SOAF Investigation Output Summary

Dŵr Cymru Welsh Water

Cyfoeth Naturiol Cymru Natural Resources Wales

Reference: SOAF.R 00001

Please see Audit Statement Technical Guidance for further information

ASSET INVESTIGATION DETAILS					
SAP Asset Name:	Llanddewi Brefi - Near STW		**Asset Template reference**	WQD009363-LLANDDEWI BREFI CSO-0-Stage 1 - OC-Ceredigion	
Investigation Type	SOAF (River)				
Year of breach:	*2018*	**Spill Trigger cause:**		*OC Continuation Restriction (Maintenance)*	
Year of Investigation:	*2019*	**Investigation year performance:**		*53 Spills*	
Population of Asset	*351*	**Modelled Performance: (DESIGN) / (CALIBRATED)**		*59 Spills*	
Permit Details					
Storm Permit ID:	WQD009363	**Storm Permit Name:**		Llanddewi Brefi CSO, Ceredigion	
Asset NGR:	SN6584955194	**Waterbody ID**		GB110062039250	
Discharge NGR:	SN6584955194	**Water body Discharge location**		Brefi - headwaters to confluence with Teifi	
Brief description of asset *(Screen, PFF flow control, Storage, outfall)*					
Incoming Pipe: 300mm; CSO Type: Low-level, double--sided weir type; Screening: None; Flow Control: X-Pipe ; PFF Pipe: 150mm; Storage Provision: None; Consent: 16.8l/s					

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	N/A					
Screening	N/A					
Bespoke/Other	N/A					
SOAF Stage 1 findings						
Following the hydraulic model assessment, the primary cause of the high spills at the asset is concluded to be operational cause continuation restriction (maintenance). The predicted pass-forward flow is not within 10% of consent prior to the first spill. The model is fit for use, based on the reported spill numbers and telemetry trends.						
Cause of spill count :	**Other Cause**	**Yes**	**Catchment Hydraulic**	**No**	**Infiltration & IRP required**	**No**
Future Operational Management Proposal:	*The primary cause of the spills are operational factors that have been assessed as deliverable in the short term. The asset has been added to the SOAF Intervention programme with the details outlined below*					
Operational intervention required:	*Survey data indicates the deposition of heavy grease within the continuation pipe.*					
SOAF Operational Intervention						
Start Date:	**Jan-24**	**Completion Date:**	*TBC*	**Indicative future annual spill performance** *(less than 40 do not continue to stage 2)*	14	
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.**					
Proposed Completion Date:	**Jan-25**	**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			Good		
Stage 2a					
Aesthetic survey:	Spring	2021	**Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions)	0	No Impact
	Autumn	2021		0	No Impact
Stage 2b				*Yes / No unable due to culverted watercourse*	

Invertebrate survey:	Spring	2021	**Invertebrate survey score:**	2	Very low
	Autumn	2021		6	Moderate
Stage 2c Required:				*Yes / No*	
Stage 2c screening:	-	**Progressed through screening?**	-	**Stage 2c water quality assessment Score:**	Not Required

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	Y/N	PFF Increase	Y/N
Equivalent storage volume required	Volume m3	**Rainscape Cost**		£ Cost	**CBR**	Ratio
Bespoke future trigger agreement	Number of spills	**Traditional Storage**		£ Cost	**CBR**	Ratio
		Other		£ Cost	**CBR**	Ratio
Key Constraints	*Note of major factors affecting suitability of solution/pricing details*					
Future Active Management Proposal	*i.e. Bespoke improved planned maintenance/mitigation, investigation under DWMP or NEP revisit – future funding intention*					

Conclusion and Future Spill Reduction Proposals					
Summary	*Llanddewi Brefi CSO, Ceredigion was Shown to have a other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented.* *Once the assets New spill performance is established, if this is shown to still be in excess of 10 the impact of the asset will be established as part of DCWW's Storm Overflow Water Quality Assessment Strategy (SOWQAS) in AMP8*				
Asset Prioritisation Level	*Priority 3*			**Delivery Predicted Period**	*AMP9/10*
Asset NEP ID	*N/A*	**Asset NEP Driver Code**	*N/A*	**Detailed Design Predicted Period**	*AMP8/9*
Progression to Stage 5 In AMP	*No*	*Proposed Solution yet to be taken through detailed design devloped*			

SOAF AGREEMENT					
	Date	**SOAF STAGE**	**Name**	**Contact Details**	**Location of Output**
DCWW Approval	03/01/2024	*Stage 1 - OC*	**Christian Phillips Adams**	christian.phillipsadams@dwrcymru.com	*Email*
Regulator Liaison Date	Click here to enter a dat				

CSO Classification					
Satisfactory	**N**	Unsatisfactory	**Y**	Sub Standard	**Y**

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	**Y**
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?	**N**	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?	**Y**		
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**		