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**: | Opp 285 Walters Rd CSO, Llansamlet | | **Asset Template reference** | BP0311401-FELIN FRAN CSO WALTERS RD LLANSAMLE-71292-Stage 1 - OC-Swansea | |
| **Investigation Type** | SOAF (River) | | | | |
| **Year of breach:** | *2019* | **Spill Trigger cause:** | | *OC Continuation Restriction (Maintenance)* | |
| **Year of Investigation:** | *2021* | **Investigation year performance:** | | *33 Spills* | |
| **Population of Asset** | *2403* | **Modelled Performance: (DESIGN) / (CALIBRATED)** | | *36 Spills* | |
| **Permit Details** | | | | | |
| **Storm Permit ID:** | BP0311401 | **Storm Permit Name:** | | FELIN FRAN CSO, WALTERS ROAD, LLANSAMLET | |
| **Asset NGR:** | SS6932098494 | **Waterbody ID** | | GB110059025710 | |
| **Discharge NGR:** | SS6925098502 | **Water body Discharge location** | | Nant-Bran | |
| **Brief description of asset** *(Screen, PFF flow control, Storage, outfall)* | | | | | |
| Incoming Pipe: 375mm; CSO Type: single-sided high level weir; Screening: 6mm; Flow Control: baffle plate ; PFF Pipe: 45l/s; Consented PFF: 45l/s; Modelled Storage Provision: 95m3; Consented Storage Provision: 120m3. | | | | | |

| 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).<br><br>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 - 45l/s | | | | | |
| **Storage** | Not Compliant - 95m3 modelled, 120m3 permitted | | | | | |
| **Screening** | Compliant - 6mm | | | | | |
| **Bespoke/Other** | N/A | | | | | |
| **SOAF Stage 1 findings** | | | | | | |
| Primary Cause: OC Continuation Restriction (Maintenance).<br>Secondary Cause: N/A<br><br>Following the hydraulic model assessment, the cause of the high spills at the asset is concluded to be OC Continuation Restriction (Maintenance), with no secondary cause of spills. The predicted pass-forward flow meets consent prior to the first spill. The model is fit for use, based on the reported spill numbers and telemetry trends. The network contains significant amounts of sediment, which is reducing storage | | | | | | |
| **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:** | *Desilt from the asset chamber SS69983406 immediately upstream and downstream. Following maintenance activities, the asset will continue to not be compliant with the permit and investigation of the appropriateness of the current discharge permit/design set up will be required.* | | | | | |
| **SOAF Operational Intervention** | | | | | | |
| **Start Date:** | **Nov-23** | **Completion Date:** | *0* | **Indicative future annual spill performance** *(less than 40 do not continue to stage 2)* | 0 | |
| **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.**<br><br>**Further investigation into storage available will be undertaken** | | | | | |
| **Proposed Completion Date:** | **Nov-24** | **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 | 2021 | **Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions) | 10 | Very Low |
| | Autumn | 2021 | | 0 | Very Low |
| **Stage 2b** | | | | *Yes / No unable due to culverted watercourse* | |

| | | | | | |
|---|---|---|---|---|---|
| **Invertebrate survey:** | Spring | 2021 | **Invertebrate survey score:** | 6 | Moderate |
| | Autumn | 2021 | | 0 | No Impact |
| **Stage 2c Required:** | | | | *Yes / No* | |
| **Stage 2c screening:** | N/A | **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** | N/A | **Rainscape Cost** | | N/A | **CBR** | N/A |
| **Bespoke future trigger agreement** | N/A | **Traditional Storage** | | N/A | **CBR** | N/A |
| | | **Other** | | N/A | **CBR** | N/A |
| **Key Constraints** | *N/A* | | | | | |
| **Future Active Management Proposal** | *N/A* | | | | | |

| **Conclusion and Future Spill Reduction Proposals** | | | | | |
|---|---|---|---|---|---|
| **Summary** | *FELIN FRAN CSO, WALTERS ROAD, LLANSAMLET was Shown to have a other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented.*<br>*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 3* | | | **Delivery Predicted Period** | *AMP9/10* |
| **Asset NEP ID** | *DCWW102077a* | **Asset NEP Driver Code** | *W_U_O_IMP1* | **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** | 30/11/2023 | *Stage 1 - OC* | **Christian Phillips Adams** | christian.phillipsadams@dwrcymru.com | *Email* |
| **Regulator Liaison Date** | Click here to enter a dat | | | | |

| **CSO Classification** | | | | | |
|---|---|---|---|---|---|
| Satisfactory | **Y/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** | | |