



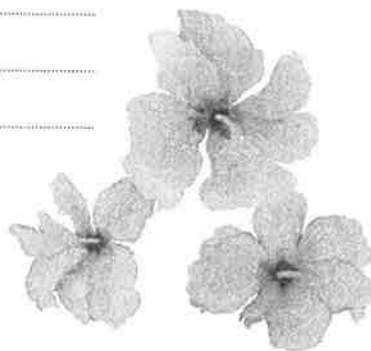
Nikki Gunnell.
Inspector.

Clive Reed referred
to the Swansea Canal
between Porterdale and
Treheron being important to
flood-relief measures.

WE ON
198

Please refer to page 11 of the
accompanying Report

Please return to Clive Reed



The British Red Cross Society, incorporated by Royal Charter 1908, is a charity
registered in England and Wales (220949) and Scotland (SC037738).

WS/Atkins

EXECUTIVE SUMMARY

The breach of the canal embankment occurred as a result of significant storm water inflows into the canal causing water levels to overtop the towpath. The breach site has been identified as one of the points of low freeboard and computer modelling has shown a good correlation with observed events.

Contributory factors to the failure have been identified as the following:

- The blocking of the Nant Cwm Sion inlet grill and the inability of the culvert system to take the storm water flows under the canal, causing significant flows to be passed directly into the canal.
- The blocking of the Pontardawe Town culvert grill, causing water levels to rise at the downstream end of the pound.
- Progressive erosion of the embankment during overtopping, exacerbated by the failure of an above-ground combined sewer adjacent to the canal.

Repair works have been carried out and the canal is operating at a reduced water level pending further improvements to prevent overtopping in the future.



British Waterways

Chief Executive
Dr David J Fletcher

SWANSEA CANAL BREACH AT PONTARDAWE

This report, prepared independently by W.S. Atkins, describes how the breach occurred, what actions have been taken, and need to be taken in future.

British Waterways accepts this report in its entirety, and have already reinstated the canal as an interim solution. What is now needed is a permanent solution involving reconstruction of weirs and culverts, and ideally the reinstatement of the waterway for navigable and recreational use.

who?
The funds for this are not yet available and we are approaching DETR, the Welsh Office, Local Authorities and European funders, plus a public appeal to raise the necessary money.

We are dealing with compensation claims for those affected, and intend to introduce telemetry and improve procedures to prevent a reoccurrence of the breach.

With funding help from our partners, this tragic breach can be turned into a regeneration project to benefit all the people who live in this area of South Wales.

D. J. Fletcher

D.J. FLETCHER
Chief Executive

8th February 1999

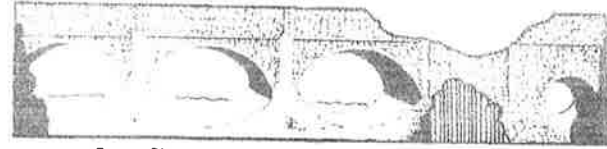


7.0 FUTURE IMPROVEMENT WORKS

Detailed consideration of a variety of improvement options is recommended. These include:

1. Lowering of the normal operating level to provide greater storage and increase the response time to rainfall pending the improvements listed below.
2. Raising of towpath to a higher level along the length of canal.
3. Improve efficiency to the Nant Cwm Sion culvert system and review maintenance requirements.
4. Improve access facilities at the Pontardawe weir grill.
5. Increase the capacity of the Upper Clydach overflow weirs.
6. Improve efficiency of sluice culvert near the Nant Cwm Sion.
7. Construction of new overflow weir between the Nant Cwm Sion and Ynysmeudwy.
8. Review operating procedures for intense rainfall events.
9. Consider remote monitoring of canal water level to give early warning of rising levels.
10. Restore culverted section of canal between Pontardawe and Trebanos to open channel form, thereby avoiding blockages, reducing the risk of flooding and reducing the reliance on overflow structures.

Swansea Valley Heritage



Etifediaeth Cwmtawe

To
Nicola Pearce
Head of Planning
Neath Port Talbot CBC
The Quays
Brunel Way
Baglan Energy Park
Neath SA11 2GG

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21 February 2014

Alternative Site AS(A)9

To Head of Planning

I support the inclusion of Alternative Site AS (A) 9 the route of the Swansea Canal from Trebanos to Pontardawe through Trebanos playing fields.

I support this inclusion because I want to see the canal restored along this section to assist in flood prevention measures at Pontardawe. The Swansea Canal overtopped its retaining embankment to the north of Pontardawe on the 23rd of October 1998, and which flooded a considerable part of the town. Lower Herbert Street, Tawe Terrace, parts of Ynysderw Road and Holly Street, and the Alloy Industrial Estate were subjected to water to a depth of up to six feet.

The Swansea Canal was at that time managed by British Waterways on behalf of the Government. The Canals and Rivers Trust currently manage it on their behalf.

W.S. Atkins (Waterways Consultants) prepared a report into the causes of the canal breach, which was published in February 1999. They gave the cause of the canal breach as significant storm water inflows into the canal causing water levels to overtop the towpath.

The canal channel was completely filled to capacity by severe rainfall, and the inability of the intake at the canal culvert to remove sufficient water from the canal allowed the canal to overtop. The trash grids at the culvert intake were totally covered in tree debris and leaves, and litter, which prevented water flowing into the culvert.

The Atkins Report made a number of recommendations to prevent further flooding of Pontardawe. There were ten recommendations.

1. Lowering normal water operating levels
2. Raise the towpath to a higher level along the canal
3. Improve efficiency of the Nant Cwm-Sion culvert system at Ynysmeudwy
4. Improve efficiency of the sluice culvert near the Nant Cwm-Sion
5. Increase the capacity of the Upper Clydach aqueduct overflow weirs
6. Improve access facilities at the Pontardawe culvert intake grill
7. Construction of a new canal overflow at Ynysmeudwy
8. Review operating procedures for intense rainfall events
9. Consider remote monitoring of canal water levels to give early warning of rising water levels

10. Restore the culverted canal section between Trebanos and Pontardawe to open channel form, thereby avoiding blockages, reducing the risk of flooding and reducing the reliance on overflow structures.

Nine of the above recommendations were carried out over the following eighteen months. The last, and most important, number 10 was not. The Swansea Canal captures about 30 mountain streams and issues along its corridor between Ystalyfera and Clydach. This is millions of gallons of water that would otherwise find its way into the valley rivers and add to their volume, and possibly add to the flood risk of communities in the mid Swansea Valley.

Removing the canal culvert and reinstating the canal to open form will accommodate that excess rainfall and minimise the risk of flooding of Pontardawe in the future.

The statement of Mr Steve Williams, a Pontardawe canalside resident, described the events of the canal breach. On the morning of 22nd October 1998, the day before the breach, the canal water levels were abnormally low. A clear indication that British Waterways were expecting heavy rain and the canal had been lowered as a precautionary measure. However, the blocked culvert entrance prevented the water escaping into the culvert and subsequently flooded Pontardawe.

A subsequent NPTCBC Drainage Officers Report in 2007 highlighted the risk of canal culvert blockages. The Report stated that drainage officers previously expressed concern regarding the close proximity of the new development at Parc Ynysderw (to the culvert). In November 1970, drainage officers were informed by British Waterways that insufficient water flows were reaching the Mond at Clydach (the nickel refinery). Investigations by contractors employed by NPTCBC indicated that manholes in the culvert were completely blocked with plastic bottles. Further studies reported that the culvert was 90% choked, and that conventional methods for removal of the blockages are impractical. NPTCBC employed the contractors because the Council is responsible for the culvert and its upkeep (CR).

Pontardawe is built on a flood plain. That cannot be changed now; it would be too great a problem socially and mechanically. The town has flooded on several occasions in the past, before the canal breach. Pontardawe was subjected to flooding in 1912, 1934, 1948, 1951, 1960. During the 1934 flooding Pontardawe RDC reported that the Swansea Canal assisted by removing 600,000 gallons of water. The cause was the River Tawe and the Upper Clydach River over reaching their banks. The river retaining embankment between Pontardawe and the river Tawe was constructed as a railway embankment, not as a flood defensive measure. It is porous and allows river water to pass sideways through the embankment, as happened in October 1998.

One of the former flood plains, at Ynysmeudwy between Ynysmeudwy Isaf and Ganol farms, referred to as the Glanrhyd Industrial Park, had its levels raised by tipping colliery waste onto it in 1994. The former LVBC received European funding to remove the spoil tips from Tareni Colliery at Godre'r Graig and to tip that waste onto Ynysmeudwy Meadows, which raised the level of the land by up to eight feet. Those fields and those to the north flooded regularly during periods of heavy rainfall and absorbed considerable volumes of river water.

Due to the restricted volumes of water allowed to escape onto the meadows after 1994 the Cwm-Sion stream could not flood onto the fields, and instead helped in part to cause the collapse of the culvert under the canal at that point (letter from British Waterways to the Swansea Canal Society secretary). The need for flood plain type areas to allow excess river water to escape onto neighbouring lands was brought to public view in 2013 when such a flood facility was constructed at Ynysforgan, a few miles south of Pontardawe.

I wish to have the Swansea Canal reinstated between Trebanos and Pontardawe to assist in flood prevention measures.