Annual Environmental Report 2014

Agglomeration Name:	**Cloughjordan**
Licence Register No.	**D0475-01**

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Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0475-01, Cloughjordan, in County Tipperary in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Priority substances assessment

The agglomeration is served by a wastewater treatment plant with a Design PE of 500. The treatment process includes the following:-

- preliminary treatment (including screening)
- primary treatment
- secondary treatment –Trickling Filters
- chemical dosing for phosphorus removal

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values for cBOD, Suspended Solids and Ammonia in 2014.

The following parameters exceeded the emission limit values in 2014:-

- cBOD
- Suspended solids
- Ammonia

936,000 kgs sludge (total weight sludge) were removed from the wastewater treatment plant in 2014 as liquid sludge. Sludge was transferred to Nenagh WWTP.

The following improvement works were undertaken during 2014:- Automatic chemical phosphate removal (ferric sulphate dosing) facilities were installed at Cloughjordan.

An Annual Statement of Measures is included in **Appendix 7.1.**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	cBOD (mg/l)	COD (mg/l)	SS (mg/l)	Ortho phosphate as P (mg/l)	Ammonia as N (mg/l)	pH	Hydraulic Loading (m3/d)	Organic Loading (PE/day)
Number of Samples	9	9	9	9	9	9		
Annual Max.	272	574	205	5.44	48.53	8.04	623	675
Annual Mean	130.3	327.20	134.67	2.85	22.65	7.85	131.4	285

Significance of results
The annual mean hydraulic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	cBOD (mg/l)	COD (mg/l)	TSS (mg/l)	Ammonia as N (mg/l)	Orthophosphate as P (mg/l)	pH	Comment
WWDL ELV (Schedule A)	25	125	35	10	3	6-9	
ELV with Condition 2 Interpretation included	50	250	87.5	12	3.6	6-9	
Number of sample results	9	9	9	9	9	9	
Number of sample results above WWDL ELV	5	2	5	6	1	0	
Number of sample results above ELV with Condition 2 Interpretation included	5	0	5	6	0	0	
Annual Mean (for parameters where a mean ELV applies)	n/a	n/a	n/a	n/a	n/a	n/a	
Overall Compliance (Pass/Fail)	Fail	Pass	Fail	Fail	Pass	Pass	

Significance of results

The WWTP was non-compliant with the Total Ammonia, BOD and Suspended Solids ELVs set in the wastewater discharge licence.
There were 6 samples non-compliant with the ELV in relation to Total Ammonia. The non-compliance is due to plant treatment deficiencies.
There were 5 samples non-compliant with the ELV in relation to Suspended Solids. The non-compliance is due to plant treatment deficiencies.

There were 5 samples non-compliant with the ELV in relation to BOD. The non-compliance is due to plant treatment deficiencies. The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Current EQS Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
Upstream monitoring point	E197199, N187576	Not available	Less than Good Status. (Biological Status Q4 at Townfield Bridge)	n/a
Downstream monitoring point	E195960 N188863	Not available	Less than Good Status. (Biological Status Q3-4)	Yes Total Ammomia.

The results for the upstream and downstream monitoring are included as in Appendix 7.2.

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence as detailed in Section 2.2.

The discharge from the wastewater treatment plant doesn't have an observable negative impact on the water quality status overall, but does impact on Total Ammonia. Total Ammonia values in downstream samples mean that River Ballyfinboy does not satisfy the "good status" standard for Total Ammonia as set out in Schedule 5 of the European Communities Environmental Objectives (Surface Waters) Regulations 2009, while the upstream samples retain the "high" standard for Total Ammonia. However both upstream and downstream belong overall in the "less than good" status categories, so it can be concluded that discharge from Cloughjordan WWTP is not having an overall adverse effect on the River Ballyfinboy.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The electronic submission of data was completed on: 16 February 2015

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required as the agglomeration is less than 2000 p.e.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:-

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Ammonia as N (kg/yr)	Orthophosphate as P (kg/yr)	Comment
Influent mass loading (kg/year)	6246.2	15688.8	6457.1	1086.2	136.5	
Effluent mass emission (kg/year)	1076.09	3214.67	1746.03	466.54	58.45	
% Efficiency (% reduction of influent load)	83	80	73	57	57	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/year)	43800
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/year)	131400
Hydraulic Capacity – Current loading (m3/year)	47948
Hydraulic Capacity – Remaining (m3/year)	83452
Organic Capacity - Design / As Constructed (PE)	500
Organic Capacity - Current loading (PE)	285
Organic Capacity – Remaining (PE)	215
Will the capacity be exceeded in the next three years? (Yes / No)	No

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	**100%**
Load collected in the agglomeration that enters treatment plant	**100%**
Load collected in the sewer network but discharged without treatment	**0%**

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment**.**

The data in Table 3.3 above is based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number	Date & Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
0	n/a	n/a	n/a	n/a	n/a

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
Non-compliance	Ammonia ELV Exceedance (16.95ppm)	Plant unable to treat effluent	1	None	Inland Fisheries on 16/4/14	Yes on 16/4/14	No.

	on 15/4/14. Also exceeded ELVs for BOD(39ppm) and SS (52.8ppm)	properly					
Non-compliance	Ammonia ELV Exceedance (21.95ppm) on 24/6/14. Also exceeded ELVs for BOD(41ppm) and SS (66ppm)	Plant unable to treat effluent properly	1	None	Inland Fisheries on 30/6/14	Yes on 30/6/14	No.
Non-compliance	Ammonia ELV Exceedance (23.95ppm) on 22/7/14. Also exceeded ELVs for BOD(43ppm) and SS (58ppm)	Plant unable to treat effluent properly	1	None	Inland Fisheries on 11/8/14	Yes on 11/8/14	No.
Non-compliance	Ammonia ELV Exceedance (20.5ppm) on 12/8/14. Also exceeded ELVs for BOD(32ppm) and SS (44.4ppm)	Plant unable to treat effluent properly	1	None	Inland Fisheries	Yes	No.
Non-compliance	Ammonia ELV Exceedance (14.96ppm) on 2/10/14	Plant unable to treat effluent properly	1	None	Inland Fisheries on 6/10/14	Yes on 6/10/14	No.

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	5
Number of Incidents reported to the EPA via EDEN in 2014	5
Explanation of any discrepancies between the two numbers above	n/a

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below. Cloughjordan WWTP does not accept sludge/other inputs.

Table 3.6 - Other Inputs

Input type	**m3/year**	**PE/year**	**% of load to WWTP**	**Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)**	**Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)**
Domestic /Septic Tank Sludge	n/a	n/a	n/a	N	N
Industrial / Commercial Sludge	n/a	n/a	n/a	N	N
Landfill Leachate (delivered by tanker)	n/a	n/a	n/a	N	N
Landfill Leachate (delivered by sewer network)	n/a	n/a	n/a	N	N
Other (specify)	n/a	n/a	n/a	N	N

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant not included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Identification & Inspection report is not included as it is not required this year. A detailed assessment will be included in the 2015 AER. A summary of the significance and operation is included below.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2014 (No. of events)	Total volume discharged in 2014 (m3)	Total volume discharged in 2014 (P.E.)	Estimated /Measured data
TPEFF2800D0475SW002	E196684 N188465N	Yes	Low	Not yet assessed	Unknown	Unknown	Unknown	Estimated 1% of total flow

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	Estimated 1%
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	SWO not yet assessed
The SWO assessment includes the requirements of Schedule A3 & C3	N/A – no requirements specified in Schedules for SWO
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No. There are no changes.

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
None	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
n/a	***n/a***	*WWTP assessment (Condition 5.2).*	**n/a**	**n/a**	**Awaiting guidance notes on WWTP assessment .**
Sewer Integrity Study	*Sewer Integrity Study*	*Sewer Integrity Tool (Condition 5.2).*	*100*	*completed*	
n/a	*n/a*	*Secondary discharges assessment (Condition 5.2).*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*SWO assessment (Condition 4 & 5.2).*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*Drinking Water Abstraction Risk Assessment (Condition 4)*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*Shellfish Impact Risk Assessment (Condition 5)*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*Pearl Mussel Impact Assessment (Condition 4)*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*Improved Operational Control*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*Incident Reduction*	*n/a*	*n/a*	*n/a*
n/a	*n/a*	*Elimination/Reduction of Priority Substances*	*n/a*	*n/a*	*n/a*

Improvements identified above also include measures taken to prevent environmental damage anticipated following events or accidents/incidents associated with discharges or overflows from the waste water works and as such are considered to fulfil any Statement of Measures requirements. Refer also to Appendix 7.1 which summarises the Annual Statement of Measures.

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	***Risk Assessment Rating (High, Medium, Low)***	***Risk Assessment Score***	***Comment***
Hydraulic Risk Assessment Score	*Medium*	*100*	
Environmental Risk Assessment Score	*Low*	*245*	
Structural Risk Assessment Score	*High*	*150*	
Operation & Maintenance Risk Assessment Score	*Low*	*20*	
Overall Risk Score for the agglomeration	*High*	*515*	

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	*Reference to relevant section of AER (e.g. Appendix 2 Section4.*
Priority Substances Assessment	No	*n/a*	n/a
Drinking Water Abstraction Point Risk Assessment	No	*n/a*	*n/a*
Habitats Impact Assessment	No	*n/a*	*n/a*
Shellfish Impact Assessment	No	*n/a*	*n/a*
Pearl Mussel Report	No	*n/a*	*n/a*
Toxicity/Leachate Management	No	*n/a*	*n/a*
Toxicity of Final Effluent Report	No	*n/a*	*n/a*

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	n/a	n/a
Drinking Water Abstraction Point Risk Assessment	*n/a*	*n/a*
Habitats Impact Assessment	*n/a*	*n/a*
Shellfish Impact Assessment	*n/a*	*n/a*
Pearl Mussel Report	*n/a*	*n/a*
Toxicity/Leachate Management	*n/a*	*n/a*
Toxicity of Final Effluent Report	*n/a*	*n/a*

5.1 Priority Substances Assessment

The Priority Substances Assessment report is not included in as a Priority Substances Report was included in a previous AER.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	*n/a*
Does the assessment include a review of Trade inputs to the works?	*n/a*
Does the assessment include a review of other inputs to the works?	*n/a*
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	*n/a*
Does the assessment identify that priority substances may be impacting the receiving water?	*n/a*
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	*n/a*

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

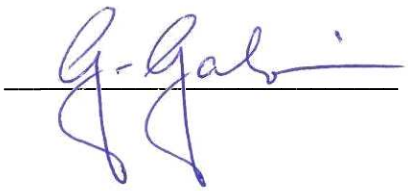
Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	No
List reason e.g. additional SWO identified *(insert lines as required)*	n/a
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	n/a
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	N/A
List outstanding reports *(insert lines as required)*	

Declaration by Irish Water

The AER contains the following;

- Introduction and background to 2014 AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that to the best of my knowledge the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed:  Date: 02/03/2015

Gerry Galvin
Chief Technical Advisor

Section 7. Appendix

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

Appendix 7.1 - Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary
Appendix 7.6 – Sewer integrity tool output

Appendix 7.1.

Statement of Measures- Cloughjordan

Appendix 7.1. – Statement of Measures Cloughjordan WWTP

Automatic chemical phosphate removal facilities were installed in Cloughjordan in 2014. No other additional measures have been taken in 2014 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Cloughjordan is currently on the Irish Water Capital Investment Plan (Minor Programmes) at the Planning Stage.

Appendix 7.2.

Ambient Monitoring - Cloughjordan

Table 2.3.1. Cloughjordan Ambient Monitoring Result 2014 Upstream of Cloughjordan WWTP.

SampleDate	23/01/2014	25/02/2014	12/03/2014	15/04/2014	08/05/2014	24/06/2014	22/07/2014	12/08/2014	02/10/2014
Ammonia as N (mg/l as N)	0.029	0.026	0.032	0.042	0.031	0.019	0.023	0.013	0.01
Ammonia NH_4 (mg/l NH_4)	0.038	0.034	0.042	0.053	0.04	0.025	0.03	0.017	0.011
BOD (mg/l O_2)	1.3	1.8	1.4	1.6	1.6	1.3	1.6	1.8	1.4
Chemical Oxygen Demand (mg/l O_2)	28	16	19	18	25	18	25	30	10
Chloride (mg/l Cl)	23	23.8	24.41	23.28	21.12	25.37	24.9	23.46	29.89
Conductivity @ 20°C (uS/cm)	623	562	603	646	608	668	642	630	633
Dissolved Oxygen % Saturation	81.3	80.4	86.7	101.2	83.5	95.2	84.4	93.9	88.7
Dissolved Oxygen (measurement) mg/l) O_2	9.81	9.48	10.63	10.2	9.08	9.94	8.26	8.88	10.4
Nitrates (mg/l NO_3 as N)	2.61	1.94	2.75	2.44	1.57	1.91	1.51	1.21	2
Nitrites (mg/l NO_2 as N)	0.011	<0.01	<0.01	<0.01	<0.01	0.023	<0.01	<0.01	<0.01
O-Phos (mg/l PO_4 as P)	0.022	0.02	0.012	0.023	0.021	0.057	0.062	0.033	0.033
O-Phos (mg/l PO_4)	0.067	0.062	0.036	0.07	0.063	0.175	0.191	0.102	0.1
pH (pH units)	7.83	7.76	7.86	8	7.98	8.14	8.04	8.02	8.2
Sulphate (mg/l SO_4)	30.2	19.06	10.44	18.59	20.93	18.02	23.67	22.16	22.03
Suspended Solids (mg/l)	5.2	7.2	8	4.8	8	0.8	3.6	2	2.4
Temperature (^oC)	6.8	6.3	6.5	9	10.7	13.7	16.5	14.3	9.3
Total Nitrogen (mg/l as N)	3.3	2.9	3.1	3.2	2.3	3.2	2.9	1.6	2.4
Total Oxidised Nitrogen (mg/l TON as N)	2.62	1.94	2.75	2.44	1.57	1.93	1.51	1.21	2.01
Total Phosphorus (mg/l as P)	0.05	0.02	0.02	0.03	0.05	0.09	0.07	0.05	0.03

Table 2.3.2. Cloughjordan Ambient Monitoring Result 2014 Downstream of Cloughjordan WWTP.

SampleDate	23/01/2014	25/02/2014	12/03/2014	15/04/2014	08/05/2014	24/06/2014	22/07/2014	12/08/2014	02/10/2014
Ammonia as N (mg/l as N)	0.025	0.027	0.041	0.048	0.168	0.049	0.11	0.062	0.069
Ammonia NH_4 (mg/l NH_4)	0.033	0.034	0.053	0.062	0.216	0.063	0.142	0.079	0.089
BOD (mg/l O_2)	1.3	1.8	1.6	1.5	1.7	1.2	1.3	2.8	1.4
Chemical Oxygen Demand (mg/l O_2)	23	12	13	17	24	11	25	34	11
Chloride (mg/l Cl)	22.95	23.91	25.83	23.33	21.82	25.34	25.47	24.19	30.08
Conductivity @ 20°C (uS/cm)	629	569	614	651	608	675	653	640	695
Dissolved Oxygen % Saturation	80.2	82	84.7	99.1	78	81.2	73.6	88	68.5
Dissolved Oxygen (measurement) mg/l) O_2	9.62	9.7	10.44	9.98	8.47	8.52	7.3	8.77	7.97
Nitrates (mg/l NO_3 as N)	2.97	2.26	1.38	2.83	1.83	2.28	1.76	1.6	2.6
Nitrites (mg/l NO_2 as N)	0.01	<0.01	<0.01	<0.01	<0.01	0.025	0.02	<0.01	0.04
O-Phos (mg/l PO_4 as P)	0.015	0.018	0.01	0.021	0.043	0.052	0.071	0.04	0.063
O-Phos (mg/l PO_4)	0.046	0.056	0.024	0.065	0.132	0.16	0.219	0.124	0.192
pH (pH units)	7.78	7.75	7.89	7.91	7.92	7.92	7.95	7.94	7.94
Sulphate (mg/l SO_4)	30.51	16.86	17.48	17.56	20.14	17.56	23.08	21.18	21.37
Suspended Solids (mg/l)	5.6	5.6	6.8	3.6	5.2	2.4	3.6	1.2	3.2
Temperature (^{o}C)	6.9	6.4	6.7	9	10.7	13.4	15.7	14.1	9.3
Total Nitrogen (mg/l as N)	3.5	3.3	2.9	3.7	3.4	3.3	3.1	1.7	3.8
Total Oxidised Nitrogen (mg/l TON as N)	2.98	2.26	1.39	2.83	1.83	2.31	1.78	1.6	2.64
Total Phosphorus (mg/l as P)	0.04	0.04	0.02	0.04	0.08	0.07	0.09	0.07	0.08

Table 2.3.3. Ecological Status of Ballyfinboy River (upstream and downstream of Cloughjordan WWTP)

Parameter	Upstream	Status	Overall Status for Upstream	Downstream	Status	Overall Status for Downstream
BOD	1.53(mean)	Less than Good	Less than Good	1.62 (mean)	Less than Good	Less than good
Total Ammonia (as N)	0.025(mean)	High		0.067(mean)	Less than Good	
Orthophosphate (as P)	0.031(mean)	Good		0.037(mean)	Less than Good	

Table 2.3.4. Schedule 5 of the European Communities Environmental Objectives (Surface Waters) Regulations 2009

Parameter	Value	Status
BOD	<1.3 (mean) or <2.2 (95%ile)	High
BOD	<1.5(mean) 0r <2.6(95%ile)	Good
Total Ammonia as N	<0.040 (mean) or <0.090 (95%ile)	High
Total Ammonia as N	<0.065 (mean) or <0.140 (95%ile)	Good
MRP as P	<0.025(mean) or <0.045 (95%ile)	High
MRP as P	<0.035 (mean) or <0.075 (95%ile)	Good

Appendix 7.6.

Sewer Integrity Report- Cloughjordan

	Section 1.1 Agglomeration Details					
	Name	**Cloughjordan**				
	Licence Number	**D0475-01**				
	Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)	**Cloughjordan**				
	Date Licence Issued	**21/03/2011**				
	Current Date	**22/02/2015**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	2015	2016	2017	2018
1.1	Is there an existing WWTP in operation?		**Yes**	**Yes**	**Yes**	**Yes**
	Section 1.2 BOD Loading & Population Equivalent					
1.2	Average Daily Influent Flow or Average Total Flow in system (If no measured data exists, insert estimated figure)	l/day, measured	99,840			
1.3	Average Daily Influent BOD or Average BOD Load from area served (If no measured data exists, insert estimated figure)	mg/l, measured	212.83			
1.4	Total BOD Load	kg/day	21.2489472			
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	354			
1.6	Estimated (existing) Non-Domestic Load	p.e.	35			
1.7	Estimated Domestic Load	p.e.	319			
1.8	Occupancy Rate for the Agglomeration	pop/house	2.92			
1.9	Estimated Number of Connected Properties	houses	109			
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	unknown			
	Section 1.3 Hydraulic Details					
1.11	Average Dry Weather Flow arriving at WWTP OR Total Average DWF in system (If no measured data exists insert estimated figure)	l/s, measured	0.418			
1.12	Estimated 3DWF	l/sec	1.25			
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	2.29			
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking Factor)	Nr	5.48			
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	7.21			
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	No			
1.17	Total Rainfall for Previous Year	mm	1003.6			
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm	948.2			
1.18.1	Define the Weather Station Used		Gurteen			
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m^3	n/a			
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank ?	---				
1.21	Total monthly average volume of Storm Water Stored or Returned for Treatment within the Waste Water Treatment Plant	m^3 per month	n/a			
1.22	If the answer to 1.20 above is No, What is the estimated frequency of Overflows from the Storm Tank ? (N/A if no overflow)		N/A			
	Waste Water Works - Sewer Network Details	**Unit**	2015	2016	2017	2018
	Section 1.4 Waste Water Works - Gravity Sewer Details					
1.23	What database is used to maintain records of the sewer network	Hard Copy Drawings only				
1.23.1	If other or combination of the above please describe	Describe				
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	3.16	0.00	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	0.00			
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	1.11			
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Measured	0.34			
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	1.71			
1.24.5	Other	km Estimated	0.01			
1.25	Pipeline Material					

1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	98.00			
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	1.00			
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	Unknown			
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	Unknown			
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	1.00			
1.26	Total number of Storm Water Overflows (Enter '1' if none and state under Item 1.27 that there are no SWOs in the network; **do not leave blank**)	Nr	1			
1.27	What Screening or other mechanical devices are employed at the storm water overflows					
	6mm screen at inlet works stormwater overflows					
1.28	Water Quality at the receiving waters					
1.28.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)		Q4			
	SWO No. _ located at _____	Describe	Q4			
1.28.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)					
	SWO No. _ located at _____	Describe	N/A			
1.28.3	With reference to the SWO's detailed above define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.					
	SWO No. _ located at _____	Describe	Not Listed			
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation)					
	SWO No. _ located at _____	Designation	n/a			
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.					
	SWO No. _ located at _____	Designation	Not Listed			
	Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	0			
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	0			
1.31	Rising Main Material					
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	0.00			
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	0.00			
1.31.3	What portion of the rising mains consists of other materials	% Estimated	0.00			
1.32	Discharge Capacity of the Pump Set (s) at normal duty point					
	At Pump Station __ at _____					
1.33	What percentage of the pumping stations have recorded flow data (i.e. if all pumping stations have flow meters on the rising mains then this would read 100%)	%	n/a			
1.34	Available Storage Capacity at Pump Stations					
	At Pump Station __ at _____	m^3	n/a			
1.35	Total Number of ***"Licenced Secondary Discharge Points and Stormwater Overflows"*** at pumping stations	Nr	0			

1.36	Total Number of ***"Emergency Overflow Points"*** at pumping stations	Nr	0			
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?					
	At Pump Station __ at _____	Describe	n/a			
1.38	Water Quality at the receiving waters at each pumping station location					
1.38.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)		N/A			
	At Pump Station __ at _____	Describe	N/A			
1.38.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)					
	At Pump Station __ at _____	Describe	N/A			
1.38.3	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.					
	At Pump Station __ at _____		Not Listed			
1.38.4	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, are the receiving waters Protected Areas (designated or awaiting designation) .					
	At Pump Station __ at _____	Designation	n/a			
1.38.5	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, do the receiving waters have any other designations.					
	At Pump Station 1	Designation	Not Listed			
1.39	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	2			
	Section 1.6 Reporting					
	Section 1.6.1 Reported Number of Sewer Related Complaints					
1.40	Number of Reported Complaints	Nr	0			
1.41	Number of Reported Complaints which have been rectified	Nr	0			
	Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges					
1.42	Number of Reported Secondary Discharges	Nr	0			
1.43	Number of Recorded Secondary Discharges	Nr	0			
1.44	Estimated Total Number of Secondary Discharges	Nr	0			
	Section 1.6.3 Reported/Recorded/Estimated Number of Emergency Overflow Discharges from Pumping Stations					
1.45	Number of Reported Emergency Overflow Discharges	Nr	0			
1.46	Number of Recorded Emergency Overflow Discharges	Nr	0			
1.47	Estimated Total Number of Emergency Overflow Discharges	Nr	0			
	Section 1.7 Operational Staff					
1.48	In the four boxes below, describe the extent of operation staff employed by the Local Authority to maintain and operate the sewer network and pumping stations					

1.48.1	1 full time Caretaker who spends part of his day at Cloughjordan (with basic H&S training) to operate & maintain the sewer network.					
1.48.2						
1.48.3						
1.48.4						
	Waste Water Works - Investment Details	**Unit**	2015	2016	2017	2018
	Section 1.8 Capital Investment works carried out since most recent report (including works not included on WSIP Programme or not WSIP funded)					
1.49	Sewers Upgraded or Replaced	m	0			
1.50	Sewers Rehabilitated	m	0			
1.51	Manholes Rehabilitated	Nr	0			
1.52	Local Repairs	Nr	0			
1.53	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0			
1.54	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr	0			
1.55	WWTW operated by Local Authority Upgraded or Replaced	Nr	0			
1.56	In the following two cells describe the actual Capital Investment undertaken in the reporting period.					
1.56.1	For example : Sewer Rehabilitation Contract Works being undertaken under the WSIP					
1.56.2						
	Section 1.9 Licence Specified Improvements Works					
1.57	*The Local Authority is required to report on the extent of Improvement Works which have been specifed under the Licence as issued by the EPA. Reference which AER contains this information*					
	Section 1.10 Other Updates Since Last Report					
1.58	*For example : 50% of the sewer network is currently being upgraded under the WSIP with an investment of €1.5m in 2010.*					
1.59	*For example : 2% of the sewer network is currently being replaced under the Local Authorities Annual Maintenance Fund*					
1.60						
1.61						
1.62						