

ASSET INVESTIGATION DETAILS			
SAP Asset Name:	Hand Hotel Gardens CSO		Asset Template reference
Investigation Type	SOAF (River)		
Year of breach:	2020	Spill Trigger cause:	OC Continuation Restriction (Flow Control)
Year of Investigation:	2022	Investigation year performance:	59
Population of Asset	629.35	Modelled Performance: (DESIGN) / (CALIBRATED)	7 / 55
Permit Details			
Storm Permit ID:	CM0170501	Storm Permit Name:	LLANGOLLEN HAND HOTEL GARDENS
Asset NGR:	SJ2162742024	Waterbody ID	GB41102G200200
Discharge NGR:	SJ2164742059	Water body Discharge location	SJ2164742059
Brief description of asset (Screen, PFF flow control, Storage, outfall)			
<p>Incoming Pipe: 300mm; CSO Type: single sided high level weir; Screening: Powered screen with 6mm spacing in 2 dimensions; Flow Control: Hydroslide; PFF Pipe: 150mm; Storage Provision: None; Consent: 15.1 l/s; SOCA: 13.6 l/s</p> <p>If the incoming flow exceeds the capacity of the flow restriction, the level in the downstream sewer rises. Spill flows surcharge to the CSO chamber. The level in the CSO chamber rises, passing over the weir and through the powered Huber ROK1 screen, discharging to the outfall pipe.</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	Design compliant - Operational intervention required to restore					
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 OC Flow Control with no secondary cause of spill. The predicted pass-forward flow is not within 10% of consent prior to the first spill. The assessment outlines blocking of hydroslide which is not allowing flows to pass forward. Observed data suggests blockage of flow control. The model is fit for use, based on the reported spill numbers and telemetry trends.</p>						
Cause of spill count :	Other Cause	OC Continuation Restriction (Flow Control)	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:	<p>Replacement of hydroslide with less blockage prone flow control device</p> <p>Once these interventions are in place, the hydraulic modelling indicates the asset will be compliant with it's discharge permit.</p>					
SOAF Operational Intervention						
Start Date:	Oct-24	Completion Date:	TBC	Indicative future annual spill performance (less than 40 do not continue to stage 2)		7

Intervention Description:		Flow control Performance has been identified as a factor in excess spills at this asset, the assessment has determined that the flow control setting requires adjustments to achieve PFF.			
Target Completion by Date:	Oct-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			Moderate		
Stage 2a					
Aesthetic survey:	Spring	N/A	Aesthetic Total score (inclusive of amenity classification, previous complaints & pollutions)	N/A	N/A
	Autumn	N/A		N/A	N/A
Stage 2b				Yes / No unable due to culverted watercourse	
Invertebrate survey:	Spring	N/A	Invertebrate survey score:	N/A	N/A
	Autumn	N/A		N/A	N/A
Stage 2c Required:				Yes / No	
Stage 2c screening:	Not 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	N
Equivalent storage volume required	-	Rainscape Cost		-	CBR	-
Bespoke future trigger agreement	40	Traditional Storage		-	CBR	-
		Other			CBR	
Key Constraints	N/A					
Future Active Management Proposal	N/A					

Conclusion and Future Spill Reduction Proposals					
Summary	<p>LLANGOLLEN HAND HOTEL GARDENSBased 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.</p> <p>With a large programme of assets requiring improvement priority will be given to CSOs having the greatest impact in the most sensitive receiving waters.</p> <p>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.</p> <p>This approach has formed the basis of DCWW's portfolio investment plan for Storm Overflows.</p> <p>LLANGOLLEN HAND HOTEL GARDENS was Shown to have an other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented.</p> <p>The asset will under take classification as part of DCWW's GN066 in AMP6, to establish any impact that there might be.</p>				
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	25/10/2024	Stage 1 - OC	Christian Phillips Adams	<a href="mailto:christian.phillipsadams@dwrcymru.com">christian.phillipsadams@dwrcymru.com</a>	Email
Regulator Liaison Date	<a href="#">Click here to enter a date</a>				
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	N

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