

# ARUN DISTRICT COUNCIL

## REPORT TO AND DECISION OF ENVIRONMENT & LEISURE WORKING GROUP ON 25 MARCH 2021

### PART A : REPORT

**SUBJECT: Flooding**

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**DATE:** February 2021

**EXTN:** 37812

**PORTFOLIO AREA:** Neighbourhood Services

#### **EXECUTIVE SUMMARY:**

The report outlines the types of, and responsibilities for, flooding risk within the Arun District

#### **RECOMMENDATIONS:**

This is an information paper.

#### **1. BACKGROUND:**

Flooding occurs, in essence, when a drainage system fails to convey the normal (or design) volume of water; systems can become surcharged unnoticed and without 'spilling out' to become a problem. Natural flood plains exist to allow excess flow to occur without causing a problem.

There are a number of drainage system types and, in turn, a number of ways in which they can fail, to result in flooding. This report outlines the various types of drainage system, how they would normally behave, who manages them and how they fail – together with the consequences. Normal maintenance operations are also described, where appropriate.

Land Drainage – can be streams, ditches, culverts, pipes, etc. – essentially, any form of natural watercourse. The Flood and Water Management Act of 2010 (FWMA) provided the mechanism by which the County Council, as newly designated Lead Local Flood Authority (LLFA), has oversight of ordinary watercourses (previously this rested with the Environment Agency) – those watercourses with Main River designation stayed with the Environment Agency.

The responsibility to look after watercourses ultimately rests with the owner of the land through which the watercourse runs. In the case of a watercourse not being on registered land, the adjacent or 'riparian' owners are responsible up to the centreline of

the watercourse. The Land Drainage Act 1991 sets out that owners (riparian or otherwise) should keep the watercourse in a condition to allow the free, unimpeded flow of water; owners must accept the natural flow from upstream (it follows that they should pass it on downstream).

Watercourses should be kept clear of vegetation and other impediments, with consideration given to regular silt clearance. Flows should not be impeded and 'land-grabbing' must be avoided – this can happen when land-owners do not appreciate the importance of watercourses within the scope of the overall network, and believe that if ditches have been dry for a long time, they are not needed anymore. Similarly, there should be enough space left alongside ditches etc. to allow room for maintenance access. It is not uncommon for fences to be moved across ditches and sheds and greenhouses to be erected on the space 'gained'. Watercourses can become filled in over time – by lack of maintenance or by direct intent to gain land.

The LLFA has powers to require reinstatement or maintenance to be undertaken; in the case of West Sussex and Arun, the County Council delegates most of these powers (investigation, advice and initial written contact) to Arun DC, retaining the formal Notice procedures and legal action.

Internal Drainage Boards (IDBs). In Arun there were two Internal Drainage Districts (IDDs) South West Sussex and River Arun. Two IDBs oversaw all matters relating to drainage within their respective Districts – these two IDBs (and others in the south east of England) were in effect governed by the Environment Agency. The National Audit Office opined that this should not be the case, as IDBs should be run locally – the EA being a national body with decision making being done in London.

Accordingly, papers were put before the Secretary of State to dissolve these two Boards. The South West Sussex IDB was abolished in 2016 but there were objections to the R Arun IDB being abolished; the situation was exacerbated by the outcome of the EA's Lower Tidal River Arun Study (LTRAS), which suggested withdrawal of maintenance for certain stretches of the R. Arun. Following a Local Inquiry, the Secretary of State was minded not to complete the process and accepted the Environment Agency's wish to withdraw the proposal; there now remains the question of how to proceed – this work is ongoing.

The reason for including reference to the IDBs here is to point out that with the abolition of the South West Sussex IDB, the responsibility has returned to the landowners – in several cases that is Arun District Council. The money that Arun used to pay by way of precept has been retained within the Land Drainage budget – in part, funding an extra post to deal with such matters and in part to allow for the increased maintenance liability. The precept in relation to the R. Arun IDB remains. More information on this matter can be found in a specific Cabinet report into the matter (2014) and in references made in regular Engineering Services Review reports.

Surface Water Drainage can take the same forms as Land Drainage but is more usually pipes and culverts. This type of drainage is where the flows are not natural but come from artificial or man-made sources – they will usually drain into natural watercourses but up to that point are the responsibility of the owner (of the source) or Southern Water Services (SWS), if the system has been adopted, as appropriate. There is a mixture in Arun, of private surface water systems and Public ones; adopted by SWS.

Fluvial / Pluvial / Tidal The source of flows in watercourses and surface water sewers can be pluvial (rain falling in the local area) fluvial (reaching the point by flowing in other

watercourses) or tidal (from the sea). Groundwater is also of importance and varies geographically and through the seasons.

The Environment Agency usually has powers in relation to tidal flooding (coastal and Main River) but ultimately the landowner is responsible.

Highway Drainage can be provided either through a dedicated system of pipework or road-side ditches; WSCC manages the drainage and flood risk to Public Highways, It should be noted that WSCC only accepts responsibility for road-side ditches that are solely for the drainage of the highway; any that serve other purposes revert to land or surface water drainage systems.

Groundwater Under the terms of the F&WMA, the LLFA (WSCC) manages flood risk due to groundwater. WSCC has developed a network of boreholes across the County to strategically monitor the level of groundwater on a strategic scale.

Foul Drainage Southern Water Services is the disposal authority and is responsible for a network of drains and public sewers (NB 'drains' serve just one property whereas 'sewers' serve two or more properties). The homeowner usually has responsibility up until the point where the drain leaves the property.

National Policy Defra's Flood and Erosion Risk Management Policy sets out Government policy and the EA's National Flood and Coastal Erosion Risk Management Strategy sets out "a vision of a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100". These two documents are recently published and available on the GOV.UK website (see links provided below). They provide further background reading but are not described in depth here due their strategic nature.

New Development All proposed surface water schemes must consider sustainable surface water drainage principles. Arun Engineers comment on Planning Applications for developments over 2 units and all those in the Lidsey catchment area (to reduce the likelihood of the proposed method of surface water disposal compromising the foul system).

The Lidsey catchment is particularly susceptible to a high groundwater table and this can adversely affect the foul drainage system, where drains and sewers allow infiltration, leading to foul surcharging and flooding. This primarily in relation to older systems already 'in the ground' where older pipe joints allow ingress of groundwater.

If a development is proposed within Flood Zones, then the volume taken up must be mitigated for elsewhere, outside of the flood zone – this usually precludes development going ahead but there are cases where development can happen e.g. the new Rolls Royce facility at N. Bersted – a new lake was formed north of the relief road.

The EA has a dataset that deals with sea level rise and the software usually used to design drainage schemes has the ability to take account of submerged outfalls.

In line with national guidance, a hierarchy is adopted whereby the preferred method of surface water disposal is - infiltration back into the ground, followed by a controlled discharge to a watercourse followed by controlled discharge to a surface water sewer.

This is generally referred to a Sustainable Drainage System (SuDS). The design of SuDS systems and features requires a suite of information to be gathered before they can be designed and approved. This will involve groundwater monitoring (to determine how deep or shallow system needs to be). The worst-case scenario should be designed for, so winter period monitoring is required. The geology and the site's ability to infiltrate

also needs to be assessed. There is guidance in respect surface water disposal from the Construction Industry Research and Information Association (CIRIA) and the Building Research Establishment (BRE), BS8582 and Approved Document H of the Building Regulations also refer.

Designs are checked to ensure that excess water is stored (on site) and allowed to flow only at a rate that applied before the development (greenfield run-off rate – brownfield rates if site previously developed). We required rainfall rates for a 1 in 100 year storm to be catered for and an allowance of 40% for climate change is also applied. Additionally, there must be no adverse effect to neighbouring land in this condition and ‘exceedance’ flow routes must be allowed for.

We quite often get representations from the public, saying that development sites are not suitable, due to flooding. This obviously can be the case; however, it is common for development sites (especially the larger ones) to lay dormant for some time, with little or no watercourse maintenance undertaken while the landowner considers its future and the purchasing developer brings forward plans. Development can therefore be a process by which issues in the local watercourse network can be addressed, by bringing the local network back into good order and betterment provided in some cases. It is often the case therefore that a better overall situation can be achieved.

Consenting Whilst WSCC is the LLFA, the officers there concentrate on strategic matters and acknowledging the local knowledge held at a local level, delegate Consenting any changes to non-main river watercourses (under the Land Drainage Act 1991) to the District & Boroughs, as well as the Enforcement procedures mentioned above.

The WSCC initiative, ‘Operation Watershed’ allocates money from the Active Communities Fund (in the form of grants) to support community groups working in their local area to help prepare for, and reduce the risk and impacts of flooding from ground and surface water. However, it is not open to Districts and Boroughs but we help Parishes and Flood Groups develop bids to WSCC.

As noted elsewhere in the report, it is the landowner or riparian owner’s responsibility to maintain land drainage watercourses. This, of course, applies to Arun District Council as well as to private individuals and corporate bodies. The Engineers have a modest budget for this maintenance work required on Arun DC land (recently increased by virtue of the IDB dissolution) and we also assist / advise other Services (e.g. Housing, Greenspace and Estates) using their identified budgets where appropriate.

The EA and Arun DC are able to undertake capital improvement works where appropriate and where there is a demonstrable need that meets the national criteria framework. Flood Defence Grant in Aid (FDGiA) is available from Defra via the EA. However, this is rarely sufficient; a system of Partnership Funding is adopted to gap fund where 100% FDGiA is not available. Arun has a Community Flood Fund for this purpose, it is not intended to meet all of the shortfall, with other beneficiaries needing to contribute in most cases. It is not intended to be for general day to day drainage costs or minor improvements.

## **2. PROPOSAL(S):**

This is an information paper

## **3. OPTIONS:**

N/A

<b>4. CONSULTATION:</b>		
N/A		
Has consultation been undertaken with:	<b>YES</b>	<b>NO</b>
Relevant Town/Parish Council		
Relevant District Ward Councillors		
Other groups/persons (please specify)		
<b>5. ARE THERE ANY IMPLICATIONS IN RELATION TO THE FOLLOWING COUNCIL POLICIES: (Explain in more detail at 6 below)</b>	<b>YES</b>	<b>NO</b>
Financial		N/A
Legal		
Human Rights/Equality Impact Assessment		
Community Safety including Section 17 of Crime & Disorder Act		
Sustainability		
Asset Management/Property/Land		
Technology		
Other (please explain)		
<b>6. IMPLICATIONS:</b>		
N/A		

<b>7. REASON FOR THE DECISION:</b>
N/A

<b>8. BACKGROUND PAPERS:</b>
Defra Policy - <a href="https://publishing.service.gov.uk">Flood and coastal erosion risk management policy statement (publishing.service.gov.uk)</a>
EA Strategy - <a href="https://www.gov.uk">National Flood and Coastal Erosion Risk Management Strategy for England - GOV.UK (www.gov.uk)</a>
WSSCC - <a href="#">Managing flood risk - West Sussex County Council</a>
Partnership Funding - <a href="https://www.gov.uk">Partnership funding - GOV.UK (www.gov.uk)</a>