

**THE ANNUAL FLOOD RESILIENCE PLAN AND HIGHWAY DRAINAGE ASSET MANAGEMENT**

Report of the Corporate Director (Place) and Deputy Chief Executive

**1. INTRODUCTION AND PURPOSE OF REPORT**

- 1.1. The report is the first Annual Flood Resilience Plan which will set out the various roles and responsibilities of the council with regard to flooding and flood resilience including its roles as the Lead Local Flood Authority, highway authority and landowner both of greenspace and working with Stockport Homes its significant housing assets. The work in this area supports the council's overall approach to climate change via Stockport CAN strategy.
- 1.2. In 2010 The Flood and Water Management Act conveyed new responsibilities to Stockport Council and other local authorities as LLFAs. Additional duties were placed in 2014 to the LLFA and the Local Planning Authority (LPA).
- 1.3. There is currently an approved and published Local Flood Risk Management Strategy (LFRMS) that sets out how the Council manages flood risk under the duties assigned to it as Lead Local Flood Authority (LLFA). Although the strategy is reviewed regular and the council is working on the objections and attributing specific action to those objectives it is not the intention of this report to alter that but support those objections through a resilience plan.
- 1.4. A fundamental aim of the strategy is that Stockport Council embraces and supports its role as LLFA, and this means taking the lead in helping with infrastructure development and re-development and working with other bodies in dealing with flood risk. The council wants to encourage and wherever possible enforce current thinking and guidance and be able to provide improvements through working better together in terms of supporting communities to help themselves.
- 1.5. The objectives of the strategy are:
  - 1) To better understand local flood risk and make best use of available information in order to better manage flood risk to people, businesses, property, infrastructure and the natural environment;
  - 2) To reduce the potential impact and costs of flooding in the Borough;
  - 3) To ensure resilience of local water bodies and drainage assets;
  - 4) To ensure appropriate development in areas of flood risk;
  - 5) To develop a collaborative partnership approach to flood risk management, and cooperate with other Risk Management Authorities (RMAs) and key stakeholders working across catchments;
  - 6) To assist communities in understanding information on flood risk and supporting themselves;
  - 7) To encourage, support and provide flood risk management which seeks to enhance and protect the environment.
- 1.6. The report also describes the role of the Council as a highway authority including the identification of the resilient network and maintenance of highway assets, with

particular regard to highway drainage including the maintenance, repair and improvements to its assets including gullies, culverts etc.

- 1.7. The Council's management and use of its greenspace is also a key element of the overall approach to flood risk management including the management of watercourses, reservoirs, etc and its greenspace provides opportunities to store and manage water.
- 1.8. The more serious flooding events have required the production of Section 19 reports investigating the cause of what happened and making a series of recommendations. These actions were set out in the Section 19 report that was presented to the December 2020 Communities and Housing Scrutiny Committee. It is intended that the Annual Flood Resilience Plan will provide a summary of overall progress against the key actions.
- 1.9. The recommendations from these reports and the council's existing flood strategy could be summarised under the following headings:
  - Wider climate measures
  - Data analysis and understanding of flooding patterns in the borough
  - Improvements to maintenance of assets including drainage
  - Managing flood incidents
  - Flood risk mitigation interventions – both upstream and at flooding locations
  - Investigations
  - Ensuring new development appropriately manages flood risks
  - Supporting community resilience and communications
- 1.10. Like many parts of the country, Stockport has suffered from several flooding events in recent years. This increase in severity and frequency of flooding has meant that there is a greater need for additional resources to prepare and mitigate for as well as preventing flooding wherever possible. When the council was given the responsibility of the LLFA in 2010, the government allocated a grant of £11,000 to cover the council's additional expenditure. This funding is now insufficient for the level of responsibility and required activity. The council has sought to lobby central government to secure greater funding to adequately respond to the challenges we now face. The Leader of the Council wrote to the Prime Minister as he took office in July 2019 seeking greater national investment in Climate Change. The Leader also wrote to the Secretary of State for Environment, Food and Rural Affairs seeking additional financial and practical support following the flooding in July 2019. The council continues to work with GM and regional colleagues to lobby for greater investment.

## **2. PROGRESS MADE SINCE 2019**

- 2.1. The declaration of a climate emergency by the council and the subsequent development of Stockport CAN (Climate Action Now) plan has been the most important action undertaken by the council since the flooding of 2019. Whilst these measures are critical in reducing the impact of climate change and will introduce measures such as tree planting that will absorb more water, these measures will not reverse the damage already done to the planet's eco-systems and it is expected that there will continue to be serious flooding episodes.

- 2.2. In addition to Stockport CAN, the report sets out measures taken under these headings and activity planned. In the past two years, significant progress has been made with those operational elements of flood management that are able to be controlled with stronger management – data analysis, maintenance of assets including drainage, emergency flooding planning, resident resilience information and communications as well as incorporating the environment and flood mitigations in the development of our borough plans. All of these areas on a much stronger footing than at the time of the 2019 flooding.
- 2.3. For those areas where there is a need for larger investigations following Section 19 reports, officers are working with partner statutory flooding agencies to identify what measures should be undertaken in order to develop a more complete understanding of the extent of flooding, analysis of the potential impact of different interventions and consideration of whether an investment case is realistic. The additional information gathered following Storm Christof will be included in the investigations. Significant external funding will only be secured if the economic case demonstrates that more people will benefit from directing the investment at a Stockport location rather than elsewhere.
- 2.4. In addition to the Section 19 investigations, there was an estimated £1m - £1.5m of damage to highway and footpath structures across the borough and over 800 reports of localised flooding across the borough. Officers continue to repair damage caused, investigate these localised issues and identify small-scale interventions that mitigate the ongoing concerns.
- 2.5. It is recognised that in recent years there has been significant change to the demands placed on the services and that what were once considered one-off events that needed to be responded to now appear to be periodic severe flooding events. The recent flooding in January 2021 is the third major flooding incident in 5 years, which although no homes were reported as flooded, it did cause significant damage to Welkin Mill, commercial premises in and around the town centre, highway structures, culverts, footpaths and structures across the borough. The final cost is expected to be between £1m and £1.5m.
- 2.6. The Cabinet Member for Sustainable Communities has asked officers to review the financial cost of the most recent flooding and review the scale of our interventions in the light of flooding events becoming more regular and the impact more severe. Officers have begun a review of the service provision and funding for the highway drainage, flood investigations and flood risk mitigation service areas which will be completed by the end of the summer.
- 2.7. This report covers several key areas of the delivery of flood mitigation and highway drainage provision for the borough.

### **3. WIDER CLIMATE MEASURES**

- 3.1. The Stockport Climate Action Now Strategy provides a broad overview of the Council's approach to mitigating the impacts of climate change and reducing the Council's carbon impacts and the work undertaken as part of annual flood resilience plan will contribute to this agenda.
- 3.2. As part of this plan there is a commitment to improve tree planting and utilise greenspace to support its aims. One potential opportunity is to utilise greenspace

areas to hold water in times of severe weather and a project called Parklife has identified a number of potential sites these features could be located. One of these sites was Diamond Park in Cheadle and as part of the advanced funding for the Cheadle Town's Fund a water holding area is being created. The area is part of the park and can be used for recreation most of the time but should provide a water storage facility in very wet weather.

#### **4. DATA ANALYSIS AND UNDERSTANDING OF FLOODING PATTERNS IN THE BOROUGH**

- 4.1. A separate section 19 report is produced for each major flooding incident in the borough. All the section 19 reports are available on the Council website and include those for the floods of 2016 and 2019. The reports have required extremely detailed investigations into the causes of flooding and provide building blocks for subsequent investigations.
- 4.2. Record keeping has been strengthened with the updated on-line flood reporting system. This meant that during the January 2021 flooding, over 800 incidents of flooding were reported to the council, helping to give officers a more complete picture of the impact of the heavy rainfall and a better understanding of flooding patterns. This information can be used in subsequent investigations and the development of proposed approaches to manage flood risk more effectively.

#### **5. IMPROVEMENTS TO MAINTENANCE OF ASSETS INCLUDING DRAINAGE**

- 5.1. As part of the ongoing improvements to asset management the council has in recent years strengthened the mapping of both its own highways drainage assets, and other water features e.g. ponds, culverts, and reservoirs.
- 5.2. Following the recent Toddbrook dam reservoir issues new guidance on the management of reservoirs has been issued. The Council owns three significant reservoirs in Compstall, Reddish Vale and Edgeley and work is ongoing to ensure the Council has appropriate management plans for these sites. Similar work is also being planned for the sluices at Abney.
- 5.3. In addition, there is ongoing work to identify other water assets including ponds, so they are mapped and recorded regardless of ownership. This register will be used to set out a regular maintenance programme and assist in preserving these to ensure that flood risk is not increased by their removal or reduction.
- 5.4. Stockport has many culverted watercourses with complicated ownership responsibilities and there is an ongoing programme of surveying and mapping these assets. Support and advice is provided regarding how culvert owners can develop ongoing maintenance plans for their assets and there is targeted engagement with those culvert owners where there have been persistent problems. In addition, there is an ongoing programme of repairs to highway culverts.

#### **6. HIGHWAYS DRAINAGE AND FLOOD MITIGATION IMPROVEMENT PLAN**

- 6.1. An independent review by Atkins consultants of the Council's current approach to highway drainage and the related flood mitigation was recently commissioned. The report reviewed the council's current working approach and methodology to

assess how it is currently operating in terms of asset management and flood risk alleviation.

- 6.2. Following the review, recommendations have been made to improve on the current approach and how this may be implemented. Recommendations have been derived from existing knowledge of subject areas, potential innovations, other Local Lead Flood Authorities (LLFAs), councils, relevant authorities and best practice guidance.
- 6.3. Eight key steps were identified in the plan:
- Continue to survey gullies and drainage assets, prioritised based on known flood locations.
  - Develop flood prediction model to identify sites at high risk / impact if flooding occurs.
  - Prioritise survey of assets and known and predicted high risk flood risk locations in order that they can receive enhanced maintenance.
  - Standardise data collection and recording of drainage assets into QGIS system; with the potential of degradation modelling further risk assess future interventions or inspections.
  - Standardise format of flood incident recording and resident feedback.
  - Improve information available to public on flood locations and ongoing flood mitigation activities.
  - Investigate further funding sources, particularly for sites where funding opportunities have previously not been available for, in order .to undertake preventative and mitigation interventions.
  - Compare other highway improvement schemes against known or predicted flooding sites to identify opportunities to implement combined improvements and access potential funding sources.
- 6.4. All of these recommendations have been adopted.
- 6.5. The potential costs for the three-year drainage investment programme was estimated within the document and, as part of the review commissioned by the Cabinet Member, further work is being undertaken to review these costs, establish which elements can be delivered within existing resources and then develop a business case for any future funding bids.
- 6.6. Further details can be seen in Appendix 1.

## **7. HIGHWAY GULLY CLEANSING OPERATIONAL PLAN**

- 7.1. This plan has been developed in line with the requirements of the 2016 Code of Practice “Well-managed Highway Infrastructure” (WMHI), Guidance of the Management of Highway Drainage Assets, other approved codes of practice and the recommendations from the Atkin’s report. The plan outlines how the council cleans its highway drainage assets and provides guidance on the way in which gullies are inspected, assessed and maintained and how the relevant data is stored and utilised.
- 7.2. The approach focuses on the resilience of Stockport’s highways drainage assets and how the council’s maintenance plan for the regular clearing of highway gullies is based on a prioritised risk-based approach, as per the Atkin’s report

recommendations. By adopting a risk-based approach, the council is able to make more efficient use of gully cleaning resources and budgets and reduce the impacts of flooding such as road closures and property damage.

- 7.3. The plan also identifies the way in which the reports of issues with highway gullies from the public are prioritised to make sure that the resources of the council are not unnecessarily diverted from the preventative cleansing work.
- 7.4. In order that the council can focus on urgent issues, prioritise effectively and maximise the time spent on the routine gully cleansing programme the council will investigate reactive gully reports that relate to the following: -
  - Where cars are having to drive on the opposite side of the road due to a blocked gully
  - Where pedestrians are having to walk off the pavement into the road due to a blocked gully
  - Where the road is not passable due to blocked gullies
  - Where surface water from the highway is entering business premises
  - Where surface water from the highway is entering private property
  - Where there is a build-up of surface water at a bus stop
  - Where there is a build-up of surface water at pedestrian crossings
- 7.5. Other reports of significant flooding will be considered and prioritised using available resources. All other issues will be picked up by our routine cleansing activity.
- 7.6. The council will seek to continue to improve the functionality and transparency of reporting. The council aims to be as transparent as possible about the gully cleansing programme, for residents to be able to understand when their gully is next scheduled to be cleaned and to understand why certain locations are prioritised. Whilst reporting and communication progress has been made, it is recognised that more needs to be done.
- 7.7. Further details can be seen in appendix 2

## 8. **STOCKPORT MULTI-AGENCY FLOOD PLAN**

- 8.1. The aim of the Stockport Multi-Agency Flood Plan is to set out the tactical response arrangements for a flood incident. The plan forms the tactical element of the Greater Manchester Multi Agency Strategic Flood Plan and both should be read in conjunction. The plan supplements arrangements within the Greater Manchester Generic Response Plan.
- 8.2. The aim of the Stockport Multi-Agency Flood Plan (MAFP) is;
  - To provide clear trigger levels for the activation of the plan
  - Set out the multi-agency command and control arrangements
  - Establish clear lines of communication, including warning and informing the public of current and imminent risk and to facilitate recovery.
  - Mitigate the effects of flooding within communities by identifying key infrastructure and vulnerable premises.

- 8.3. Whilst the emergency services would lead an emergency response to imminent danger the council has a key role to play in supporting residents and managing the impacts on the highway network, its greenspaces and highway drainage.
- 8.4. The plan outlines the council's response to a flooding incident within Stockport. Whilst the primary focus is aimed at a response to river (fluvial) and surface water (pluvial) flood events many of the actions, roles and responsibilities outlined are transferrable to responses for other sources of flooding such as groundwater and foul water (sewer).
- 8.5. The plan has also been used to support an internal training event for key officers.
- 8.6. The plan is reviewed regularly and following recent events in 2019 and 2021 the plan has been updated and recent actions have included:
- Improved website communications providing residents with information on resilience and advice if flooding is imminent
  - Strengthened relationship with Environment Agency and United Utilities with improved triggers for flood warnings.
  - Utilise GM resilience resources and support
  - Prepared communications to distribute to residents when they must act
  - Improved the online reporting options which provides more detailed information as to the extent of the issues across the borough
  - Weekly flood risk assessments, identifying preparedness of key teams including communications and social media
  - Advance inspections of critical infrastructure such as pumps, trash screens and gullies.

**9. HIGHWAYS INFRASTRUCTURE FLOODING REPAIR AND MAINTENANCE PROGRAMME 2020/21 UPDATE REPORT**

- 9.1. £1.5m of one-off funding was allocated to Highways Infrastructure Flooding Repair and Maintenance Costs following the 2019 flooding, detailed in the table below. The programme identified 80 locations where there was damage to highways, highway structures, footpaths and greenspace areas. The funding also met the cost of the emergency response and subsequent investigation.

| <b>DISCIPLINE</b>    | <b>COST</b>       |
|----------------------|-------------------|
| Structures           | £103,000          |
| Highways             | £191,392          |
| PROW                 | £414,671          |
| Greenspace           | £580,270          |
| Section 19 report    | £30,000           |
| Flood communications | £20,000           |
| Investigations       | £100,000          |
| Contingency          | £60,667           |
| <b>TOTAL</b>         | <b>£1,500,000</b> |

- 9.2. The significant flooding incident in January 2021 caused damage to a similar number of highway and greenspace assets. A detailed survey and identification of the potential cost of rectifying this damage is being undertaken. It is estimated that the costs of the repairs to SMBC maintained assets will come to between £1m and £1.5m and this may result in a further request for funding from reserves.
- 9.3. This level of funding is not sustainable from one-off sources of council income if flooding episodes are now as prevalent as expected. This level of funding will repair the damage from previous flooding events and will allow some investigation activity but the council will need to access external funding if it is to deliver a major programme of activity.

## **10. FLOOD RISK MITIGATION INTERVENTIONS – BOTH UPSTREAM AND AT FLOODING LOCATIONS**

- 10.1. In recent years there have been significant flooding episodes both nationally and locally and this has led to research into appropriate interventions. There is a growing awareness that more mitigation needs to take place across wider catchment areas to capture and slow the flow of water rather than just focussing on mitigations at the flooding location. This is still a developing area with academic and practical demonstration projects still being supported. Good practice is being shared via national agencies e.g. The Environment Agency and regional flood forums for Members and officers.
- 10.2. Flood mitigation schemes can include replacement of natural habitats, Slow the Flow approaches, changes to farming and land management techniques. In more urban areas rain gardens, permeable driveways, tree pits and water storage areas can all assist in managing water.
- 10.3. This work aligns very closely with the Stockport CAN action plan, with many measures that are designed to capture water upstream also beneficial to the environment more widely. The council has identified a resource to accelerate Stockport CAN, including planting over 17,000 trees across the borough in the next few months, with particular focus on green spaces. Officers will look to increase tree coverage on green spaces, including those that are privately owned but are located in catchment areas of concern.
- 10.4. Officers will produce a Stockport guide to Natural Flood Management (NFM) solutions in the next 12 months with a register for potential NFM projects and an investment plan setting out the available external funding sources.

## **11. INVESTIGATIONS**

- 11.1. The Council receives a significant number of requests for support regarding flooding and these range from the relatively small and easy to resolve to much more concerning levels of flooding that happen very infrequently. Interventions are often not straightforward, but any consideration of potential approaches requires a greater understanding of the type of flood risk an area suffers from and the potential options available.
- 11.2. Officers have continued to support residents and businesses by:
- Providing information on how people can protect their property and receive flood warnings



- Investigating the causes of flooding and identifying potential solutions
- Taking appropriate action including legal action where necessary to ensure culverts etc are maintained by their owners
- Undertaking minor schemes to improve flood resilience e.g. raising kerbs adjacent to low lying driveways
- Seeking funding for more major studies and schemes
- Working with the Environment Agency and UU to develop partnership studies and improvement schemes where appropriate
- Developing local partnerships along key water routes to create flood mitigation plans e.g. one is proposed for Ladybrook/ Mickerbrook

- 11.3. The most significant investigations to be undertaken by officers have arisen from recent section 19 reports, including following the significant flooding in summer 2019. This report identified a number of key areas that required further investigation and potential flood mitigation schemes including Bramhall Green, Cheadle, Romiley, Offerton, Hazel Grove and High Lane. Officers are working with the other statutory flood agencies to identify what measures are required to understand the nature of the flooding and to develop potential mitigations and appropriate approaches. These initial studies are expected to be completed within the next 6 months. This will enable the council to establish whether a business case can be made for the significant levels of investment that are required to undertake any major engineering work.
- 11.4. The A555 has also been flooded several times in recent years and there is an ongoing programme of investigation and remedial measures for this route. See appendix 3.

## **12. ENSURING NEW DEVELOPMENT APPROPRIATELY MANAGES FLOOD RISKS**

- 12.1. The Council's planning policies require scheme developers to consider flood risk as part of their planning application and also encourages the use of sustainable urban drainage techniques. These policies will be reviewed as part of the Local Plan development process.
- 12.2. Officers will seek opportunities as new schemes come forward to work with landowners to assess flood risk within the catchment and to provide advice on natural measures to control water.
- 12.3. It is intended to produce a Stockport guide to assist highway designers to make informed decisions on providing sustainable drainage in highways.

## **13. SUPPORTING COMMUNITY RESILIENCE AND COMMUNICATION**

- 13.1. The council has significantly improved the website since 2019, providing residents with information about how to keep their property safe and what to do if it floods. There are also clear links to other organisations, encouraging people to sign up to the government's website for flood warnings and linking residents to the Flood Hub website with practical advice. The Council will continue to encourage people to consider if they need their own flood plans on how to react in an emergency if their property may be flooded during a particular severe weather incident.

- 13.2. The drop-in sessions held after the flooding in 2019, provided opportunities for residents affected by flooding to speak to various support agencies and to access resilience advice directly.
- 13.3. In a number of other local authority areas local flood forums and river catchment partnerships have been created involving local residents, businesses and landowners. This type of group may be appropriate for some communities providing support and resilience to each other and helping to identify potential solutions. Where communities wish to start such groups, council officers will provide support and work with the groups.
- 13.4. Officers will develop further a suite of documents over the next 12 months to help improve our service and service to residents that will include:
- Cross- Connections (pollution to watercourses)
  - Driveways
  - Enforcement Protocol
  - Garden SuDS
  - Greenspace SuDS
  - Highway Water Run-off Protocol
  - Ponds Conservation
  - Property Level Resilience
  - Sandbags Policy
  - School SuDS
  - Slow the Flow (NFM)

#### 14. **SCRUTINY RECOMMENDATIONS**

14.1. Members are requested to:

- Note that the Cabinet Member has considered that the Storm Christof major incident in January 21 was the third significant flooding episode in 5 years, reflects that flooding is likely to be a regular occurrence in the future and has therefore asked officers to review the service provision and the scale of the borough's interventions.
- Note and comment on the progress made with regards to the council's management of drainage and structural assets, improvements with resident communications and emergency planning activity.
- Note that further investigation work for those areas most severely affected over the past 5 years will be undertaken over the next 6 months.
- Note and comment on the draft Highway Gully Cleansing Operation Plan document.

#### BACKGROUND PAPERS

There are none

Anyone wishing to inspect the above background papers or requiring further information should contact Mark Glynn on Tel: 0161-474-3700 or by email on [mark.glynn@stockport.gov.uk](mailto:mark.glynn@stockport.gov.uk) or Sue Stevenson – tel 0161 474 4351 or by email [sue.stevenson@stockport.gov.uk](mailto:sue.stevenson@stockport.gov.uk)



