

Bridgend County Borough Council Annual Flood Investigation Report 2016-2017

1.0 Introduction

The Flood and Water Management Act 2010 (FWMA 2010) places a number of Statutory Duties on Local Authorities in their role as Lead Local Flood Authority (LLFA) including under Section 19 Sub-Section (1) a duty to investigate flooding within its area, to the extent that it considers it necessary or appropriate:

To comply with Section 19, Sub-section (1), of the FWMA, Bridgend County Borough Council (BCBC) encourages the reporting of flooding incidents and investigates those reported, to ascertain which Risk Management Authority has an oversight role and whether this role has been exercised.

The Risk Management Authorities in Wales are Natural Resources Wales (formerly the Environment Agency Wales), which has an oversight role for flooding from main rivers and the sea, Dwr Cymru/Welsh Water (DCWW) which has an oversight role for flooding from public sewers/water mains and BCBC, as LLFA, which has an oversight role for flooding from Ordinary Watercourses, surface water and groundwater.

Note that although these organisations are responsible for managing flood risk, this does not mean that they are liable for damage caused by flooding. Property owners have a responsibility for protecting their properties and for clearing watercourses and rivers where they are the riparian owner.

Under Section 19 Sub-section (2) the Council liaises with the other Risk Management Authorities, in the course of investigations, records the investigation details and will produce and publish an annual report of investigations undertaken to comply with the requirements of the FWMA.

Whilst local information is recorded, due to the restrictions imposed by the Data Protection Act the published report will not identify individual properties; or property owners but will be restricted to the number of incidents investigated, identification of the Risk Management Authority with oversight role, the type of flooding experienced and any action taken.

Information recorded will be retained and used in the review of Flood Risk Assessment for the Borough, including identification of any remedial works to drainage systems under the control of the Council and potential improvements to drainage systems and/or operations.

This initial report covers the period from April 2016 to March 2017; it only includes reference to those flooding incidents of which the Council is aware.

2.0 Flooding incidents 2016/17

During this period 112No. investigations were undertaken, of these 4No. related to DCWW apparatus (public sewer blockages/hydraulic overload), 27No Valleys to coast (V2C) assets, 69 No BCBC assets (culvert/highway drainage/Highway run-off) and 12No. which were established to be domestic private drain blockages or private watercourses. None related to Natural Resources Wales (main rivers or the sea).

Of the flooding incidents that occurred 74No. resulted in internal flooding to properties, 3No. related to DCWW apparatus, 18No. related to Valleys to Coast Assets, 43 No. related to BCBC Assets (Culverts/Highway drainage/Highway run-off) and 10 cases due to a defect in private drainage (Including private watercourses). Internal flooding was avoided in several cases by the timely intervention of BCBC Highways teams, DCWW staff, Fire service and deployment of sand-bags by BCBC. On the 19th/20th November 2016 Bridgend County Borough Council suffered from heavy rainfall throughout the Area. Issues were experienced at a multitude of locations and were caused by a number of reasons (blocked Drains/Overloaded systems/run-off from adjacent land), however in general the cause was the extreme rainfall event. Appendix A shows rain intensity at the BCBC weather stations sited at A4063 Caerau and B4280 Heol-Y-Cyw during the 19th / 20th November 2016. This event was not forecast and no severe weather warning was issued in advance of the particular event. 89 No. properties were affected following the flood event in November 2016 at Garth and Pencoed . The results of the investigation into this event are covered in more detail at Section 2.1 & 2.2

Most incidents involved hydraulic overloading of drainage systems, where flows exceeded the capacity of systems. Where flooding was due to blockages in systems these were dealt with either by BCBC working with the riparian owner to resolve, or, directly by BCBC in cases where the issue was on Council owned apparatus.

Flooding was also avoided in cases where BCBC had been pro-active in checking and clearing culvert grids before and during the flood events.

2.1 Flooding at Garth, Maesteg 20th November 2016

On the 20th November 2016 Bridgend County Borough Council experienced heavy rainfall throughout the area. Issues were experienced at a multitude of locations and were caused by a number of reasons (blocked Drains/Overloaded systems/run-off from adjacent land), however in general the cause was the heavy rainfall event. Calls to the BCBC Out of hour's emergency service began to increase at approximately 03:00 hrs in relation to flooding events generally on the highway.

Within the Garth area of Maesteg there were two main culverts that became blocked and overtopped. The blockages were caused by debris (stones/gravel /Vegetation/other material including household waste) being washed down from the watercourses up stream of the culvert and lodging up against the culvert grids at Heol Faen and Heol Dyfed. A plan is attached which identifies the culverted water courses at Heol Faen and Heol Dyfed at Appendix B.

The Heol Faen culverted water course is under the public highway and the maintenance of this culvert and associated grid entrance rests with the Highway Department of Bridgend County Borough Council.

The Heol Dyfed culverted water course passes through a number of riparian owners including Private ownership, BCBC Highway Authority, BCBC Property, Valleys to Coast Housing Association. The associated grid entrance for the system rests with Valleys to Coast as riparian owner of the land.

Also attached (Appendix C) is a plan of the area showing the routes it is believed that the water took following the overtopping of the culverts. The Blue route has been identified as being caused by the Heol Faen Culvert, and the Green Route, by the Heol Dyfed culvert. This is the best representation based on general assessment of topographical levels and at the Bridgend Road area the flood water is likely to have become inter linked with both culvert blockages contributing to the flows.

Calls were received approximately 06:00/ 07:00 for the Garth Area and works teams were dispatched and were in attendance on site around 06:00 20th November 2016. At this time a number of properties had been affected by the flooding from both culverts and the teams started to deliver sandbags to property owners to attempt to prevent further ingress of water. Once the sand bags had been delivered the teams examined the two culverts. The culvert at Heol Faen was completely blocked and it was assessed that the team required a JCB to clear blockage and this was completed by approximately 08:00. This resulted in the water being retained within the system and no longer flowing over the carriageway.

Whilst waiting for the JCB to attend the works team also attended on the Heol Dyfed culvert, although not BCBC responsibility. Access to this was easier and the blockages were removed by hand.

The culvert at Heol Faen is inspected on a regular basis, and the inspections are undertaken to identify any blockages that could/or may cause the culvert to overtop. These inspections are undertaken each month. The last inspection of Heol Faen Culvert was undertaken on the 26th October 2016 and a copy of the inspection schedule is attached at Appendix D. As can be seen the inspection of the 26th October 2016 identified that there were no issues with the culvert entrance at this time and no clearance works were required.

The complaint logs have been checked for twelve months prior to the incident and No complaints were received regarding the condition of the culvert at Heol Faen or Heol Dyfed by BCBC prior to the date of this incident.

A complaint, HF 121904 was received from a resident of 194 Bridgend Road was received on 2nd March 2016 and related to blocked drains in the highway. The officer attended on the same day and no flooding to the highway was noted, and there was no issue with the highway drains. No other complaints relating to the drains in this area were received between 2nd March 2016 and the incident date.

Following the onset of the incident checking of the complaint system it apparent that a number of calls were received from the South Wales Fire Service at the around 06:50 and at this time BCBC operatives were on site and delivering sandbags and attempting to clear the culvert. Copies of the complaints are attached at Appendix E.

As stated the responsibility for maintenance of the culvert grid at Heol Dyfed rests with V2C Housing association. V2C have confirmed that they undertake regular inspections of the culvert to ensure it is clear. V2C advised that the last inspection of the culvert prior to this incident was undertaken on 5th November 2016

Following the incident a number of residents contacted the Authority through the local members and a number of concerns were identified. These matters have been identified and brought forward to the Actions Table at the end of the document.

2.2 Flooding at Pencoed

Within the Pencoed area there was a flooding event caused by the blockage of a culvert grid at Greenacres Drive, Pencoed. The blockage was caused by debris (stones/gravel /Vegetation) being washed down from the watercourse up stream of the culvert and lodging up against the culvert grid at Greenacres Drive.

The Greenacres Drive culverted water course is under the public highway and the maintenance of this culvert and associated grid entrance rests with the Highway Department of Bridgend County Borough Council.

Attached at Appendix F is a plan of the area showing the location of the culvert and the routes it is believed that the water took following the overtopping of the culvert.

Due to the flooding issues at Garth staff and resources were not available to be dispatched to Pencoed until later in the day of the 20th November 2016. Staff attended approximately 11:30 and the issues caused by the overtopping at the culvert at Greenacres Drive. The culvert at Greenacres Drive was cleared and sandbags were provided to residents over this period.

The flood route taken by the overtopping water traversed in two directions. Part of the water passed through Cefn Nant, Deri Avenue, Hendre Road, and Llwyn Bedw, and the other route was along Greenacres Drive, Hendre Road and Pant Ardwyn.

The culvert at Greenacres Drive is inspected on a regular basis, and the inspections are undertaken to identify any blockages that could/or may cause the culvert to overtop. These inspections are undertaken each month. The last inspection of Greenacres Drive culvert was undertaken on the 28th October 2016 and a copy of the inspection schedule is attached at Appendix G. As can be seen the inspection of the 28th October 2016 identified that there were no issues with the culvert entrance at this time and no clearance works were required.

The complaint logs have been checked for twelve months prior to the incident and no complaints were received regarding the condition of the culvert at Greenacres Drive, Pencoed by BCBC prior to the date of this incident.

3.0 Action plan

Following a review of the flooding events at Pencoed and Garth the following action points have been identified.

Location	Proposed action	Link to BCBC Flood Risk Management Plan – EU reporting Code	Review date	Status/Notes
Heol Faen, Garth	Electronic flood warning sensors at culvert entrance	M41 – Preparedness	November 2017	Culvert sensor introduced March 2017
Heol Faen, Garth	Improve access culvert entrance	M41- Preparedness	May 2017	Works undertaken February/March 2017
Heol Faen, Garth	CCTV survey of culverted water course	M41- Preparedness	May 2017	Survey undertaken and no defects noted February/march 2017
Heol Faen Garth	Inspect upstream watercourses to assess for future blockages	M41- Preparedness	March 2017	Inspection undertaken, watercourse cleared at entrance to culvert, December 2017
Heol Dyfed, Garth	Engage with riparian owner to ensure area around culvert entrance is clear and secure	M41- Preparedness	March 2017	Meeting held with Valleys to Coast (V2C). 1. V2C cleared areas of flytipping around culvert entrance. 2. V2C secured entrance to area with new locks etc 3. V2C to look to fund fencing around culvert entrance in isolation

Location	Proposed action	Link to BCBC Flood Risk Management Plan – EU reporting Code	Review date	(BCBC to facilitate) Status/Notes
Heol Dyfed, Garth	Inspect upstream watercourses to assess for future blockages	M41- Preparedness	November 2017	Inspection undertaken, Landowners contacted and requested to clear watercourses. BCBC monitoring actions
Heol Dyfed, Garth	CCTV survey of culverted water course	M41- Preparedness	May 2017	Survey undertaken and no defects noted February/march 2017
Heol Dyfed, Garth	Provide advice for additional mitigation in upstream areas, for consideration by riparian owners	M41- Preparedness	November 2017	Issues under discussion with riparian owners
Greenacres Drive, Pencoed	Electronic flood warning sensors at culvert entrance	M41 – Preparedness	November 2017	Culvert sensor introduced March 2017
Greenacres Drive, Pencoed	CCTV survey of existing highway drainage	M41- Preparedness	May 2017	Survey undertaken and no defects noted February/march 2017

Note: BCBC has no statutory duty to clear blockages in watercourses/culverts in areas it does not own; this is the duty of the riparian (land) owner(s). When aware of a problem BCBC will endeavour to persuade a landowner to carry out necessary work. If this fails BCBC does have permissive powers under Section 25(1) of the Land Drainage Act which can be used, after consultation with Natural Resources Wales, to compel a land-owner to take action, or, on expiration of notice to carry out necessary work at the land-owners expense.