

ASSET INVESTIGATION DETAILS			
SAP Asset Name:	Pontfrythallt		Asset Template reference CG0074001-PONT RHYTHALLT PUMPING STATION-71731-Stage 1 - OC-Mon at Arfon
Investigation Type	SOAF (River)		
Year of breach:	2017	Spill Trigger cause:	OC Infiltration
Year of Investigation:	2023	Investigation year performance:	181
Population of Asset	1315	Modelled Performance: (DESIGN) / (CALIBRATED)	15 / 159
Permit Details			
Storm Permit ID:	CG0074001	Storm Permit Name:	PONT RHYTHALLT PUMPING STATION
Asset NGR:	SH5431663685	Waterbody ID	GB110065054040
Discharge NGR:	SH5432963677	Water body Discharge location	Seiont - lower
Brief description of asset (Screen, PFF flow control, Storage, outfall)			
Inlet works Incoming line: 400 mm gravity ; CSO Type: Single sided high level weir; Screening: Cross wave screen 6 mm; Flow Control: Pump; FFT Pipe: 150 mm; ; Consent: 26.5 l/s; SocA: 25.7 l/s. Storm Tank Spill Point Volume: 34.50 m3; Spill level: N/A; Tank emptying philosophy: return pump; Tank emptying Rate: Unknown Supporting text Flow entering the works passes through the 150 mm pipe and to the inlet channel. Flow in excess of FFT weirs over the cross wave screen in the inlet channel, discharging to the outfall 375 mm pipe.			

SOAF STAGE 1						
Details of assessment:		Asset condition surveys supported by hydraulic model assessment of the asset performance against available telemetry information (EDM and radar rainfall datasets). Additional flow and rainfall monitoring was undertaken to improve the baseline model accuracy and assist in defining the root cause of spills.				
Permit Compliance						
PFF	Design Compliant – Operational Intervention required to restore.					
Storage	Compliant					
Screening	Compliant					
Bespoke/Other	N/A					
SOAF Stage 1 findings						
Following the hydraulic model assessment, the cause of the high spills at the asset is concluded to be OC (Infiltration), with OC Continuation Restriction (Flow Control) as the secondary cause of spills. The predicted pass-forward flow is below consent prior to the first spill and an operational Intervention required to restore. The model is fit for use, based on the reported spill numbers and telemetry trends. Telemetry trends clearly show the effects of rainfall induced groundwater infiltration during the winter months which has a significant effect on the predicted spill count. Representations using an industry standard, average level of infiltration (40% PG) predict a spill count for the assessment year of 2023 which is below that of the threshold for investigation level. Calibrated model predicted the 159 Spills and after taking GI acceptability test the spills reduced to 15 in the assessment year.						
Cause of spill count :	Other Cause	Yes	Catchment Hydraulic	No	Infiltration & IRP required	Yes
Future Operational Management Proposal:	The primary cause of the spills are operational factors that have been assessed as requiring longer term (1+ year) intervention programmes. Given the scale of the issue, the asset will progress under a bespoke intervention programme with details to be supplied to with the regulator and other stakeholders outside of the normal SOAF processes.					
Operational intervention required:	IRP required, Clear debris or sediment:- Desilt from asset chamber SH 54633604 d/s 3.6 m to SH54633607 and from asset chamber SH54633651 d/s 14.3 m to SH54633698 and Clear Screen Blinding.					
SOAF Operational Intervention						
Start Date:	Nov-24	Completion Date:	TBC	Indicative future annual spill performance (less than 40 do not continue to stage 2)		15

Intervention Description:		A continuation restriction due to maintenance has been identified as a factor in excess spills at this asset. A cleanse of the sewerage network is required to restore compliant flows. This asset will be highlighted for future Cyclic Maintenance based upon the review of the post intervention return. Infiltration has been identified as a factor in excess spills at this asset. An infiltration reduction plan (IRP) is in the process of development to address the problem. It is recognised in the Storm Overflow Assessment Framework that investigation and resolution of infiltration issues can be difficult and that solutions may be iterative with IRPs potentially only succeeding over the medium to long-term.			
Target Completion by Date:	Nov-29	Data years to be excluded from future SOAF triggers calculations	-	Request to hold stage 2 surveys for environment recovery	

SOAF STAGE 2					
Receiving Waterbody WFD Status			Moderate		
Stage 2a					
Aesthetic survey:	Spring	2024	Aesthetic Total score (inclusive of amenity classification, previous complaints & pollutions)	25	Low
	Autumn	2024		25	Low
Stage 2b				Yes / No unable due to culverted watercourse	
Invertebrate survey:	Spring		Invertebrate survey score:		
	Autumn				
Stage 2c Required:				Yes / No	
Stage 2c screening:		Progressed through screening?		Stage 2c water quality assessment Score:	

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	N	PFF Increase	Y/N
Equivalent storage volume required	-	Rainscape Cost		-	CBR	-
Bespoke future trigger agreement	40	Traditional Storage		-	CBR	-
		Other		£ Cost	CBR	Update if required
Key Constraints	Note of major factors affecting suitability of solution/pricing details. For example where unique circumstances for the site may inflate costs significantly. EXAMPLE: Storage solution would be located coming off of a main trunk sewer in heavily urbanised area and so unit costs used may be underestimated.					
Future Active Management Proposal	Future active management proposal – where it is not cost beneficial to provide solutions to reduce spill performance, provide details of the proposals to manage any environmental impacts associated with the discharge, this will be agreed with the environmental regulator. EXAMPLE: Asset discharges to watercourse with a moderate invertebrate impact, however as solution costs £1,000,000 it is not cost beneficial, therefore to mitigate the detriment, it is proposed that (Regular litter picking is implemented along the river bank / alarm systems are improved at the site / water quality modelling is carried out at the site to advise future site management strategies).					

Conclusion and Future Spill Reduction Proposals					
Summary	PONT RHYTHALLT PUMPING STATIONBased on the direction from the Welsh Government led Better River Quality Task Force, DCWW Storm overflow spill reduction programme will target the elimination of ecological harm and prevention of adverse ecological impact of any SO. With a large programme of assets requiring improvement priority will be given to CSOs having the greatest impact in the most sensitive receiving waters. To ensure that the improvement delivered is long term, the improvements for each site will be based on the expectation that water quality upstream of the discharge meets good or high ecological status (GES) irrespective of the actual status of the water. This approach has formed the basis of DCWW's portfolio investment plan for Storm Overflows. PONT RHYTHALLT PUMPING STATION was Shown to have an other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented. The asset will under take classification as part of DCWW's GN066 in AMP8, to establish any impact that there might be.				
Asset Prioritisation Level	-			Delivery Predicted Period	-
Asset NEP ID	N/A	Asset NEP Driver Code	N/A	Detailed Design Predicted Period	-
Progression to Stage 5 In AMP	No	-			

SOAF AGREEMENT					
	Date	SOAF STAGE	Name	Contact Details	Location of Output
DCWW Approval	23/11/2024	Stage 1 - OC	Christian Phillips Adams	christian.phillipsadams@dwrcymru.com	Email
Regulator Liaison Date	Click here to enter a date				
CSO Classification					
Satisfactory		N	Unsatisfactory	Y	Sub Standard
		Any operation in dry weather conditions?	N	Does not meet modern standards of engineering and aesthetic control for storm overflow structures set out in the British standard BS EN 752:2017 drain and sewer systems outside buildings	N

Any operation in breach of permit conditions?	Y	Does not have sufficient hydraulic capacity compared to accepted minimum design standards	N
Any significant visual or aesthetic impact due to solids or sewage fungus?	Y	Risks becoming unsatisfactory because discharges have increased beyond the original design due to infiltration, growth and urban creep	N
Cause or significantly contributes to a deterioration in the biological or chemical status of the receiving water?	N/A		
Causes or significantly contributes to failures in bathing water quality standards for identified bathing waters?	N/A		
Causes or significantly contributes to failures in shellfish quality standards for identified shellfish waters	N/A		
Causes or significantly contribute to failures in water quality standards in coastal and transitional waters?	N/A		
Causes pollution of groundwater?	N/A		