Sewer Flooding Alleviation in the Counters Creek Catchment

London Borough of Hammersmith and Fulham

Monday, 28 May 2012 at 7.00pm

The Small Hall, Hammersmith Town Hall, King Street, W6 9JU
Agenda

- Progress since November 2011
- Short-term (FLIP) programme
- Independent Advisory Group comment
- Understanding the problem
- Long-term solution
- Sustainable drainage systems (SuDS) pilots
- Next steps
- Questions?
Progress since November 2011

- 634 anti-flood (FLIP) devices on track for delivery by the end of June 2012

- Sustainable Drainage System Pilot started

- 3 workshops held with Independent Advisory Group and Ofwat

- Development of a long-term solution completed - still to be formally agreed with our economic regulator, Ofwat
Progress since November 2011

- 2,059 customers have now reported flooding to us which has helped us immensely
Short-term FLIP programme - LBHF

337 FLIPs installed in your Borough
Short-term FLIP programme

Next steps

- We are on track to meet and exceed the number of FLIPs devices that we originally committed to.

- As part of the long-term solution and in order to deliver protection, some additional properties will need to have FLIPs installed permanently.

- We will continue to install other devices such as non-return valves to protect properties from flooding.
Independent Advisory Group: Who are we?

- Professor Bob Andoh
  Director of Innovation, Hydro International
  Visiting Professor, Liverpool John Moores University
  IWEX 2003 Innovation Award Winner

- Professor David Balmforth
  Executive Technical Director, MWH
  Visiting Professor Imperial College
  Vice President, Institution of Civil Engineers

- Professor Adrian Saul
  Professor, University of Sheffield
  Leading academic in Flood Risk Management Research Consortium
IAG – Certainty over Causes of Flooding

Have the different causes of flooding been properly identified?

- Historic context
- Validating the sewer network model
- Location of flooding – objective evaluation
- Understanding the complexity of the system
- Identifying the underlying causes of flooding
IAG – Appropriate Measures to Manage Flood Risk

Have we gone beyond conventional solutions to consider all possibilities?

- Source – tackling rain where it falls
- Pathway – dealing with system capacity
- Receptors – FLIPS as permanent solutions
IAG – Structure Approach to Developing Options

How do we get the right option in the right location?

- Using a structured approach
- Distinguishing between local and strategic options
- Understanding the contribution that individual options make
- Timescales – short versus long term measures
IAG – Robustness of Solutions

Will the final set of options deliver the necessary level of flood risk management?

- Using the model to demonstrate performance
- Piloting novel technologies
- Engaging stakeholders and the public
Understanding the problem

Our approach

- The network has grown with London over hundreds of years – it’s very complex

- Flow in sewers can change direction depending on where rain falls and how heavy it is

- To help us understand this, we broke the problem down into smaller parts for assessment
Understanding the problem

Breaking the problem down into regions for analysis
Understanding the problem

Identifying local constraints and ‘pinch points’
Understanding the problem

Flood risk assessment – trunk sewers versus local sewers
Long-term solution

Our proposed programme of improvements to the network to reduce the risk of sewer flooding comprises:

1. A new deeper storm sewer that follows a similar route to the existing Counters Creek sewer,

2. Local improvements, such as increasing the size of sewers and building tanks to store storm water

3. More FLIP devices to protect very deep basements

4. A programme of Sustainable Drainage Systems to ensure that the solution continues to work in the future.
Long-term solution
Our proposed new deeper storm sewer
Long-term solution

Properties resolved by each part of the programme
Sustainable Drainage Systems

We are currently delivering the following:

- South Kensington Estates – roof drainage via planters
- Kelso Place – back garden refit with planters and repaving
- Cambridge Place – roof drainage via planters
- Elm Park Gardens – communal area rain garden installation
- Walmer Road – driveway permeable paving installation
- Museum of London – green roof monitoring installation
- Natural History Museum – possible rainwater harvesting installation
Sustainable Drainage Systems

South Kensington Estates
Sustainable Drainage Systems

Strategic retrofit pilot

- Potential long list of sites identified together with a “control” street to reduce the effect of spatial rainfall variation.

- Flow monitoring contract has been placed to cleanse the system and record flows. Data can be made available on the web once the pilots are up and running.

- London Sustainability Exchange engaged to support community aspects of the pilots.

- Lead design consultant has been engaged to undertake the technical and urban design aspects.

- Academic review and support is being provided from Sheffield University
Sustainable Drainage Systems

Why are doing this?

- We have identified potential for SuDS in the catchment – a key part of the solution for the alleviation of sewer flooding.

- Pilot trials needed to assess:

  - **How much?** Reliability of reducing peak flows in sewer. Data for national evidence base and Council projects
  
  - **Where?** Suitable locations for installation
  
  - **How acceptable?** Costs, opportunities and barriers - how readily will homeowners and businesses install measures
  
  - **Alignment with planning policy?** Designs must be realistic, sympathetic and accepted by the community
  
  - **Can they be retrofitted?** Installations must work in the existing urban environment, not just for new build applications
Sustainable Drainage Systems

Next steps

- Commence recording of data from the flow monitors and rain gauges at 14 streets and associated control streets.

- Undertake sample designs and community engagement process.

- Monitor flows for technical suitability and to gauge system response for an initial 9 month period.

- Install SuDS measures at the 3 best sites following the initial monitoring period.

- Monitor flows post SuDS installation for up to 12 months.
Long-term solution

Next steps

- Complete sensitivity analysis of design assumptions
- Carry out Cost Benefit Assessment of long-term solution for submission to Ofwat in July
- Agree necessary funding with Ofwat
- Continue with detailed design, planning and environmental activities
- Commence procurement of key suppliers
Counters Creek Sewer Flooding Alleviation May 2012

Long term programme

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- Submission of proposals to Ofwat for funding (July)
- Apply for planning approval
- Agree solution costs with Ofwat
- Start construction
- Final AMP6 Determination (Nov)

Six monthly updates to customers | Ongoing communications

- Planning and development
- Construction

Counters Creek Sewer Flooding Alleviation May 2012
Next Public Meetings on the Counters Creek sewer flooding alleviation scheme

We are planning to hold the next public meetings on:

- Monday 26 November 2012 at Hammersmith Town Hall
  and
- Thursday 29 November 2012 at Kensington Town Hall
Questions ?