

# Section 19 Report:

## Investigation into flooding on 22<sup>nd</sup>

### November 2017

Blackpool Council



# Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017

---

## Contents

<b>Problem Reported</b>	<b>03</b>
<b>Background</b>	<b>05</b>
<b>Findings and Actions</b>	<b>05</b>
<b>Conclusions</b>	<b>06</b>
<b>United Utilities Report and Actions</b>	<b>07/08</b>
<b>Flood Management Options and Recommendations</b>	

DRAFT

## Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017

### Problem Reported

Following intense rainfall commencing in the early afternoon on the 22<sup>nd</sup> November 2017 a number of flooding incidents were reported to Blackpool Council via the Vitaline out-of-hours call centre.

None of the risk management authorities had received Met office warnings of heavy rainfall.

Due to a combination of factors, in particular that the Environment Agency were not aware of the extent of the incident in the Blackpool and Lancashire area, a major incident was not declared.

Therefore Blackpool emergency planning protocols were put in place.

Council officers attended and excellent service was provided in particular by Vitaline out-of-hours service keeping officers aware of the extent and locations of flooding.

Flooding was also reported to have caused a number of power failures in the Anchorsholme area. Welfare assistance was not required but Adult Social Care were available to provide assistance to residents if required and sports centres were on standby to provide refuge for residents should it be required.

Blackpool Council are now aware that flooding occurred in the following locations:-

Anchorsholme Lane	Bridgewater Avenue
Ashfield Road	Brisbane Close
Beryl Avenue	Bromley Close
Bovington Avenue	Camberra Close
Briarwood Drive	Champagne Avenue

Corinader Close	Moor Park Avenue
Cranbrook Avenue	Mossom Lane
Dalby Close	Munster Avenue
Emerald Close	New Lane
Faraday way	Penswick Avenue
Fir Tree Place	
Gilford Avenue	Perth Close
Grassington Place	Quarry Bank
Greenoak Place	Radway Close
Hastings Avenue	Sevenoaks Drive
Hobart Place	Snowhill Crescent
Kelverdale Road	
Kinnerton Place	
Lauderdale Avenue	
Limerick Road	Valentia Road
Lockhurst Avenue	Warley Road
Marble Avenue	Warren Drive
	White Carr Lane
	Wood Green Drive
	Wroxton Close

## Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017



Figure 1

The number of properties effected by this event is approximately 300.

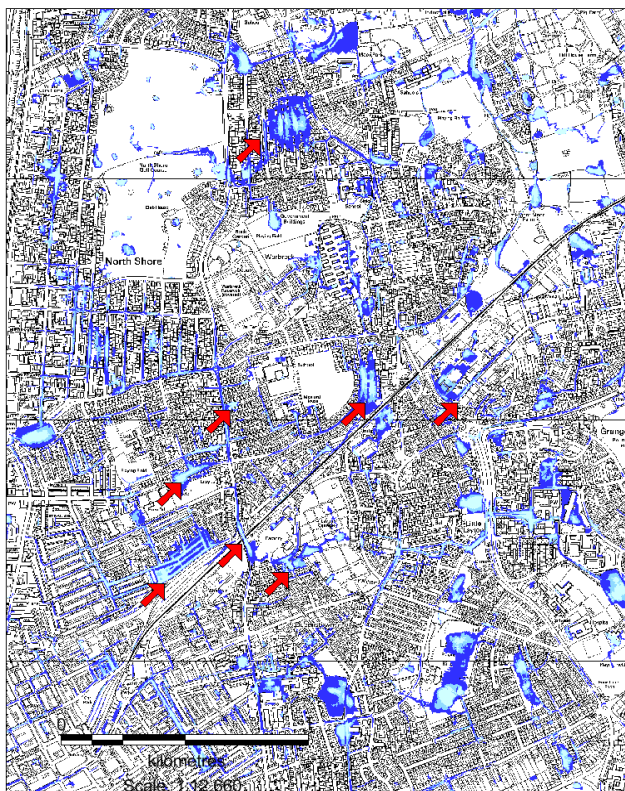
There was also major flooding under Devonshire Road Bridge leading to road closure and at Anchorsholme Academy.

Figures 1 and 2 give location plans of properties with flooding reported.

Figure 3 shows the Environment Agency mapping of areas at risk of surface water flooding. Although the mapping is intended as a guide only some of the areas flooded on 22<sup>nd</sup> November 2017 are shown to be at risk on the mapping but the majority of areas flooded on the 22<sup>nd</sup> November are not on the Environment Agency mapping.

Figure 2

## Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017



**Figure 3** An extract of the Environment Agency's surface water flood mapping with areas previously flooded highlighted.

### Background

Blackpool is a low lying highly urban town with a combined sewer system serving the whole of the town.

Due to the level of previous development many open watercourses have been culverted and now form part of the sewer system. With the exception of some small sections, the highway drainage gullies also ultimately discharge into the combined sewer network.

It should be noted that major works carried out by United Utilities in the Blackpool South area to separate surface water and discharge out to sea, should provide some flood risk benefit in the future.

Data from United Utilities suggests that the rainfall was of intensity with a return period of 1 in 64 year. This is well outside the design for both the highway drainage and sewer capacity and a lack of hydraulic capacity is the main cause of flooding in this instance. This relates to both the highway drainage and the sewers which the drainage outfalls into.

United Utilities record that rain had been falling steadily from the 20<sup>th</sup> November 2017 and consequently their storm water tanks and sewers were already at full capacity, in addition the ground was saturated. United Utilities have provide their own reports and rainwater data which is attached to this report.

### Findings and Actions

Council Officers and Elected Members attended a number of properties on the 21<sup>st</sup> and 22<sup>nd</sup> November in the Anchorsholme, Norbreck and Bispham areas which resulted in this formal section 19 investigation. This does not however mean that flooding did not occur in other areas

## Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017

In order to collate the information for the Investigation into this flood event the following initial actions were taken (as far as officers were aware)

- Council officers visited all the properties where flooding was reported to allow investigations of the effect of the property level flooding.
- Letters were dropped at all properties recorded as affected by flooding.
- Data collected during the end of November and beginning of December found that over 74 properties had property level flooding and 6 garages have been reported as having flooding.

In the Anchorholme area identified in Figure 1, as a result of the weather conditions during the week commencing 20<sup>th</sup> November, the sewage system was already full to capacity, ground conditions were saturated and water course levels were high.

To date the findings are that this flooding event resulted from the inundation of water in the sewers systems and the inability of water courses to remove water quickly enough due in the main to capacity issues.

Water was recorded to have receded from these properties during the morning of the 23<sup>rd</sup> November 2017.

The largest area recorded with flooding was East Anchorholme, the area bounded by Warren drive, Sevenoaks Drive, Wood Green Drive, North Drive and Snowhills Crescent which was impassable due to water at a depth in the region of 500mm across the highway. Some areas reported loss of electricity.

Following a visit to 25 Fir Tree Place where property flooding is recorded the resident reported that water did not recede until 9.30am on the 23<sup>rd</sup> November 2017.

Further investigation has taken place in respect of the cross boundary and other risk management authorities

operations during this event in particular United Utilities.

Lauderdale Avenue was reported to have flooding in the highway, this receded at 3am.

In the Bispham area, Blackpool Council officers attended but could not alleviate the water, similarly to Anchorholme area ground conditions were saturated and sewage systems full to capacity.

Highways teams recorded that on arrival at Valentia Road and Limerick Road there was evidence of surcharge into properties, over the carriageway and in gardens. Water had entered properties largely under the floor. The road was flooded in parts up to 1m deep.

In addition these properties had suffered electrical disruption.

Blackpool Council deployed sandbags to divert water but these proved ineffective as water levels had risen quickly and sewer surcharge had entered the property under the floor.

The residents were advised to contact United Utilities to assist with the clean-up.

Valentia Road was also visited after the event on 22<sup>nd</sup> November 2017.

Resident were informed along with others in the area that there was sewer surcharge in the flooding and as such United Utilities should be involved in the investigation. It is understood that this area is a known area of risk of highway flooding and as such led to the road being closed on a number of previous occasions. (Property level flooding has not been previously recorded)

Investigations are continuing into prevention of flooding and resilience measures that can be provided should an event such as this reoccur.

There was major flooding on Mossom Lane, manholes lifted which led to the road being closed. Initial investigation raised questions about the ability of Anchorholme pumping station to operate during this

## Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017

event which could be the reason that Mossom Lane flooded, however, United Utilities have provided a report that states that the pumping station was operational on the evening of the 22<sup>nd</sup> November and that the pumps were operating intermittently as they would expect them to.

Properties at numbers 393 to 373 and 398 to 378 Warley Road were impassable due to 500mm depths of water. There was also electricity failure to properties in this area. The road was closed but water is reported to have receded at 3am.

Residents have contacted the flood risk manager and further investigations is taking place in respect of Warley Road and Bromley Close.

Devonshire Road Bridge was closed due to flooding, this bridge has a history of closure during heavy rainfall. Officers are working with United Utilities to better understand what measures can be taken collectively to address the flooding in this location.

### Conclusions

Given the rapid onset of this incident and the lack of Met office warning there was little opportunity for preparation. However the investigations by the drainage team and close working with other risk management authorities (RMA's) show good undertakings of duties by Blackpool Council and United Utilities, although there were mixed messages during the operation itself particularly as United Utilities staff were not familiar with the town and some residents were given factually incorrect information about flood risk responsibility.

In particular, the response to customers that highway flooding and lack of operational Council pumping stations was the responsibility of the Council was unhelpful and in many cases incorrect. Blackpool Council do not operate pumping stations in those areas.

It is understood that the flooding was caused by hydraulic inadequacy of both the United Utilities combined sewer system and the highway gully system. It must be noted that the capacity and ability of watercourses to cope with volumes of water (particularly in the eastern end of Anchorholme) also contributed to the flooding. Given the speed with which the flood receded it is understood that gullies in the area were operational. With the intensity of the rainfall it is not suggested that there was any blockage in the sewer system but the capacity did not allow the highway gullies to drain away.

### United Utilities Report and Actions

United Utilities have provided a separate report on the operation of their pumping station and a summary of their own investigations during the rainfall event of the 22<sup>nd</sup> November 2017 and it is attached to this report.

As additional mitigation, United Utilities took the decision to divert flows from from Skipool pumping station serving Poulton-le Fylde and surrounding areas away from the Anchorholme catchment. The levels of inundation meant most of United Utilities assets were continually spilling to watercourse. The diversion of storm water to the River Wyre was seen as a means of seeking to mitigate the flooded areas of the Anchorholme catchment. This is further explained by United Utilities report.

Following investigate it was found that the culvert underneath Amounderness Way required de silting and the Highways Agency responsible for this culvert have acknowledged their responsibility.

### Flood Management Options and recommendations

## Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017

Given the high intensity short rainfall it is not thought that any improvement in capacity of United Utilities sewers is required

However, options for flow management could be investigated to better manage the flood flows away from properties.

Further investigation are being made into improvements in the following areas:

- Bromley Avenue and Warley Road investigations, applications have been made to the Environment Agency so that a study can be carried out to better understand the flooding in these areas;
- In certain properties, particularly Valentia Road and Limerick Road, it may be advisable to investigate the potential for flood resilience;
- Work with Highways England to ensure that their culverts are not impeding the flow of water;
- Investigation and clearance of watercourses but more importantly better management of surface water in the catchment areas. This will include applications to the Environment Agency for funding to undertake studies on the impact of watercourses and projects to improve the efficiency including possible surface water separation;
- In respect of Devonshire Road Bridge, discussion has already commenced with United Utilities on the impact of the continued disruption during flood events and potential solutions or management of flooding at the bridge;
- Ensure that a procedure is drafted which includes notifying the Lead Flood Officer as soon as an event is declared and a reporting and recording procedure is developed;
- In the event that a significant number of properties are reported as flooded a Major incident is declared;
- Prepare a policy on use of sandbags in line with National practice;
- Information is provided on the Council's web site to assist and update residents;
- All Risk management authorities co-ordinate their operations (declaring a major event would ensure this happens);
- Implement flood resilience forum in Blackpool;
- Emergency Planning Training for Elected Members and Officers;
- Carry out studies in partnership with other risk management authorities to assess the impact of pumping surface water from Northern Blackpool into the sea;
- Partnership work with Wyre Council and United Utilities to provide improvement to water storage and flow in the Hillyaide Brook and Royles Brook Rivers.



# Section 19 Report: Investigation into flooding on 22<sup>nd</sup> November 2017

## Document Control

<b>Document owner:</b>	Clare Nolan-Barnes
<b>Document number:</b>	
<b>Document category:</b>	Section 19 Report
<b>Document location:</b>	X:\02/Heads Folder/Floods and Water Management/Section 19
<b>Issued by:</b>	Clare Nolan-Barnes
<b>Last edited:</b>	

## Record of Amendments:

Date	Version	Amended by	Description of changes
Dec	D1.0	Clare Nolan-Barnes	Created
October 18	D1.1	Clare Nolan-Barnes	Version 2

## Approved By:

Name	Title	Signature	Date