SOAF Investigation Output Summary

Reference: SOAF.R 00001

Please see Aurill Statement Technical Guidance for further information

ASSET INVESTIGATION DETAILS					
SAP Asset Name:	Samlet Rd CSO, Front of No 70		**Asset Template reference**	BW4103101-CSO 103 SAMLET ROAD LLANSAMLET-71419-Stage 1 - OC-Swansea	
Investigation Type	SOAF (River)				
Year of breach:	*2019*	**Spill Trigger cause:**		*OC Infiltration*	
Year of Investigation:	*2022*	**Investigation year performance:**		*43*	
Population of Asset	*8798*	**Modelled Performance: (DESIGN) / (CALIBRATED)**		*0 / 37*	
Permit Details					
Storm Permit ID:	BW4103101	**Storm Permit Name:**		CSO 103, Samlet Rd, Llansamlet	
Asset NGR:	SS6827897564	**Waterbody ID**		GB110059025710	
Discharge NGR:	SS6798897703	**Water body Discharge location**		Nant y Fendrod - headwaters to conf with Tawe	

Brief description of asset
(Screen, PFF flow control, Storage, outfall)

Incoming Pipe: 700 mm ; CSO Type: Single-sided, high-level weir; Screening: 6mm 2D Static screen ; Flow Control: Alpheus flow control unit ; PFF Pipe: 1000 mm; Storage Provision: 340 m3; Consent: 171 l/s; SocA; 154.4 l/s

SOAF STAGE 1	
Details of assessment:	Asset condition surveys supported by hydraulic model assessment of the asset performance.
Permit Compliance	
PFF	Not Design Compliant - Intervention and review of influencing factors required
Storage	Compliant
Screening	Compliant
Bespoke/Other	N/A

SOAF Stage 1 findings

The outcome of this investigation suggests the primary cause of spills at this asset is OC Infiltration. 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.

Assets inability to meet consent is likely down to backing up downstream which is evident in FM03 where backing up is inhibiting flows and FM02 where depths rise and velocities drop out. However at FM02 the peak observed flow appears to suggest that the flows can exceed the consented value.

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 0 which is below that of the threshold for investigation level.

Cause of spill count :	**Other Cause**	**No**	**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:	*Carry out infiltration reduction plan*					

SOAF Operational Intervention					
Start Date:	**Jul-24**	**Completion Date:**	*TBC*	**Indicative future annual spill performance** *(less than 40 do not continue to stage 2)*	0

Intervention Description:	**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:	**Jul-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	2022	**Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions)	5	Very Low
	Autumn	2022		15	Low Impact
Stage 2b				*Yes / No unable due to culverted watercourse*	
Invertebrate survey:	Spring	-	**Invertebrate survey score:**	-	-
	Autumn	-		-	-
Stage 2c Required:				*Yes / No*	
Stage 2c screening:	Required	**Progressed through screening?**	No	**Stage 2c water quality assessment Score:**	Not required

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	N	PFF Increase	
Equivalent storage volume required	-	**Rainscape Cost**		-	**CBR**	-
Bespoke future trigger agreement	40	**Traditional Storage**		-	**CBR**	-
		Other			**CBR**	
Key Constraints						
Future Active Management Proposal						

Conclusion and Future Spill Reduction Proposals					
Summary	*CSO 103, Samlet Rd, LlansamletBased 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. CSO 103, Samlet Rd, Llansamlet 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	01/07/2024	*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	**N**
		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?	**-**		
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**		