Annual Environmental Report 2014

Agglomeration Name:	**Emyvale**
Licence Register No.	**D0346-01**

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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 D0346-01, Emyvale, in County Monaghan 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:

- Storm water overflow assessment
- Priority substances assessment

The agglomeration is served by a wastewater treatment plant with a Design PE of 2000. The treatment process includes the following:-

- preliminary treatment
- primary treatment
- secondary treatment
- chemical dosing for phosphorus removal

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values for pH, Ortho-phosphate and Ammonia in 2014.

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

- pH
- Orthophosphate
- Ammonia

504,000 kgs of sludge (total weight sludge) were removed from the wastewater treatment plant in 2014 as liquid sludge. Sludge was transferred to Monaghan WWTP.

There were no major capital or operational changes undertaken in 2014.

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

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m3/d)	Organic Loading (PE/day)
Number of Samples	6	6	6	6	6		
Annual Max.	524	1580	533	13	95.7	312	2,066
Annual Mean	350	941.83	298.17	7.267	57.87	178	1038

Significance of results

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

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	pH	BOD (mg/l)	COD (mg/l)	SS (mg/l)	Total P (mg/l)	Ortho P (mg/l)	Ammonia (mg/l)	Total N (mg/l)	Comment
WWDL ELV (Schedule A)	6 - 9	14	125	35	N/A	0.75	1	N/A	
ELV with Condition 2 Interpretation included	No allowable failures – No deviation allowed	1 allowable failure provided under 100% of ELV	1 allowable failure provided under 100% of ELV	1 allowable failure provided under 150% of ELV (87.5mg/l)	N/A	8 out of 10 consec. samples shall not exceed ELV. No individual result shall exceed ELV by more than 20% (0.9 mg/l)	8 out of 10 consec. samples shall not exceed ELV. No individual result shall exceed ELV by more than 20% (1.2 mg/l)	N/A	
Number of sample results	8	8	8	8	N/A	8	8	N/A	
Number of sample results above WWDL ELV	1	0	0	0	N/A	2	3	N/A	
Number of sample results above ELV with Condition 2 Interpretation included	N/A	0	0	0	N/A	2	3	N/A	
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Compliance (Pass/Fail)	FAIL	PASS	PASS	PASS	N/A	FAIL	FAIL	N/A	

Significance of results

The WWTP was non-compliant with the ELVs for pH, Ortho-phosphate and Ammonia set in the wastewater discharge licence. There were 6 results non-compliant with the ELVs in relation to pH, orthophosphate and ammonia.

The non-compliance for ammonia is unknown. The non-compliance for orthophosphate was due to failure in the ferric dosing pumps. 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	E267744 N343773	RS03M010450	Poor	n/a
Downstream monitoring point	E268523 N343143	RS03M010500	Poor	No

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 ELVs for pH, Ortho-phosphate and Ammonia set in the wastewater discharge licence as detailed in Section 2.2.

The discharge from the wastewater treatment plant doesn't have an observable impact on the water quality status.

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

The electronic submission of data was completed on a monthly basis to EPA through MDS (EDEN) in XML format.

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

A PRTR is not required for the Emyvale agglomeration as the PE is below 2,000 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)	Total P (kg/yr)	Total N (kg/yr)	Comment
Influent mass loading (kg/year)	22737	61759	21620	415	3328	
Effluent mass emission (kg/year)	318	2396	657	55	1816	
% Efficiency (% reduction of influent load)	99	96	97	87	45	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/year)	43,800
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/year)	131,400
Hydraulic Capacity – Current loading (m3/year)	58,466
Hydraulic Capacity – Remaining (m3/year)	72943
Organic Capacity - Design / As Constructed (PE)	2000
Organic Capacity - Current loading (PE)	1038
Organic Capacity – Remaining (PE)	962
Will the capacity be exceeded in the next three years?	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

There was 1No complaints of an environmental nature related to the discharge to waters from the Emyvale WWTP in 2014.

Table 3.4 - Complaints Summary Table:

Number	Date & Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
22098896	29/10/14	**URGENT** Caller rang in to report that the main sewer located outside property was over flowing. It has been ongoing for a few days, it was flowing into the neighbours garden and needed to be resolved as soon as possible.	Blocked sewer	Jetting of sewer undertaken by MCC staff, to relieve blockage.	Y

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)
ELV exceedance	Ammonia Exceedance 1.58 mg/l	Equipment maintenance overdue	1	Maintenance carried out	EPA	Yes	Yes
ELV exceedance	PH Exceedance 5.7	PST required desludging and repairs to sludge return valve	1	PST desludged and repairs carried out	EPA	Yes	Yes
ELV exceedance	Ammonia Exceedance 4.403 mg/l	PST required desludging and repairs to sludge return valve	1	PST desludged and repairs carried out	EPA	Yes	Yes
Emission	Ammonia Exceedance 1.725 mg/l	PST required desludging and repairs to sludge return valve	1	PST desludged and repairs carried out	EPA	Yes	Yes
Emission	Ortho P 2.077 mg/l	Ferric dosing pump failure	1	Pump heads replaced	EPA	Yes	Yes
Emission	Ortho P 2.051 mg/l	Ferric dosing pump failure	1	Pump heads replaced	EPA	Yes	Yes

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	6
Number of Incidents reported to the EPA via EDEN in 2014	6
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.

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	0	0	0	n	N
Industrial / Commercial Sludge	0	0	0	n	N
Landfill Leachate (delivered by tanker)	0	0	0	n	N
Landfill Leachate (delivered by sewer network)	0	0	0	n	N
Other (specify)	none	none	none	none	none

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 included in Appendix 7.3. 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
SWO	267952E, 343568N	Yes	Low	Compliant	2	Unknown	Unknown	E

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?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	No
The SWO assessment includes the requirements of Schedule A3 & C3	N/A
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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

The Improvement Programme is included in Appendix 7.4.

The Improvement Programme report included in Appendix 7.4 addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should details other improvements identified through assessments required under the licence

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
Commissioning and operation of ferric sulphate dosing unit	C	1st Jan 2013	Yes	(v) Completed	N/A	N/A	Ferric dosing system is operational

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
High inflows into the Emyvale WWTP during storm conditions/periods of heavy rainfall	CCTV survey of network & remedial measures identified carried out	*WWTP assessment (Condition 5.3)*	0%	Unknown	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis.
No record of SWO activating or measurement	Install SWO measurement/ recorder device to	*SWO assessment (Condition 4 & 5.2)*	0%	Unknown	The improvement programme will be reviewed by

of flows.	measure flows/record no. times it activates				Irish Water to assess the works required to comply with the licence condition on a prioritised basis.

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*	*125*	The network requires CCTV survey to fully evaluate; Risk assessment scores are estimates only.
Environmental Risk Assessment Score	*Medium*	*250*	
Structural Risk Assessment Score	*Medium*	*100*	
Operation & Maintenance Risk Assessment Score	*Medium*	*100*	
Overall Risk Score for the agglomeration	*Medium*	*575*	

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	Yes	Appendix 7.6
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	N/A
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	Yes	See Appendix 7.6. No further screening is required for the Emyvale WWTP with regard to priority substances.
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 included in Appendix 7.6. A summary of the findings of this report is included below.

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	Desk Top Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
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)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	Yes

5.2 Drinking Water Abstraction Point Risk Assessment.

The Drinking Water Abstraction Point Risk Assessment report is not required for Emyvale.

5.3 Shellfish Impact Assessment Report.

The Shellfish Impact Assessment report is not required for Emyvale.

5.4 Toxicity / Leachate Management

The Toxicity / Leachate Management Assessment report is not required for Emyvale.

5.5 Toxicity of the Final Effluent Report

The Toxicity of the Final Effluent report is not required for Emyvale.

5.6 Pearl Mussel Measures Report

A sub-basin management plan in relation to Pearl Mussels is not required for Emyvale.

5.7 Habitats Impact Assessment Report

The Habitats Impact Assessment report is not required for Emyvale.

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)	No
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)*	N/A

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: 07/04/2015

Gerry Galvin
Chief Technical Advisor

Section 7. Appendix

Appendix 7.1 - Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary
Appendix 7.3 - Storm water overflow identification and inspection report
Appendix 7.4 – Specified Improvement Programme
a) Specified Improvement Programme
b) Programme of Improvements
Appendix 7.6 - Priority substances assessment

Annual Statement of Measures

Risk /Description of issue	Risk Score	Mitigation Measure to be taken	Outcome	Action	Date for Completion	Owner/ Contact Person
High inflows into the Emyvale WWTP during storm conditions/periods of heavy rainfall		CCTV survey of network & remedial measures identified carried out			Unknown	C McCrossan
No record of SWO activating or measurement or flows.		Install SWO measurement/recorder device to measure flows/record no. times it activates his report			Unknown	C McCrossan

Appendix 7.2 - Ambient monitoring summary

Upstream monitoring results														
Location	**Flow m3/day**	**Location**	**Date of Sampling**	**Sample Type (C or G)**	**Temp**	**pH**	**cBOD mg/l**	**COD mg/l**	**Suspended Solids mg/l**	**Ortho Phosphorus (as P) mg/l**	**Ammonia (as N)**	**Total Nitrogen mg/l (as N)**	**Total Phosphorus mg/l (as P)**	**Dissolved Oxygen (DO)**
Emyvale		Up Stream Of Works	18/02/2014	G	6.2	8	2			0.023	0.017			12.8
Emyvale		Up Stream Of Works	22/04/2014	G	11.6	8.2	1			0.009	0.02			10.77
Emyvale		Up Stream Of Works	09/06/2014	G	15.8	7.7	4			0.219	0.073			8.83
Emyvale		Up Stream Of Works	12/08/2014	G	13.9	8	1			0.027	0.03			9.82
Emyvale		Up Stream Of Works	15/10/2014	G	10.31	8	1			0.009	0.008			11.1
Emyvale		Up Stream Of Works	10/12/2014	G	5.2	7.8	2			0.028	0.063			11.99
Average					**10.50**	**7.95**	**1.83**			**0.053**	**0.035**			**10.885**

Table 2.4														
Downstream monitoring results														
Location	**Flow M3/day**	**Location**	**Date of Sampling**	**Sample Type (C or G)**	**Temp**	**pH**	**cBOD mg/l**	**COD mg/l**	**Suspended Solids mg/l**	**Ortho Phosphorus (as P) mg/l**	**Ammonia (as N)**	**Total Nitrogen mg/l (as N)**	**Total Phosphorus mg/l (as P)**	**Dissolved Oxygen (DO)**
Emyvale		Down Stream of Works	18/02/2014	G	6.3	8	2			0.024	0.016			12.2
Emyvale		Down Stream of Works	22/04/2014	G	11.3	8	1			0.009	0.048			12.07
Emyvale		Down Stream of Works	09/06/2014	G	15.1	7.7	4			0.06	0.093			8.91
Emyvale		Down Stream of Works	12/08/2014	G	13.9	8	1			0.025	0.035			9.6
Emyvale		Down Stream of Works	15/10/2014	G	10.4	7.9	1			0.017	0.032			9.29
Emyvale		Down Stream of Works	10/12/2014	G	5.2	7.8	1			0.028	0.054			11.84
Average					**10.37**	**7.90**	**1.67**			**0.027**	**0.046**			**10.652**

Appendix 7.3 - Storm water overflow identification and inspection report

As per condition 4.12 of the licence, a report on the investigation for the identification and assessment of storm water overflows is required to be submitted as part of the second AER, including a determination of compliance with the criteria for storm water overflows as set out in the DoECLG document '*procedures and Criteria in Relation to Storm Water Overflows,*' 1995.

There are no known storm water overflows (SWO) within the sewerage network of the Emyvale agglomeration. There is one storm water overflow (SWO) from a storm tank at the WWTP, this SWO is listed under schedule A.4 in the discharge licence as discharging via the primary discharge. Monaghan County Council wishes to clarify to the EPA that this SWO discharges separately to the Mountain Water River from the Primary Discharge location, upstream of the discharge point at IGS 267952E, 343568N. A technical amendment is required to be submitted to the EPA regarding this matter.

The existing storm tank at the Emyvale WWTP was an imhoff tank until upgrade works at the WWTP were completed in 2008 and it was modified with pumps fitted to work as a storm tank at the WWTP. In storm conditions excess flow from the inlet works flow into the storm tank until storm conditions subside, the stored storm water is pumped back to the inlet works when storm conditions subside. In extreme storm conditions whereby the storm tank fills to capacity and the treatment works is still operating at full capacity, the SWO will discharge to the Mountain River from the tank. The storm water overflow was therefore not designed to the criteria in the aforementioned DoECLG document, as it was an existing tank at the WWTP.

An assessment of this SWO in relation to the 'Procedures and criteria in relation to Storm Water Overflows', 1995 document is undertaken under the relevant sections as follows:

Section 4. '*Assessment Criteria for Existing SWO's':*

(1) It does not cause visual/aesthetic impact or public complaints.
(2) No analyses have been carried out on this SWO as it activates rarely, only in prolonged or storm conditions and there is no monitoring device on it. However, it is concluded that there would be minimal deterioration in water quality in the receiving water when it operates, as discharge would be diluted due to storm water inflows coinciding with high river flows, thus maximising the assimilative capacity of the receiving water.
(3) It does not give rise to failure in meeting the requirements of national Regulations on foot of EU Directives as it is not a bathing water, nor a designated River.
(4) It does not operate in dry weather.

Section 5, '*Options following Assessment*'

The 'use of storage' option is considered under this document as the SWO is from a storm tank.

Section 7, '*Use of Storage'*

The existing storm tank was not designed or sized for any specific storm return period or duration, as it is a modified imhoff tank. The storm tank volume equates to approximately 175m3, the WWTP average flow figure

for 2014 is 160.75m3, with a Dry Weather Flow (DFW) of 70m3. The capacity of the storm tank is over 2 times the DWF of the plant.

Appendix 1, Table 2:

A. '*Low Significance SWOs'*

The Emyvale SWO is in the 'Low significance SWO' category.

Appendix 2, A. '*Low Significance SWOs*'

The volume of the storm tank is assessed using Appendix 2, Table 3 of the DoECLG document as follows:

The dilution factor is the river at 95 percentile river flows relative to the dry weather flow to the plant calculated as follows:

WWTP DWF =	70m3/day = 0.000810m3/s
Mountain Water River 95% flow =	0.051m3/s
Dilution Factor =	(0.0051/0.000810) = 6.3

The storm tank volume required based on a dilution factor > 6 is 'None' (ref Table 3, Appendix 2, DoECLG document). As there is a storage tank employed at the WWTP, it is deemed to comply with this part of the document.

From the assessment of this SWO in relation to the 'Procedures and criteria in relation to Storm Water Overflows', 1995 document, it is concluded that the SWO complies with the document as assessed under section 4.1 of this document.

SWO Identification and Inspection Summary Report Table A:

WWDL Name/Code for Storm Water Overflow	SWO
IGR	267952E, 343568N
Included in Schedule A4 of the WWDL	Yes
Compliance with DoEHLG Criteria	Complies as assessed in Section 4.1 of this document
No. of times activated in 2013	2
Total volume discharged (m3)	Unknown
Total volume discharged in 2013 (P.E.)	Unknown
Estimated/Measured Data	Estimated

Appendix 7.4 – Specified Improvement Programme

a) Specified Improvement Programme
b) Programme of Improvements

As per condition 5.1 of the licence, a programme of infrastructural improvements to maximise the efficiency and effectiveness of the waste water works shall be prepared and submitted:

The treatment capacity and removal efficiencies of the Emyvale WWTP are addressed in section 2.1 and 3.1 of this report.

Under Schedule C.1 of the licence, '*Specified Improvement Programme', 'Commissioning and operation of the ferric Sulphate dosing unit'* is specified with completion date of 1st January 2013. The ferric dosing unit has been commissioned and is operating at the Emyvale WWTP.

No other specified improvement works are specified for the Emyvale WWTP.
There are no planned improvement works for the Emyvale WWTP.

Under condition 5.2 (a) of the licence, the programme of infrastructural improvements shall include an assessment of the waste water treatment plant having regard to the effectiveness of the treatment provided by reference to the following:

(i) The existing level of treatment, capacity of treatment plant and associated equipment:

As addressed in section 2.1 and 3.1 of this report the existing level of treatment at the plant is considered generally adequate based on ELV compliance and removal efficiencies. There is adequate capacity at the treatment plant (ref section 2.1, Table 1.2).

(ii) The emission limit values specified in Schedule A: Discharges, of this licence:

No improvements are deemed necessary with regard to ELVs.

(iii) The designations of the receiving water body:

The Mountain Water River is not a designated Salmonid Water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA.
The Mountain Water River is in the Neagh Bann river basin district with overall status classified as '1a' –Poor status and at risk of not meeting good status by 2015, with overall objective to restore its status by 2021 The 'point risk source' and potential for impact from the Emyvale WWTP discharge on the river is categorised as '1a –at risk' and the combined storm overflows (CSOs) categorised as '2b – not at risk', however the Blackwater Water Management Unit Action Plan (WMU) states that EPA licence information suggests that Emyvale WWTP is not impacting on the receiving water as there is adequate dilution in the river, for the discharge (Ref. WFD website & reports).
Ambient monitoring results were assessed in section 2.3 of this report and it is concluded that there is no significant impact from the discharge of the Emyvale agglomeration on the receiving water quality.

(iv) Water quality objective for the receiving water body:

This item is addressed in point no. 4.2 (iii) above.

(v) The standards and volumetric limitations applied to any industrial waste water that is licensed to discharge to the waste water works:

There are no industries licensed to discharge to the waste water works.

Under condition 5.2 (b) of the licence, the programme of infrastructural improvements shall include an assessment of the integrity of the waste water works having regard to:

(i) Capacity of the waste water works:

There is adequate capacity at the treatment plant (ref section 2.1, Table 1.2).

(ii) Leaks from the waste water works:

There are no known leaks at the WWTP site.

(iii) Misconnections between foul sewers and surface water drainage network:

There are no known misconnections on the Emyvale network.

(iv) Infiltration by surface water/ground water:

Emyvale network is a combined system, during storm conditions/periods of extensive rainfall, inflows into the Emyvale WWTP increase greatly. It is unknown if there is infiltration by surface/ground water into the network. A CCTV survey of the network would identify any defects in the network and any remedial works required.

Under condition 5.2 (c) of the licence, the programme of infrastructural improvements shall include an assessment of all storm water overflows associated with the waste water works to determine the effectiveness of their operation and in particular identify improvements necessary to comply with the requirements of this licence:

There are no specified improvement works in the Emyvale discharge licence in relation to storm water overflows.

An assessment of the SWO from a storm tank at the WWTP in relation to the 'Procedures and criteria in relation to Storm Water Overflows', 1995 document, was addressed in section 4.1 of this report, it is concluded that the SWO complies with the document as assessed under section 4.1.

Condition 5.3 (a) and (b) of the licence, the programme of infrastructural improvements shall include a plan for implantation for each individual improvement identified:

Under Schedule C.1 of the licence, '*Specified Improvement Programme', 'Commissioning and operation of the ferric Sulphate dosing unit'* is specified with completion date of 1st January 2013. The ferric dosing unit has been commissioned and is operating at the Emyvale WWTP.

There are no other specified improvement works under schedule C of the discharge licence. One individual improvement identified for the Emyvale sewer network is to carry out a CCTV survey of the network to identify and carry out remedial works necessary on the network.

Specified Improvement Programme summary report

Specified Improvement Programmes	Licence Schedule (A or C)	Licence completion date	Date expired	Status of Works	% const. work completed	Licensee timeframe for completing the work	Comments
Commissioning and operation of ferric sulphate dosing unit	C	1st Jan 2013	Yes	complete	N/A	N/A	Ferric dosing system is operational

Improvement Summary Table

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date
High inflows into the Emyvale WWTP during storm conditions/periods of heavy rainfall	CCTV survey of network & remedial measures identified carried out	WWTP assessment (Condition 5.3)	0%	Unknown
No record of SWO activating or measurement of flows.	Install SWO measurement/recorder device to measure flows/record no. times it activates	Cond. 4.1 of this report	0%	Unknown

Priority Substance Assessment

Under Schedule B.1 of the licence, there is a requirement that, Priority Substances that are identified by the licensee in the effluent after undertaking a 'risk based assessment in accordance with the Guidance on the screening for Priority Substances for Waste Water Discharge Licences', should be monitored at least annually, by the licensee.

A desktop study was undertaken as follows:

The Emyvale WWTP catchment area serves a small rural village comprising primarily of domestic dwellings, along with a community centre and local shops. There are no industrial inputs to the waste water works, or disposal of same at the waste water works. It can therefore be concluded from this desktop overview that there is no further screening necessary or required for organic compounds or metals. Furthermore, in 2009 when the initial discharge licence application for Emyvale was compiled, monitoring of the influent and effluent discharges and upstream and downstream locations in the receiving Mountain River Water was undertaken and analysed for dangerous substances and submitted with the application. There were no elevated levels of these compounds in the discharge as reported. It is therefore concluded that no further screening is required for the Emyvale WWTP with regard to Priority substances.