SURREY
COUNTY COUNCIL

Section 19 Investigation Report: Eastworth Road, Chertsey, Storm Henk (January 2024)

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Introduction

Under the Flood and Water Management Act 2010 the Lead Local Flood Authority (LLFA) must (to the extent that it considers it necessary or appropriate) undertake an investigation upon becoming aware of a flood incident within its area.

An LLFA is defined under Section 6(7) of Flood and Water Management Act as being the county council for that area. Section 19(1) requires that the investigation determines the Risk Management Authorities (RMAs) that have relevant flood risk management functions and whether each of those authorities have exercised or propose to exercise those functions.

Section 19(2) requires that the LLFA publishes the results of its investigation and notify the relevant RMAs accordingly.

The purpose of this document is to summarise the results of the Section 19 investigations and clarify the cause and impacts of reported flooding at various houses located around the low points on the Northern side at the Eastern end before it joins Chertsey Road, see Annex A. It will outline why Thames Water and Surrey County Council Highways have flood risk functions and whether these were used or are planned to be used.

Persistent combined long-term surface water and sewer flooding at the Eastern end low point: This report examines the flooding events caused primarily by Storm Henk in January 2024 in the Eastworth Road Eastern end area, but which have been a persistent problem for at least living memory and require a longer-term solution as climate change identifies the weakest areas of infrastructure and assets first. The investigation complies with the requirements of Section 19 of the Flood and Water Management Act 2010.

Eastworth Road is the location of a main surface water highway discharge route, managed by Surrey County Council for highway drainage and Thames Water for sewage. A Thames Water surface water sewer runs below the pavement from the town and surrounding side roads,

discharging below Fordwater Road Bridge and into the Bourne at various upstream points. Additionally, the rear gardens of properties on the northern side sit directly adjacent to the Chertsey Bourne, which rises with the Thames due to the Chertsey Bridge stopper effect and general overload during high surface water events. This area is approximately half a mile from the River Thames and is entirely within the EA's Flood Zone 3.

During Storm Henk in Jan 2024, 2 houses were flooded internally with sewer overflow and up to 14 houses externally flooded.

Flood event description:

Between 1 - 4 January 2024, 50-75mm of rain fell over the already saturated Thames catchment. This is 130% of 4-month Autumn average.

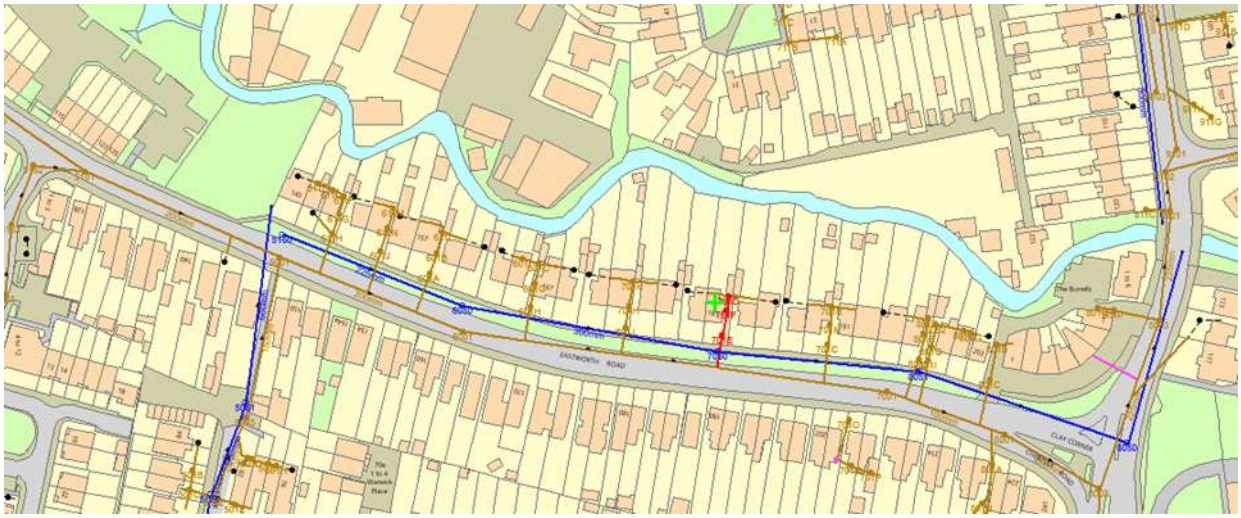
The Chertsey Bourne flooded gardens behind Eastworth Road (backed up from higher Thames levels), the additional volume of rain and highways run off breaching the dropped kerbs overwhelmed the combined sewer and surcharged at the low point around 150m up on the right-hand side coming from the Chertsey Road junction, sewage contaminated the house voids, garages and gardens discharging directly into the Bourne.

Highway run off was exacerbated by a blocked gulley outside Tesco Express and dropped kerbs being pushed down by lorry traffic parked pumping sewage away from the surcharged pipe.

Impacts of Flooding:

Most properties lost foul services during the 14-day effects of the event. Residents had no easy access to properties or toilet facilities and were particularly impacted with social and mental health problems during and following the flooding due to sewerage contamination under the houses, in the garages and across the gardens. This is a regular occurrence being made worse by more highway run off and planned increases in Office conversion to residential uphill of the problem.

Summary Map:



The affected sewer runs from West to East down Eastworth Road within the highway, the separate surface water drain runs down the pavement crosses Chertsey road, heads North and discharges via a flap drain under Fordwater Bridge, which needs regular maintenance to freely hinge and also submerges when the Bourne is in flood, potentially restricting outflow.

Problems:

There is a finite volume available within the Eastworth Road sewer system. This is exacerbated by planning design faults identified whereby houses have their roof rainwater draining straight into the sewer without any flow control. This causes surcharging at the low point and tankers are needed to pump away effluent spills, which find their way into the Bourne after flooding garages and gardens. This risks ecosystem and water quality via uncontrolled pollution events. It is possible there are other such design faults in the area that need to be identified from late 1940's/50's built housing stock. Current planning legislation and economic climate is favouring the conversion of redundant office space conversion to flats, adding significant to the pressure on the near capacity sewer.

In addition to this problem, highway gutter rainwater was exacerbated by a blocked section further uphill by Tesco Express which was adding to water flowing down the road and not entering the surface water drainage system. No gullies exist between Tesco down to the northern row of houses shown in the map and dropped kerbs where tanker lorries parked pumping sewage overflow have pushed the kerbs close to road surface level and were accepting overspill storm gutter water; this added pressure to driveways, which also drained into the sewer system.

Investigation:

The location was inspected and neighbours affected were interviewed, any relevant info was taken forwards to both Surrey County Council Highways and Thames Water meetings, both who were fully compliant in communication and actions required to date.

A desk top study revealed a potential oddment in mapping details showing an annotated restriction of the sewer at the point just before it entered Chertsey Road, this formed the basis for a full Thames Water CCTV survey to check for restrictions, roots, blockages or deterioration, the sewer having been lined some years previously. No faults or restrictions were found.

The second confirmation was that roof water at least from the affected row of houses has been designed to discharge untouched straight into the sewer system. This must be addressed as a fundamental cause exacerbating the problem, see recommendations.

Recommendations:

Surrey County Council Highways

- Ensure the Tesco Express location road gulley is cleared and jetted annually (Completed for 2025).
- Investigate whether road gulley water can be discharged into a newly created watercourse in a ditch in the currently undeveloped open space between the rows of houses relieving the surface water from the system further down and on land owned by a Developer and potentially a part of an offset Biodiversity Net Gain scenario.
- SCC to lift dropped kerbs to a max 35mm and steel re-bar reinforce the base concrete to reduce highway run off to the pavement and increase load capacity to carry the 26T lorries when parked for pumping if surcharging re-occurs.

Thames Water

- Thames water to fully survey the Sewer system for the affected row down to the junction of Chertsey Road (Now completed 2025 see below).
- Thames Water should investigate a project to remove all roof water from entire affected row from the combined sewer and investigate the flap valve causing a possible surface water outflow restriction at Chertsey Road/Bourne crossing during flood events (this may need a wider household survey commissioned to see how many other houses in the same catchment are in the identical position of discharging roof water straight into the foul sewer). This should be included as part of the wider Thames Water Storm Water reduction programme.
- A SuDS pod solution for removing roof water and controlling discharge could be investigated on advice from the Lead Local Flood Authority as a simple and cost-effective solution for removing roof water and feeding down gardens back to the Bourne, effective during times of flood.
- Additional surface water from other side streets, including Wheatash Road, currently feed into the existing Eastworth surface water drain. These could feasibly be disconnected from the Eastworth Road system and re-directed down a new discharge point onto the undeveloped land draining back into the Bourne (with an application for a new ordinary watercourse consent) along with the gutter run off from Tesco downwards, then re-engineered into an open ditch directly back into the Bourne. This would relieve pressure on the over-capacity lower portion of the Eastworth Road surface water drain back towards Chertsey Road (if permissions are obtainable).

- Thames Water must include Eastworth Road in the new Draft Wastewater Management Plan, including bidding to Asset Management Plan 8 round to evaluate and upgrade pumping capacity as required in the next 5-year investment cycle to allow for the planned Chertsey economic and residential growth, accommodating the number of Office to Residential conversions being planned upstream of the problem section.

Actions taken / Identified:

Surrey County Council Highways:

- Surrey Highways have cleared the historically problematic blocked surface water gully at Tesco Express. Maintenance has been moved to an annual action rather than inspection as silt from higher up naturally stops at this low point. Removing the water from the highway at this point means there is less to overwhelm the dropped kerbs of the crossover to the pavement further down.

- Dropped kerbs are scheduled to be lifted and re-concreted to ensure road tankers do not consolidate them to a level of 35mm above gutter, the maximum height before it becomes a defect.

- There are no road gullies between Tesco and the affected row of houses, re-engineering surface water falls into the recommendations.

- Surrey CC Highways to routinely maintain the three pavement gulleys in the middle of the row with a regular Jet & clean to ensure they are functioning and in a regular maintenance regime. (Completed for 2025).

Thames Water:

- Thames Water have identified after extensive survey, there is no foul sewer pipe constriction by mis-design or deterioration, which confirms the excess capacity sensitivity being exacerbated by roof connections entering the foul system. See recommendations.

- It was suggested in the preparation of this report that Thames Water could install a non-return valve and oversize feed pipes to the driveway foul outflow systems at the perpetual troublesome low point sewage overspill houses as a stop gap measure to reduce sewage back flow during flooding. This has been fully investigated by Thames Water, and it has been assessed as having the potential to increase flooding risk to the houses with direct foul connection during periods of flood, removal of roof water from the foul is the preferred solution.