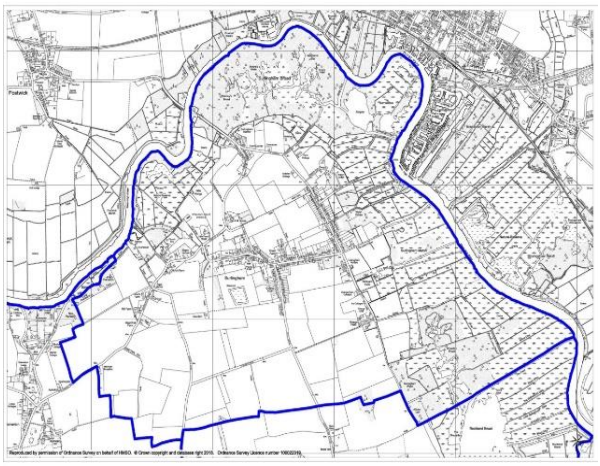
Surlingham Parish Council

Summary of the findings of the Flood Resilience Committee

Dated 19 May 2021

Context

Surlingham is a settlement located eight miles south east of Norwich and borders the south bank of the River Yare. The village is linear in character, three hundred dwellings of continuous single plot depth developments and a population of seven hundred. The village retains a very rural character adjacent to the Broads.



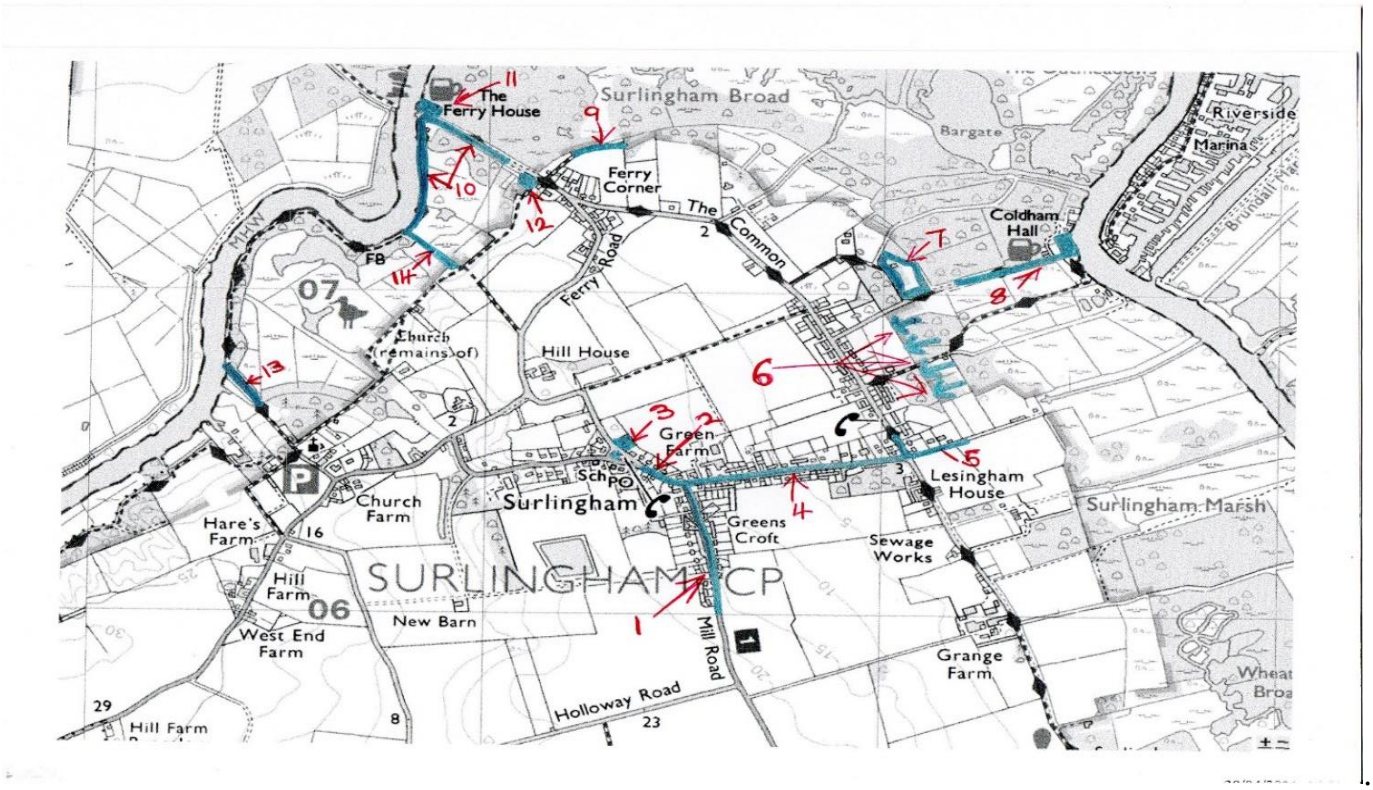
To the north and east are the SSSI RSPB and Norfolk Wildlife Trust nature reserves and Surlingham and Bargate Broads which are only accessible by kayak, a haven for birds, otters and other wildlife while to the south is Wheatfen the Ted Ellis Nature Reserve.

Introduction

Following flooding in December 2020 a public meeting was held and the Flood Resilience Committee formed with the brief to research the impact of flooding on residents, highlight the areas and issues, and produce a report for submission to the Norfolk Strategic Flood Alliance. It should be noted that three types of flooding - surface, tidal, and fluvial - occur within the village.

Findings and Results

Following the public meeting the Flood Resilience Committee consulted residents to assess the nature and extent of flooding within the village. The following is a summary of the committee's findings;



Flooding resulting from surface water

Mill Road (No 1 on the map) is the highest point in the village and runs south to north towards the junction with The Green. Flooding here results from run-off from fields on the west side. When that surface water reaches Mill Road, it runs north, i.e., down-hill, towards The Green. Due to the camber, water flows across the road and into driveways and garages of several properties on the east side that are set below the level of the road.

Drains are a contributing factor being blocked, inadequate or positioned too far into the road to capture the water.

During flash flooding high volumes of surface water flow down from Mill Road, before branching left into School Road and right down The Green.

School Road and Pond Lane (Nos 2 & 3 on map) Here flooding of gardens and driveways is due to poor drainage. When the pond overflows it floods Pond Lane. Traffic is stopped from using the lane to protect one property where the surge from passing vehicles soaks the wall above the level of the damp proof course.

The Green (No 4 on map) Flooding on the north side affects those properties that are below road level. As run-off flows from Mill Road down The Green during spells of heavy rainfall, the ditch at the top of The Green on the south side quickly fills and then overflows onto the road. The underlying cause of the problem is believed to be the accumulation of silt & mud deposited over time in the first section of ditch. These deposits then block the through pipe to the second ditch leaving it half empty. In addition, there is a grid over the front of the interconnecting pipe, and it has been suggested that this makes it easier for debris to build up, such as leaves & litter.
These factors result in water overflowing from the first ditch onto the road surface, where it then crosses to the northern side of the road and flows downhill.

Further down on The Green on the South side ditches have not been dredged for some time and ditches half full of silt have plants growing in them further reducing efficiency. Blocked, inadequate, or damaged letterbox gullies add to the problem. During heavy rainfall, rather than surface water running off the road and into the roadside gullies, in places the opposite occurs, indicating that either the gully is blocked or simply unable to handle any more water.

On some occasions the parking of vehicles on The Green results in heavy goods vehicles and the bus, as well as ordinary cars, having to mount the opposite verge in order to pass. At one location this has resulted in the destruction of the letterbox drain that takes water from the road into the ditch. This has been reported to Norfolk County Council.

Makeshift barriers are used to protect individual properties; however, residents recognise that this simply channels water further down The Green towards The Street and other properties.

During the December flood event, in addition to flooding from surface water, the mains sewer became blocked, with sewage backing up, lifting inspection hatches and flooding driveways and gardens with raw sewage.

Residents on the north side of The Green reported issues with surface water collecting to the rear of their properties. Historically, a drainage ditch ran behind the houses between the gardens and the adjoining field. Part of the field was sold to householders and the ditch now runs through their gardens. In places this has been filled-in, which contributes to the poor drainage in the area. Originally, the ditch flowed from The Green down to a pond (See photographs below) on the Street where numbers 9 and 11 the Street now stand. It is apparent that the purpose of the pond and drainage to it was not taken into consideration when the pond was filled in with rubble and those properties were built.

Cut Loke (No 5 on map) Before the traffic island was built at the junction of The Covey, water flowing down The Green would flow across The Covey into the water meadows opposite. Now the water flows into Cut Loke and along The Street because the drainage pipes and ditches are constantly blocked. Parishioners have cleared these blockages so the water can be diverted into the water meadow. See photograph on the right).

The Street (No 6 on map) incidents on The Street are of two different types, surface water/poor drainage and tidal flooding. As with The Green, the main cause of surface water flooding affecting properties is that roadside ditches are blocked with debris and vegetation and need clearing more frequently. Storm drains are not working efficiently. The Street is a narrow road and when vehicles park on the road they do so on the verges, over time forcing the soil into the storm drains stopping water flowing away. An additional issue is that the pumping station at Berelicks Loke frequently fails.

Tidal and fluvial flooding

East side of The Street, Leaches Turn and Coldham Carnser (Nos 7 & 8 on map).

The properties on the east side of The Street back onto the marshes separated by dykes and drainage ditches which are choked with silt and vegetation. These areas are subject to regular tidal flooding. Residents are keen to understand what steps could be considered such as dredging overgrown channels between these areas, the river and Bargate Broad.

The leaseholder of Coldham Hall is in constant communication with the RSPB/Norfolk Wildlife Trust regarding the maintenance of dykes and ditches on the surrounding land managed/owned by them. The flooding of The Carnser prevents access to Coldham Hall public house, resulting in the closure of the premises several times a year. Flooding used to be a Winter event, in 2020 it began in August and has occurred regularly up to May 2021. If this continues Coldham Hall will no longer be a viable business.

RSPB/Norfolk Wildlife Trust have maintained the South dyke on the Carnser (to the right in this photograph) but that is not enough to stop the water flowing over the road. Because no drainage is maintained to the north the water flow is now so fast it washes out all the maintenance done to the surface of the Carnser, plus the floods are now spreading over a larger area affecting more and more residents as the water has nowhere to go.

East end of Footpath 1 (No 10 on map) - This area is subject to flooding on seasonal high tides and fluvial flooding in days following heavy rainfall; when the Yare is swollen by run off upstream, fluvial flooding occurs on these marshes whenever this swollen down-flow is held back by an incoming tide.

Severe erosion has occurred at several points along footpath 1:

On the section approaching the Ferry House, several areas of the riverbank have been eroded leaving low spots where high river water can pass through onto the marsh; at a particularly low point close to the pub water rushes over the bank onto the marsh and into the dyke which runs alongside lower Ferry Road flooding Ferry Road and one of the nearby properties. At the river end the dyke skirts the Ferry House beer garden terminating near the entrance to Footpath 1 in a drainage pipe through the bank with a one-way flap valve on the river side.

The erosion to this section of footpath 1 is so severe that at the lowest point close to the Ferry House garden, river water now overtops the bank regularly. Patch repairs with sandbags have been made to enable access and prevent river water flooding the footpath on high tides. A larger project to rectify these eroded points awaits funding from Norfolk County Council and servicing the pipe/flap valve draining to the river may help evacuation of flood water after heavy rain and high tidal events.

The Ferry House (No 11 on map) - the stretch of the riverbank between The Ferry House and Church Marsh is now a low point, as flooding and high tides have eroded the bank in some places; at high tide river water flows over the surface and enters a local landowner's marsh.

Two main impacts from these high water levels have been reported. The most significant is the flooding of a property which is close to the marsh and which has flooded on more than one occasion. At this property, the ingress is from ground water rising up through the gaps between floor and walls together with water flooding into the house from the surrounding land, both the result of flooding from high levels of water in the river. On one occasion water and sewage entered the house via the downstairs toilet; on this occasion the cause was the sewage system backing up due to overloading of the sewage mains and vulnerability of this property within the piped system due to its low lying position.

The second impact is the frequent overtopping of the bank by river water causing further erosion.

West end of Footpath 1 (No 13 on the map) accessed via Church Lane down the side of Flint Cottage – at the bottom of the lane to the river the dyke off the river is immediately adjacent to the footpath and at high tide water floods over the path surface. Erosion has removed the soil leaving low, muddy gaps in the path surface. The over-topping of water onto the marsh makes the RSPB's effective management of the SSSI difficult.

If the path height were to be raised, then a flood risk assessment would be required by the Environment Agency; as Church Marsh receives water during high river level events, any prevention of that water overspilling into Church Marsh from the river potentially creates a greater flood risk elsewhere, but reinstatement of the bank to at least the original height would be desirable.

It should be noted that the situation in Surlingham has been considerably exacerbated by a significant length of the opposite bank of the Yare at Postwick having been raised in recent years.

Footpath 2 (No 14 on Map) is the boundary between Church Marsh and the landowner's marsh. At high water levels, water passes over this path between the two marshes. The path surface is saturated and is very muddy and soft for long periods. Again, the flow into the landowner's marsh impacts the property referred to previously.

Conclusion

Surface water flooding occurs when, following heavy rain, water runs off fields adjacent to Mill Road, affecting properties on Mill Road and The Green. Ineffective drainage due to blocked ditches, drains and letterbox gullies are causal factors. In-fill of a drainage pond on the Street is also a contributory factor.

Village pond - overflows following heavy rainfall - drainage on Pond Lane is inadequate to cope with this excess water.

Fluvial and tidal flooding - Surlingham has no river defences; the only controls are sluices around the marshes and drainage ditches that take the water back into the river, most of these are filled with silt and vegetation having not been cleared for over 40 years. Once flood water has entered the marshes and adjacent properties the outflow back to the river is impeded by these blockages. Erosion to the riverbank results in more frequent flooding.

Although it is recognised that climate change cannot be ignored as a factor in increased flooding events, the issues outlined above considerably worsen the problems Surlingham residents experience.