Decision Session - Executive Member for Environment and Climate Change **12 August 2020**

Report of the Director of Economy & Place

York February Flood Review

Summary

1. February 2020 has been confirmed as the wettest on record, Storms Ciara, Dennis, Jorge and a fourth unnamed rainfall event led to significant river response as rain fell on already saturated ground.

2. Pennine rainfall raised levels in the River Ouse after each storm event leading to four significant river peak levels. Significant areas of the city centre and outlying villages were in flood alert and warning status for more than three weeks. Riverside access routes for pedestrians and cyclists were underwater for the majority of February.

3. All flood plans were enacted by City of York Council, Environment Agency and Yorkshire Water. The cities flood defences prevented flooding to around 1056 properties. Multiple storms and snow melt complicated forecasting and all partners deployed plans for defence exceedance in some locations based on reasonable worst case scenarios. Early operational actions would have mitigated further flooding if forecast levels were achieved.

4. Around 60 businesses are thought to have been directly or indirectly affected by the flooding. These are in riverside locations, with many having resilience measures in place. City of York Council worked with the West Yorkshire Combined Authority and Make it York to provide a grant to businesses for flood-incurred damage costs that were not covered by their insurance policy.

5. All partners responded effectively, however, a range of recommendations have been identified at paragraph 7.

6. The Environment Agency continue to develop plans for flood alleviation works across the city, quarterly update reports are brought to the Executive Member for the Environment and Climate Change Decision Session. The latest report is provided at Annex 2.

Recommendations

7. The Executive Member for the Environment and Climate Change is asked to note the report and the update at Annex 2, feedback is sought from the Executive Member on all content. A range of recommendations have been identified below:

    i. Emergency Response Procedures – co-location of internal officers worked well and should be reinforced in the flood plan, linkages to the York Flood Group should be reviewed.

    ii. Emergency Response Procedures – further awareness sessions for key duty officers across agencies are to be considered to ensure awareness and understanding of their roles.

    iii. Operational – acting early to deploy temporary measures was successful, this should be recognised and supported as best practice and all teams encouraged to act in this way.

    iv. Operational – The flood resilience measures under consideration for Fulford are to be developed further and additional funding sought to enable their delivery.

    v. Operational – Sandbags were deployed in accordance with risk and forecast, this worked as an effective use of resource but need to communicate this better to affected communities so they know what to expect.

    vi. Warning and Informing – Forecast levels are included for Viking recorder on the .gov.uk website as part of a trial. This functionality is not available on all EA level gauges. The website includes a statement to refer to alerts and warnings for information. Better understanding is needed by all users of this service to explain its limitations. All communications should provide supporting information to explain this, Environment Agency are supportive of this and example text is provided at Annex 1.

    vii. Communications and Media – The Single Version of The Truth worked well to prove a rolling update on the forecasts, escalation and impacts of the flooding. The consequences of River Ouse flooding are well known and responses rehearsed, messaging and communication can be developed in advance of flooding and built into the flood plan.

    viii. Impact – Environment Agency led schemes in areas affected by the event are essential to provide future flood resilience, all involved are to commit to their effective and timely delivery.

    ix. Impact – The funding available for flood signage updates should be informed by feedback from the event to ensure it is targeted effectively and has maximum impact.

x. Impact – Council teams and partners support affected businesses wherever possible, businesses will be encouraged to ensure they are prepared for future flooding and business continuity planning takes this into account.

Background

8. Storms Ciara, Dennis, an unnamed rainfall event and Storm Jorge led to peak river levels on the River Ouse on the 11th, 17th, 24th February and 2nd March respectively. This has been the wettest February on record, with the most flood warnings issued in any one day across England. Rainfall fell on already saturated ground increasing the impacts.

9. Pennine rivers were predominantly affected with limited rainfall on the Foss, the Foss Barrier was operated throughout the event due to the high river levels on the Ouse but there were no issues in the majority of areas impacted in the Boxing Day 2015 flood event.

10. All partners have well developed flood plans and flood operations on the River Ouse facilitated by advance forecasting and flood alerts and warnings. All flood response plans were initiated.

Consultation

11. This report has been informed by a range of meetings and discussions amongst all partners and the Local Resilience Forum. Feedback has been obtained from councillors, direct communications with the council, flood groups, social media and door knocking during and after the event.

Options

12. The principal options open to the Executive Member for Environment and Climate Change are to comment on and review the recommendations in section 7.

Analysis

13. The River Ouse in York responded to rainfall on the catchments of the Rivers Swale, Ure and Nidd. The Flood Forecasting Centre, a collaboration between the Met Office and the Environment Agency, issue detail of forecasted weather and likely flood risk to all responders. CYC received 46 Flood Guidance Statements during the February event that evidenced a likelihood for an increased flood risk in York.

14. Flood Alerts and Warnings were issued by the Environment Agency as river levels rose these were updated, downgraded and re-issued as the situation changed with rising and falling river levels between each of the flood peaks. Alerts and warnings trigger actions in the CYC York Flood Plan, 55 individual alerts/warnings/updates/downgrades were received leading to a wide range of actions from CYC officers.

15. Four distinct flood peaks were experienced in York, levels rose slowly ahead of the first peak and fell slowly during each subsequent peak, this was further exacerbated by snow melt and spring tides downstream, river levels remained high throughout the month. Peak levels (Viking Recorder in York) and reasonable worse case maximum forecasts are provided below. In all cases forecasts were amended as rainfall levels and response in the upper river catchments were known but early forecasts were used to ensure flood preparedness via operational measures and effective communications:

    - Storm Ciara – Peak level 4.33m, reasonable worse case peak forecast of 4.5m
    - Storm Dennis – Peak level 4.42m, reasonable worse case peak forecast of 5.2m
    - Un-named rainfall – Peak level 4.47m, reasonable worse case peak forecast of 4.5m
    - Storm Jorge – Peak level 3.38m, reasonable worse case peak forecast 4.1m

Emergency Response Procedures

16. All partners in the North Yorkshire Local Resilience Forum delivered flood response operations and communications actions in accordance with the flood warnings issued and forecasted peak river levels. All partners worked collaboratively, this was facilitated by 16 Flood Advisory Service multi agency teleconferences throughout the event.

17. Response levels across the North Yorkshire Local Resilience Forum were escalated to Tactical Command Group (Silver) levels on 7 occasions during the event with Strategic Commanders (Gold) meeting virtually on 2 occasions.

18. CYC Emergency Planning Duty Officers provide a 24 hour on call service, as forecast information was received from the various outlets responses were escalated in agreement with the on-call senior officer and all 24 hour duty rota's were agreed to provide Emergency Planning, Strategic and Tactical command resources in accordance with the forecasted levels through each flood peak. All aspects of the Multi-Agency Flood Plan were set in motion through this process.

19. CYC Internal flood group meetings were convened on 16 occasions during the event, the groups were used to provide input to internal partners on forecast levels, actions of external partners and to agree future actions to respond to forecasted peak river levels. Formal meetings were further supported by emails and messaging to pre-determined internal recipients to provide updates, focus and recommended plans for escalation.

20. Early adoption of the command and control structure within the council based on the forecasted impacts of Storm Ciara ensured that all relevant officers

shared information and situational awareness and allowed escalation when required.

21. Forecasts for Storm Dennis moved the duty team, including on-call communications officers and wider internal flood group membership, to initiate a formal co-location of CYC officers in the Transport Office at West Offices. Although only initiated for 36 hours it allowed all officers to work closely as the River Ouse peaked following Storm Dennis which was forecast to cause significant issues, co-location gave the best opportunity to respond effectively.

22. The York Flood Group which includes external partners was not convened due to the early adoption of the Tactical Command Group. The co-location of CYC officers helped in the delivery of local operations and close links were formed with key partners in the Environment Agency and Yorkshire Water.

23. Internal reviews have identified that communication between teams worked well and there was a speedy response from all relevant departments. Staff went above and beyond across the services. There was a real sense of sharing tasks and support based on skills and knowledge and not hierarchy. Silver and operational teams were calm and highly professional.

24. The need for further support of duty officers in some roles was identified with a reliance on some officers with a more direct operational and technical subject matter knowledge. Tactical and Strategic officers would benefit from opportunities to shadow others and develop knowledge through exercising.

Operational Response

25. CYC Highways operatives responded to the rising river levels following the impacts of Storm Ciara and deployed flood signage in a wide range of locations across the city in accordance with flood action plans. Almost 70 flood signs were deployed and a range of additional signage was provided to enhance the information provided as the flood event continued.

26. The November 2000 flood level of 5.4m is the largest on record, the city's formal raised flood defences – embankments and flood walls/gates – provide protection to, and above, these levels across the city. Current investment in the city is being used to improve this level of protection and manage climatic change uplifts. The Environment Agency operated all defences during this event providing protection to many communities.

27. A number of locations across the city benefit from temporary defences, City of York Council Highways operatives deployed floodgates, sandbags and pumps to communities in Peckitt Street, Tower Place, Clementhorpe and Bishopthorpe. All works are pre-determined in our flood plan and were issued in advance of peak river levels.

28. 200 one tonne sandbags and 25 pumps were utilised to construct the temporary defences. Further pumping operations were required to manage surface water on the highway at the A19 in Fulford. Recently constructed flood

resilience works ensured the carriageway was not directly flooded, this would have occurred on three occasions had the defences not been in place.

29. Further pumping operations were carried out at Fordlands Crescent in Fulford, local drainage via Tunnel Drain was compromised by high River Ouse levels over a prolonged period. Localised rainfall exacerbated the issue and CYC, with support from Yorkshire Water, had to take action to pump water emerging on the highway and prevent flooding of homes. A scheme is currently being developed, see paragraph 53.

30. Yorkshire Water assisted CYC in pumping operations at Bishopthorpe and led on response at Lendal Tower and Longfield Terrace. CYC assisted the Environment Agency in pumping provision at Naburn.

31. All partners operational teams worked closely together during the event, the Environment Agency initiated its York Exceedance Plan up to the maximum forecast levels, this placed temporary defences in locations across Skeldergate and Clementhorpe, operations teams from the council and the Environment Agency worked closely in this operation. The Hazel Court Operations Room was utilised as a coordination centre during the flood with a full rota of support officers identified to service all front line needs.

32. Around 1056 properties were protected by formal and informal defences in York through all flood peaks, A19 access was maintained which would have been flooded previously.

33. The early deployment of operational measures in advance of Storm Ciara was effective, decisions were taken after each subsequent forecast to leave temporary defences in place through the city. Whilst this caused some disruption in terms of access to limited parts of the city, i.e. Skeldergate, the decision was based on the most effective use of time and resources during a long protracted event.

34. Highways operatives were stretched to resource the ongoing maintenance and pumping operations linked with the temporary defences, this resource was also called upon to carry out highway gritting operations on a number of occasions during the month.

35. In addition to the 200 one tonne sandbags used to create temporary defences more than 6000 sandbags were deployed across the city. Council sandbag policy determines that priority is given to the construction of pre-determined temporary defences before individual sandbags are deployed to protect homes.

36. Sandbags were deployed in accordance with the likely impact from each forecasted peak level, this allowed an effective and risk based deployment of sandbags to locations where they would be needed. This did, however, cause some concerns with residents requesting sandbags in locations that were not likely to be affected and no bags were supplied in these circumstances.

Communications were used to explain the sandbag strategy but some concerns remained.

Warning and Informing, Communications and Media

37. The on-call Communications duty officer worked closely with the Emergency Planning team during the early stages of Storm Ciara (from the 6th February) and a wide range of early communications messages were developed including – river safety, driving through flood water, forecast information, how to obtain information on warnings and advice of what to do during and after floods.

38. A Single Version of The Truth (SVOTT) document was developed before the first flood peak detailing all aspects of the emerging incident – latest forecasts, likely impacts, operational actions and likely impacts on CYC directorates – i.e. car parks, schools etc. This was updated daily and distributed to all key internal departments, councillors, parish councillors, flood groups, the Local Resilience Forum and MPs.

39. The SVOTT was an effective way to communicate a wide range of information on the event to a varied and extensive audience. It required considerable work to develop in the early stages and daily input to review and re-publish. Like the York Flood Plan many of the activities included in the SVOTT are linked to staged increases in flood forecasts and much of the messaging could be prepared in advance.

40. The Council deployed a Gold Commander, this role was a single point of contact for member enquiries and took pressure off tactical and operational teams and a small group of elected members delivering media interviews gave continuity and consistency of message.

41. The Communications team prepared and facilitated communications activity across a wide range of broadcast, social and direct media messaging – daily updates to press releases, 98 press enquiries, 20 direct press articles, 526 press articles referencing York flooding and more than 250,000 social media engagements (viewed, liked, shared) from CYC posts.

42. Forecast details of potential levels of flooding are significant for communities in York. During this incident direct communication to residents was provided to explain the likely escalation and impact should flood defences be overwhelmed. Early forecasts have more uncertainty and clarity is gained once actual rainfall levels are known and upper river catchment response is observed. The balance between communicating more uncertain early forecast levels to support community flood preparedness and a more certain later forecast level that would better reflect the actual risk that communities face was questioned by all partners during the event.

43. Whilst we recognise that any forecast can only ever come with a degree of confidence there were issues with officers being given different data by the EA to the publically available data on the .gov website for the Viking Recorder.

This is because the publically available information is a single source forecast used to illustrate a potential escalation of flood levels. Direct discussions between professional partners benefit from further interpretation of a number of likely scenarios by forecasters.

44. All partners prepared operations based on the reasonable worst case scenarios in the forecasts, this ensured we acted early and were prepared for the worst case impacts across the city. It is essential that we shared this information with our communities to support their own resilience planning.

45. Although the formal defences in York were not endangered by the forecast and actual levels during the event the temporary defences deployed in the Peckitt Street/Tower Place/Clementhorpe areas of the city defend to a level of 4.8m. They were therefore likely to be overwhelmed or extremely tested in the forecasted peak levels on three occasions.

46. The provision of direct and timely communications to residents in these areas was essential and two letter drops were carried out during the event to provide this information. The letters were compiled in agreement with the EA.

47. Communications officers worked closely with the Customer Service teams to set up call handling scripts and information for anyone contacting the Council directly. Customer Service teams worked with the Emergency Planning team during the event, out of hours call handling was escalated to a 24 hour customer advice service for a period when all teams co-located in West Offices.

48. Although the impacts of flooding and concerns over operational response, i.e. sandbags, have been reported to the council, many positive responses have been received across all media and direct contact channels acknowledging the clarity of flood communications and operational efforts of all officers.

Impact

49. Flood events of 4m + are significant for York, however, with a wide range of formal and temporary defences in place many communities were not impacted, approximately 1056 properties were protected during the event.

50. The main areas affected were Kings Staith, Tower Place, Queens Staith, riverside properties in Fulford, Naburn and Acaster Malbis. Properties in these locations were surrounded by flood waters. The vast majority of these properties have been affected in this way in past events and home and business owners have a range of property flood resilience measures in place.

51. Door knocking was carried out in several communities after the Storm Dennis peak to identify any impacts of flooding. However, provided individual property resilience measures proved to be effective it is likely that relatively few properties were directly affected during this event.

52. The impacts would have been greater if the resultant river levels were only 400mm higher, key temporary defence measures in the city would have been overwhelmed.

53. In Fulford the flood resilience measures on the A19 ensured it remained open during the full event, this would have not been possible before the works were completed. Fordlands Road was flooded on three occasions, off road vehicles provided access for residents in accordance with the York Flood Plan via the Yorkshire 4x4 Response volunteers. Road flooding in the Fordlands Crescent area was significant but interventions by CYC operatives and Yorkshire Water prevented property from flooding.

54. City of York Council have worked with the EA and Parish Council to develop an outline scheme that could provide protection for Fordlands Road, Fordlands Crescent and provide further resilience to the A19 measures. Further funding is required to deliver the scheme and options will be raised with the Executive Member in a separate paper.

55. Riverside footpaths and cycleways were severely affected throughout February, many commuters and visitors to the city will have been affected, communications have focussed on this. Public transport and direct vehicle access has been affected through road closures in Skeldergate, Naburn and Acaster Malbis.

56. The western access route to Millennium Bridge was flooded on three occasions during the event. Additional signage and barriers had to be deployed to close the route following reports of people walking and cycling through flood waters to access the bridge. Plans have been developed to raise the access to the bridge to make it more resilient to flooding. The area is to be used as the construction access route to the Environment Agency led flood alleviation scheme in Clementhorpe. The works to raise the access route will follow completion of the EA scheme.

57. Throughout the event messaging has focussed on York being a city that is still open for business. While the direct impact from flooding to many in riverside locations is clearly an issue, the vast majority of the city remained accessible. However, it is likely that visitor numbers reduced because of public perception of flooding in York - this has been observed in past events in the city.

58. Around 60 businesses are thought to have been directly or indirectly affected, many have resilience measures in place but trade may have been affected during this period, Kings Staith businesses, for example, were closed and inaccessible for a considerable period during the event. The Council's Public Protection Team visited all likely affected business properties to discuss impacts.

59. We worked with the West Yorkshire Combined Authority to provide a grant to businesses for flood-incurred damage costs that were not covered by their insurance policy. This funding was intended to enable flood-affected

businesses to replace critical operational equipment (e.g. white goods) and undertake urgent clean-up / repairs to allow trading to continue. Replacement of damaged stock also qualified. The Council worked with Make it York to administer the funding and support eligible businesses through the application process.

60. We also discussed issues with the payment of business rates with flood-affected businesses. Business rates are set nationally by the Government - the Council usually divides businesses' rates bill for the year into 10 instalments, but businesses can request to pay it over 12 months so that they pay slightly less each month.

61. The current programme of flood risk management investment by the Environment Agency includes potential schemes in areas affected during the event. A renewed focus on the need for all schemes to continue at pace has been communicated to all partners.

Recovery

62. A single Assistant Director was assigned as the lead for the recovery process, meetings of key internal officers commenced as river levels began to peak following Storm Jorge.

63. Initial discussions on recovery and clean up commenced after Storm Dennis, however, as further forecasts of continued high river levels were received it became clear that recovery and clean up would not be possible between each peak river level as many areas remained inaccessible.

64. Removal of sandbags, flood signage and pumps was carried out by Highways operatives following the event as was the clean-up of publically accessible areas and car parks. This work is essential to remove significant accumulations of river silts and mud to restore public realm back to an attractive and usable status. Where possible officers assisted in the clear up of private terraces and other areas around affected businesses.

65. A range off flood drop-in sessions was developed to gather information on the impacts of the event and how all partners can work together with communities and businesses to improve future resilience in the city. The events had to be cancelled due to COVID-19 restrictions. It is planned to gather such information through the ongoing consultations for the EA led flood alleviation schemes that cover all parts of the city affected in the February flood event.

Council Plan

66. 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

67. **Financial** – The Environment Agency were awarded £45m following the Boxing Day 2015 floods to be directed towards key flood risk projects in the city. £600k of City of York Funding is available for works in Fulford, further funding is required to develop the scheme to protect Fordlands Road and Crescent. £200k of City of York Council funding has been allocated in 20/21 for improved flood signage and monitoring. The financial cost of the City of York Council response to and recovery from the February floods is c. £180k.

68. **Property** – Some CYC business property affected, working with tenants to resolve any issues.

69. 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

70. All risks are managed through pre-determined flood response plans by all partners, all risks identified during flood response are managed through the formal command and control procedures overseen by all partners and the Local Resilience Forum.

Contact Details

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	Report Approved ✓ **Date** 17/06/20

Wards Affected: **All** ✓

For further information please contact the author of the report

Background Papers: None

Annexes:

Annex 1 Flood Forecasting Communications Information
Annex 2 Environment Agency Quarterly Update