Dŵr Cymru Welsh Water

SOAF Investigation Output Summary

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:	Bryndulais Farm CSO		**Asset Template reference**		BW2902901-BRYNDULAIS (SWO 2A)-0-Stage 1 - OC-Neath Port Talbot
Investigation Type	SOAF (River)				
Year of breach:	*2016*	**Spill Trigger cause:**		*OC Infiltration*	
Year of Investigation:	*2019*	**Investigation year performance:**		*131 Spills*	
Population of Asset	*1639*	**Modelled Performance: (DESIGN) / (CALIBRATED)**		*33 / 91*	
Permit Details					
Storm Permit ID:	BW2902901	**Storm Permit Name:**		BRYNDULAIS (SWO 2A)	
Asset NGR:	SN8143008900	**Waterbody ID**		GB110058032360	
Discharge NGR:	SN8144008913	**Water body Discharge location**		Dulais - headwaters to confluence with River Ne	
Brief description of asset *(Screen, PFF flow control, Storage, outfall)*					
Incoming Pipe: 300mm & 225mm; CSO Type: low-level, single sided weir; Screening: None; Flow Control: X-pipe ; PFF Pipe: 300mm; Storage Provision: None; Consent: None - Deemed consent					

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	Deemed Permit – Meets SocA					
Storage	N/A					
Screening	Not Compliant					
Bespoke/Other	N/A					
SOAF Stage 1 findings						
Primary Cause: OC Infiltration Secondary Cause: None Following the hydraulic model assessment the cause of the high spills at the asset is concluded to be OC Infiltration, with pass forward flow meeting the SOCA prior to first spill. The model is fit for use, based on the reported spill numbers and telemetry trends. River ingress and ground water infiltration is affecting the Crynant catchment as a whole which results in large volumes of flow and surcharge from the downstream STW.						
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:	*Make good the weir arrangement and provide screening. Undertake an IRP -This also applies to assets 52372 and 52342*					
SOAF Operational Intervention						
Start Date:	**Oct-23**	**Completion Date:**	-	**Indicative future annual spill performance** *(less than 40 do not continue to stage 2)*		-
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.**					
Proposed Completion Date:	**Oct-28**	**Data years to be excluded from future SOAF triggers calculations**	*TBC*	**Request to hold stage 2 surveys for environment recovery**		*N/A*

SOAF STAGE 2					
Receiving Waterbody WFD Status			Good		
Stage 2a					
Aesthetic survey:	Spring	2021	**Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions)	5	Very low
	Autumn	2021		0	No impact
Stage 2b				*Yes / No unable due to culverted watercourse*	

Invertebrate survey:	Spring	2021	**Invertebrate survey score:**	14	Severe
	Autumn	2021		0	No impact
Stage 2c Required:				*Yes / No*	
Stage 2c screening:	-	**Progressed through screening?**	-	**Stage 2c water quality assessment Score:**	0

SOAF STAGE 3 - STEP 1>3						
Options assessed			Traditional Storage		PFF Increase	
Equivalent storage volume required		**Rainscape Cost**			**CBR**	
Bespoke future trigger agreement		**Traditional Storage**			**CBR**	
		Other			**CBR**	
Key Constraints	*Note of major factors affecting suitability of solution/pricing details*					
Future Active Management Proposal	-					

Conclusion and Future Spill Reduction Proposals					
Summary	*Based on the direction from the Welsh Government led Better River Quality Task Force, DCWW Storm overflow spill recution programme will target the elimination of ecological harm and prevention of adverse ecological impact of any SO.* *With a large programme of assets requirng improvment 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 Overlfows.* *BRYNDULAIS (SWO 2A)BRYNDULAIS (SWO 2A) 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 Assement Strategy (SOWQAS) in AMP8*				
Asset Prioritisation Level	*Priority 1*			**Delivery Predicted Period**	*AMP8/9*
Asset NEP ID	*DCWW101985a*	**Asset NEP Driver Code**	*W_U_O_IMP1*	**Detailed Design Predicted Period**	*AMP7/8*
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	26/10/2023	*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?	**Y**	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?	**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?	**N**	Risks becoming unsatisfactory because discharges have increased beyond the original design due to infiltration, growth and urban creep	**Y**
		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**		