process shall be provided as part of the application documentation.***
- *Any specific correspondence from the National Parks and Wildlife Service in relation to the European site, i.e., correspondence in relation to the extent of the designated area, the rationale for such a designation and details of the flora and fauna protected.*
- **Where no EIS has been prepared for a waste water works it is necessary for Water Services Authorities to liaise with NPWS to determine whether an appropriate assessment is required for the site.**

As part of the WWDL Application Process, we would like to enter into consultation with you as to whether the discharges are deemed likely to have a significant effect on a European Site and the requirement for Appropriate Assessment for each of the schemes. **As the applications are due to the EPA on the 28/02/09 we would request an urgent response to this letter. On previous applications which Nicholas O'Dwyer have prepared on behalf of local authorities, the EPA have requested a definitive statement as to whether an appropriate assessment is required.**

We are available to meet with you to discuss each of the schemes and provide additional information as required.

Please feel free to contact the undersigned at Nicholas O'Dwyer LTD, to discuss further.

Yours faithfully,

Sinead Hanrahan
for NICHOLAS O'DWYER LTD.

ATTACHMENT G1
COMPLIANCE WITH COUNCIL DIRECTIVES

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ATTACHMENT No: G. 1 COMPLIANCE WITH COUNCIL DIRECTIVES

The upgrade will ensure compliance with the Council directives, described in greater detail below.

Under the Water Services Investment Programme 2007-2009, the Mullaghmore grouped sewerage scheme was approved for funding in 2008. Sligo County Council appointed RPS Consulting Engineers to prepare a Preliminary Report in January 2007. This report was completed in December 2008. The report recommended that the existing combined network in Mullaghmore is renovated and extended to cater for future development. A surface storm water collection system has been proposed. Both the foul and stormwater collection systems have been designed to upgrade the existing systems and cater for current and future populations up to the year 2027. The foul sewerage network will discharge to the proposed WwTP and will be designed to carry a hydraulic load of 6DWF.

A two stage programme for the development of a new Waste Water Treatment Plant is outlined in the Report. The new plant will initially cater for a PE of 1,700 and ultimately 2,400 PE. Depending on the the results of the hydrodynamic modelling, it is proposed to treat all flows up to a minimum of 3DWF and a maximum of 6DWF. Wastewater flows in excess of 3DWF and less than 6DWF will either be diverted to a storm-balancing tank. Flows in excess of 6DWF will be discharged to the sea.

It is proposed that foul flows from the current and future developments of the town be conveyed through the existing foul sewers to a proposed pumping station adjacent to the existing septic tank and subsequently pumped to the proposed WwTP. The pumping station should be designed to cater for a flow of 37l/s equivalent to 6DWF from a population equivalent of 2,400. The pump sump should be sized for a 2 hour foul retention period at the design flow rate which is equivalent to 12 hours storage at average dry weather flow. Due to the limited amount of separation in the network it is also recommended that flows in excess of 6DWF arriving at the proposed pumping station temporarily (in storm

condition) be stored in the existing septic tank and subsequently be pumped through the proposed pumping station to the WwTP.

The report recommends that the collection system should be procured as a traditional contract with the WwTP being bundled with Ballygawley treatment plant and procured as a DBO contract.

Dangerous Substances Directive 2006/11/EC

This Directive concerns pollution caused by certain dangerous substances discharged into the aquatic environment of the EU.

Monitoring for dangerous substances in the final effluent and at an ambient monitoring point was carried out on two occasions.

Calculations to determine total concentration of Metals and Other Substances in the receiving water were carried out and are attached.

AMBIENT MONITORING POINT

Concentrations of Table 1 parameters, Pesticides and Solvents in the receiving water (sea) are lower than the prescribed maxima for all parameters.

Concentrations of Table 2 parameters, Metals and Other Substances in the receiving water (sea) are lower than the prescribed maxima for all parameters.

EFFLUENT MONITORING POINT

Concentrations of Table 1 and 2 parameters in the effluent are lower than the prescribed for all parameters except Copper.

The average (average of samples carried out on two occasions) measured effluent concentration of Copper is 11.5ug/l This compares with a prescribed maxima for tidal waters of 5ug/l, which would be achieved once a dilution factor of 2 is provided.

The Water Framework Directive 2000/60/EC

The WFD sets a framework for comprehensive management of water resources in the European Union, within a common approach and with common objectives, principles and basic measures. It addresses inland surface waters, estuarine and coastal waters and groundwater. The fundamental objective of the Water Framework Directive aims at maintaining "high status" of waters where it exists, preventing any deterioration in the existing status of waters and achieving at least "good status" in relation to all waters by 2015. Member States will have to ensure that a co-ordinated approach is adopted for the achievement of the objectives of the WFD and for the implementation of programmes of measures for this purpose. The improvements made to the treatment works as part of the upgrade works will enable the objectives of this Directive to be met.

The Birds Directive 79/409/EEC

This Directive and amending acts, aim at providing long term protection and conservation of all bird species naturally living in the wild within the European territory of the Member States. These member states must conserve, maintain or restore the biotopes and habitats of birds by creating protection zones such as SPAs. Mullaghmore WwTW does not discharge to an SPA.

The Groundwater Directives 80/68/EEC & 2006/118/EC

Not Applicable.

The Drinking Water Directives 80/778/EEC

Not Applicable.

The Urban Waste Water Treatment Directive 91/271/EEC

This Directive currently requires “appropriate treatment” in respect of discharges to coastal waters from agglomerations with a population equivalent of less than 10,000. An assessment of tidal movements and effluent dispersion within Donegal Bay will determine appropriate treatment standards.

The Habitats Directive 92/43/EEC

The main aim of the EC Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, introducing robust protection for those habitats and species of European importance. Protection zones for annexed species such as SACs were designated as part of this Directive.

This section of Donegal Bay is designated under the Bunduff Lough and Machair/Trawalua/Mullaghmore candidate SAC. The NPWS have been asked to comment on the likely effect of the discharge on this SAC. A copy of this correspondence is attached.

The Environmental Liabilities Directive 2004/35/EC

Regard to the EPA Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision was made during completion of this application.

The Bathing Water Directive 76/160/EEC

Mullaghmore is designated as a bathing water under the current Bathing Waters Regulations. Based on the EPA 2007 Bathing Waters Monitoring Results, the Mullaghmore Bathing Area complies with both EU Mandatory and Guide Values, however it does not comply with the National Limit Values (The Quality of Bathing Waters in Ireland, A Report for the Year 2007).

In addition to the above, Mullaghmore Beach has also been awarded Blue Flag Status.

Shellfish Waters Directive (79/923/EEC)

Not Applicable.

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ATTACHMENT G3 IMPACT MITIGATION

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ATTACHMENT No: G. 3 IMPACT MITIGATION

Under the Water Services Investment Programme 2007-2009, the Mullaghmore grouped sewerage scheme was approved for funding in 2008. Sligo County Council appointed RPS Consulting Engineers to prepare a Preliminary Report in January 2007. This report was completed in December 2008. The report recommended that the existing combined network in Mullaghmore is renovated and extended to cater for future development. A surface storm water collection system has been proposed. Both the foul and stormwater collection systems have been designed to upgrade the existing systems and cater for current and future regulations up to the year 2027. The foul sewerage network will discharge to the proposed WwTP and will be designed to carry a hydraulic load of 6DWF.

A two stage programme for the development of a new Waste Water Treatment Plant is outlined in the Report. The new plant will initially cater for a PE of 1,700 and ultimately 2,400 PE. Depending on the treatment results of the hydrodynamic modelling it is proposed to treat all flows up to a minimum of 3DWF and a maximum of 6DWF. Wastewater flows in excess of 3DWF and less than 6DWF will either be diverted to a storm-balancing tank or receive full secondary treatment. Flows in excess of 6DWF will be discharged to the sea.

It is proposed that foul flows from the current and future developments of the town be conveyed through the existing foul sewers to a proposed pumping station adjacent to the existing septic tank and subsequently pumped to the proposed WwTP. The pumping station should be designed to cater for a flow of 37l/s equivalent to 6DWF from a population equivalent of 2,400. The pump sump should be sized for a 2 hour foul retention period at the design flow rate which is equivalent to 12 hours storage at average dry weather flow. Due to the limited amount of separation in the network it is also recommended that flows in excess of 6DWF arriving at the proposed pumping station temporarily (in storm condition) be stored in the existing septic tank and subsequently be pumped through the proposed pumping station to the WwTP.

The report recommends that the collection system should be procured as a traditional contract with the WwTP being bundled with Ballygawley treatment plant and procured as a DBO contract.

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ATTACHMENT G4
STORM WATER OVERFLOW

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**ATTACHMENT No: G. 4
STORM WATER OVERFLOW**

It is proposed that foul flows from the current and future developments of the town be conveyed through the existing foul sewers to a proposed pumping station adjacent to the existing septic tank and subsequently pumped to the proposed WwTP. The pumping station should be designed to cater for a flow of 37l/s equivalent to 6DWF from a population equivalent of 2,400. The pump sump should be sized for a 2 hour foul retention period at the design flow rate which is equivalent to 12 hours storage at average dry weather flow. Due to the limited amount of separation in the network it is also recommended that flows in excess of 6DWF arriving at the proposed pumping station temporarily (in storm condition) be stored in the existing septic tank and subsequently be pumped through the proposed pumping station to the WwTP. The frequency and effect of spills should be determined by modelling.

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