

Blacon Main Report Details

Project:	Storm Christoph Section 19 Main Report		
Area:	Blacon		
Date:	10/08/22	Project No.:	5150735

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Draft for RMA Comment	TS	SF	EJG	EJG	10/08/22
2.0	Draft for Final Approval	TS	SF	EJG	EJG	01/09/22

Client signoff

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Client	Cheshire West and Chester Council
Project	Storm Christoph Section 19 Main Report
Project No.	5150735
Client signature / date	



Blacon Main Report

This Blacon specific Main Report should be read in conjunction with the Section 19 Flood Investigation – Main Report (January 2021 Storm Christoph Flooding Event).

1. Background

Blacon is a large suburb northwest of Chester city centre. The Shropshire Union canal runs north to south at the eastern end of the ward, the western extent of the ward is bordered by Wales, the southern extent borders the River Dee. Topography falls generally from north to south from the farmland north of the suburb and flattens out near the Whitehouse Trading Estate.

An overview of the watercourses and key drainage assets within Blacon is shown on Figure 1. There is an open watercourse to the north of Blacon, Highfield Drain (classified as an ordinary watercourse), which flows south towards Browning Close, the Highfield Drain catchment includes land upstream and to the north of Chester around the A540 between Mollington and Saughall as far north as Two Mills.

Just north of Browning Close, Highfield drain is culverted in a 900mm pipe. This pipe conveys the water from west to east, under the Shropshire union canal and A540 (Parkgate Road) before discharging into Finchett's Gutter (classified as an ordinary watercourse), after it is culverted under Parkgate Road. In November 2019, the Environment Agency (EA) surveyed this drain and found it to be in good condition.



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Figure 1 - Blacon overview

Figure 2 shows the submerged outlet structure of the Parkgate Road culvert and Figure 3 shows Finchett's Gutter downstream of Parkgate Road.



This open channel then takes the water south and west before it discharges into the River Dee. The change in water levels from Finchett's Gutter to the River Dee is not large, therefore, the water levels where Highfield Drain enters Finchett's Gutter are potentially influenced by tidal levels in the River Dee.



Figure 2 - Parkgate Road Culvert Outlet



Figure 3 - Highfield Drain, downstream of A540 culvert



The inlet of the Highfield Drain, just north of Browning Close, has a trash screen to prevent significant debris entering the concrete culvert. Access to this screen has been a source of dispute with the landowner, and the EA is in discussion with the landowner to gain regular access for clearance work. Residents report that the trash screen is regularly blocked and that they occasionally carry out clearance themselves. There are two outlets into Finchett's Gutter; twin 600mm diameter pipes with an invert level of 5.42mAOD.

In addition to the watercourses, there are combined water sewers, foul water sewers and surface water sewers present within the area. There is a Welsh Water pumping station just before Parkgate Road alongside Highfield Drain, Welsh Water has confirmed that this station is, and was, in operational condition.

The reported flooding occurred in the north of Blacon ward, on Browning Close and Chaucer Close and along Parkgate Road. The area is regularly flooded, and several properties were flooded internally in the 2012 floods. A number of the affected properties are in an area benefitting from flood defences protecting against river flooding. Some affected properties are in the high-risk surface water flood risk zone (Appendix I).

2. Flood Review

2.1. Browning Close/ Chaucer Close

During the Storm Christoph event, Highfield Drain trash screen, north of Blacon, became blocked. Water began to back up and was observed to flow overland and through the back gardens of properties on Chaucer Close and Browning Close, before flowing onto the Browning Close highway and then into properties. It was also reported that water was running from the fields north of Browning Close, adjacent to the A540. Refer to Figure 4.

During the event, a manhole cover was lifted in the northern corner of Browning Close (refer to Figure 5), allowing the flood water back into the culvert which was observed to still have capacity during the event.



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Figure 4 - Browning Close/ Chaucer Close Flood Overview





Figure 5 - Browning Close and the Lifted Manhole. 20/01/2021

Source: Resident

2.2. Parkgate Road

During the Storm Christoph event, water backed up at the inlet to the culvert under Parkgate Road into Finchett's Gutter and water overtopped and ran down Parkgate Road to Abbotts Mead properties (Figure 6). Finchett's Gutter flood defences held during the event.

Residents affected by the flooding on Parkgate Road have reported that in previous years when the water overtopped Highfield Drain at Parkgate Road, the water would run over the road and flow back into Finchett's Gutter. Residents are concerned that a highway surfacing scheme, carried out in the last few years, has changed the surface levels of the road, causing the water to be directed down Parkgate Road, towards properties at Abbots Mead.

During the flood event residents reported the following:

- Water flowed southwards down Parkgate Road towards the Abbot's Mead roundabout.
- Traffic coming down Parkgate Road caused bow waves which entered properties.
- The watercourse behind the properties at Abbots Mead was reported to be contained within bank top.
- Water collected in the back gardens of the properties at Abbots Mead that entered from Parkgate Road to the front of the properties.

Figure 7 and Figure 8 show the flooding experienced in the Parkgate Road and Abbotts Mead area.





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Figure 6 - Parkgate Road Flood Overview

Figure 7 - Abbots Mead Terrace. 21/01/2021 Source: Resident

Figure 8 – Parkgate Road. 21/01/2021 Source: Resident

2.3. Area Summary

Key statistics of the Storm Christoph Flooding in Blacon are summarised in Table 1. A detailed timeline of the flood event can be found in Appendix II.

Table 1 - Flood Impact Summary

Residential properties affected:	Commercial premises affected:	Number of properties evacuated	Number of properties flooded:	Number of domestic properties flooded:	Number of commercial premises flooded:	Comment
24	7	15	27	20	7	As reported to CWaC prior to publishing

Table 2 provides a brief summary of the flood event, impact and response in Blacon.

Table 2 - Blacon Flooding

Blacon			
Date	• 20 th January 2021		
Affected Roads	 Parkgate Road, Deva Link, Milton Road, Wordsworth Crescent, Browning Close, Saughall Road, Shelley Road, Saxon Way, Sealand Road, Stadium Way, Blacon Avenue Roundabout, Blacon Point Road 		
Description	 Topography falls west to east towards Finchett's Gutter, then flattens out as the watercourse flows south 		
	 Low spots along Parkgate Road down to Abbots Mead 		
Flood Alert / warning issued	 Flood alert issued for River Dee catchment in England from Whitchurch to Chester 19/01/21 20:10. The properties on Parkgate Road were included whereas those on Browning Close were not 		
Flooding Impacts and Observations	 Significant damage to property with many people unable to move back home for an extended period of time 		
	 Additional stress and mental anguish on the community over such an event happening again 		
Summary of Flooding Incident Response During Event	 Just after 2pm on Browning Close CWaC Highways Dept arrive to provide sandbags and lift covers off drains 		
	• Fire service present on the afternoon of 20 th Jan to provide support		
	Residents used their own pumps to help clear water from property		

The following actions were undertaken prior to the production of the interim report:

- The EA have previously held discussions with the landowner regarding access but were unable to reach agreement. Following this, the landowner was informed of their responsibility to maintain the screen.
- Meeting on site with affected residents 1st July 2021 with Cheshire West and Chester Council (CWaC), as Lead Local Flood Authority (LLFA), and EA.

3. RMA Response

This section outlines the RMA) response to the flood event at Blacon and identifies areas for improvement of flood risk. Consultations have been undertaken with the participating RMAs and local residents to inform this section:

- Welsh Water received a single incident report during Storm Christoph, this was reported as a 'restricted toilet'. Welsh Water confirmed that the blockage was due to root ingress and cleared this on the 19th January 2021.
- CWaC, as Highways Authority, arrived on Browning Close on the afternoon of the 20th January 2021 to provide sandbags to properties at risk of flooding and to lift covers off drains.

- Cheshire Fire and Rescue Service arrived on site on the 20th January 2021 to provide support to residents.
- The FloodHub has been promoted to affected residents. A link is also included from the Flood pages of the CWaC website.
- A supply of sandbags has been delivered to the affected area for residents to store themselves.
- A scheme to encourage water that has overtopped Highfield Drain to re-enter Finchetts Gutter is being developed.
- Discussions continue with the owner of the inlet structure to Highfield Drain in terms of ongoing maintenance.
- Culverted section under A540 Park Gate Road to be de-silted.
- Highway drainage system cleansed on the A540 Parkgate Road with no significant defects found.

4. Recommended Actions

The following actions are recommended:

- CWaC, as LLFA, and the EA to remind landowners of trash screen and drainage channel maintenance obligations.
- CWaC, as LLFA, and the EA to investigate whether improvements could be made to the trash screen arrangement to reduce the risk of blockage and subsequent out of bank flow.
- Clean and de-silt the Finchett's Gutter/ Highfield Drain culvert under Parkgate Road (The EA completed a survey of Highfield Drain in November 2019 which was in a good condition at the time). EA to confirm maintenance programme for Finchett's Gutter to ensure it remains clear of debris and vegetation.
- CWaC, as LLFA, to assess whether there are opportunities to implement attenuation on, or alongside, Highfield Drain to hold back out of bank flow. Where appropriate work with other RMAs.
- CWaC, as LLFA, to investigate localised kerb/ verge lowering to allow water to flow back into Highfield drain around the culvert under Parkgate Road, and at multiple locations further down to allow floodwaters to exit from Parkgate Road to Finchett's Gutter. This work is now underway, confirmed by the Environment Agency.
- EA to check and maintain the capacity of Highfield Drain downstream of the Parkgate Road culvert to the confluence with Finchett's Gutter.
- CWaC, as Highways Authority, to review whether there are sufficient gullies on Browning Close, Chaucer Close and Parkgate Road to take runoff from the highway.
- Support affected residents explore property protection measures.
- Implement more stringent traffic management measures, particularly on Parkgate Road to mitigate the risk of vehicles pushing water into property.
- CWAC is moving towards a risk-based approach to gully maintenance; increasing the frequency of cleansing to those gullies identified in areas at risk of flooding.
- CWaC, as LLFA, to consider whether a flood alert system is feasible given that the issues are associated with surface water and land drainage.
- Determine suitability for a temporary defence deployment plan.
- Residents to be encouraged to sign up to the EA flood alert service (currently only available for the
 properties affected by flooding from Parkgate Road) and LLFA and EA to consider the feasibility of
 implementing a flood warning service. EA have just issued a new flood warning zone that covers this
 specific area and they will encourage residents to sign up via a letter drop to those in the affected area.

Appendix I – Map

Source: EA

Extent of flooding from surface water

Source: EA

Appendix II – Timeline

Time	Parkgate Road	Browning Close/ Chaucer Close
20 th Jan 11:30		Water began flowing down Browning Close towards properties from the land to the northwest.
20 th Jan 14:00		Water entered properties on Browning Close.
20 th Jan 15:30	Water began to pool along Parkgate Road.	
20 th Jan 20:00	Flood depth in Abbots Terrace reached ankle depth and residents began pumping the flood water out.	
20 th Jan 22:15	Water was reported to be coming into properties at a rapid rate from Parkgate Road, with vehicles creating bow waves. The properties were flooded with approximately 1m of water.	
21 st Jan 00:00	Cheshire Fire and Rescue service attended the site to assist with evacuation.	The rain was reported to stop. Flood levels had reached 0.6m deep in front of the properties.
21 st Jan 02:00	The flood water at Abbots Terrace reported to be at peak levels	