

**Notice of a public
Decision Session - Executive Member for Environment**

To: Councillor Waller (Executive Member)

Date: Monday, 11 March 2019

Time: 5.30 pm

Venue: The George Hudson Board Room - 1st Floor West
Offices (F045)

AGENDA

Notice to Members – Post Decision Calling In:

Members are reminded that, should they wish to call in any item* on this agenda, notice must be given to Democratic Services by **4:00 pm on Wednesday, 13 March 2019.**

*With the exception of matters that have been the subject of a previous call in, require Full Council approval or are urgent, which are not subject to the call-in provisions. Any called in items will be considered by the Customer and Corporate Services Scrutiny Management Committee.

Written representations in respect of items on this agenda should be submitted to Democratic Services by **5.00 pm on Thursday, 7 March 2019.**

1. Declarations of Interest

At this point in the meeting, the Executive Member is asked to declare:

- any personal interests not included on the Register of Interests
 - any prejudicial interests or
 - any disclosable pecuniary interests
- which he might have in respect of business on this agenda.

- 2. Minutes** (Pages 1 - 4)
To approve and sign the minutes of the Decision Session held on 7 January 2019.

- 3. Public Participation**
At this point in the meeting, members of the public who have registered to speak can do so. The deadline for registering is **5.00pm on Friday, 8 March 2019**. Members of the public can speak on agenda items or matters within the Executive Member's remit. To register to speak please contact the Democracy Officer for the meeting, on the details at the foot of the agenda.

Filming, Recording or Webcasting Meetings

Please note that, subject to available resources, this meeting will be filmed and webcast, or recorded, including any registered public speakers who have given their permission. The broadcast can be viewed at <http://www.york.gov.uk/webcasts> or, if recorded, this will be uploaded onto the Council's website following the meeting.

Residents are welcome to photograph, film or record Councillors and Officers at all meetings open to the press and public. This includes the use of social media reporting, i.e. tweeting. Anyone wishing to film, record or take photos at any public meeting should contact the Democracy Officer in advance of the meeting. Contact details are at the foot of this agenda.

The Council's protocol on Webcasting, Filming & Recording of Meetings ensures that these practices are carried out in a manner both respectful to the conduct of the meeting and all those present. It can be viewed at

https://www.york.gov.uk/downloads/file/11406/protocol_for_webcasting_filming_and_recording_of_council_meetings_20160809

- 4. Green Waste Collection Petition** (Pages 5 - 10)
This report asks the Executive Member to decide what action should be taken in response to a petition on green waste collection for East Mount Road.

5. York 5 Year Flood Plan Update (Pages 11 - 24)

This report provides an update regarding progress on the York Five Year Flood Plan since the last update on 10 December 2018, including details of work carried out by the Environment Agency.

6. York 13 August 2018 Section 19 Surface Water Flood Event Investigation (Pages 25 - 70)

This report presents the findings and recommendations arising from the formal investigation into the impact of intense rainfall across the city on 13 August 2018.

7. Urgent Business

Any other business which the Executive Member considers urgent under the Local Government Act 1972.

Democracy Officer:

Fiona Young

Telephone No- 01904 552030

Email- fiona.young@york.gov.uk

For more information about any of the following please contact the Democratic Services Officer responsible for servicing this meeting:

- Registering to speak
- Business of the meeting
- Any special arrangements
- Copies of reports and
- For receiving reports in other formats

Contact details are set out above.

This page is intentionally left blank

City of York Council

Committee Minutes

Meeting	Decision Session - Executive Member for Environment
Date	7 January 2019
Present	Councillor Waller

35. Declarations of Interest

The Executive Member confirmed that he had no personal interests not included on the Register of Interests, nor any prejudicial or disclosable pecuniary interests, to declare in the business on the agenda.

36. Minutes

Resolved: That the minutes of the Decision Session held on 10 December 2018 be approved and signed by the Executive Member as a correct record.

37. Public Participation

It was reported that there had been two registrations to speak at the session under the Council's Public Participation Scheme, and one request to speak by a ward member. All related to Agenda Item 4 (Refill York).

John McGall spoke on behalf of "i am reusable", a York initiative to reduce waste. He expressed disappointment that he had not been informed of this item in advance and that i am reusable was not mentioned in the report and suggested that another meeting be arranged to discuss the issues further.

Gwen Swinburn spoke as a member of the public. She pointed out weak areas in the report with regard to consultation, options and budget and suggested that it be rejected.

Cllr D'Agorne spoke as a ward member for Fishergate. He welcomed the report as an initial response to the motion to Full Council in December but suggested it should recommend supporting both i am reusable and Yorkshire on Tap and the introduction of annual performance indicators to measure the impact of initiatives on waste reduction.

38. Refill York

The Executive Member considered a report which sought approval to support a campaign to encourage people to drink more water from recycled water bottles or cups.

In May 2018 Yorkshire Water, in association with Refill, had launched the 'Yorkshire on Tap' initiative. The proposal as outlined in the report was for the council to work with Yorkshire Water on this initiative and host a civic event in the Mansion House to launch the scheme to the media and encourage businesses and residents to pledge their support.

The Executive Member commented that he had not seen the report prior to its publication and that it should have responded more clearly to the motion approved by Full Council in December. He outlined the council's position as a neutral party willing to lend support to any scheme to reduce waste and invited Mr McGall back to the table to explain more about his i am reusable initiative.

In response to these comments and to matters raised under Public Participation, the officer presenting the report:

- Apologised for the quality of the report and lack of prior engagement with the Executive Member and interested parties.
- Explained that the aim of the proposal was not to set up a new scheme but to work with and raise awareness of existing schemes, to encourage people to drink more water, reduce the use of single use plastics across the city and reduce waste.
- Confirmed that the proposal would be funded from the existing public health campaigns budget.

Resolved: (i) That both the "i am reusable" and the "Yorkshire on Tap" initiatives be supported.

Reason: To help reduce single use plastics in the city.

(ii) That officers be asked to review how a wide range of schemes for reusable bottles and cups in the city can be supported and promoted.

Reason: To drive down waste and litter in the city.

(iii) That officers be asked to work with One Planet York partners to co-ordinate the promotion of these initiatives as part of a coherent plan to enhance York's sustainability.

Reason: To encourage a partnership in line with the council's values and the principles of One Planet York.

(iv) That officers be asked to organise a follow up meeting for interested parties.

Reason: In order to explore how the council can assist in promoting a city-wide campaign, involving existing initiatives, to reduce single use plastics and the waste that they cause and to encourage people to drink more water.

Cllr A Waller, Executive Member

[The meeting started at 5.30 pm and finished at 6.03 pm].

This page is intentionally left blank



Decision Session – Executive Member for Environment**20 March 2019**

Report of the Director of Economy and Place

Green Waste Collection Petition**Summary**

1. To report the receipt of a petition and determine what action is appropriate.

Recommendations -

2. It is recommended that the Executive Member approve:
 - Option 2 – We consider future provision as part of the ongoing bags to bins project, later in 2019.

Reason: Because this will respond to residents concerns and can be progressed depending on the outcome of the bags to bins project in this area of the city.

Background

3. The petition has been signed by 39 residents of East Mount Road representing 36 out of the 45 properties in East Mount Road. A copy of the petition covering letter and petition header is shown in Annex A1.
4. These streets are all residential, and are currently on a bagged waste collection; the current waste collection policy is that we are unable to collect green waste from a bagged waste area.
5. We are currently undertaking a review of bagged collection areas to consider whether they could be moved to a wheelie bin collection service, we are reviewing 7 areas of the city and are currently working on the third area. No date is yet set for progression of the remaining areas, as the timing will to some extent depend on the complexity and outcome of consultation.

Options for Consideration

6. Option 1 – Note the petition but take no action. This is not the recommended action.
7. Option 2 – Consider future provision as part of the ongoing bags to bins project, later in 2019.

Consultation

8. Residents will be consulted via post and public meetings on whether they wish to move to a wheeled bin collection, although the decision will also be based upon the needs of the service.
9. If it is decided to move the area to a wheeled bin collection service, wheeled bins will be provided free of charge to residents.

Council Plan

10. The above proposal contributes to the City Council's draft Council Plan of:
 - A prosperous city for all,
 - A council that listens to residents

Implications

11. This report has the following implications:

Financial – Any provision of wheeled bins will be funded from the capital budget allocated to this project.

Human Resources – None

Equalities – None.

Legal – None.

Crime and Disorder – None

Information Technology - None

Land – None

Other – None

Risk Management

12. . None.

Contact Details

Authors:

Russell Stone
Head of Operations
Tel: (01904) 553108

Chief Officer Responsible for the report:

James Gilchrist
Assistant Director Transport

Date
approved 19/02/19

Specialist Implications Officer(s)

None.

Wards Affected: Micklegate

For further information please contact the author of the report.

Background Papers: None.

Annexes:

Annex A Petition Header

This page is intentionally left blank

Annex A1



PETITION ON GREEN WASTE COLLECTION FOR EAST MOUNT ROAD

Green bins are good for waste management. They reduce landfill and the green waste is composted. Composting is a natural process of decomposition (aerobically) that is better for the environment. But Green Bins are currently not a frontline service for all citizens across the city. In Mickleg of households have no green bins and must drive their Green Waste across the city to Hazel Court or when possible put it into the black bin. The service offered through a regular collection or the Council could look at a system where households can register for a Green Waste collection/request per.

I/WE THE UNDERSIGNED CALL UPON CITY OF YORK COUNCIL TO LOOK FOR SUITABLE COLLECTION ARRANGEMENTS FOR GREEN WASTE IN EAST MOUNT ROAD, TO PROVIDE THE SERVICE PAID FOR BY COUNCIL TAX TO ALL COUNCIL TAX PAYERS.

This page is intentionally left blank



Executive Member for Environment Decision
Session

11 March 2019

Report of the Director of Economy & Place

York 5 Year Flood Plan Update

Summary

1. The flooding in late December 2015 followed an intense period of rainfall across November and December due to the impacts of Storms Desmond and Eva. Record river levels were observed in many river catchments across the north of England. More than 4000 homes and 2000 businesses flooded across Yorkshire with 453 properties and 174 businesses flooded in York.
2. Funding has been allocated to the Environment Agency (EA) following the floods to renew existing and provide new flood defences across the city, £17m has been allocated to the Foss Barrier improvements and £45m to the wider flood defences across the city.
3. An update on progress has been supplied by the EA, this can be seen in Annex 1.

Recommendations

4. The Executive Member for the Environment is asked to note the updated report and the evidence presented by the Environment Agency in the session, feedback is sought from the Executive Member on all content.

Background

5. Following the development and publication of the York Five Year Plan (<https://www.gov.uk/government/publications/york-5-year-flood-plan>) the EA have developed the Defra Strategic Outline Business Case and financial approvals have been sought and obtained from Defra. Detailed businesses cases are being developed for 19 flood cells across the city.

6. The Environment Agency continue to work closely with City of York Council on all aspects of the York Five Year Plan, an update has been provided by the EA at Annex 1.

Consultation

7. Public consultation on the York Five Year Plan continues through a range of flood cells, this is detailed in the update in Annex1 along with the programme of future consultation events.

Options

8. The principal options open to the Executive Member for Environment are to comment on and review the work undertaken to date, the future work identified and the representations made by the Environment Agency.

Analysis

9. Ongoing liaison will continue between the Executive Member for Environment and the CYC Flood Risk Manager, future briefings to the Executive Member for Environment Decision Session will be made to ensure key outputs and decisions are supported by CYC and to provide formal opportunities for members and the public to consult. Further recommendations will be made for agreement at these sessions.

Council Plan

10. Improved provision of flood defences supports a prosperous city for all through safer communities for residents, businesses and visitors, a wide range of consultation events will ensure this is in line with the needs and expectations of local communities.

Implications

11. **Financial** – Funding is allocated directly to the EA, the additional funding of £45M is available to be directed towards key flood risk projects in the city in the short term. The extent of required works may require wider funding and Defra funding bids will be developed. There are likely to be contribution requirements as part of this wider work.
12. **Property** – The Site Investigation programme will include sites under CYC ownership and/or control, consultation will be carried out with Estates teams and all relevant agreements will be put in place.

- 13. Human Resources (HR) – No implications
- One Planet Council/Equalities – No implications
- Legal – No implications
- Crime and Disorder – No implications
- Information Technology (IT) – No implication

Risk Management

- 14. No known risks are identified at this time, detailed risk management work will be developed as the business case and detailed design works commence.

Contact Details

Author:

Steve Wragg
Flood Risk Manager
Highways
01904 553401

Chief Officer Responsible for the report:

Neil Ferris
Director of Economy & Place

Report **Date** 29/2/19
Approved

Wards Affected: List wards or tick box to indicate all **All**

For further information please contact the author of the report

Background Papers: None

Annexes: Annex 1 York 5 Year Flood Plan Update March19

This page is intentionally left blank

York Flood Alleviation Scheme

March 2019

Update for March's Executive Decision Session

This is an update of the progression made over the last three months on the flood alleviation work in York. In this update we have provided:

- Summary of city wide flood alleviation activities
- Update on each flood cell
- Engagement plan for the next few months
- Programme information table
- A map of the York FAS Flood cell outlines

Summary of city wide flood alleviation activities

Process and Planning

The Outline Business Case was approved by the Large Project Review Group at the beginning of January, a Full Business Case will now be required for each cell as we progress with the scheme.

Planning permissions have been submitted for both B10 – Clifton and Rawcliffe and B4 – Memorial Gardens and North Street. These are currently live on the CYC planning portal with the expectation to go to Planning Committee on the 18th April regarding flood cell B10.

Engagement activity

We continue to engage across York.

- The Hub provides residents with a central location where they can come to ask questions about our work, view plans, and provide feedback. The opening times are 10:00 to 16:00 on Monday, Wednesday and Thursday each week.
- Our quarterly newsletter, next due March 2019.
- Citizen Space – an online portal that allows residents to view all engagement material and provide feedback. (<https://consult.environment-agency.gov.uk/yorkshire/yorkfas/>)

Our area (flood cell) specific engagement continues and is outlined in the next section. Our engagement plan for the next few months is also included as part of this document. We are expecting to see a large increase in community engagement over the next few months as developments take place in each cell. We don't however have known dates and places at the time of writing this report.

Update on progress of each flood cell

This section provides an update on each of the areas (flood cells) being taken forward as part of York Flood Alleviation Scheme.

how we're reducing
the risk of flooding
for York



@envagencyyne



@YorkFAS



yorkfloodplan@ea.gov.uk

Flood Cell	Detail	Current/Next Activity
B4 - Scarborough to Ouse Bridge (Right Bank)	<p>Planning application was submitted on the 7th of January with a Determination Deadline of 5th March.</p> <ul style="list-style-type: none"> We are looking to increase the height of the Lendal Bridge flood gate (by 300mm) and existing flood walls and flood gates at North Street gardens (by 380mm). This work includes widening of the flood gate adjacent to the Hub. A new flood wall will be constructed around Memorial Gardens with demountable defences and a small embankment to tie it into the existing line of defence. The road between Westgate Apartments and the Post Office building will continue to be sandbagged in a flood event 	<ul style="list-style-type: none"> We are meeting with CYC Estates and their Arboriculture lead on 20 Feb to discuss tree mitigation and replantation costs. Leeman Rd overnight closures 18 Feb to 2 Mar to conduct Trial pits. We are expected to start on-site construction by May 2019.
B7 - Queen's Staith and Skeldergate	<p>A combination of gates and demountable barriers have been considered for this flood cell</p> <ul style="list-style-type: none"> Surface water outfalls and a sewer pipe cross the proposed demountable defence line. Without a significant amount of work being done on these assets by Yorkshire Water, there is a risk that they could provide a flow route for flood water in an event. 	<ul style="list-style-type: none"> We held a meeting with YW to discuss the results of the surveys on their assets. YW still need to confirm number of outfalls and costing for preventing fluvial flooding.
B8 - Clementhorpe and South Bank	<p><u>Clementhorpe</u> We have been engaging with residents on the new proposals for the flood cell following the results of phase 1 ground investigations. Our revised proposal is as follows:</p> <ul style="list-style-type: none"> Raising of the 4 corners of the boundary wall at Postern Close and Postern House 1.85m bi-fold flood gate on Clementhorpe New 1.85m flood wall in front of Waterfront House with structural glass panel inserts. An extra step will be added to the existing steps between Waterfront House and Dukes Wharf. Road raising and extension to existing wall at Dukes Wharf Lower Ebor Street flood wall has been raised by Roomzzz and an extension will be completed by Roomzzz on our behalf to the north 	<ul style="list-style-type: none"> Phase 2 ground investigations: 4-14 March Planning application submitted: early March Public meeting: 6 March Detailed design Construction commencement: summer 2019



	<p>corner of the site.</p> <ul style="list-style-type: none"> • Increase the height of existing flood wall at the Caravan Park by 0.3m and embankments by raising with piles and wall (by 0.4m) and build a new embankment to the rear of the site. The road access by Vine Street will be raised by 0.4m. • Anne Street/Rowntree Park entrance: Curb raising to follow existing fence line around the top side of the park. Shallow embankment of 0.3m with a new pedestrian access ramp <p>Engagement has been focused on those properties directly affected by the scheme and its construction. A wider community event will take place at Clementhorpe Community Centre on 6 March between 3pm and 7:30pm.</p>	
	<p><u>South Bank</u> We are offering property flood resilience to 50 properties at risk of flooding. We wrote to residents in December 2018, explaining our proposals for PFR and asked if they would like to take part. As the response to our invitation was only 32%, further engagement work is required to ensure we hear from all eligible residents. At present, 12 properties have confirmed that they would like to partake in the PFR scheme. We would welcome support from CYC and local ward councillors to engage with individuals.</p> <p>We are currently working through the tender process to secure a supplier for PFR, to deliver both the South Bank and New Walk PFR schemes. Whilst the delivery programme will be confirmed by the successful supplier, our draft programme is as follows:</p> <ul style="list-style-type: none"> • June – supplier appointed • July – product selection commences (working with individual residents) • Aug onwards – products ordered and installation begins 	<ul style="list-style-type: none"> • Complete tender process and appoint supplier (June 19) • Confirm with residents take up for the scheme (June 19) • Confirm programme for delivery with new suppliers
B9 - Fulford	We have agreed with CYC that we will take a holistic approach to this flood cell. The current assumption is that CYC will now lead on delivery and funding of a potential solution.	<ul style="list-style-type: none"> • Support CYC to deliver this cell.
B10 - Clifton & Rawcliffe	<p>Planning application was submitted on the 2nd of January with a Determination Deadline of 25th April.</p> <ul style="list-style-type: none"> • We are looking to raise and extend the existing Clifton Ings Barrier 	<ul style="list-style-type: none"> • We are in discussions with BAM (our contractor) to review the cost of delivering this scheme and are looking at Value Engineering Opportunities.

how we're reducing
the risk of flooding
for York



@envagencyyne



@YorkFAS



yorkfloodplan@ea.gov.uk

	<p>Bank and install a permanent pumping station at Blue Beck</p> <ul style="list-style-type: none"> • This will better protect 140 properties • Construction will take place in two parts over two seasons. In this time, access to the lngs will be limited and, in some cases, completely restricted. 	<ul style="list-style-type: none"> • We are expecting to go to Planning Committee on the 18th April.
B11 - Coppins Farm to Scarborough Bridge (Left Bank)	<p>We are proposing to raise the existing flood wall on Almerly Terrace and to raise and extend the embankment in the grounds of St Peter's School</p> <ul style="list-style-type: none"> • Following engagement with St Peter's School, the section of embankment through the school grounds will follow the Northeast alignment. • Having spoken to Almerly Terrace residents about the options for raising the flood wall in their gardens, we are looking to use glass panels. 	<ul style="list-style-type: none"> • We are expecting to start construction in July • Burdyke pumping station will be removed from the scheme because the benefits are understood to be low.
B12 - Scarborough Bridge to Lendal Bridge (Left Bank)	<p>We are proposing to raise the existing Earlsborough Terrace flood wall, the Marygate flood wall and gate and the embankment which runs through Museum Gardens</p> <ul style="list-style-type: none"> • The alignment of the embankment in Museum Gardens has been confirmed with York Museums Trust 	<ul style="list-style-type: none"> • We are aiming to start construction in September. • We are still considering the widening of the Scarborough Bridge gate, with possibility of funding from the Scarborough Bridge works • Detailed design drawings expected early March
B15 - King's Staith to Skeldergate Bridge	<p>Our investigations have shown that a flood defence in this location would not be cost beneficial or have a negative impact on the riverside amenity and neighbouring businesses.</p> <ul style="list-style-type: none"> • It is likely that the best solution for this cell will be PFR. 	<ul style="list-style-type: none"> • If PFR surveys are carried out, they will need to be more detailed towards the lower end of King's Staith to find out how much seepage occurs. • Work on Tower Gardens as part of Castle Gateway has now been streamlined so it is unlikely that road raising will be included in this project. • Currently no suitable solution to prevent flow path onto Tower St.
B16 - New Walk	<p>We are offering property flood resilience to 71 properties at risk of flooding. We wrote to residents in December 2018, explaining our proposals for PFR and asked if they would like to take part. As the response to our invitation was only 62%, further engagement work is required ensure we hear from all eligible residents. At present, 41 properties have confirmed that they would like to partake in the PFR scheme. We would welcome support from CYC and local ward councillors to engage with individuals.</p>	<ul style="list-style-type: none"> • Complete tender process and appoint supplier (June 19) • Confirm with residents take up for the scheme (June 19) • Confirm programme for delivery with new suppliers.



	<p>We are currently working through the tender process to secure a supplier for PFR, to deliver both the New Walk and South Bank PFR schemes. Whilst the delivery programme will be confirmed by the successful supplier, our draft programme is as follows:</p> <ul style="list-style-type: none"> • June – supplier appointed • July – product selection commences (working with individual residents) • Aug onwards – products ordered and installation begins 	
C1 - Bishopthorpe	<p>To provide a 1 in 100 Standard of Protection in this flood cell we have proposed installing a new floodwall and flood gate. The YW sewer on Chantry Lane requires a manual penstock and manhole size increasing to facilitate this and a new manhole on Chantry Lane to facilitate pumping during a flood. We submitted proposals to the YW developer services team on Dec 5th and are still awaiting response.</p>	<ul style="list-style-type: none"> • At a meeting with Yorkshire Water on the 8th February, YW confirmed that we can install a manual penstock on their sewer and undertake manhole works. YW will make a small contribution to the cost and maintain the new penstock. Outstanding action on YW Developer Services to provide response to our proposals on 5th Dec.
C2 - Acaster Malbis	<p>The 6 properties at risk of flooding in this area will come under the new framework for Property Flood Resilience.</p>	<ul style="list-style-type: none"> • These properties will be included in the rollout of the PFR scheme.
C3 - Naburn	<p>Our investigations are in the process of being completed. The benefit cost of the initial proposed solution is low and therefore may not receive Government funding.</p>	<ul style="list-style-type: none"> • Engage with the local community to explain our findings and what we are able to offer to reduce flood risk.
Foss barrier	<p>In addition to the extensive upgrade to the pumping station we are upgrading the barrier gate and need to address raising the flood walls around St Georges Field Car Park. My Castle Gateway are proposing a new Multi Storey Car Park on this site and are submitting plans which includes a raised access road to maintain access during a flood event.</p>	<ul style="list-style-type: none"> • Install a taller barrier gate (10.85m) expected completion Autumn 2019. • Raise height of flood wall around St Georges Field car park • Work with the My Castle Gateway project to ensure the access road forms an integral part of the flood defence and coordinate any wall raising.
F4/F5 - Tang Hall Beck and Osbaldwick Beck	<p>We are investigating the feasibility of opening up part of Osbaldwick Culvert that runs through St Nicholas Fields and building a flood wall at the end of Hull Rd Park. There is still much that needs to be resolved around this work and details at this stage are unavailable.</p>	<ul style="list-style-type: none"> • We will arrange engagement with St Nicks to discuss impact on the nature reserve. • Ongoing talks with YW regarding sewer diversions.
F9 - South Beck	<p>The Options Appraisal Report for this cell is being reviewed to assess the viability of implementing a scheme for this area.</p>	<ul style="list-style-type: none"> • Details to come when available followed by engagement with the local community.



<p>F8 - Groves to Haley's Terrace</p> <p>F10 - Haley's Terrace to Link Road</p> <p>F11 - Link Road to Ring Road</p>	<p>To reduce the risk of flooding to properties in cells F8, F10 and F11 we are proposing to build a Flood Storage Area near Strensall. We are now starting the detailed design which is expected to take around 5 months.</p>	<ul style="list-style-type: none"> On-going modelling work to ascertain extent of flooding in order to calculate and agree compensation strategy with affected landowners.
<p>F12 - Westfield Beck</p>	<p>The Options Appraisal Report for this cell is being reviewed to assess the viability of implementing a scheme for this area.</p>	<ul style="list-style-type: none"> Details to come when available followed by engagement with the local community.

how we're reducing the risk of flooding for York

 @envagencyyne
 @YorkFAS
 yorkfloodplan@ea.gov.uk

York FAS Three Month Engagement Plan

This is a dynamic engagement plan for the York Flood Alleviation Scheme. Please note that specified dates and time periods are subject to change as the scheme progresses. Alongside cell-specific engagement activities, we will also be engaging via a quarterly newsletter and by providing information at our Community Flood Hub which is situated on Wellington Row and open 10am to 4pm Mon, Wed and Thurs.

Hub displays

Feb	March	April	May	June
Clifton Ings Planning Submission		Clementhorpe Planning Submission		
North Street Planning Submission	Adapting to Climate Change in York	Property Flood Resilience	Flood Resilient Gardens	Habitat Creation and Improvement

Planned activities

March		
Quarterly City Wide Newsletter sent out to mailing list, available at the Hub and on Citizen Space		
Clementhorpe	6th	Clementhorpe community drop-in event
York FAS Advisory Group	20th	Quarterly York FAS Advisory Group Meeting at Foss House
April		
CYC Election period – engagement limited		
Foss Society AGM	17th	Presentation on the Foss Flood Alleviation Scheme at Strensall Village Hall
May		
CYC election period – engagement limited		



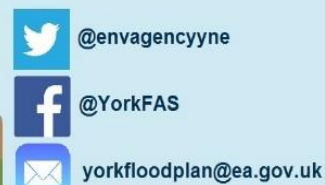
how we're reducing the risk of flooding for York

- [@envagencyyne](https://twitter.com/envagencyyne)
- [@YorkFAS](https://www.facebook.com/YorkFAS)
- yorkfloodplan@ea.gov.uk

Programme Information Table

Flood Cell	Approved Scheme Cost (£,000)	Full Business Case	Planning Permission	Construction Start	Estimated Construction Period
B4 - Scarborough to Ouse Bridge (Right Bank)	Not yet approved	Planned submission Mar 2019	Planning application was submitted on 7 th Jan. Determination Deadline 5 th March 2019	Planned May 2019	6 months
B7 - Queen's Staith and Skeldergate	Still in feasibility stage. Information will be provided when available.				
B8 - Clementhorpe	Not yet approved	Planned submission Apr 2019	Planned submission March 2019	Planned Summer 2019	18 months
South Bank	Not yet Approved	Planned submission Apr 2019	Not required	Planned installation start Aug 2019	
B9 - Fulford	CYC to lead on delivery and funding				
B10 - Clifton & Rawcliffe	Not yet approved	Planned submission Apr 2019	Planning application was submitted on 2 nd Jan. Determination Deadline 25 th Apr 2019	Planned Summer 2019	18 months
B11 - Coppins Farm to Scarborough Bridge (Left Bank)	Not yet approved	Planned submission Apr 2019		Planned Jul 2019	
B12 - Scarborough Bridge to Lendal Bridge (Left Bank)	Not yet approved	Planned submission Jun 2019		Planned Sep 2019	
B15 - King's Staith to Skeldergate Bridge	Still in feasibility stage. Information will be provided when available.				

how we're reducing
the risk of flooding
for York



B16 - New Walk	Not yet approved	Planned submission Apr 2019	Not required	Planned installation start Aug 2019	
C1 - Bishopthorpe	Not yet approved	Planned submission Apr 2019	Planned submission May/June 2019		
C2 - Acaster Malbis	Still in feasibility stage. Information will be provided when available.				
C3 - Naburn	Still in feasibility stage. Information will be provided when available.				
F4 - Tang Hall Beck	Still in feasibility stage. Information will be provided when available.				
F5 - Osbaldwick Beck	Still in feasibility stage. Information will be provided when available.				
F8 - Groves to Haley's Terrace	Not yet approved	Planned submission Feb 2020	Planned submission Dec 2019	Planned April 2020	18 months
F9 - South Beck	Still in feasibility stage. Information will be provided when available.				
F10 - Haley's Terrace to Link Road	Not yet approved	Planned submission Feb 2020	Planned submission Dec 2019	Planned April 2020	18 months
F11 - Link Road to Ring Road	Not yet approved	Planned submission Feb 2020	Planned submission Dec 2019	Planned April 2020	18 months
F12 - Westfield Beck	Still in feasibility stage. Information will be provided when available.				

how we're reducing
the risk of flooding
for York



@envagencyyne

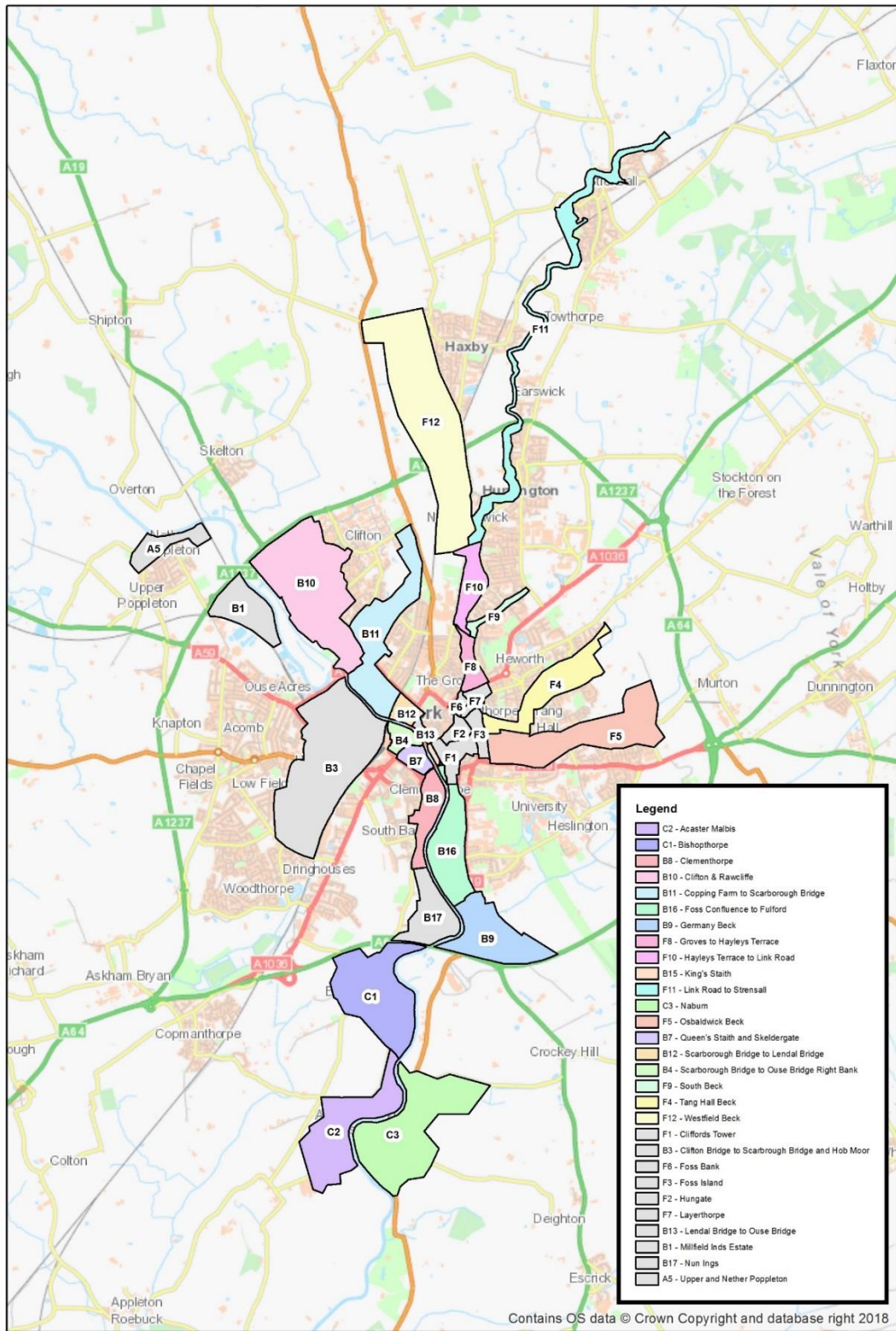


@YorkFAS



yorkfloodplan@ea.gov.uk

Map of the York Flood Alleviation Scheme Flood Cell Outlines



how we're reducing
the risk of flooding
for York



@envagencyne



@YorkFAS



yorkfloodplan@ea.gov.uk



Executive Member for Environment Decision
Session

11 March 2019

Report of the Director of Economy & Place

York 13 August 2018 Section 19 Surface Water Flood Investigation

Summary

1. The city of York was impacted by an intense summer rainstorm on the 13th August 2018, rainfall intensities in excess of 100mm per hour were recorded at a number of locations in the city.
2. 123 locations of flooding were recorded ranging from flooded roads, flooded gardens and in a small number of cases flooding of property.
3. With rainfall intensities such as this flooding of roads and possibly property would be expected in any urban environment, all locations have been investigated by CYC and partners as necessary.
4. The formal investigation is included as Annex 1 of this report.

Recommendations

5. The Executive Member for the Environment is asked to note the report at Annex 1, the key recommendations are detailed below, the Executive Member is asked to support the recommendations and where necessary make amendments or recommend further actions:
 - i. CYC to work with all partners to develop an increased understanding of flood resilience through the update of the Local Flood Risk Strategy and the communications around the York FAS
 - ii. CYC to support the findings of the ongoing gully management review
 - iii. CYC to raise awareness of surface water management techniques with planning partners and internal highways design teams

- iv. CYC Flood Risk Management team to prepare a report for CYC Executive recommending the need to develop and fund a network of digital rain gauges in the city
- v. Many investigations and remedial works have been completed by CYC and partners, all ongoing investigations and works detailed in the report are to be completed
- vi. CYC will take a lead to ensure the ownership, management, operation and maintenance of Westfield Beck Pumping Station is clarified as this played an important role during the event, all partners are working well to achieve this

Background

- 6. The forecast for 13th August 2018 highlighted the potential for thundery downpours, the Flood Guidance Statement indicated a low likelihood of a significant impact occurring. Two bands of rain were forecast with the earlier band of rain at 1pm leading to visibly heavy rainfall and an expected disruption to pedestrians and road users but no further impacts were recorded.
- 7. The forecast detailed that a further intense band of rain would hit the city during the late afternoon, although the intensity of the rainfall >32mm/hr was accurate the duration was longer than expected. Further details of the forecasting of the event is included in Annex 1.
- 8. 123 locations of flooding were collated through the assessment of direct reports to the council, emergency services incident logs and reports across a range of online and social media outlets.
- 9. Due to the severity of the impacts of the storm a formal investigation under Section 19 of the Flood and Water Management Act (2010) was commenced by the CYC Flood Risk Management team, all partner organisations have been consulted and have cooperated with CYC in all investigations and the agreed recommendations in the report at Annex 1.

Consultation

- 10. A public consultation event has been requested in the Haxby/Wigginton ward, this meeting will be held on the 26th February 2019. Individual consultation and discussions have been held with individual ward or

parish members and further events will be organised and attended as necessary.

Options

11. The principal options open to the Executive Member for Environment are to comment on and review the Investigation in Annex 1 of this report and its recommendations – a summary of which are reproduced in paragraph 5 of this report, further reporting and tracking recommendations will be brought to future decision sessions as necessary.

Analysis

12. The full report included at Annex 1 details the 13th August 2018 event from the forecasting phase through to the location of the 123 flooded areas, their individual investigation findings, actions in each case and resultant recommendations.

Council Plan

13. Delivery of flood risk management activities in York supports a prosperous city for all through safer communities for residents, businesses and visitors.

Implications

14. **Financial** – A number of investigations and resultant actions have required funding from CYC flood risk management revenue and capital budgets to be directed to resolve issues. Recommendations require further funding to be allocated to a number of local schemes, officers will work with wider funders to identify relevant funds. Wider strategic recommendations will require further funding to be developed.

15. Property – No Implications

Human Resources (HR) – No implications

One Planet Council/Equalities – No implications

Legal – No implications

Crime and Disorder – No implications

Information Technology (IT) – No implication

Risk Management

16. No known risks are identified at this time, ongoing investigations and schemes will be developed appropriately to identify and manage all risks.

Contact Details

Author:

Steve Wragg
Flood Risk Manager
Highways
01904 553401

Chief Officer Responsible for the report:

Neil Ferris
Director of Economy & Place

Report **Date** 28/2/19
Approved

Wards Affected: List wards or tick box to indicate all **All**

For further information please contact the author of the report

Background Papers: None

Annexes: Annex 1 York 13th August 2018 Section 19 Surface Water Flood Investigation March19

This page is intentionally left blank

City of York Council
Flood Investigation Report

York 13th August 2018 Section 19 Surface Water Flood Investigation



Revision Schedule
City of York Council

Rev	Date	Details
1	18/01/19	SW first draft for comment from partners
2	18/02/19	SW Final report inc partner comment

Table of Contents

Executive Summary

- 1. Introduction**
 - 1.1 LLFA Investigation**
 - 1.2 Site Location**
 - 1.3 Local Drainage System**
- 2. Drainage History**
 - 2.1 Previous Surface Water Flood Incidents**
 - 2.2 13th August 2018**
- 3. Possible Causes**
- 4. Roles and Responsibilities**
- 5. Recommendations**
- 6. Conclusion**

Annex 1

Executive Summary

Intense rainfall fell on the city of York and the surrounding area on the afternoon of 13th August 2018, rainfall intensities in excess of 100mm per hour were recorded at a number of locations in the city.

Annex 1 of this report details 123 locations of recorded flooding ranging from flooded roads, flooded gardens and in a small number of cases flooding of property.

City of York Council investigated all recorded incidents and worked on further investigations with partners in Yorkshire Water and the Foss (2008) Internal Drainage Board to gather further information on the impacts and causes of flooding.

Highway drainage and sewerage infrastructure is designed to collect and convey a wide range of expected rainfall events, however, a rainfall intensity of 100mm per hour would test and exceed the drainage capability of any infrastructure in any town or city. Standing water on roads and surrounding areas is inevitable in storms of such intensity, Annex 1 reports the locations where no significant defects were found in highway or sewerage infrastructure and the resultant flooding is expected to be a consequence of the intensity of the rainfall alone. However, Annex 1 does recommend improvements in some of these locations in an attempt to improve the resilience of the drainage network in future storm events.

The likelihood of flooding in a number of locations was potentially increased due to identified defects in the drainage infrastructure, these are detailed in Annex 1 and further detail on the causes of flooding at these locations is provided in section 3 of this report.

In many locations investigations and resulting works have resolved these issues but a number of interventions are still to be carried out, these are detailed in section 5 of this report.

In all cases the underlying issues arose from the intensity of the rainfall, in some cases existing infrastructure was unable to cope and in others identified defects in the infrastructure is likely to have increased the chances of flooding occurring. In recognition of this a range of strategic recommendations are made alongside site specific interventions in section 5, these aim to provide increased understanding and awareness of the risk of surface water flooding across our communities.

Steve Wragg

Flood Risk Manager

City of York Council

January 2019

Introduction

1.1 LLFA Investigation

City of York Council (CYC) as the Lead Local Flood Authority (LLFA) has a responsibility to record and report flood incidents as detailed within Section 19 of the Flood and Water Management Act (2010):

Section 19

(1) On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate:

(a) which risk management authorities have relevant flood risk management functions, and

(b) whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood.

(2) Where an authority carries out an investigation under subsection (1) it must:

(a) publish the results of its investigation, and

(b) notify any relevant risk management authorities.

It was deemed necessary to complete an investigation into the flood incident on 13th August 2018 as a significant number of properties, businesses and many roads were reported as flooded.

This report provides the details of the conditions leading to the flooding, the impacts of the flooding, and the roles and responsibilities of all operating authorities in the area. Recommendations and conclusions are given, and further investigations from relevant authorities may be required to deliver these.

1.2 Site Location

More than 40mm of rain fell on large areas of the city in just over 15 minutes on the 13th August 2018, the intense nature of the storm led to significant areas of the cities road network being impacted by standing water and drainage systems were unable to cope. A number of properties were internally flooded and outbuildings and gardens of a greater number of properties were similarly affected.

Figure 1 below details the locations that were affected on the day. Council officers have led investigations in all 123 locations detailed in Annex 1 supported by all partners. Due to the intensity of the rainfall a wider area of the city experienced standing water on the highway and other locations may have been affected even if not reported in Annex 1, a number of the recommendations in Section 5 reflect this.

Figure 1 shows the location of significant flooding detailed in Annex 1, wider areas of the highway network which suffered from standing water and temporary blockages are not shown on the map.

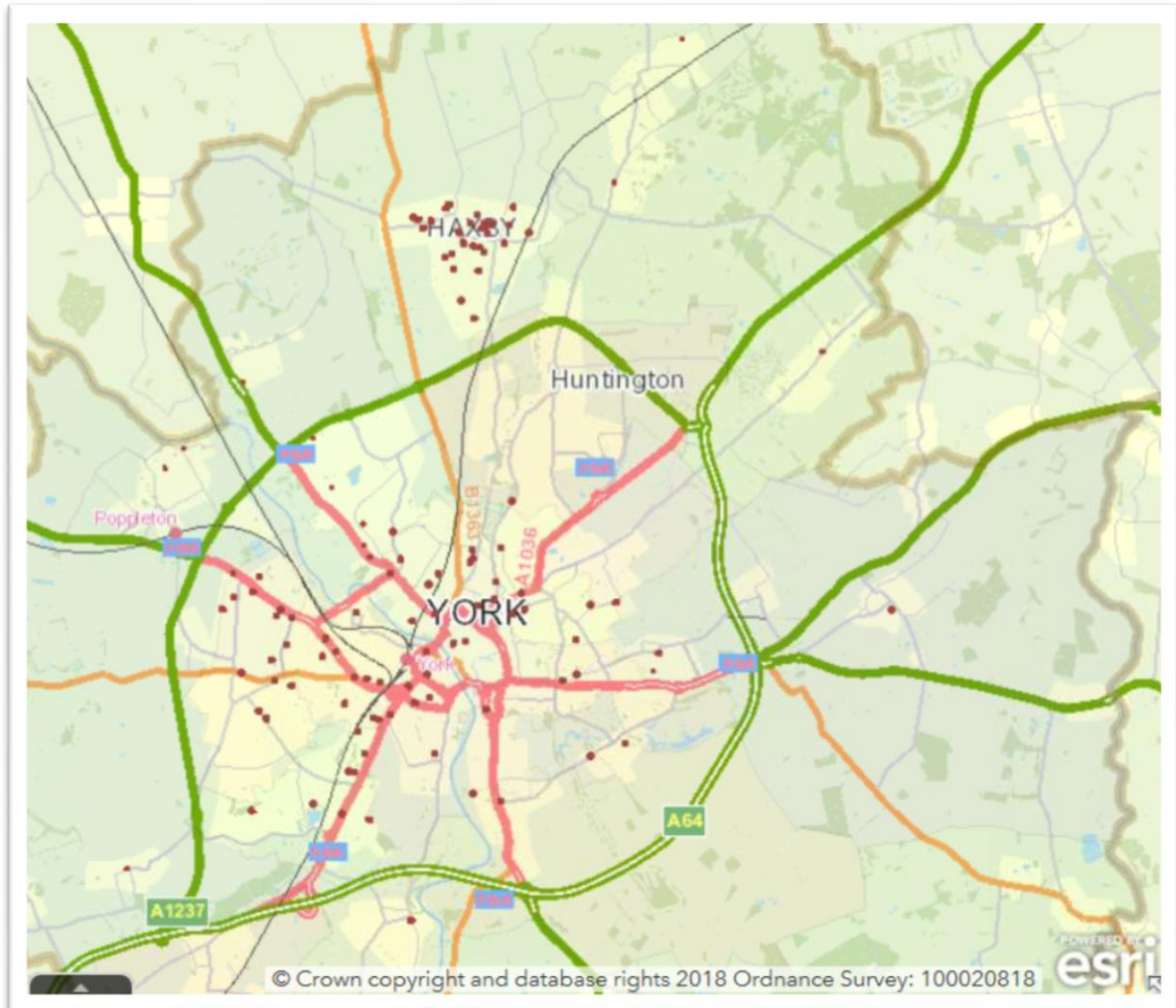


Figure 1 – indicative map of flooded locations

1.3 Local Drainage System

The city of York is located in the Vale of York on the confluence of the rivers Ouse and Foss. Centred on this urban core, the administrative area extends to include villages of varying sizes and largely rural land with the River Derwent forming the eastern boundary.

Being on the confluence of the Rivers Ouse and Foss, York is well known for flooding from those rivers, with approximately 3400 homes and businesses at risk.

Surface water flooding occurs when rainfall exceeds the capacity of open or piped systems or cannot soak into the ground. It typically occurs because of high intensity rainfall and can be aggravated by pipe or ditch blockage.

Surface water flooding is difficult to predict and record due to its very localised effects and usually brief duration. The effect of events that have been recorded, notably in the summer of 2007, 2012 and 2013, are of localised flooding at various locations, different on each occasion, across the city. This pattern is typical in the Councils area as a whole and is considered to be due to the flat topography which does not cause rapid runoff on a large scale.

The Environment Agency (EA) produced the Updated Flood Map for Surface Water (uFMfSW) to assist LLFAs in assessing surface water flood risk this shows modelled predicted flood effects of two events (1 in 30 annual chance and 1 in 200 annual chance) and two depth bandings (greater than 0.1m and greater than 0.3m flooded depth).

On the basis of observed events, it has been found that the uFMfSW is a reliable indicator of potential surface water flood risk locations.

The Council's Surface Water Management Plan (SWMP) established that there was a lack of knowledge of the location, extent and condition of surface water infrastructure in the council's area. It identified that ineffective maintenance resulted in problems with blocked drains compounded by the flatness of the Councils area that can increase surface water flood risk on a local scale. It also concluded that the areas that have been affected by surface water are unconnected with those suffering fluvial (river) flooding and that, throughout the Councils area, there is not considered to be a link between the two types of event. Surface water flooding in 2012 and 2013 further confirmed this conclusion.

Since the publication of the SWMP CYC have invested in the investigation, cleansing and logging of all gully asset data on an in-house developed database and digital data capture system. This multi year programme will finish in 2019/2020, at this time all gullies across the city will have been cleansed and their condition identified and recorded to inform future cleansing needs, see recommendations in section 5.

Rainwater falling on impermeable surfaces in developed areas drains into either surface water or combined sewers (which convey both surface water and sewage) or directly to watercourses. Until approximately eighty years ago the use of combined sewers was standard practice, with excess flow in times of storm discharged through combined sewer overflows to an adjacent watercourse. A large part of the central core of the city of York is still drained in this way. Post 1930s development is largely drained by separate sewerage systems with surface water sewers ultimately discharging to local watercourses. Flooding can result when the sewers are overwhelmed by intense rainfall and this can be aggravated by inadequate capacity or blockage.

Yorkshire Water Services (YWS) is the water and sewerage company serving the York area. Overall, the sewerage system has remained largely unchanged over the years, but at some locations, schemes have been implemented to address local flooding issues.

Reduced hydraulic capacity from siltation is a particular problem in York due to the flatness of the area and the difficulty in designing sewerage systems that are self

cleansing i.e. provides sewer flow velocities sufficient to pick up and disperse solids. This is also the case with piped and open systems in other ownerships.

2. Drainage History

2.1 Previous Surface Water Flood Incidents

Surface water events have been spread over isolated areas of the city on a number of occasions in the last 10 years, in some instances minimal rainfall has been recorded in parts of the city when others have had roads, gardens and in extreme circumstances flooded properties following cloudbursts.

Surface water flooding affected the city in the summer months of 2007, 2012, 2013 and 2014. A small number of properties were affected in 2007, 2012 and 2013.

2.2 13th August 2018

The forecast for 13th August 2018 highlighted the potential for thundery downpours, on Sunday 12th August the Flood Guidance Statement indicated a very low likelihood of a significant impact occurring, this was updated at 10.30am on the 13th to detail a low likelihood of significant impact see Figures 2 and 3.

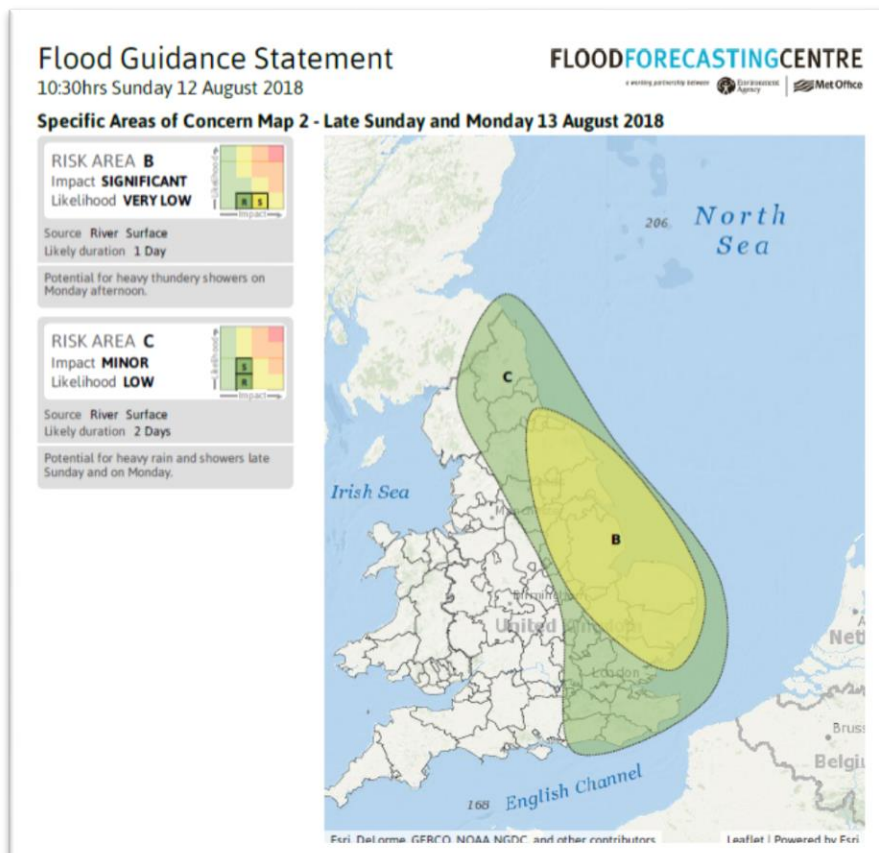


Figure 2 – Flood Guidance Statement 10:30hrs 12 August 2018

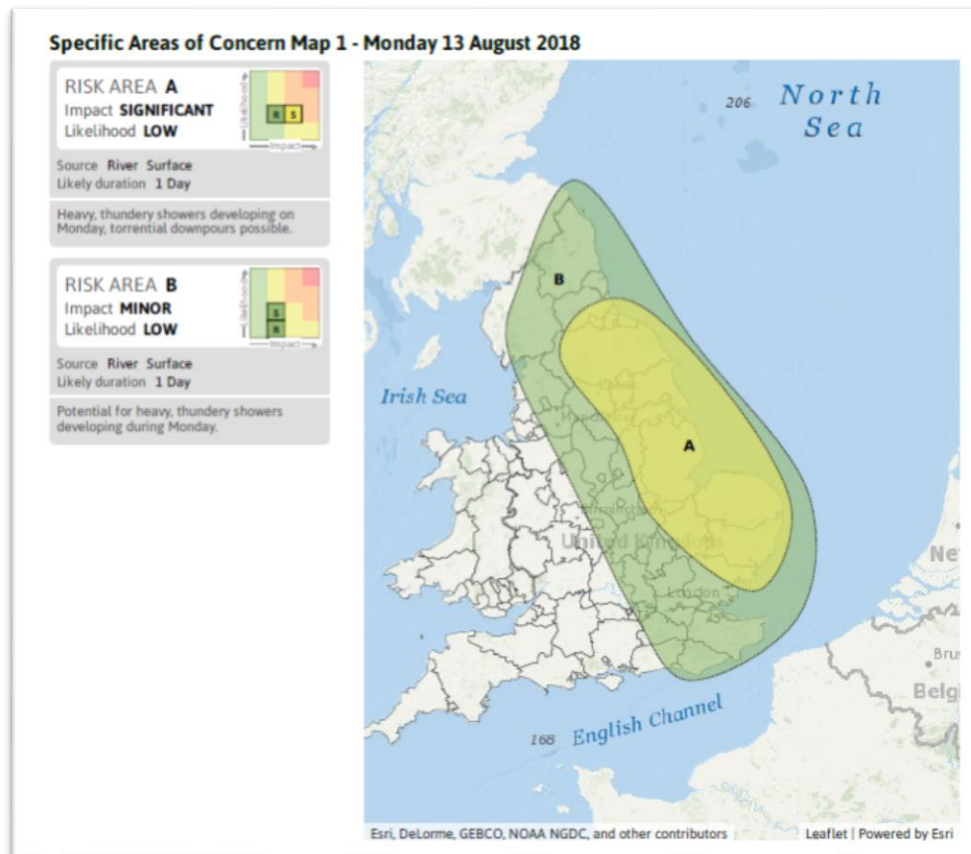


Figure 3 – Flood Guidance Statement 10:30hrs Monday 13 August 2018

Two bands of rain were forecast with the earlier band of rain at 1pm leading to visibly heavy rainfall and an expected disruption to pedestrians and road users but no notable impacts were recorded. The forecast detailed that a further intense band of rain would hit the city during the late afternoon, although the intensity of the rainfall >32mm/hr was accurate the duration was longer than expected. This is a common problem with forecasting of intense summer rainfall events.

Figure 4 details the outputs from the Met Office Hazard Manager tool available to CYC, the sequence of figures illustrate how the intense rainfall - >32mm/hr – slowed and sat over the city leading to significant rainfall volumes falling on already surcharged drainage systems.

Rain gauges recorded more than 40mm of rainfall in less than 20 minutes in some parts of the city, this is in excess of 120mm/hr.

Two CYC tankers and crews were on standby and mobilised for both rainfall events and the crews attended a range of reported issues during the afternoon and early evening, Annex 1 details the reports received by the council, via the media and via partners information.

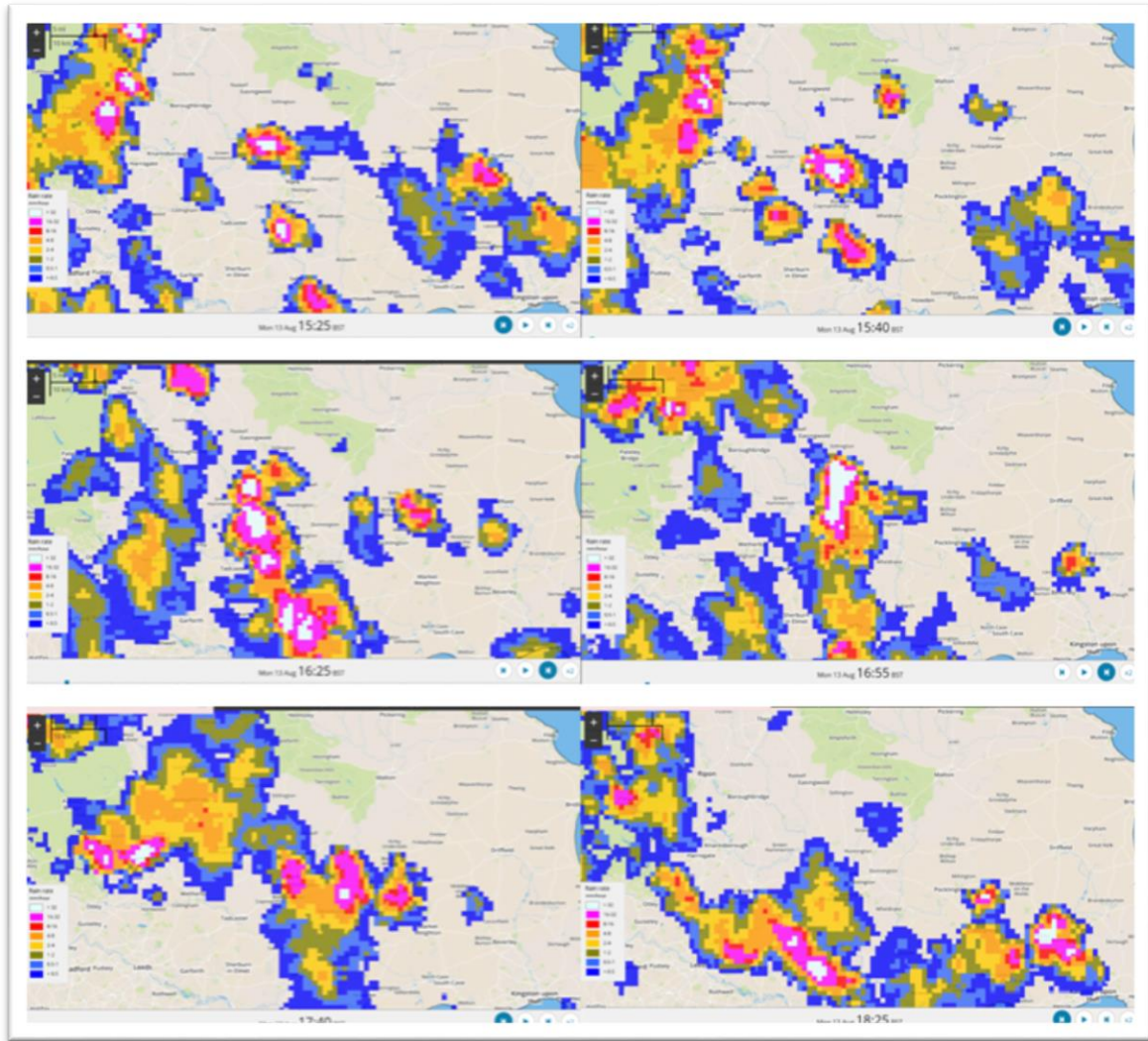


Figure 4 – Hazard Manager Rainfall Radar 13 August 2018

3. Possible Causes

The following section identifies the key issues identified in the event across all areas of the city and should be read in conjunction with Annex 1 of this report where individual roads, their investigations and recommendations are fully referenced.

The reports of issues were obtained from council reports, emergency services records, media reporting and social media posts. It is not expected that the 123 reports in annex 1 of this report are an exhaustive list of all issues experienced and further reporting of issues will be followed up as required.

Given the extreme rainfall rate across the city it is highly likely that problems would have occurred as any drainage system would struggle to convey such flows, however a number of reoccurring issues have been identified and these are detailed below and in Annex 1. In many cases they have been resolved but we will work with partners to deliver potential solutions in remaining areas. This may require

investment (from CYC and/or partners) to manage exceedance rainfall events in excess of normal practice, however this may be required to reduce the impact to properties and key arterial transport routes in the city.

Acomb

A wide range of areas in the Acomb ward were affected due to the intense nature of the rainfall, however, investigations have shown locations where CYC and Yorkshire Water infrastructure required relatively simple maintenance – see lines 6 and 8 in annex 1 – but on some occasions these were repeat problems and works have been required on several occasions. Yorkshire Water are aware of the ongoing issues on Front Street and the work carried out will have made the system more resilient to future storm events, we will continue to monitor this closely. Other locations such as the affected section of Wetherby Road have been highlighted as requiring a more frequent gulley cleanse, this is considered in the Recommendations section.

A collection of reoccurring problems were experienced around the Carr Lane / Sitwell Grove / Cranbrook Avenue area. Investigations have shown that the surface water drainage system in this area has been amended through subsequent road improvements, other developments and changes made to accommodate services below the road/footway surface. The area where the Boroughbridge Road highway drainage meets the surface water drainage from Carr Lane and the Sitwell/Cranbrook surface water drainage served by the Carr Drain culvert has very little gradient and changes to the levels in the intersecting drainage infrastructure has led to a reduction in flow rates in the pipe work leading to elevated levels and a system that can be easily 'surcharged' (where water within below ground drainage infrastructure exceeds its capacity and floods above ground through manholes, road gully's etc) in heavy rain.

A capital works scheme is being developed to improve the system and to restore a more efficient conveyance, this scheme is intended to be delivered before the end of the 2018/19 financial year.

Bishopthorpe

Although a significant number of roads, footways and open land were likely to have suffered from standing water as a consequence of the intensity of the rainfall only one location has been reported as being significantly affected in annex 1, reactive maintenance was carried out on this occasion.

Clifton

The outstanding issues in Clifton Ward are predominantly linked to the significant highway flooding which has historically occurred along the length of the culverted section of Burdyke. The watercourse is culverted and in times of flooding flows are pumped into the River Ouse by the pumping station in the grounds of St Peters School. The pumping station is to be considered as part of the York Flood Alleviation Scheme and any improvements could provide surface water drainage benefits for the area around Clifton Green. However, this is a complex set of drainage

infrastructure with river, sewerage and surface water infrastructure in close proximity with some interaction between the systems, a recommendation is made in this report for a holistic study of the system to be carried out to identify any required improvement works.

Dringhouses & Woodthorpe

A range of investigations in Dringhouses and Woodthorpe have identified minor maintenance requirements on the CYC and Yorkshire Water maintained infrastructure, repeat problems on Tadcaster Road and White House Dale require continued investigation from both authorities.

Fishergate

The two incidents reported in the ward have both been investigated and minor works have been carried out/planned.

Fulford & Heslington

All issues in the ward were related to surface water flooding of roads, a small number of minor maintenance issues have been found and implemented.

Guildhall

Investigations and minor works have been carried out across the incidents reported in the ward, the drainage infrastructure in King Square requires regular cleansing to effectively drain this area and regular reports are received after heavy rainfall in this area, recommendations on the design of drainage infrastructure in regeneration projects are made in relation to this.

Haxby & Wigginton

A significant number of all reports were centred on this ward, see Annex 1, issues ranged from minor road flooding through to significant blockages of roads or flooded gardens and unfortunately in a number of cases internal flooding of properties.

Surface water drainage in Haxby & Wigginton effectively drains in two separate directions, the majority of flows drain south and west to Westfield Beck and are pumped by the Westfield Beck pumping station in times of flood, flows in the north east of the ward drain towards the Strensall system, Figure 5 below gives an indicative illustration of the area that drains to the Westfield Beck Pumping Station.

The pumping station is essential to ensure that the surface drainage system can discharge effectively and levels within the highway and surface water sewerage system that discharge to it are as low as possible. However, a range of investigations identified issues that were affecting the efficient drainage of the immediate highway or sewerage connections irrespective of the influence of the pumping station.

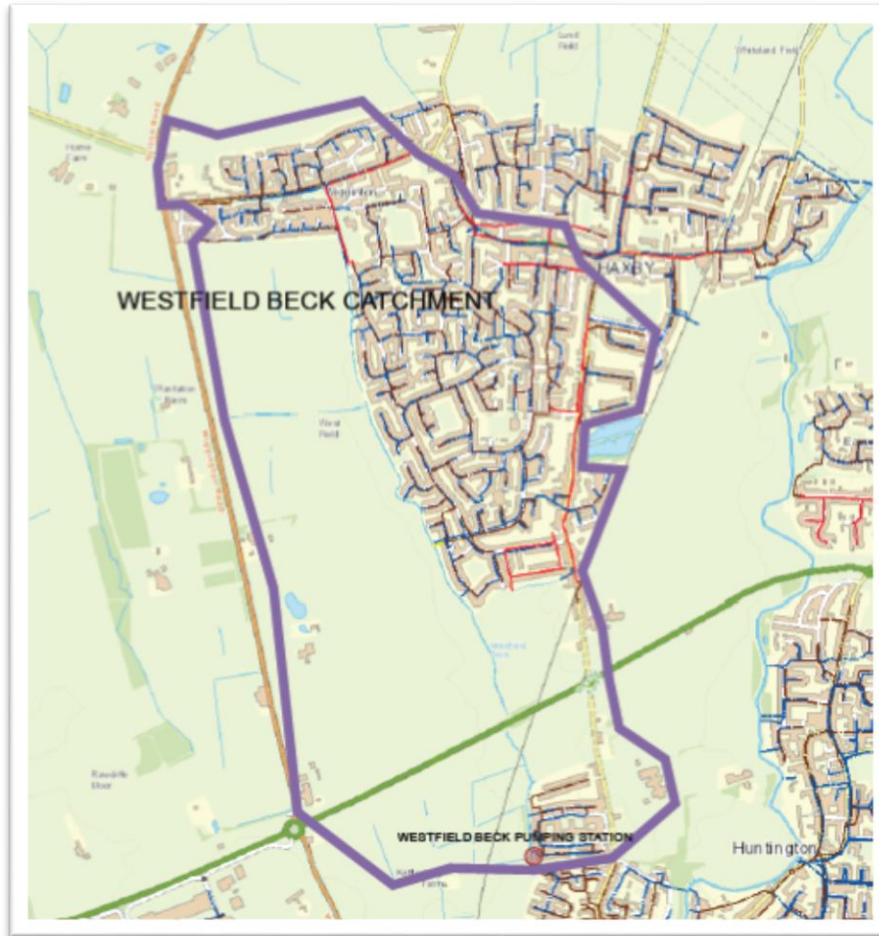


Figure 5 – Indicative illustration of area draining to Westfield Beck

- Area Draining to Westfield Beck

Ascot Road (41 in Annex 1) has flooded in the past, internal flooding of properties occurred during the event and the road was flooded to a considerable depth. Investigations found blockages on the Mill Lane and Delamere Close sewerage infrastructure, it is recommended that Yorkshire Water consider a capital scheme to consider relaying sections of the system to promote more effective drainage and reduce the risk of blockages.

Issues on Gateland Close (47), Lockey Croft (53), Longcroft (54) and Steeple Close (62) have all been resolved following investigation and reactive works by City of York Council and/or Yorkshire Water. Ongoing investigations are required at Abelton Grove (40), Greenshaw Drive (48), Kennedy Drive (52), Ripley Grove (59) and The Village (66).

Westfield Beck Pumping Station

Westfield Beck pumping station is located to the north west of New Earswick, see location on Figure 5. In normal flow conditions river flow on Westfield Beck passes through the station and continues along the beck which ultimately joins the River Foss just upstream of the New Earswick and Huntington Link Road bridge.

In flood conditions a flow control penstock closes to restrict flows in the downstream section of Westfield Beck to 1 cumec (1 cubic metre of water per second) and all other flows are diverted in culvert to the River Foss in the east. This operation provides protection to communities in New Earswick.

Historically the pumping station is operated by Yorkshire Water but the weed screen which protects the station from significant blockage from debris has been cleansed by the Foss (2008) Internal Drainage Board which is operated as part of the York Consortium of Drainage Boards. The IDB uses its permissive powers to carry out wider maintenance of Westfield Beck.

On the 13th August 2018 the IDB responded to reports and attended site to cleanse the weed screen as considerable debris build up was elevating river levels upstream, similarly Yorkshire Water were contacted by local residents regarding elevated levels in Westfield Beck.

Residents and the IDB confirmed that Yorkshire Water were initially slow to accept responsibility to attend the pumping station and take action, their control centre did not have the asset included on their systems and the operative who attended had limited knowledge of the layout or operation of the site. This delayed response and elevated levels in Westfield Beck caused concerns for residents in New Earswick and will have reduced the capacity and capability of the surface water drainage network in Haxby & Wigginton.

The IDB found significant difficulty in cleaning the screen manually and a machine had to be brought in to complete the task, the board were in attendance until 10:30pm and have reported difficulties in providing such response out of hours with only three operatives available.

Investigations have found that the automated penstock was not opening sufficiently, this will elevate levels upstream in normal flows as more flow is sent to the pumps, in addition to this one of the pumps was found to be not working, the IDB confirmed both issues were observed on the day.

Ownership and responsibility of the pumping station has been a recurrent issue in recent years, however, City of York Council have a legal document from 2005 prepared in agreement with Yorkshire Water, the IDB and the council confirming that ownership of the pumping station rests with Yorkshire Water and the IDB are responsible for the clearance of the screens. Yet continued confusion exists as to the status of the asset.

This responsibility has further been confirmed in discussions between Yorkshire Water and the Environment Agency as part of the preparation of the York Flood Alleviation Scheme on the 29th November 2018.

Although the extent to which the issues detailed above will have impacted on flooding problems experienced on the 13th August 2018 Annex 1 of this report has concluded that it will have been a contributing factor in the flooding to locations at lines 42, 55, 56, 58, 60, 61, 64 and 65.

A range of recommendations are made in relation to this.

- Area Draining to the North East

Internal flooding affected Carmires Avenue (44), investigations have found that the Yorkshire Water sewer system required maintenance to remove a blockage, Yorkshire Water have completed these works. Further issues have been resolved by City of York Council and/or Yorkshire Water at the following locations – Elder Grove (45), Folks Close (46) and Usher Park Road.

Further investigations are required at Hall Rise (49) and North Lane (51).

Heworth

All issues in the ward were related to surface water flooding of roads, a small number of minor maintenance issues have been found and implemented and further investigations are being carried out at Heworth Green (71).

Holgate

A number of highway flooding issues occurred across Holgate ward, the majority have been resolved through reactive works, investigations at Ainsty Avenue (73) and Holgate Park Drive (75) still require resolution.

Repeat flooding on Holgate Road (76) by the Fox public house causes significant disruption to traffic on a key arterial route into the city. There is potential for a capital scheme to disconnect road gullies from the Yorkshire Water sewerage network and drain surface flows directly to Holgate Beck, this will be considered and developed further.

Hull Road

Investigations have concluded in the ward and actions have been carried out, Millfield Lane (83) investigations identified no defects and the flooding here was likely a consequence of the severity of the storm being outside of the design standard of 'normal' drainage systems, however, the system will be considered in future storms to monitor its effectiveness.

Huntington & New Earswick

All investigations and actions completed.

Micklegate

A range of investigations in the ward have identified a number of streets where ineffective, damaged or the layout of gullies is affecting efficient drainage in significant storms, further investigations and works are required at Moorgarth Avenue (90), Mount Vale Drive (91, 92), Station Rise (95) and Tadcaster Road (96).

A business in Blossom Street has suffered repeat flooding, the CYC Flood Risk Management team have responded on a number of occasions and discussions have been held with the business owner. The problems arose following changes to the road and pedestrian crossing layout by CYC, Levels of the footway have been amended to accommodate a good design for the pedestrian crossing but this has consequently presented a flow route for surface water from the road in times of significant rainfall. A redesign of the system/installation of new gullies will be carried out and a recommendation is made to raise awareness of highway design issues, this is similarly linked to the issues observed at Kings Square.

Nunthorpe Road (93) previously flooded in summer 2015, drainage in the area was affected by a partial sewer and gulley blockages. The rainfall intensity in the 2015 storm, although not as significant as the 13th August 2018 storm, would have likely caused issues in this area but the condition of the drainage infrastructure likely increased the impact. No significant blockages were found in this investigation but clearly an ongoing vulnerability exists here. Improvements to the drainage system will be investigated and a property flood resilience scheme will be considered with residents, where possible CYC will add resilience to the properties through adaptations to boundary walls or the fabric of the buildings.

Osballdwick & Derwent

Although a relatively small amount of issues have been identified in the ward a range of ongoing investigations are necessary to better understand the issues. It is likely that the intensity of the rainfall exceeded the normal capacity of the drainage in most cases but CYC and Yorkshire Water will identify if any improvements can be made to make the systems more resilient.

Rawcliffe & Clifton Without

The majority of investigations have been concluded in the ward, like others the intensity of the rain is likely to be the major contributory factor to what was mainly reported as road flooding.

Property flooding occurred on Eastholme Drive (104) and was avoided through emergency response on Shipton Road (107), further investigations by CYC and Yorkshire Water are required. It is recommended that Yorkshire Water consider a capital scheme to reduce the impacts of flooding on Shipton Road which threatened property, improvements to the gullies at this location will further be considered by CYC.

Rural West York

A number of ongoing investigations are in progress in the ward, internal flooding occurred in Nether Way (114) and Portal Road (115). CYC are investigating issues at Netherway and will work with Yorkshire Water who have previously installed a capital scheme at Portal Road to relieve flooding issues, to identify if further works can be provided to increase resilience.

Strensall

Investigations and works are extensively complete in this ward, remaining investigations will be completed as necessary.

Westfield

All investigations and remedial works have been completed in this ward.

4. Roles and Responsibilities

The roles and responsibilities surrounding flood risk management are complex and can often be difficult to interpret. A detailed breakdown is given in Section 6 of the City of York Council Local Flood Risk Management Strategy:

https://www.york.gov.uk/info/20007/planning_and_building/1237/local_flood_risk_strategy

Section 1.1 of this report details that a Lead Local Flood Authority should identify the following detail as part of a Section 19 investigation:

- (a) which risk management authorities have relevant flood risk management functions, and
- (b) whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood.

The detail in Annex 1 indicates the key issues and the lead organisations, these are predominantly City of York Council and Yorkshire Water, both organisations are sharing information and carrying out appropriate investigations.

The Environment Agency are included in a number of recommendations where future investigations or improvements are likely as part of the York Flood Alleviation Scheme, City of York Council are working in partnership with the EA on all aspects of the schemes and key outcomes and recommendations from this report will be included as necessary.

The Foss (2008) Internal Drainage Board have supplied information and support into the considerations surrounding Westfield Beck, the board have debated the issues at their meetings and CYC are a member of the board and will work with the IDB on relevant recommendations from this report.

5. Recommendations

The impacts of the 13th August 2018 storm event were spread wide across the city, Annex 1 details all significant impacts reported to the council, emergency services or the media. However, a much wider area of the city will have been impacted through ponding of water on roads and footways which is a likely occurrence when a storm of this intensity is experienced.

Drainage infrastructure is designed and implemented to convey 'normal' rainfall, City of York council and partners will deliver service improvements where people and property are impacted and a number of recommendations below deal with this, however, we need accept that we cannot expect all rainfall to be instantly conveyed into below ground drainage in such storms.

Recommendation 1 – City of York Council to work with all partners to develop a programme of increased resilience awareness. The refresh of the Local Flood Risk Strategy in 2019 and the development of communications and legacy awareness campaigns from the York Flood Alleviation Scheme will be key vehicles for this.

Although the investigation in Annex 1 detail a range of areas where the highways drainage infrastructure were found to be free, or relatively free of blockages and defects future gulley cleansing funding requirements should be supported to ensure an effective and efficient programme of gulley maintenance is adopted in the city.

Recommendation 2 – City of York Council to support the findings of the current and future reviews into highway gulley maintenance.

In addition to this we need to all better understand our role in the management of surface water, for example: homeowners hard paving gardens, developers delivering sustainable drainage solutions and highways managers designing and implementing new highway schemes.

Recommendation 3 – Advice and awareness on surface water management techniques and best practice will be developed and shared with a wide range of stakeholders and partners.

Recommendation 4 – CYC Flood Risk Management team to work with CYC highways design engineers to reinforce best practice in designing drainage provision in their schemes

Rainfall data in the 13th August 2018 event has been obtained from a wide range of sources, historic rain gauge data that has been used in past events was out of commission on this occasion, we are therefore reliant on third party data to carry out investigations. Real time rain gauge data is not readily available during an event, the speed in which the event unfolded on this occasion would not have benefitted from upto date rainfall data but this could be used to direct responses in other events.

Initial investigations following the event have shown that a limited network of rain gauges could be installed in the city for a relatively small cost, the data could be shared with neighbouring Local Authorities to further reduce costs.

Recommendation 5 – CYC Flood Risk Management team to prepare a report for CYC Executive identifying the need to develop a network of digital rain gauges and recommending appropriate budgets are made available to support this.

The investigations in Annex 1 are substantively complete across all parts of the city, however, some investigations require further work. A generic recommendation is made for all partners to conclude investigations, this is followed by specific recommendations detailing key locations.

All recommendations have been shared and agreed with all partners before publication of this report, City of York Council will monitor progress against all outstanding recommendations.

Recommendation 6 - All outstanding investigations in Annex 1 are to be completed and necessary steps taken in response to the findings.

Recommendation 7 – Yorkshire Water consider the development of a capital scheme to improve the hydraulic capacity of the Ascot Road/Mill Land/Delamere Close drainage system.

Recommendation 8 – Yorkshire Water consider a capital scheme to re-line the sewerage system on Shipton Road (part of) to remedy collapse and tree root damage as identified in investigations.

Recommendation 9 – City of York Council consider a capital scheme to deliver property flood resilience measures in the Nunthorpe Road /Gray Street area.

Recommendation 10 – City of York Council consider a capital scheme to deliver highway resilience adjacent to the Fox public house on Boroughbridge Road.

Recommendation 11 – City of York Council consider a capital scheme to ease issues in the Carr Lane / Sitwell Grove / Cranbrook Avenue area.

Recommendation 12 – Environment Agency / City of York Council – investigation to better understand the interaction between Main River, surface water and the sewerage system on Burdyke and any necessary improvements to the pumping station.

Recommendation 13 - Westfield Beck, Yorkshire Water to ensure all aspects of the pumping station are included in their customer centre records to enable effective response when contacted by the public and partners.

Recommendation 14 - Westfield Beck, Yorkshire Water to ensure a full review of pump and penstock condition is completed and all necessary works are completed. Operational and control specifications for the station to be confirmed with City of York Council, IDB and Environment Agency.

Recommendation 15 - Westfield Beck, Foss (2008) IDB to work with Yorkshire Water to ensure a safe and sustainable approach to screen clearance is in place at the asset.

Recommendation 16 - Westfield Beck, Environment Agency and City of York Council to consider future improvement needs for the pumping station to deliver the benefits required as part of the York Flood Alleviation Scheme.

6. Conclusion

The rainfall experienced on the 13th August 2018 would have tested any urban drainage infrastructure, the rainfall intensities in excess of 100mm per hour are far in excess of the normal design standards across the industry. It is therefore inevitable that standing water will be observed in future storms of this nature.







Annex 1 identifies where infrastructure was found to be working at or near its design capability and in many locations no further actions are planned, recommendations made in section 5 of this report will work to develop awareness and understanding of how future storm events may impact on the city and how we can take action as home owners, businesses or developers to reduce the pressure on our existing drainage infrastructure.

In some locations recommendations aim to provide improvements to this existing infrastructure to increase their resilience in future severe events to reduce the likelihood of highway or property flooding.

A number of locations were presented with an increased risk of flooding due to defective or blocked infrastructure, some of these locations may well have been affected directly as a consequence of the rainfall intensity but the defects found following investigation could have increased the likelihood of flooding. Many works have been completed but a range of recommendations for City of York Council and partners are made to resolve the issues in some locations.

All recommendations in section 5 have been shared and agreed with partners, progress and delivery will be reviewed by the City of York Council Flood Risk Management team and where necessary reported to the Decision Sessions of the Executive Member for the Environment.

Annex 1

-  = priority 1: property internally flooded
-  = priority 1: serious 'external' flooding e.g. across a whole road, close to property flooding
-  = priority 2: flooding of more than one gully
-  = priority 3: flooding of single gully
-  = priority 4: no action for investigating organisations - private landowner/business issue
-  = Yorkshire Water responsible for investigation

Ref	Ward	Location	Internal/ External Flood	Priority	Issue Description	Investigation	Recommendation(s)
1	Acomb	Carr Lane	External	2	Surface water flooded road Business' car park flooded	Recurring flooding issue. Minimal silt in gullies. Linked to issue with Cranbrook Avenue and Sitwell Grove	Replace 10 defective gullies on Cranbrook Avenue and excavate junction with Almsford Road to unblock. Capital scheme programmed at Boroughbridge Road to provide relief drain.
2	Acomb	Cranbrook Avenue	Internal	1	Surface water flooded properties under floor and flooding attached garages. Surface water	Carr Drain culvert drainage is not effective. Linked to Sitwell Grove	Replace 10 defective gullies on Cranbrook Avenue and excavate junction with Almsford Road to unblock. Capital scheme

					across road and into gardens. Sewage had come up to surface for properties.		programmed at Boroughbridge Road to provide relief drain.
3	Acomb	Front Street	Internal	1	Businesses internally flooded	Yorkshire Water sewage system surcharged. Jetted, checked with CCTV	Issue resolved. Defective gully needs replacing by CYC
4	Acomb	Norman Drive	External	3	Surface water flooded across whole road	Gully cleared	No further actions required
5	Acomb	Rosedale Avenue	External	2	Surface water flooded across whole road	Ongoing CYC investigation	Ongoing CYC investigation
6	Acomb	Sherwood Grove	External	2	Surface water flooded road	Gullies cleared	CYC to consider gully improvements
7	Acomb	Sitwell Grove	Internal	1	Surface water flooded a single property's attached garage	Yorkshire Water investigated garden issues. Carr Drain culvert drainage is not effective. Linked to Cranbrook Avenue	Replace 10 defective gullies on Cranbrook Avenue and excavate junction with Almsford Road to unblock. Capital scheme programmed at Boroughbridge Road to provide relief drain.

8	Acomb	Wetherby Road	Internal	1	Surface water flooded non-attached garages and driveways	Road gullies cleared. Low spot and recurring surface water issue.	CYC to consider more regular cleanse. Install an extra gully
9	Acomb	Wheatlands Grove	Internal	1	Surface water into floor void and into attached garages. Surface water flooded across the whole road and into gardens	Gullies had minimal debris. Issue reoccurred on 7th November. Yorkshire Water sewage system blocked by tree roots.	Yorkshire Water considering re-lining of the sewerage system.
10	Acomb	Millgates	Internal	1	Surface water flooded attached garages Road flooded full width	Yorkshire Water sewage system surcharged. Tree roots and debris found in Yorkshire Water sewage system. Sewage system cleared	CYC to review highway drainage after heavy rainfall. Yorkshire Water to check their sewage system after heavy rainfall.
11	Bishopthorpe	Acaster Lane	External	3	Surface water flooded road	Gullies cleared	No further actions required
12	Clifton	Newborough Street	External	3	Surface water flooded across the road and onto the pavement	Ongoing Yorkshire Water investigation	Ongoing Yorkshire Water investigation
13	Clifton	Rose Street	External	3	Surface water flooded road	Gully cleared	No further actions required

14	Clifton	St Olaves Road	External	2	Surface water flooded driveway	Gullies cleared	No further actions required
15	Clifton	Sycamore Terrace	External	3	Surface water flooded road	Gullies blocked	Parking suspension to be arranged to clear gullies
16	Clifton	Water Lane (issue 1)	External	1	Surface water flooded across the whole road	Recurring flooding issue	CYC and the Environment Agency to investigate the impacts of Burdyke pumping station on Water Lane.
17	Clifton	Water Lane (issue 2)	External		Overflowing Yorkshire Water manhole	Yorkshire Water sewage system issue	Ongoing Yorkshire Water investigation
18	Dringhouses & Woodthorpe	Aintree Court	External	2	Surface water flooded road	Gullies cleared prior to event. Road profile prevents effective drainage to gullies	Additional gully to be installed
19	Dringhouses & Woodthorpe	Bracken Road	Internal	1	Surface water flooded properties' attached garages Road flooded full width	Gullies cleared on streets surrounding Bracken Road.	Additional gully to be installed
20	Dringhouses & Woodthorpe	Chalfonts	External	3	Surface water flooded road	Gully cleared	No further actions required
21	Dringhouses & Woodthorpe	Ganton Place	External	1	Surface water flooded road and non-attached garages	Gully cleared. Road in front of garages not Local Authority responsibility	No further actions required

22	Dringhouses & Woodthorpe	Lowick	External	2	Surface water flooded road	4 gullies not operational	CYC excavation required
23	Dringhouses & Woodthorpe	Tadcaster Road	External	3	Surface water flooded road	11 gullies not operational - cleansed. Tree root lockage to Yorkshire Water sewage system	Ongoing Yorkshire Water investigation
24	Dringhouses & Woodthorpe	White House Dale	Internal	1	Surface water flooded property through airbricks	Gullies cleared, minimal debris. Repeat surface water issue, low spot.	Ongoing CYC investigation
25	Fishergate	Fishergate (issue 1)	External		Yorkshire Water manhole cover collapsed	No further investigation required	Yorkshire Water to replace manhole cover
26	Fishergate	Fishergate (issue 2)	External	3	Surface water flooded road	Gullies cleared	No further actions required
27	Fulford & Heslington	Atcherley Close	External	3	Surface water flooded road	Gullies cleared prior to event, minimal debris - cleared again.	Yorkshire Water to check combined sewer after heavy rainfall
28	Fulford & Heslington	Main Street (issue 1)	External	3	Surface water flooded road	Gully cleared	No further actions required
29	Fulford & Heslington	Main Street (issue 2)	External		Yorkshire Water manhole cover making noise when cars drive by	Ongoing Yorkshire Water investigation	Ongoing Yorkshire Water investigation

30	Fulford & Heslington	School Lane	External	3	Surface water flooded road	Gullies cleared	No further actions required
31	Fulford & Heslington	Heslington Lane	External	3	Surface water flooded road	Gully cleared	No further actions required
32	Guildhall	Bootham	External	2	Surface water outside businesses	Gully was full of residue from business Gully cleared	CYC to write to businesses to inform correct disposal
33	Guildhall	Davygate	External	2	Surface water flooded across the road and onto the pavement	Gullies cleared	No further actions required
34	Guildhall	Fern Street	External	3	Surface water flooded road	Gullies cleared	No further actions required
35	Guildhall	Fountayne Street	External	2	Surface water flooded across the whole road	Gullies cleared	No further actions required
36	Guildhall	Grove Terrace Lane / Huntington Road	External	1	Surface water flooded across the whole road	Gully cleared	Parking suspension required for further inspection
37	Guildhall	Kings Square	External	2	Surface water flooded road	Gullies regularly blocked. Gully design inhibits its effectiveness	Consider more frequent cleanse. Look into re-designing the system
38	Guildhall	Layerthorpe	External	2	Surface water flooded cycle paths	No significant issue identified	No further actions required

39	Guildhall	Vyner Street	External	2	Surface water flooded back lane	Gullies cleared	No further actions required
40	Haxby & Wigginton	Abelton Grove	External	1	Surface water flooded across the whole road	Gullies clear Yorkshire Water sewage system surcharged	Yorkshire Water to jet sewage system
41	Haxby & Wigginton	Ascot Road	Internal	1	Surface water flooded ground floors of properties	Recurring flooding issue. Gullies blocked on Mill Lane and now cleared. Blockage to sewage system on Delamere Close causing restriction	Recommended Yorkshire Water clear sewage system on Delamere Close and Mill Lane. Recommended Yorkshire Water consider a capital scheme to reduce the likelihood of reoccurrence.
42	Haxby & Wigginton	Barley View	External	1	Surface water flooded road and into gardens	Gullies clear. Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock operation likely caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS
43	Haxby & Wigginton	Birch Lane	External	2	Surface water flooded across whole road and into gardens and non-	Gullies clear. Yorkshire Water sewage system surcharged	Ongoing Yorkshire Water investigation

					attached garages		
44	Haxby & Wigginton	Carmires Avenue	Internal	1	Surface water into floor void and into attached garages.	Blockage in Yorkshire Water sewage system. Buried Yorkshire Water manhole uncovered and blockage released	No further actions required
45	Haxby & Wigginton	Elder Grove	External	3	Surface water flooded road	Gullies cleared	No further actions required
46	Haxby & Wigginton	Folks Close	External	2	Surface water flooded road	Gullies cleared	No further actions required
47	Haxby & Wigginton	Gateland Close	External	3	Surface water flooded road	Gully cleared	No further actions required
48	Haxby & Wigginton	Greenshaw Drive	External	2	Surface water flooded road and was close to flooding properties	Yorkshire Water sewage system surcharged	Awaiting Yorkshire Water clearing of blockages in sewage system
49	Haxby & Wigginton	Hall Rise	External	1	Surface water flooded across the whole road	Gully had minimal debris. Yorkshire Water sewage system surcharged - debris cleared.	Further investigation after heavy rainfall

50	Haxby & Wigginton	Hawthorn Avenue	External	2	Surface water flooded across the whole road and into gardens and non-attached garages	Yorkshire Water sewage system surcharged downstream. Linked to Birch Lane issues	Further investigation after heavy rainfall
51	Haxby & Wigginton	North Lane	External	2	Surface water flooded gardens and was close to flooding properties.	Gully repaired. Yorkshire Water sewage system backed up but no defects identified	Further investigation after heavy rainfall
52	Haxby & Wigginton	Kennedy Drive	External	2	Surface water flooded road	Gullies cleared. Potential link to Ableton Grove	Ongoing CYC investigation
53	Haxby & Wigginton	Lockey Croft	External	3	Surface water flooded road	Gully cleared	No further actions required
54	Haxby & Wigginton	Longcroft	External	1	Surface water flooded road and driveways	Gullies cleared	No further actions required
55	Haxby & Wigginton	Minster View	External	2	Surface water flooded road	Gullies clear. Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock operation likely caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS

56	Haxby & Wigginton	Mulberry Drive	External	2	Surface water flooded road	Gullies clear. Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock operation likely caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS
57	Haxby & Wigginton	Oaken Grove	External	3	Surface water flooded road	Gullies clear. Yorkshire Water sewage system surcharged. Linked to Birch Lane and Hawthorne Avenue issues.	Ongoing Yorkshire Water investigation
58	Haxby & Wigginton	Old Orchard	External	2	Surface water flooded across the road and onto the pavement	Yorkshire Water sewage system surcharged Potential issues relating to Yorkshire Water sewer, headlands culvert, and/or Westfield Beck.	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS
59	Haxby & Wigginton	Ripley Grove	External	2	Surface water flooded road	Surface water sewer serves highway	Ongoing CYC investigation and to re-check gullies.

60	Haxby & Wigginton	Sandyland	External	3	Surface water flooded road	Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock opening too restrictive caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS
61	Haxby & Wigginton	Stanley Avenue	External	2	Surface water flooded road	Private road and not responsibility of CYC. Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock operation likely caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS
62	Haxby & Wigginton	Steeple Close	External	2	Surface water flooded road	Yorkshire Water sewer system surcharged. Yorkshire Water cleansed sewage system.	No further actions required

63	Haxby & Wigginton	Usher Park Road	External	2	Surface water flooded road	Gullies cleared, had minimal debris	No further actions required
64	Haxby & Wigginton	Westfield Grove	External	3	Surface water flooded road	Gullies clear. Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock operation likely caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS.
65	Haxby & Wigginton	Westfield Road	Internal	1	Surface water flooded property through airbricks	Gullies cleared Malfunction at Westfield Beck Pumping station - 50% failure of pumps and penstock operation likely caused beck to back up into IDB / YWS drainage system	Ongoing discussions with the IDB and Yorkshire Water to reinforce operations at Westfield Beck pumping station. Environment Agency considering improvements as part of York FAS.
66	Haxby & Wigginton	The Village (Haxby)	Internal	1	Surface water flooded the ground floor of a single property	Gullies cleared, one gully not operational Station Road business reported issues with toilet backflow	Systems working effectively, further investigation after heavy rainfall, consider more frequent gulley cleanse.

67	Heworth	Burnholme Drive	External	2	Sewage flowed across the road and onto the pavement	Repeat issue of sewage flowing over road	Yorkshire Water responsibility
68	Heworth	Fifth Avenue	External	2	Surface water flooded road	Gullies cleared	No further actions required
69	Heworth	Fossway	External	2	Surface water flooded road	Gullies cleared	No further actions required
70	Heworth	Glen Road	External	2	Surface water flooded road	Gullies cleared	No further actions required
71	Heworth	Heworth Green	External	2	Surface water flooded across the whole road	Repeat flooding issue. Previous repair not fully effective	Yorkshire Water to look into installing new manhole CYC to install 2 new gullies
72	Heworth	Huntington Road	External	2	Surface water flooded across the whole road	Slow running gully	No further actions required
73	Holgate	Ainsty Avenue	External		Surface water flooded road Yorkshire Water manhole cover lifted due to flow in sewer and flooded drive and garage of property	Yorkshire Water responsibility	Yorkshire Water to investigate
74	Holgate	Hamilton Drive	External	2	Surface water flooded road	Gullies cleared	No further actions required
75	Holgate	Holgate Park Drive	External		Yorkshire Water manhole cover lifted due to flow in sewer	Yorkshire Water responsibility	Yorkshire Water to investigate

76	Holgate	Holgate Road	External	1	Surface water flooded across the whole road Two Yorkshire Water manhole covers lifted due to flow in sewer on Acomb Road	Road floods even after gully clearing.	Review the potential of a capital scheme for a new surface water drain to Holgate Beck and new gullies.
77	Holgate	Howe Hill Close	External	2	Surface water flooded across the road and up to garage	Gully cleared	No further actions required
78	Holgate	Inman Terrace	External	2	Surface water flooded across the road and up to garage	Gullies cleared	No further actions required
79	Holgate	Poppleton Road	External	3	Surface water flooded road	Gullies cleared	No further actions required
80	Holgate	Salisbury Terrace	External	3	Surface water flooded road	Gullies cleared	No further actions required
81	Holgate	Watson Terrace	External	2	Surface water flooded across the road and onto the pavement	Gullies cleared	No further actions required
82	Holgate	Wilton Rise	External	4	Surface water flooded driveway	CYC has no responsibility as private road	No further actions required

83	Hull Road	Millfield Lane	External	2	Surface water flooded across the road	No issue identified. Suspected sewage system under capacity	System working effectively, further investigation after heavy rainfall.
84	Hull Road	Millfield Avenue	External	3	Surface water flooded road	Gullies cleared prior to event. Gully had minimal debris - cleared again. Yorkshire Water found no defects in their system	No further actions required
85	Huntington & New Earswick	Huntington Road	External	2	Surface water flooded across the whole road and was close to entering property	Gullies cleared	No further actions required
86	Micklegate	Bishopthorpe Road	External	3	Surface water flooded road	Gullies cleared	No further actions required
87	Micklegate	The Mount	Internal	1	Business internally flooded	Gullies cleared	Additional gullies to be installed CYC capital scheme to be developed
88	Micklegate	Dewsbury Terrace	External	3	Surface water flooded road	Gully cleared	No further actions required
89	Micklegate	Kensington Street	Internal	1	Surface water flooded ground floors of properties	Gullies cleared. Side of road impacted had a lower camber	Clean gullies more regularly

90	Micklegate	Moorgarth Avenue	External	2	Surface water flooded road	Gullies cleared Linked to Mount Vale Drive issues	Review the possibility of installing additional gullies
91	Micklegate	Mount Vale Drive	External	1	Surface water flooded across the road and onto the pavement	Gullies cleared	Review the possibility of installing additional gullies
92	Micklegate	Mount Vale Drive	External	1	Surface water flooded across the road and onto the pavement	Gullies cleared	CYC to improve traps in two gullies
93	Micklegate	Nunthorpe Road / Gray Street	Internal	1	Surface water flooded ground floors of properties and basement/cellars	Gullies cleared 1 gully not operational	Yorkshire Water combined sewer to be checked after heavy rainfall. CYC to support residents in the development of a property flood resilience scheme
94	Micklegate	Scarcroft Road	External	3	Surface water flooded road	Gully cleared	No further actions required
95	Micklegate	Station Rise	External	2	Surface water flooded footpath	1 gully not operational	Gully needs repairing
96	Micklegate	Tadcaster Road	External	1	Surface water flooded across the whole road	Gullies cleared	Consider more frequent cleanse. Review the possibility of installing additional gullies
97	Micklegate	The Mount	External	3	Surface water flooded road	Gully cleared	No further actions required

98	Micklegate	Trentholme Drive	External	1	Surface water flooded across the road, down drives and around properties	Repeat flooding issue. Gullies cleared. Yorkshire Water sewage system surcharged. Potentially linked to issues on Tadcaster Road and Mount Vale Drive	Ramp at junction into Trentholme Drive estate to be raised. Ongoing Yorkshire Water CCTV investigation
99	Osballdwick & Derwent	Church Road	External	2	Surface water flooded roads	Gullies cleared. Repeat flooding issue. Yorkshire Water to investigate their sewage system	Ongoing Yorkshire Water investigation
100	Osballdwick & Derwent	Greencroft Lane	External	2	Surface water flooded across the road and onto the pavement	Gullies cleared, repeat flooding issue	Ongoing CYC investigation
101	Osballdwick & Derwent	Meadlands	Internal	1	Surface water flooded a property through airbrick	Gullies cleared, repeat flooding issue	Ongoing CYC investigation
102	Osballdwick & Derwent	Shallowdale Grove	Internal	1	Surface water flooded the ground floor of a single property	Gullies cleared. Low spot vulnerable to surface water	System working effectively, further investigation after heavy rainfall

103	Rawcliffe & Clifton Without	Melton Avenue	External	3	Surface water flooded road	No issue identified	System working effectively, further investigation after heavy rainfall
104	Rawcliffe & Clifton Without	Eastholme Drive (issue 1)	Internal		Attached garage flooded	Yorkshire Water responsibility	Yorkshire Water to investigate
105	Rawcliffe & Clifton Without	Eastholme Drive (issue 2)	External	3	Surface water flooded road	Gullies cleared	No further actions required
106	Rawcliffe & Clifton Without	Galtres Grove	External	3	Surface water flooded road	3 gullies not operational. Linked to Shipton Road	Ongoing CYC investigation
107	Rawcliffe & Clifton Without	Shipton Road	External	1	Surface water flooded driveway and was close to entering property	Gullies cleared recently prior to event. Tree roots and collapse found in Yorkshire Water sewage system. Yorkshire Water repaired sewage system	Yorkshire Water to consider capital scheme to re-line the sewage system. CYC to look into gully with a bigger trap
108	Rawcliffe & Clifton Without	Somerset Close	External	3	Surface water flooded road	Gully cleared	No further actions required

109	Rawcliffe & Clifton Without	Rawcliffe Croft	External	2	Surface water flooded road	Ongoing CYC investigation	Ongoing CYC investigation
110	Rural West York	Burtree Avenue	External	3	Surface water flooded road	Gully cleared	No further actions required
111	Rural West York	Church Lane (Nether Poppleton)	External	3	Surface water emerged from manhole in road	Cause of issue still to be determined	Ongoing CYC and Yorkshire Water investigation
112	Rural West York	Main Street (Nether Poppleton)	External	3	Surface water flooded road	Gully cleared	No further actions required
113	Rural West York	Main Street (Askham Bryan)	External	2	Surface water flooded road	Gullies cleared Suspected issue with Yorkshire Water surface water sewer	Ongoing Yorkshire Water investigation
114	Rural West York	Nether Way	Internal	1	Surface water flooded the ground floor of a single property	Recurring flooding issue	Ongoing CYC investigation
115	Rural West York	Portal Road	Internal	1	Surface water flooded ground floors of properties	Gullies cleared Historic issues with Yorkshire Water sewerage system	Ongoing Yorkshire Water investigation

116	Strensall	A1237 Shipton Road To Hopgrove	External	2	Surface water flooded across the whole road	Weeds impacting gullies. A1237 weed sprayed	Road sweeper to clear A1237 once current CYC roundabout schemes are complete
117	Strensall	Heath Ride	External	3	Surface water flooded road	No issue identified	No further actions required
118	Strensall	Strensall Road	External	3	Surface water flooded road	Potentially linked with leaves in gullies	Ongoing CYC investigation
119	Strensall	The Village (Stockton on the Forest)	External	3	Surface water flooded road	Gullies cleared	No further actions required
120	Westfield	Gale Lane	External	3	Surface water flooded road	Gully cleared	No further actions required
121	Westfield	Lown Hill	External	2	Surface water flooded road	Gullies cleared Yorkshire Water cleared tree roots in sewage system	No further actions required
122	Westfield	Milner Street	External	3	Surface water flooded back lane	Gullies cleared	No further actions required
123	Westfield	Tudor Road	External	2	Surface water flooded road	Gullies cleared	No further actions required