

# LB Brent flood scrutiny committee 22 Feb '23: Thames Water update

## 1. LONDON FLOOD REVIEW

On 12 and 25 July 2021, London experienced two extreme rainstorms that caused extensive flooding of homes, businesses and the capital's transport, education and health infrastructure. Whilst both storms were forecast days in advance, the intensity of the rain that fell was significantly underpredicted, with over a month's worth of rain falling in a hour at the peak of each storm. It is estimated that at least 2,000 properties experienced some internal flooding, either from sewers backing up inside the properties, or overland flows reaching sufficient depth to penetrate through air bricks, door and window frames.

Thames Water commissioned the independent London Flood Review (LFR) to understand why the flooding on 12 and 25 July 2021 was so severe, whether TW's assets may have exacerbated the flooding and to make strategic-level recommendations on how to manage this growing risk. The LFR published its final report on 12 July 2022, presenting its findings and its 28 recommendations.

The LFR's key finding was that the main cause of the flooding was the intensity of the rainfall, which overwhelmed private, local authority and Thames Water's drainage systems. In some areas the flooding was exacerbated by tide-locking of the combined sewer overflows into the Thames, which caused some sewers to back up. The LFR did not find any significant operational failures on the Thames Water network.

We have reviewed the 28 recommendations and believe that three (recommendations 14, 21, 22 – see Appendix 1) are clearly the responsibility of Thames Water to lead on and fit with our sewer flooding strategy. An action plan to deliver these actions is being developed and delivered.

The remaining 25 recommendations require the close collaboration of a number of organisations to achieve them. We therefore propose that these should be reviewed by the London Surface Water Strategic Group ('LSWSG' - see below) for consideration as to whether and how they should be discharged.

To ensure that the findings of the LFR were well disseminated, three versions of the final report were published (a non-technical summary, a more technical 'summary for policy-makers' and the full technical report). The Chair of the LFR also presented to a range of stakeholders, including:

- National Infrastructure Commission (to inform the government's commission)
- Thames Regional Flood & Coastal Committee
- [Mayor's Surface Water Roundtable](#)
- London Councils' Chief Executives' Environment Committee
- London Council's London Environmental Directors' Network
- RBKC's Environment flooding working group

- Thames Water's Customer Challenge Group
- Thames Water Utility Limited Board

Following the completion of the LFR, the LFR's website was maintained for 6 months (until 12 December 2021) and then the reports were transferred to: [London flooding response | About us | Thames Water](#)

## 2. LONDON SURFACE WATER STRATEGIC GROUP

The July 2021 floods highlighted that London's drainage systems are an integrated system-of-systems and that managing flash-flooding from intense storms requires the close collaboration of all responsible agencies. A number of working groups and studies into the July 2021 floods, including the LFR and the Mayor's Surface Water Roundtable, identified the need for a high-level, multi-agency, 'strategic group' to drive the necessary collaboration, and produce and deliver a London-level surface water management strategy and action plan.

The LSWSG represents the key agencies in London with representation drawn from six Lead Local Flood Authorities, and the Director/Mayoral adviser level representatives from the GLA, TfL, EA, London Fire Brigade, Thames RFCC and Thames Water. Funding has been secured from the Thames RFCC for up to five years to fund an independent chair, a part-time secretariat, a project officer and towards developing a London-level surface water management strategy and action plan.

The first meeting of the LSWSG was held on 08 December to approve the draft Terms of Reference for the Group and the scope for the London-wide surface water management strategy. In setting up the LSWSG and commissioning the strategy, the first two recommendations of the LFR have been initiated. The intention is that the LSWSG will use the LFR's reports, TW's draft Drainage and Wastewater Management Plan, Borough Section 19 studies and updated surface water management plans to inform the development of the London-level strategy.

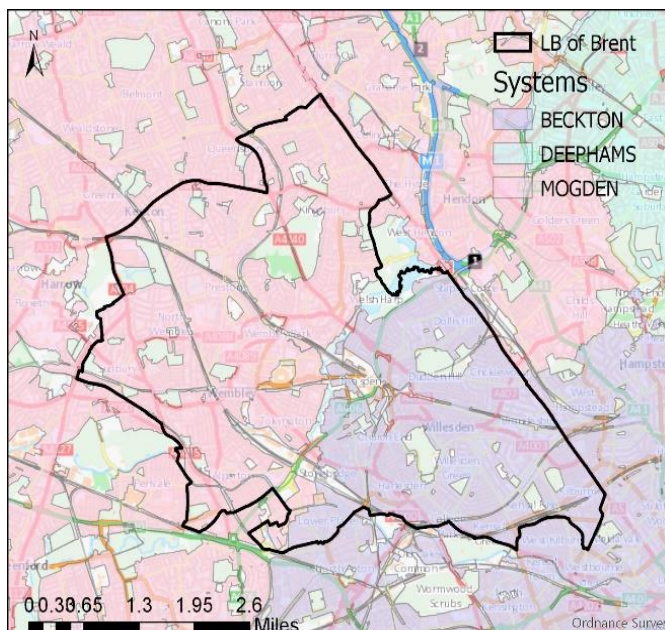
The LSWSG are also developing a work programme of quick wins/ no regret actions that can be delivered in parallel to the development of the London-level strategy and actions plan/s.

## 3. DRAINAGE AND WASTEWATER MANAGEMENT PLAN

Water companies are producing long-term plans, known as Drainage and Wastewater Management Plans ('DWMP'). This is the first time they are being completed and will become a statutory deliverable under the Environment Act from the second cycle of plan. The plans will be refreshed every 5 years. The plans look at the impact of the combined challenges of climate change and population growth on drainage and wastewater treatment out to at least 2050, and identify strategic-level solutions to address these impacts.

Our draft DWMP was published on 30 June 2022 and is available [here](#). Our final DWMP will be published on 31 May 2023.

We produced a regional segregation of the plan to gain more of a local understanding of the long term strategic intent. Within London, the plan was segregated into eight wastewater systems and further into risk zones. The London Borough of Brent is served by two drainage systems, Beckton to the south east and Mogden to the north west. The adjacent map defines the split more accurately.



In our draft DWMP, the LB of Brent is represented in Risk Zone 2 in Beckton and Risk Zones 2, 3, and 4 in Mogden. The risk zones were selected based on how the underground piped network drains properties.

The scale of the modelled flood risk for a 1:50 year rainfall (or 2% probability of occurring in any year) each of the risk area is in the table below.

System	Risk Area	Modelled 1:50 flood risk	
		2035	2050
Beckton	Risk Zone 2	24,758 properties (8.3%)	27,604 properties (9.3%)
Mogden	Risk Zone 2	15,985 properties (12.0%)	20,515 properties (15.4%)
	Risk Zone 3	9,996 properties (11.1%)	11,950 properties (13.3%)
	Risk Zone 4	16,766 properties (21.9%)	19,353 properties (25.2%)

The proposed strategic-scale interventions to manage this risk are shown below.

System	Risk Area	Proposed interventions

		Ha of area connected into SuDS	Pipe upsizing (meters)	Network storage (m <sup>3</sup> )	Property Protection	Cost Range
<b>Beckton</b>	Risk Zone 2	1,561	162,116			>£1.0bn
<b>Mogden</b>	Risk Zone 2	923	19,711	12,919		£1.0bn - £500m
	Risk Zone 3	609	6,792	18,529	309	£1.0bn - £500m
	Risk Zone 4	100	2,808			£100m – £200m

## APPENDIX 1: LFR RECOMMENDATIONS

### Governance:

No single organisation is in overall charge of managing surface and sub-surface water flood risk in London. Furthermore, there is a lack of understanding of the overlaps and interactions between the differing responsibilities among a wide range of organisations. Our recommendations:

#### *Roles and responsibilities for flood risk management*

Recommendation 1. TW to work with other agencies to develop a multi-agency strategy to respond to flooding. Engage with other organisations to identify clear roles and responsibilities during the event.

Recommendation 2. Set up an organisational body to develop strategic plans for management of surface water over Greater London. Report annually on progress against these plans.

#### *Planning and development*

Recommendation 3. Review the planning process to consider adding water companies as statutory consultees in the planning process, to provide comments related to sewer flooding risk and network availability.

### Funding

There is insufficient funding mobilised to manage the risk. There is a lack of knowledge about potential funding opportunities and a lack of understanding of what is needed to develop and submit proposals to secure the needed funds. Our recommendations:

### *Funding for flood risk schemes and sustainable drainage systems*

Recommendation 4. Review the process of applying for and securing funding for flood risk schemes.

Recommendation 5. Seek opportunities for partnerships working in areas of known flood risk to spread the cost of potential schemes, including consideration of source control as well as schemes which protect receptors. Identify blockers which prevent effective schemes being taken forward and lobby for additional resources to be made available to achieve funding.

Recommendation 6. Ring-fence funding to Lead Local Flood Authorities (LLFAs) for flood risk duties. Lobby for additional funds to be made available so that the full remit of duties can be met.

### *Incident response*

Recommendation 7. Enable the Strategic Surface Water Management Group to manage and coordinate response to flooding, including deployment of clean-up crews to areas of greatest need.

### *Insurance*

Recommendation 8. Work with those who flooded to support their access to the FloodRe reinsurance scheme, the Build Back Better fund, and feedback any necessary improvements to the scheme. Consider lobbying for further investment into FloodRe scheme to include cover for houses of multiple occupancy and commercial properties to ensure they have access to insurance

### **Evidence**

There is a lack of understanding of what flood assets are currently available, who owns and maintains them, and what condition they are in. In addition, there is also a lack of modelling that can help organisations understand where floods are likely to occur and what efforts should be undertaken to reduce the risk.

### *Monitoring and forecasting*

Recommendation 9. Investigate timescales and suitable application for multi-agency response to improve forecasting. Use forecasting to identify event risk zones and consider use of ICMLive models to develop computer learning models as a predictive tool to identify impact and operational response during an event.

### *Modelling*

Recommendation 10. Develop existing modelling specifications, or create new ones, which provide clear guidance on the use of rainfall, boundary conditions and complex flow

mechanisms. Ensure that a common model environment is used so that shared risks between LLFAs and TW are well understood.

#### *Asset performance*

Recommendation 11. Review critical assets and identify ways of monitoring data and information, such as data sharing platforms, during an event to inform decision-making and prioritisation. This may draw on data from all organisations as well as freely available data. Consider whether a digital twin is of benefit to replicate the system and understand the impact of various operations on system performance.

Recommendation 12. Assess impact of gully cleaning to determine the gullies which should be cleaned most frequently. This may not be the gullies where flows pond but may be further upstream to allow for flows to get into the system and be conveyed away from risk zones. The impact on other infrastructure should be considered.

#### *Reporting and forming evidence bases for future investment*

Recommendation 13. Review current data collection processes across all stakeholders and identify improvements. Establish a suitable data platform to host flooding history data and manage appropriately. Appoint a data manager to be responsible for data and how it is shared.

### **Communications**

There is a lack of understanding of the risks of surface water flooding and the responsibilities of the various stakeholders to lower such risks. Our recommendations:

#### *Preparing for events*

Recommendation 14. Set trigger points, likely to be aligned with the multi-agency flood plan and London Resilience Group's triggers, to mobilise operational and TW Customer Contact Centre staff and engage with key stakeholders to prewarn of a potential event.

Recommendation 15. Ensure that the current response plan includes alerting customers who have either signed up to be notified of risks in their area, previously experienced flooding, or are on the priority services register, that there is a potential risk of extreme weather in advance of the event so that they may prepare.

Recommendation 16. Carry out exercises to practice new flood response and communications plans to improve preparedness and cooperation across multiple organisations

#### *Responding during events*

Recommendation 17. Implement process for updates to website messaging and key lines of communication to be shared across all key stakeholders as an event unfolds. 3.4.3 Post-event response and clean-up

Recommendation 18. Create and disseminate an 'emergency communications group messaging' briefing document to staff and stakeholders. Update regularly during and after flooding events to enable clear and consistent messaging across the various stakeholders.

#### *Coordinating and sharing information across organisational bodies*

Recommendation 19. Establish a data sharing agreement between TW and other relevant stakeholders which sets out what and how data is shared. Enable LLFAs quick access to data.

#### *Coordinating and sharing information for customers*

Recommendation 20. Create cross-organisation educational campaign regarding flood risk to help residents and businesses to understand their risk and steps that they can take to reduce that risk and gain insurance.

Recommendation 21. TW to share policy on procedure for assessing FLIP installation with stakeholders for clarity and openness.

Recommendation 22. Understand where customers implement their own measures. This data will help RMAs to understand the cumulative impact of these measures on flood risk. Create digital form for consultation process so that TW is informed.

### **Strategic plan**

The absence of an overall strategic plan and vision, as well as a body tasked with its development and implementation, underpins all of these issues. Our recommendations:

#### *Asset resilience*

Recommendation 23. Set out clear terms of reference of what flood risk resilience schemes are aiming to achieve, in terms of acceptable levels of risk, desired standard of protection and design requirements, in conjunction with Recommendation 11. Agree across the RMAs. Understanding the flood risk mechanisms in play will result in a scheme which delivers the maximum benefit potential to all stakeholders.

Recommendation 24. Strategic Surface Water Management Group to assess criticality of strategic assets and assign required standard of protection. Review measures in place to ensure continuity of performance during flooding events. Review current Flood Asset Register compiled by LoDEG and make recommendations to improve consistency and understanding of assets. Assess assets which are critical for flood risk management and the implications on other assets where they may fail. Communicate findings to all stakeholders.

#### *Re-greening London*

Recommendation 25. Consider incentivisation of Nature Based Solutions to form part of the flood risk management infrastructure to improve the 'grey to green' water and reduce runoff into the drainage network to encourage widespread promotion and uptake of installation.

### *Planning policy*

Recommendation 26. Identify the significant flow paths in the city, which often follow the path of the lost rivers. These should be formally designated as protected overland flow routes.

Formalisation of these routes may involve minor but wholesale amendments to kerb lines, low point attenuation areas (i.e. blue corridors and informal detention basins) to make these routes safe for conveying flood waters. Additional policy should be written preventing changes within these designated routes without a full assessment and understanding of how these changes may affect their function.

Recommendation 27. Local authorities to consider implementing more stringent development policies so that greenfield runoff rates must be achieved. This should also be followed up to encourage developers to implement realistic and functional solutions.

Recommendation 28. Local planning authorities to amend their planning policies where there is a known risk of sewer flooding to incorporate any basement development or construction work. This will increase the workload of the planning authorities, so it is recommended that funding is increased to meet this change in demand.