

ASSET INVESTIGATION DETAILS			
SAP Asset Name:	Cwmbwrla Roundabout CSO		Asset Template reference
Investigation Type	SOAF (River)		
Year of breach:	2017	Spill Trigger cause:	Hydraulic
Year of Investigation:	2023	Investigation year performance:	138
Population of Asset	12529	Modelled Performance: (DESIGN) / (CALIBRATED)	97 / 127
Permit Details			
Storm Permit ID:	BP0280801	Storm Permit Name:	CWMBWRLA CSO, CWMBWRLA ROUNDABOUT, CARMARTHEN ROAD, SWANSEA
Asset NGR:	SS6494994706	Waterbody ID	GB110059025690
Discharge NGR:	SS6493694742	Water body Discharge location	Tawe - conf with Nant Cwmgelli to tida
Brief description of asset (Screen, PFF flow control, Storage, outfall)			
<p>Incoming Pipe: 900mm; CSO Type: Single sided high level weir; Screening: 6mm mesh; Flow Control: None ; PFF Pipe: 375mm; Storage Provision: None consented; PFF Consent: 196l/s. SocA is 204l/s</p>			

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	Compliant					
Storage	N/A					
Screening	Compliant					
Bespoke/Other	N/A					
SOAF Stage 1 findings						
<p>Following the hydraulic model assessment, the cause of the high spills at the asset is concluded to be hydraulic.</p> <p>The predicted pass-forward flow is within 10% of consent prior to the first spill. The model is fit for use, based on the reported spill numbers and telemetry trends.</p> <p>Telemetry trends clearly show the effects of rainfall induced groundwater infiltration during the winter months which has a moderate 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 97.</p>						
Cause of spill count :	Other Cause	No	Catchment Hydraulic	Yes	Infiltration & IRP required	Yes
Future Operational Management Proposal:	The primary cause of spills was found to be hydraulic, and as such the asset progressed through to Stage 2 of the SOAF process.					
Operational intervention required:	None					
SOAF Operational Intervention						
Start Date:	Jul-24	Completion Date:	TBC	Indicative future annual spill performance (less than 40 do not continue to stage 2)		97

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	UTC	Aesthetic Total score (inclusive of amenity classification, previous complaints & pollutions)	UTC	UTC
	Autumn	UTC		UTC	UTC
Stage 2b				Yes / No unable due to culverted watercourse	
Invertebrate survey:	Spring	UTC	Invertebrate survey score:	UTC	UTC
	Autumn	UTC		UTC	UTC
Stage 2c Required:				Yes / No	
Stage 2c screening:	Required	Progressed through screening?	Yes	Stage 2c water quality assessment Score:	62 - Severe

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	0	PFF Increase	N
Equivalent storage volume required	1155.43973m3	Rainscape Cost		£29,257,000.00	CBR	0.0
Bespoke future trigger agreement	40	Traditional Storage		£3,783,895.94	CBR	0.3
		Other			CBR	
Key Constraints	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	The primary cause of spills was hydraulic and Stage 2 impact assessments have shown that the asset was having a significant effect on the receiving waterbody, with the waterbody itself requiring improvement to achieve Good or higher status. Assessment of the potential high-level solutions have indicated that any solution entailed excessive costs for the benefit it provided and thus the asset does not pass the SOAF Cost Benefit threshold and will not progress to detailed benefits assessment as part of the SOAF process. Further details are shown below detailing DCWW's plans for storm overflow spill reduction.					

Conclusion and Future Spill Reduction Proposals						
Summary	<p><i>Based 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.</i></p> <p><i>With a large programme of assets requiring improvement priority will be given to CSOs having the greatest impact in the most sensitive receiving waters.</i></p> <p><i>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.</i></p> <p><i>This approach has formed the basis of DCWW's portfolio investment plan for Storm Overflows.</i></p> <p><i>CWMBWRLA CSO, CWMBWRLA ROUNDABOUT, CARMARTHEN ROAD, SWANSEA was Shown to have a Severe + Impact therefor as set out above based upon our Long Term Delivery Strategy a spill reduction scheme to eliminate this level of impact is Profiled to be delivered before 2035</i></p>					
	Asset Prioritisation Level		Priority 1	Delivery Predicted Period	AMP8/9	
	Asset NEP ID	N/A	Asset NEP Driver Code	N/A	Detailed Design Predicted Period	AMP7/8
	Progression to Stage 5 In AMP	No	Proposed Solution yet to be taken through detailed design developed			

SOAF AGREEMENT					
	Date	SOAF STAGE	Name	Contact Details	Location of Output
DCWW Approval	01/07/2024	Stage 4 - Non CBA	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?	N	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?	UTC	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		