

Backstop Improvement Condition Extension Report

This document has been submitted to explain and evidence the need for an extension to the 12-month Backstop Improvement Condition, which has been issued to Dŵr Cymru as part of the Review of Permits process, and the subsequent investment programme of works.

WwTW Name	LLANDRILLO STW
Permit Number	CM0006001
Catchment	Dee
Water Body	Ceidiog
Can the site meet the total Phosphorus backstop limits now	No
Explanation	<ul style="list-style-type: none"> • No phosphorus removal processes installed on site currently. • Current long-term mean average performance 7.3mg/l Ave. (Peak in excess of 14mg/l in dryer months)
Can the site meet the total Phosphorus in 12 months	No
Explanation	<ul style="list-style-type: none"> • Current on-site assets cannot be optimised further. • The current works' assets would not allow for adequate dosing or short term solution to be implemented due to inadequate turbulence seen at the point of application and inadequate sludge storage • Design and installation of additional assets required. • Currently inadequate footprint on site to host the required additional assets.
Primary Extension Category	Large reconfiguration of site required
Secondary Extension Category	n/a
Headline category of solution	Dosing solution
Details of proposed solution	<ul style="list-style-type: none"> • New ferric dosing package plant • New alkalinity dosing package plant • New safety shower • Repair existing sludge storage capacity • New humus tank • New filter bed • Recirculation P/S and pipework
Land purchase required	No
Planning required	Not anticipated, but to be confirmed at detailed design
Protected Area surveys & Ecology approvals	Yes
NBS Candidate	No

Partnership / Multi sector scheme candidate | No

Extension Requested	24 months
Date requested on extended permit Improvement Condition	28 th January 2027
Date submitted to NRW	06/06/2024
DCWW senior Signature	<i>L Harrell</i>
NRW Senior Signature	

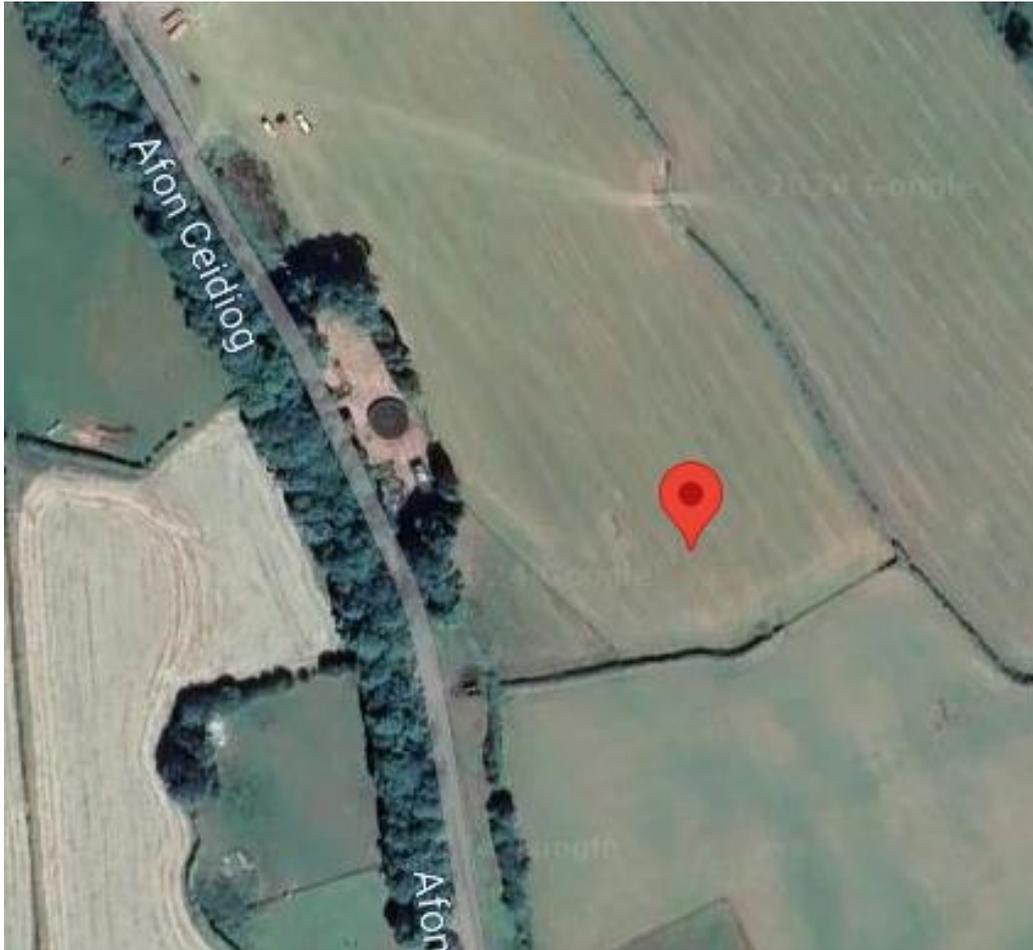
Appendix

A1.

Photo of current assets on site and surrounding space remaining. And GIS and Areal image of WwTW, with 'redline boundary' of DCWW's existing landholding.







A2. Raw sample data

Date	BOD ATU	Ammoniacal Nitrogen	Suspended solids	Ortho phosphate	Total Phosphorus
24/Jan/23 10:30	94	29	121	3.79	5.03
31/Jan/23 09:10	52	13.5	218	6.83	7.75
09/Feb/23 09:15	24	9.4	88	6.39	7.63
10/May/23 07:11				7.84	9
11/May/23 15:00	22	11.6	39	8.78	9.43
02/Jun/23 08:25	47	4.86	374	10.7	14.01
16/Jun/23 11:15	37	11.9	82	10.96	11.03
10/Jul/23 09:55	21	8.73	38	7.09	8.11
17/Jul/23 09:45	14	4.1	29	5.01	5.96
25/Jul/23 09:40	8	2.48	28	4.8	5.51
31/Jul/23 09:55	11	4.69	17	6.87	7.3
09/Aug/23 09:35	14	7.39	34	9.43	9.78
17/Aug/23 10:30	19	11.2	39	8.37	9.05

01/Sep/23 12:52	22	8.17	29	7.28	8.08
14/Sep/23 11:41				8.02	8
02/Oct/23 09:29	8	1.35	18	2.83	3.43
16/Oct/23 08:30	28	12	63	3.8	4.88
02/Nov/23 10:50				2.82	3.21
11/Jan/24 10:05				2.02	2.51