

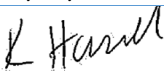
Backstop Improvement Condition Extension Report

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	GLYNCEIRIOG STW
Permit Number	CM0021801
Catchment	Dee
Water Body	Dee – confluence Dee to Teirw
Can the site meet the total phosphorus backstop limit now	No
Explanation	<ul style="list-style-type: none"> No phosphorus removal processes currently installed on site. Current long-term performance 6.2 mg/l Ave. (Peak in excess of 9 mg/l). Not achieving P Backstop.
Can the site meet the total Phosphorus backstop in 12 months	No
Explanation	<ul style="list-style-type: none"> Current on-site assets cannot be optimised further and no temporary solution available (i.e dosing unit) due to the current on site process. Substantial investment and increased footprint required to adequately address the backstop limit. This site has a tight defined limit as well as backstop (0.5mg/l Phosphorous) No short term solution available for this site due to the existing biological process and existing site complexities, so propose we combine the 5mg/l investment with the 0.5mg/l investment and deliver the backstop alongside the tighter defined limits as 1 scheme This will see the defined limit of 0.5mg/l brought forward (currently 2030 delivery date) to be in line with an extended backstop delivery date Propose both are delivered by 26th January 2028
Primary Extension Category	Land Purchase Risk
Secondary Extension Category	Additional driver complexities/opportunities
Headline category of solution	Conventional: Ferric dosing with additional Tertiary Solids Removal
Details of proposed solution	<ul style="list-style-type: none"> Refurbishment of Inlet Screen Upgraded 6mm 2-D Inlet Screens combined with launder & skip Chemical dosing (ferric), combined with storage kiosk, safety shower and bunded area

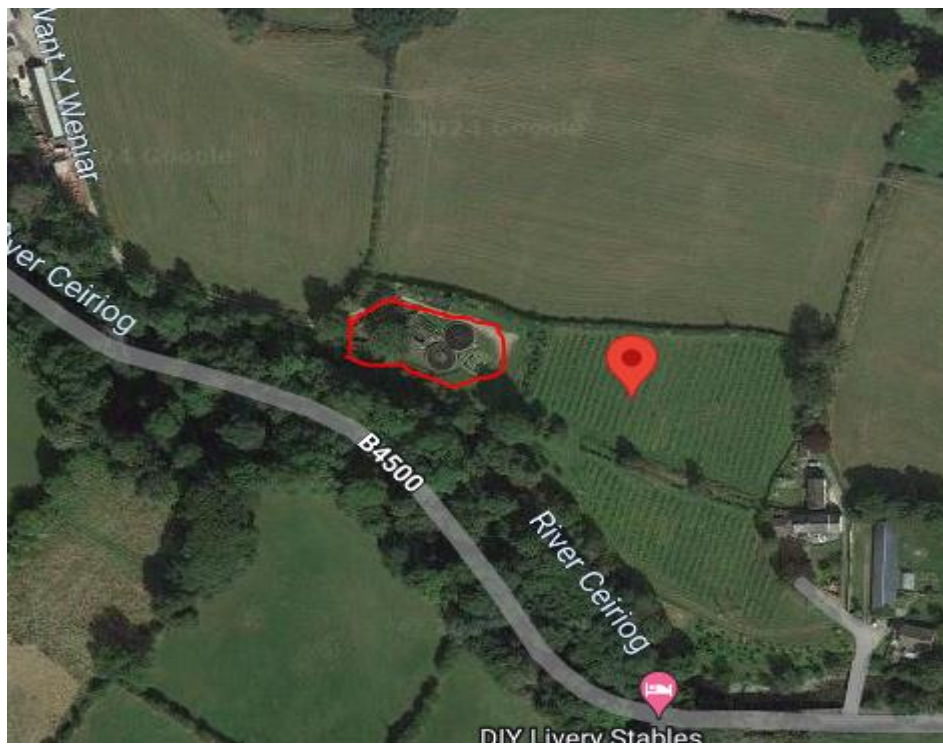
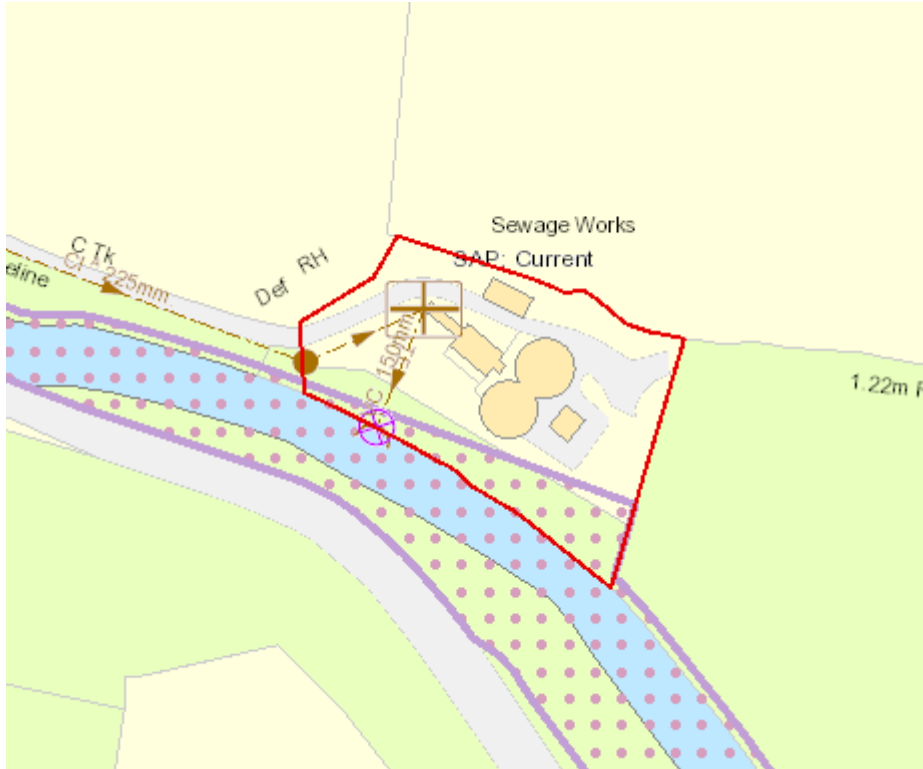
- Tertiary Solids Removal combined with lift pump station
- Additional Sludge Holding Tank
- Automated de-sludge of primary tanks

Land purchase required	Yes
Planning required	Yes
Protected Area surveys & Ecology approvals	Yes
NBS Candidate	No
Partnership / Multi sector scheme candidate	No

Extension requested	36 months
Date requested on extended permit Improvement Condition	26 th January 2028
Date submitted to NRW	19/02/2024
DCWW senior Signature	 Kate Howard
NRW Senior Signature	

Appendix

Appendix 1 GIS and Aerial image of WwTW, with 'redline boundary' of DCWW's existing landholding. Demonstrating there is no further room to expand without further land purchase.



Appendix 2 Raw Sample Data

Date	BOD ATU	Ammoniacal Nitrogen	Suspended solids	Orthophosphate	Total Phosphorus
28/Jul/21 10:13	156	42.9	83	6.88	8.42
19/Aug/21 08:35	42	14.76	40	6.93	8.2
21/Sep/21 08:13	14	5.65	11	8.28	8.58
07/Oct/21 11:00	6	3.17	13	5.36	5.87
08/Nov/21 07:22	6	5	10	5.4	5.73
15/Dec/21 07:48	11	1.12	41	2.71	3.64
10/Jan/22 07:42	14	1.92	20	3.95	4.65
04/Feb/22 10:22	20	4.59	67	4.9	5.7
03/Mar/22 09:20	36	12.15	37	3.74	4.55
11/Apr/22 08:11	17	6.31	24	0.1	7.1
03/May/22 09:00	14	5.62	23	9.21	9
04/Jul/22 09:28	8	8.17	9	8.18	8.2
26/Jul/22 09:15	14	6.41	23	7.31	7.5
22/Aug/22 08:18	14	10.61	9	9.63	9.5
14/Sep/22 12:14	10	9.79	8	8.02	8.4
10/Oct/22 13:08	15	12.04	23	6.4	6.9
09/Nov/22 07:59	6	1.42	14	2.31	2.81
09/Dec/22 09:10	17	12.11	17	4.75	5.5
11/Jan/23 11:45	8	2.79	16	1.56	2.03
19/Jan/23 11:00	8	4.5	13	2.75	3.14
29/Mar/23 08:20				3.36	3.84
05/Apr/23 09:25				3.65	4.04

19/Jun/23 08:15				8.55	8.7
31/Jul/23 09:50				11.22	7.9
31/Aug/23 13:59				7.74	8.2
16/Oct/23 11:32				3.34	3.65
11/Dec/23 09:38				1.28	1.7