Annual Environmental Report

2024

Navan

D0059-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0059-01, Navan, in Meath in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There were no capital works, significant changes or operational changes undertaken in 2024.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Navan WWTP with a Plant Capacity PE of 46000, the treatment type is 3NP - Tertiary N&P removal.

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF2300D0059SW001	Navan WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
Toxicity of Final Effluent

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 NAVAN WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - NAVAN WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
COD-Cr mg/l	26	940	466
Total Nitrogen mg/l	26	71	39
Suspended Solids mg/l	26	645	193
Total Phosphorus (as P) mg/l	26	83	7.19
BOD, 5 days with Inhibition (Carbonaceous) mg/l	26	469	216
pH pH units	1	6.61	6.61
Hydraulic Capacity	N/A	25110	14201

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF2300D0059SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	100	200	N/A	26	N/A	N/A	30	Pass
Suspended Solids mg/l	35	87.5	N/A	26	N/A	N/A	9.06	Pass
BOD, 5 days with Inhibition (Carbonaceous) mg/l	13	26	N/A	26	N/A	N/A	5.58	Pass
pH pH units	6	9	N/A	26	N/A	N/A	6.90	Pass
Ammonia-Total (as N) mg/l	3	3.6	N/A	26	1	N/A	0.134	Pass
Total Phosphorus (as P) mg/l	1	1.2	N/A	26	N/A	N/A	0.326	Pass
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	26	N/A	N/A	0.145	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2300D0059SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	288486, 269101	RS07B041900	No	No	No	No	Moderate
Downstream	291858, 271311	RS07B042000	No	No	No	No	Moderate

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS07B041900	0.880	RS07B042000	0.928	1.50	3.2
Ammonia-Total (as N) mg/l	RS07B041900	0.019	RS07B042000	0.016	0.065	-3.6
ortho-Phosphate (as P) - unspecified mg/l	RS07B041900	0.035	RS07B042000	0.029	0.035	-18.3
Dissolved Oxygen mg/l	RS07B041900	11	RS07B042000	12	N/A	
Temperature °C	RS07B041900	12	RS07B042000	12	N/A	
pH pH units	RS07B041900	8.02	RS07B042000	8.17	N/A	
Dissolved Oxygen % Saturation	RS07B041900	105	RS07B042000	111	N/A	
Total Nitrogen mg/l	RS07B041900	2.14	RS07B042000	1.95	N/A	

Significance of Results:

The WWTP discharge was compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a slight deterioration in BOD concentration downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

As per the 3rd Cycle Boyne Catchment Report (HA 07), the significant pressures on the At Risk Boyne_150 waterbody are Domestic Waste Water and Other (Unknown Anthropogenic pressures). There are no significant pressures listed for the Boyne_140 waterbody. The Navan WWTP is not listed as a significant pressure in the Cycle 3 report.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - NAVAN WWTP

2.1.4.1 Treatment Efficiency Report - Navan WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

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

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TP	37524	1360	96
cBOD	1129626	23275	98
COD	2434186	123763	95
SS	1009896	37788	96

Note: The above data is based on sample results for the number of dates reported.

2.1.4.2 Treatment Capacity Report Summary - Navan WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Navan WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	33750
DWF to the Treatment Plant (m^3/day)	12500
Current Hydraulic Loading - annual max (m^3/day)	25110
Average Hydraulic loading to the Treatment Plant (m^3/day)	14201
Organic Capacity (PE) - As Constructed	46000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	42904
Organic Capacity (PE) - Remaining	3096
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - NAVAN WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Waterworks Sludge	19457	Weight (Tonnes)	236.9	0.38	Yes	Yes	Yes
Landfill Leachate (delivered by tanker)	706	Volume (m3)	8.6	0.01	Yes	Yes	Yes

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
1	Water Pollution	0	1

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Uisce Éireann but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Spillage	Tank Overflow	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Spillage	Plant or equipment maintenance at WWTP	No	Yes
Abatement equipment off-line	Screen not operating	No	No
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Abatement equipment off-line	Other (add details)	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	15
Number of Incidents reported to the EPA via EDEN in 2024	15

Question	Answer
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2024 (No. of events)	Total volume discharged in 2024 (m^3)	Monitoring Status
SW11	287961, 266645	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW12	288482, 265674	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW2	288376, 268808	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW3	288082, 268258	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
SW5	287211, 267990	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW6	286581, 268367	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2024 (No. of events)	Total volume discharged in 2024 (m^3)	Monitoring Status
SW7	287187, 267931	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW8	287252, 267761	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW9	286813, 266104	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	-, -	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored

The contents presented in this table include the most up to date information available at the time of writing. Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much wastewater discharge by metered SWOs during the year (m^3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0059-SIP:01	Upgrading of sewer network to ensure all SWO's comply with criteria set out in DoEHLG.....	C	31/01/2011	Yes	Works Completed		
D0059-SIP:02	Waste water sewer network rehabilitation works and improvements	C	31/01/2011	Yes	Works Completed		

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables 4.2.1 and 4.2.2.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Included in this AER
D0059-01-Priority Substances Assessment	Yes	No
D0059-01-Toxicity of Final Effluent	Yes	Yes

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
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	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Date: 22/02/2025

This AER has been produced by Uisce Éireann’s Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of,

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Toxicity of Final Effluent

Certificate of Analysis

Revision 1

T.E. Laboratories
Loughmartin Business Park
Templeowen, Tullow
Co. Carlow

Client Code: cl76_009
Client Name: Irish Water/Meath County Council
Contact: Kieran Cunningham
Address: Meath County Council

Batch Number: 015836
Sample Code: 015836-002
Quotation Number: Q03020
Date Submitted: 21/01/2025
Date/Time Sampled: 21/01/2025 14:15
Date Started: 21/01/2025
Sampling Method: Composite
Report Date: 24/01/2025
Sample Type: Effluent

Sample Description: Navan Effluent
Irish Water Navan Effluent Annual Toxicity
Other 1: Other 2: Other 3:

Test /Parameter	Sub	SOP	Units	Results	MAC Value	Accredited *	Exceedance Flag	Notes
TOXICITY (MICROTOX)	Y							
Concentration			%vol/vol	>100				
Toxic Units			Number	<1				
95% Confidence Limits			%vol/vol	N/A				

ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 106T

TelLab

T.E. Laboratories

Loughmartin Business Park

Templeowen, Tullow
Co. Carlow

Client Code: cl76_009

Client Name: Irish Water/Meath County Council

Contact: Kieran Cunningham

Address: Meath County Council

Batch Number: 015836

Sample Code: 015836-007

Quotation Number: Q03020

Date Submitted: 21/01/2025

Date/Time Sampled: 21/01/2025

Date Started:

Sampling Method: Not given

Report Date: 24/01/2025

Sample Type: Miscellaneous

Sample Description: Sampling

Service Engineer

Other 1: Other 2: Other 3:

Test /Parameter	Sub	SOP	Units	Results	MAC Value	Accredited *	Exceedance Flag	Notes
SERVICE ENGINEER *		**SE003**						
Surface Water Sampling				Sampling		INAB		
Waste Water Sampling				Sampling		INAB		
Ground Water Sampling				Sampling		INAB		
Drinking Water Sampling				Sampling		INAB		

ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 106T

Signed: 

Name: Andre Miranda **Date:** 24/01/2025

Laboratory Manager

Standard COA Notes

1. TelLab cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling; in this instance samples received may be deviating. A deviating sample will be identified when the analysis is performed by an accredited method, but the results may be compromised due to the deviation. This deviation may impact on the results generated and consequently this should be taken into consideration when interpreting the results provided.

Deviations noted as follows:

"H" in the notes column = the holding time for this analysis has been exceeded (please click here for our holding times document), This deviation may impact on the results generated and consequently this should be taken into consideration when interpreting the results provided.
"C" in the notes column = sample provided in an inappropriate container. This deviation may impact on the results generated and consequently this should be taken into consideration when interpreting the results provided.
"V" in the notes column = sample dilution carried out due to insufficient sample volume resulting in raised LOQ's.
"O" in the notes column = result lies outside our accredited range.

2. Results do not take into account the Uncertainty of Measurement
3. MAC Value is the Maximum Allowable Concentration. If the result exceeds this value it is marked out of specification OOS under Exceedance Flag column.
4. Sub-contract tests are marked "Y" in the Sub column, for an accredited test.
5. In relation to drinking water samples, the LoQ (Limit of Quantification: the lowest concentration of a determinant that can be reliably measured) does not meet the requirements specified for compliance with LoQ as per SI 99 of 2023.
6. Results marked (n/a) in the Notes column are not accredited as they do not meet our scope of accreditation requirements.
7. In relation to drinking water samples, the Uncertainty of Measurement (UoM) does not meet the requirements specified for compliance with UoM as per SI 99 of 2023.
8. Sampling is only INAB accredited in relation to ISO 17025 accredited Test/parameters.

Please click here for the drinking water information.

The above results relate only to the sample tested.