

The committee has chosen to focus in this report on surface water flooding. Flintshire also faces issues with fluvial and coastal flooding, and these areas deserve full exploration in future work by the committee and council. The issue of surface water flooding impacts every part of the county, and as such is of broad interest. In order to give a focus to its work, the committee has chosen to use the Sandycroft, Pentre and Mancot area as a case study, as this area's issues are broadly applicable to other areas. It has almost every type of problem that the committee has received reports of from elsewhere.

The committee's starting point is the strong evidence that climate change means extreme weather will happen more frequently in Flintshire, and that when it does occur, it will be increasingly severe. Approaching this through the narrow perspective of surface water flooding, the consequence of this will be that the limits of drainage systems will be exceeded more often, and more severely, in the future. There is evidence that this effect is already being felt, with flooding of homes in parts of the county now a regular occurrence where previously this was not the case.

If drainage systems are already failing catastrophically, by which we mean homes are being flooded, then there is a clear need to improve those systems. The committee has received evidence as to the cause of those failures in cases across Flintshire.

It is important to be clear at the outset what the consequences of the current situation are. There are few events more traumatic than the flooding of a home. What we are talking about is sewer water entering every part of homes, destroying treasured possessions, and seeping into the very fabric of the building. There is the horror of seeing faeces in the kitchen. There are huge costs associated with remedial work, as all furniture is removed, often replastering and rewiring is required, and during this time, being forced into living in a hotel at further expense and without basic conveniences like the ability to cook. Entire lives are turned upside down for months, and at the end of it, every time there's heavy rain outside the fear of going through it again rises and the stress comes back.

This situation cannot be allowed to continue. One consistent message the committee has heard throughout this inquiry is that the levels of funding devoted to tackling this problem is not adequate, and that this is in no small part a result of sizable cuts to this work as a result of austerity. The committee wishes to put on record its firm view that this is simply not acceptable. The horrors of flooding mean that this must be considered a priority - and the architects of the austerity and cuts which have got us to this position must reckon with the fact that they have caused this.

### **Poor / Reduced Maintenance**

One cause highlighted to the committee is a lack of maintenance on systems. This heading covers a broad range of problems. No witnesses have disagreed that maintenance is, to a greater or lesser extent, lacking.

In some parts of the county, drainage systems have become blocked or partially blocked, reducing their capacity. The committee has heard evidence that the Pentre Drain, in Sandycroft, suffered a significant build-up of silt which has been partially cleared by Flintshire County Council. This culvert is under the regulatory control of Natural Resources

Wales, who have scheduled more work to clear the build-up along the length of the Pentre Drain.

On a smaller scale, clearance of highway drainage was raised at the oral evidence session. It has been suggested that the council should invest in clearing highway drainage more frequently. All members of the committee are familiar with examples of blocked drains in the county which have not received attention for long periods after they have been reported. Concerns have been raised that drain clearance capacity has been scaled back as a result of austerity measures, and that this has had a detrimental impact.

Besides buildup of silt and debris, a related issue is root ingress, culvert collapses, and more serious damage which can be considered under the broad umbrella of maintenance. The committee has again received evidence that a culvert running into the Pentre Drain has been damaged by severe root ingress, which is blocking the flow of water through the system. In an ideal world, this would be observed and monitored, particularly in high risk areas known to suffer surface water flooding, at a much earlier stage. The committee understands that this was detected after severe flooding from Storm Christoph, and that Natural Resources Wales has sought to repair the damage, however we are concerned at the length of time this has taken.

There are other examples of potential culvert collapses as a result of ancient pipework that have been brought to the committee's attention. In some areas, such as Dobshell, there has already been flooding. In any event, detecting these is difficult as there are no maps of buried drains for the vast majority of systems in the county, leaving camera surveys as the only viable means of identifying problems in most cases. These are expensive and time consuming.

It is clear to the committee that routine maintenance has not been as frequent or comprehensive as would have ideally been the case over the last ten to fifteen years. This is in large part due to the significant budget pressure that the relevant public sector bodies have been under as a result of austerity measures. Necessarily, limited resources have been dedicated to dealing with the most urgent, obvious and catastrophic cases, however this has allowed the build-up of issues and an increase in the number of such cases.

There is also a serious lack of maintenance by landowners of ditches on their land. This has in particular affected low-lying areas of the county around Broughton and Bretton. Responsibility for this rests with landowners, however where landowners have not cleared ditches adequately, there has been limited enforcement from statutory bodies, owing to a combination of limited enforcement powers, and limited resources to carry out inspections.

### **Added Pressure From Development**

The committee has heard evidence that new developments have placed additional pressure on existing drainage systems. This has been the cause of a degree of disagreement between witnesses and the committee.

Least controversially, in the historical context there is evidence that this has been the case. The tightening of regulations relating to sewerage and drainage in recent years has not come about without good reason. Developments have been given permission to connect to

combined sewers in the not too distant past where the same development, in the same location, would not be given that permission under today's rules. While permissible at the time, this has caused problems for residents by increasing the baseline level of sewage and surface water runoff in old systems, and therefore limiting excess capacity to deal with stormwater. The effect of this is most intensely felt downhill from the developments themselves, with the problem exported to lower-lying areas. In the case-study area, development up the hill in Mancot and Hawarden over the last 50 years has significantly increased pressure on the Pentre drain, causing problems in Sandycroft.

In the present context, the evidence and views the committee has received are more mixed. The sustainable drainage solutions (SuDS) requirements are generally accepted as an improvement on what came before. Whether they are adequate is more controversial.

The committee feels that it helps to consider SuDS from two related perspectives. Firstly, whether the rules themselves are adequate, and secondly, the extent to which the requirements are implemented in practice.

One witness, Cllr Sam Swash, was clear in his belief that SuDS is not adequate to the task of preventing increased run-off from new developments. He expressed particular concern that a proposed site in the LDP in his ward, known as the Ash Lane site, would add to the issues faced by residents at the bottom of the hill in Mancot, Pentre and Sandycroft.

Officers from Flintshire County Council did not agree with this assessment. Their perspective was that it is possible to design schemes which reduce flow, especially peak flow, into drainage systems and that SuDS compliant schemes genuinely achieve this, notwithstanding the viability of implementing SuDS schemes in clay-based catchments. This view was most strongly advanced by Mr Andy Roberts.

The committee agrees with Mr Roberts that it is possible in theory to design schemes which represent at least no detriment, and possible improvement, compared with the status quo. We do not doubt that Cllr Swash also would agree on this point. The question is whether SuDS, which aims to represent that standard, does so in practice or not. On this point, the committee does not have adequate technical expertise to form a view. However, we do feel that this is a vital issue which is deeply consequential to resolving the problem of surface water flooding. We would point out that hindsight has shown us that what we once considered adequate in planning applications was, in fact, not. Equally, we are loath to criticise SuDS when we have no firm evidence that it is not that adequate standard.

The committee notes that the Welsh Government commissioned a report from Arup on the implementation of the SuDS rules, which was published in 2023. In particular, section 8.2 of this report touches on this question. The committee is interested that the sole statutory, and almost a third (6 out of 19 responding) of SuDS approval bodies felt that the rules do not do enough to protect downstream networks in terms of surface water runoff<sup>1</sup>, with one

---

<sup>1</sup> p57-58, Ove Arup & Partners Limited (2023) *Sustainable Drainage Systems (SuDS) Schedule 3 Post Implementation Review*. 287773-ARP-00-00-RP-ZX-0001. Welsh Government. <https://www.gov.wales/sites/default/files/publications/2023-07/sustainable-drainage-systems-suds-schedule-3-post-implementation-review.pdf> (Accessed: October 10, 2024).

recommendation from a dissenting respondent being to add a requirement to demonstrate that the receiving system can accommodate proposed flows. This report, while relevant, is primarily focussed on the SuDS procedure rather than an analysis of comparative outcomes for flooding and drainage had SuDS not been implemented, and we recommend that the Welsh Government commissions such a comparative analysis to better understand the impact SuDS has on downstream systems. Such a report would address the disagreement in views this committee heard.

On the issue of compliance with submitted schemes, the committee can understand the position expressed by Cllr Swash and to a lesser extent the other elected representatives who attended the oral evidence session on this point. Their argument is that, regardless of the merits of SuDS schemes, if they are not constructed to plan then they do not work. The committee is readily prepared to believe that this has been the case on some developments. This raises the question of resourcing for inspections of SuDS schemes upon completion. Given the potential long term damage a scheme which has not been completed to plans can do, the committee recommends that thorough inspections are vital and should be a funding priority for the council.

### **Run-off from land to adjoining properties**

Large parts of Flintshire have clay rich soil, and there are significant parts of the county which are susceptible to significant amounts of run-off during wet periods, according to data from the UK Soil Observatory<sup>2</sup>. Traditionally, this has been carried away by drainage ditches at the side of fields. The committee has heard reports that a number of these have been poorly maintained over a number of years, becoming blocked and levelled out, reducing their capacity to withhold run-off from adjoining property. This is an issue across the county, but has been a particular problem in Broughton and Bretton.

In addition to this, historic drainage ditches are often inadequate to cope with the levels of rainfall in short periods of time that we have seen more frequently in recent years. This is especially the case when storms have occurred after the ground is already saturated by long periods of rain. Where drainage ditches are operating well, there is the further question of where they drain to. In some cases, they convey run-off into combined sewers or streams which are later culverted, adding to flood risk in populated areas.

Besides run-off from agricultural land, surface water from residential properties in a number of older developments enters combined sewers. This can be via run-off to the highway, and entering into highway drainage channels, and ultimately causing flooding downstream, or can be through direct connections from within the property to combined sewers. Replacing these connections with soakaways could, in some parts of the county, make a significant positive difference to flood levels if done at scale.

### **Infrastructure Capacity**

It is a simple fact that large parts of the drainage networks in the county are both old and ramshackle - by which we mean they have been added to, partially replaced, culverted and so on without any coherent plan. In some areas, this means that culverts laid a long time ago are unable to take the volume of water now put into them. In some cases, it means that

---

<sup>2</sup> <https://mapapps2.bgs.ac.uk/ukso/home.html>

where two pipes meet, the combined bore of the joining pipes is narrower than the one they merge into. In some areas, sections of culvert have been replaced with a narrower bore pipe than those on either side. The committee has heard how surface water which drains into the Dee at some locations cannot do so at high tide, causing backing up of the system.

This is the norm across the UK, and there is no easy means to address it. The problem is systemic, and so changes made to one part can serve only to transfer, rather than fix, the problem. This is complicated further by the lack of any comprehensive map of the networks, giving indications as to the type and size of channels carrying drainage and sewage.

Chief amongst the infrastructure problems is that sewage and storm water combine in the same channel throughout most of the county, meaning flood water contains excrement.

Carrying out significant works is also costly and disruptive. Where replacement work is carried out, in the best case scenario this involves digging up roads or open space, however many of the lines in question pass under people's homes or gardens. The capital costs of making improvements across the county are orders of magnitude bigger than the capital budgets of any of the agencies involved.

Within the area of the case study, the committee has sought assurance that the Pentre Drain, if running at full capacity, is adequate to handle one in fifty year storms. Witnesses have been unable to provide any such assurance.

## **Who is Responsible?**

There are three main agencies involved: Natural Resources Wales, Welsh Water, and Flintshire County Council.

The committee wishes to put on record that the staff of all three of these agencies have behaved in an exemplary fashion in addressing these issues. Their assistance with this inquiry has been invaluable, and they continue to work to solve the problems that cause flooding as best they can. However, it is clear that they face considerable constraints in doing so - principally financial, but also in terms of recruitment and retention of staff.

While Welsh Water is funded by customers, its ability to determine its level of investment is constrained by the regulatory environment in which it operates. The committee firmly believes that the company's not for profit model, without shareholders, is of huge benefit compared with the rest of the water industry. However, as Ofwat benchmarks against the market as a whole, the failure of other providers to adequately invest in their systems indirectly impacts Welsh Water as well, and limits the ability to undertake the kind of capital works the committee might wish to see.

Natural Resources Wales is wholly dependent on the Welsh Government for investment. It is in constant competition with other services, including the health service, for funding. With the services it provides not being seen as politically advantageous to promote investment into (while individual schemes may be politically advantageous, providing general Wales-wide capital budgets to NRW is not seen as a vote-winner), the only way further investment is likely is if the public sector as a whole is better funded, or if the political cost of not doing so increases.

Flintshire County Council is in a different position. While the vast majority of its budget comes from the Welsh Government, it does have tax-raising powers through council tax and does have borrowing powers. The council could make a political decision to increase investment in drainage in the county. However, this would be costly and may be subject to local resistance.

Beyond these three organisations that are directly responsible for most drains, there are wider opportunities and responsibilities which could make a significant difference to the problems. Riparian owners of watercourses can take responsibility for sections of drains within the curtilage of their property. Even basic steps such as being aware of where culverts lie and preventing root ingress by removing plants which threaten them can make a positive difference. Diverting water from drains, at scale across communities, offers the highest degree of effectiveness relative to cost. Digging soakaways instead of sewer connections, or adding water butts on downspouts to hold stormwater back until after the immediate risk of flooding has passed offer significant reductions in the amount of floodwater at impacted sites downstream. The committee feels that there is a role for community councils in promoting uptake of these schemes, and, where appropriate, offering grant funding to implement them.

There is a wider role for community councils in response to flooding as well. The committee heard of good practice from Sandycroft, where the community council is co-ordinating volunteer flood wardens, as well as maintaining a stock of sand to make up sandbags -

something which the committee heard Hawarden Community Council also does. Flintshire's strategy for flood response is at best confused. The council outwardly says it will not provide sandbags to protect individual dwellings from flooding, as it cannot prioritise delivery of these during severe weather, but the committee is aware of examples where sandbags have been provided for this purpose by the council. This inconsistent approach is unacceptable - it results in sandbags being given out on a postcode lottery basis, with properties at greatest risk left unprotected while others are given sandbags and yet prove not to be affected, and there have been allegations made of favouritism playing a part in these decisions. The committee believes that the council should agree a policy and stick to it in respect of sandbags.

There are also issues regarding Flintshire County Council's response in respect of road closures where flooding has occurred. When vehicles continue to drive along flooded roads, they create bow waves which can overtop defences and push flood water into homes that would otherwise be unaffected.

Within the Sandycroft area, there is now a much greater degree of partnership working between agencies than was previously the case. This has sadly not extended more broadly, and the committee is concerned by cases where residents have been passed from pillar to post, with the council, Natural Resources Wales, Welsh Water or landowners each saying that problems are the fault of one of the others. This merry-go-round of responsibility is deeply unhelpful at the best of times, and especially when flood waters are rising and action is required. The committee recognises that the complexity of systems means it can be difficult at times to demarcate between who is responsible for what, and that there can be legitimate confusion. However, this is an issue that needs to be addressed. In Sandycroft, this has happened, not least thanks to the involvement of the local member of parliament, Mark Tami, and the close working relationships that have been formed should be extended more broadly to cover the whole county.

The committee has been struck throughout its inquiry that the barrier to more serious action is the funding available to implement it. There is no shortage of solutions, and officers at Flintshire County Council and Natural Resources Wales both had clear visions for how flooding at key points can be seriously reduced, and ideally, eliminated entirely. The problem is that there is no funding to make this a reality.

Throughout the last fifteen years, the blockage in the funding pipeline has been at Westminster. The UK Government has introduced a programme of austerity which has impacted the whole public sector, but has had a disproportionate impact on those parts of the state which are generally hidden from public view. The same has applied in Wales, where the lack of ability to meaningfully differ from Westminster's spending levels has seen the axe wielded at both Natural Resources Wales and at local government. For as long as UK Governments fail to invest in our crumbling infrastructure, there will be no meaningful improvement, and the committee believes the situation will get considerably worse.

The committee has solicited views on whether council tax, the only real alternative lever to UK Government funding, could be used to tackle this issue. This would be a controversial step with some residents - those who are not affected by flooding are likely to oppose rises on the scale needed to deal comprehensively with the issues, a very small percentage of

properties within Flintshire are subject to flooding in any given year, and taking local initiative to fix the problems will prevent the council accessing funding that may become available in future. Nonetheless, the level of devastation that being flooded out can bring, and the increasing number of people liable to be impacted by this, mean this option deserves serious exploration.

The committee would expect resistance to this suggestion from some quarters. However, we were struck by the opposition from those affected to this idea. The view from Cllr Dee Milner, who represents flooded residents in Sandycroft and has been flooded herself, was unequivocal that council tax is not a fair way to meet the cost of the required work. This was echoed by other witnesses from affected communities. The strong feeling was that those with the broadest shoulders should bear this burden, and that it should be met by less regressive forms of taxation at a UK-wide level. On the basis of the views received, the committee does not advocate that hypothecated increases in council tax should be used to meet the costs of drainage improvements.

The committee does not, however, believe that this opposition to council tax rises precludes any use of local government resources to tackle the issue. There are particular areas of expenditure which the committee feels have not been accorded appropriate priority within the council, relative to other expenditure, and we call for a reallocation of resources to some services.



## **Recommendations**

Having considered the matter carefully, the committee wishes to make a number of recommendations. We have divided these into two classes: those which we believe should be implemented immediately, and those which we recognise will require more funding than is presently available, but which we believe should be considered when greater resources become available.

### **Immediate Recommendations:**

1. The Welsh Government should commission a comparative analysis of the effect of SuDS on downstream drainage systems, looking at the extent to which SuDS has or hasn't reduced the impact of new development on drainage systems compared with the previous system, and compared with not developing sites.
2. Flintshire County Council should prioritise inspections of new developments for which a drainage scheme has been submitted to the SAB for compliance with the submitted scheme. This should include inspections while development is underway to ensure that buried channels are built in the approved locations and to the approved standard.
3. Flintshire County Council should consider maintenance of gullies to be a higher priority in budget setting. A programme of more intensive maintenance in known flood risk areas should be commenced prior to Winter 2025.
4. The Welsh Government should acknowledge that cuts to Natural Resources Wales' budget have been a false economy, and the maintenance backlog is having a severe impact. The Welsh Government should appropriately resource Natural Resources Wales to eliminate this backlog.
5. Community councils across Flintshire should produce local flood plans. These should be in two sections, and consider flood prevention measures the community council can take, or encourage residents to take, and flood response actions, which should include preparation for flooding, such as circulating flood alerts, and whether the community council will provide emergency responses such as sandbags.
6. Flintshire County Council should continue efforts to develop a comprehensive map of drainage systems in the county. The council should make clear that any unmapped services encountered during street works by any agency should be reported, and the council should ensure that these are passed through to the flooding and drainage team.
7. Flintshire County Council, Natural Resources Wales, and Welsh Water should take steps to work more closely together and avoid situations where residents are passed from one to the other. The Welsh Government should give consideration to whether budgets for flooding and drainage works should be pooled between agencies to help prevent such situations.

8. Flintshire County Council, Natural Resources Wales, and Welsh Water should be much clearer about known issues within their systems - for example, where combined sewers merge into a pipe of smaller bore than the combined bore of the merging sewers, or where root ingress has blocked or collapsed drains. This would allow funding of improvements to be more easily discussed.
9. Flintshire County Council should better use sources of local intelligence, especially elected members and community councils, to identify what problems may exist across the county. Local members are likely to receive information from other agencies on the ground, which may not reach council officers through more formal channels.
10. Flintshire County Council's planning department should be bolder in including drainage improvements in the council's internal capital bidding process. Elected members should take a more active role in prioritising and refining capital bids than is presently the case. Scrutiny committees should be asked to order capital bids from their subject areas by priority each year to assist the finance department in paring down the list to the level of funding available.
11. Flintshire County Council should more actively promote clearance and maintenance of ditches than at present. Inspection of drainage ditches should be a regularly scheduled task of Streetscene area coordinators as is already the case with inspection of street lighting columns. The council and Natural Resources Wales should work more energetically to require that work is undertaken by private landowners where necessary.
12. The UK Government should make funding available for larger scale flooding and drainage improvements, resulting in Barnett consequential for Wales, which should be fully passported to Welsh flooding and drainage improvements.
13. Ofwat should give careful consideration to resourcing in water companies' plans for work to improve, rather than merely maintain, sewerage, and in particular to separate out drainage from sewage.

**Long term recommendations:**

14. Flintshire County Council, Natural Resources Wales, and Welsh Water should agree a joint plan for upgrading outflows into the Dee, providing pumping stations where appropriate and making such other improvements as may be necessary. This plan should include a ranked list of priorities for upgrades, and funding should be pooled by the agencies to deliver the most vital schemes first.
15. Where main drains are struggling to cope with levels of water in them, these should be upgraded. In particular, the committee recommends that the Pentre Drain should be assessed for residual capacity and considered for a significant upgrade.

16. Work should be undertaken in high risk areas to separate sewers and drainage, as already has happened through some SuDS schemes, in addition to and outside future SuDS development applications.