

Section 19 Report: Investigation into flooding on 22nd November 2017

Blackpool Council



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Problem Reported

Following intense rainfall commencing in the early afternoon on 22nd 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 emergency was not declared and therefore Blackpool emergency planning protocols were put in place.

Council officers attended and excellent service was provided in particular 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, however in March and April 2018 reports of flooding in November 2017 that had not previously been logged were reported have now been recorded.

Brisbane Close	Kinnerton Place
Lockhurst Avenue	Hobart Place
Camberra Close	Dalby Close
Perth Close	Snowhill Crescent
Emerald Close	Marble Avenue
Coriander Close	
Champagne Avenue	Wroxton Close
Radway Close	Warren Drive
Anchorsholme Lane	Lauderdale Avenue
Bispham Area	Moor Park Avenue
Ashfield Road	Faraday Way
Briarwood drive	
Hastings Avenue	
Marble Avenue	
Mossom Lane	Warley Road
Valentia Roa	Limerick Road
Bromley Close	Munster Avenue
	Hastings Place

Beryl and Penswick Avenue	White Carr Lane
Fir Tree Place	Grassington Place
Greenoak Place	Bovington Avenue
Kelverdale Road	Wood Green
Quarry Bank	Sevenoaks Drive

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

There was also major flooding under Devonshire Road Bridge leading to road closure.

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 22nd November 2017 are shown to be at risk on the mapping but the majority of areas flooded on the 22nd November are not on the Environment Agency mapping.

Figure 1 and 2

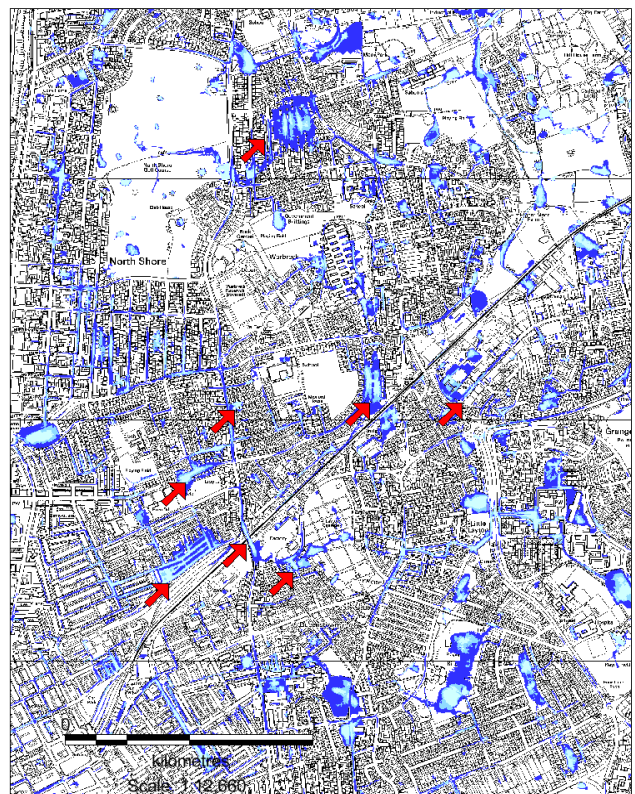
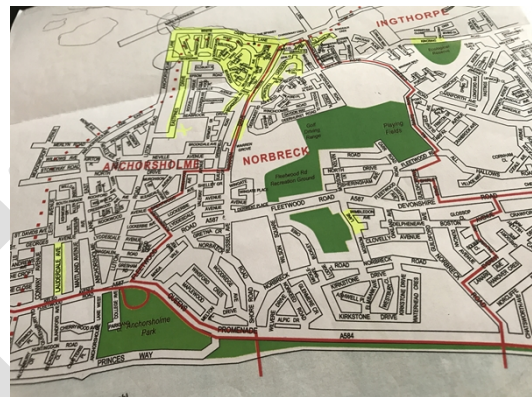


Figure 3 An extract of the Environment Agency's surface water flood mapping with areas flooded on 15/06/2016 highlighted.

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 as well. Apart from small sections the highway drainage gullies also ultimately discharge into the combined sewer network.

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

Rainfall

Data from United Utilities suggests that the rainfall was of intensity with a return period of 1 in 64 year. This is well outside of 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 20th November 2017 and consequently their storm water tanks and sewers were already at full capacity in addition the ground was saturated

Findings and Actions

Council Officers and Elected Members attended a number of properties and there were two main areas that gave rise to the need to investigation, Anchorsholme and Bispham. This does not however mean that flooding did not occur in other areas, as indicated above officers are still being made aware of incidents that happened in 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 20th 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 for water courses to remove water quickly enough due in the main to capacity

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

The largest area recorded with flooding was East Anchorsholme, the area bounded by Warren drive, Sevenoaks Drive Wood Green Drive, North Drive and Snowhills 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 23rd November 2017.

Further investigation is taking place in respect of the cross boundary and other risk management Authorities operations during this event.

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 Avenue 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 as above sewer surcharge had entered the property under the floor.

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

Valentia Avenue was visited after the event on 22nd November 2017.

Residents were informed along with others in the area that there was sewer surcharge in the flooding and as such United Utilities should be involved. 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. (But 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 and manholes lifted which led to the road being closed. Initial investigation raised questions about the ability

of Anchorholme pumping station to operate during this 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 22nd November as it should be.

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

Devonshire Road Bridge was closed and has an 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 given the connections to the combined sewer systems and the fact that flooding occurred in areas that Blackpool do not operate a pumped system.

It is understood that the flooding in the main was caused by dilute sewerage caused by hydraulic inadequacy of both the United Utilities combined sewer system and the highway gully system. 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.

Anchorsholme Pumping Station

The following information has been provided by United Utilities to assist in the preparation of this report and record United Utilities finding of the operation of the pumps at Anchorsholme Pumping Station.

United Utilities have reported that on the evening of the 22nd November 2017 Anchorsholme pumping station continued to operate throughout the night, although on the evening one of the five pumps tripped intermittently leading to maintenance work throughout the night to get the pump working.

United Utilities also reported that in the early hours of Thursday 23rd November, when rain became more sporadic, the Anchorsholme pumping station was only using three of its pumps due to the limited flow being received in the station.

Whilst some telemetary data has been shared by United Utilities, Blackpool Council have requested details of the telemetary data to support the investigation and Section 19 report.

Other United Utilities Actions

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 Anchorsholme catchment. The levels of inundation meant most of United Utilities 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 Anchorsholme catchment.

Amounderness Way and associated watercourses

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

Given the high intensity short rainfall it is not thought that any improvement in capacity is required. In particular, United Utilities are required by Ofwat to design new sewage systems to cater for a 1:30 year design requirement.

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 including checking the levels of the road and pavement;
- Warley Road
- 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.
- In respect of Devonshire Road Bridge, discussion has already commenced with United Utilities on the impact of the continued disruption during flood events.

Recommendations

Recommended actions:

- 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 Event 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

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