

FLOOD INVESTIGATION REPORT

July 28th 2014

The report is produced to fulfil Lead Local Flood Authority requirements to investigate significant flooding under Section 19 of the Flood and Water Management Act 2010, which states:

"On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate -

Which risk management authorities have relevant flood risk management functions, and

Whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to flood.

Where an authority carries out an investigation under subsection 1) it must -

- (a) Publish the results of its investigations; and
- (b) Notify any relevant risk management authorities".



HILLINGDON
LONDON

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1. Overview of Flood Risk in Hillingdon

Hillingdon Council is susceptible to a number of different sources of flooding. Within its boundaries lie the River Colne and River Crane catchments, the River Pinn and Yeading brooks and numerous ordinary watercourses.

The Council has also identified large areas as being at risk from surface water according to maps produced by the Environment Agency 'Risk of Flooding from Surface Water'¹ (which can be found on their website).

Flooding could affect over 5212 people in the borough. Further information on these risks can be found in Hillingdon's Strategic Flood Risk Assessment and Surface Water Management Plan available on the Council's Website².

2. Summary of 28th July Event

Warning

A Flood Guidance Statement was issued by the Met Office on Sunday 27th for the 28th July, "The surface water flood risk was considered low across the south-east of England as a result of a low likelihood of significant impacts from isolated heavy showers or thunderstorms".

Causes of flooding

Torrential rain, with lightning and thunder, began at about 7.00am in the Uxbridge area and quickly caused large areas of standing water. In Ruislip it started about 09.00am BST and lasted for at least 45 minutes

The Met Office recorded more than 42.6mm of rainfall in Northolt at 8.00am. More than half the average total rain for England in July fell in an hour.

A flood alert was issued for the 'Lower River Colne and Fray's River' at approximately 10.45 am by the Environment Agency in response to the rain that had fallen.

3. Summary of Impact

A large number of roads were temporarily flooded, some of which were impassable as a result, including key infrastructure such as the A40. London Underground train stations and lines were also closed off in the Hillingdon area.

In Hillingdon approximately 29 properties flooded internally. Some of these residents are still affected and some have not been able to return to their homes and are in temporary accommodation.

At one stage six cars were stuck in floodwater in Uxbridge, west London, according to the AA's Special Operations Response Team. A number of people were rescued after being stranded in flood water.

A number of sources have been used to collate this information. As only a limited number have been direct reports to the Council, not all have been able to be verified. There may be other areas that the Council are not yet aware of.

¹ <http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=ufmfs#x=357683&y=355134&scale=2>

² <http://www.hillingdon.gov.uk/26402>

The flooding reports were mainly from the Ruislip and Northolt Area, although there were some localised issues in Uxbridge and West Drayton. The majority of issues appear to have been due to heavy rain overwhelming surface water sewers. .

Key impacted sites are explored in more detail in the next section.



Map of Key areas affected on the 28th July.

London Underground infrastructure affected:

- West Ruislip Station flooding nearby
- South Ruislip Station flooded and closed.
- Ruislip Manor Station on Victoria Road, subway flooded
- Ruislip Station and
- Eastcote Station on Field End Road closed for a period while the floods were dealt with by engineers.

The Metropolitan and Piccadilly lines were closed between Ruislip and Rayners Lane after tracks disappeared under flood water.

Roads affected by area

Ward	Road Name
Eastcote	High Road,
Harefield	Hill End Road.
Uxbridge	Cowley Road The Lynch Regents Avenue Granville Road/ Windsor Avenue - Photos Turnpike Lane
Ruislip	Ruislip Gardens Victoria Road Bedford Road Clyfford Road Lea Crescent Station Approach Westfield Way Cornwall Road Pembroke Road
Ickenham	Swakeleys Road Derwent Avenue Thornhill Road St Georges Road Breakspear Road South Parkfield Road High Road Austins Road, Glebe Avenue Sussex Road Milverton Drive Edinburgh Road
West Drayton	Blossom Road Hatch Lane Money Lane
Harmondsworth	Holloway Lane
Harlington	High Street
Hayes	Wood End Green Road Lansbury Drive Fairholme Crescent

Other - Battle of Britain Bunker

4. Summary of Response

Lead Local Flood Authority response

Hillingdon has a clear process in place through the Civil Protection Service in which adverse weather warnings are distributed within the Council so that officers in different services can take the appropriate action. In an emergency, Hillingdon has on standby a number of officers, ready to respond.

The Council Highways service attended a number of sites over this period during the morning as requested by residents. They delivered sandbags to residents, as well as visiting a number of structures across the borough to remove debris and thus reduce the likelihood of blockages.

Other Risk Management Authorities (RMA) responses

Thames Water responded to a number of queries from residents, and attended a number of sites at the time of the event. TFL also responded to the event on the A40 which required tankers to pump out water to allow the road to reopen.



Investigation

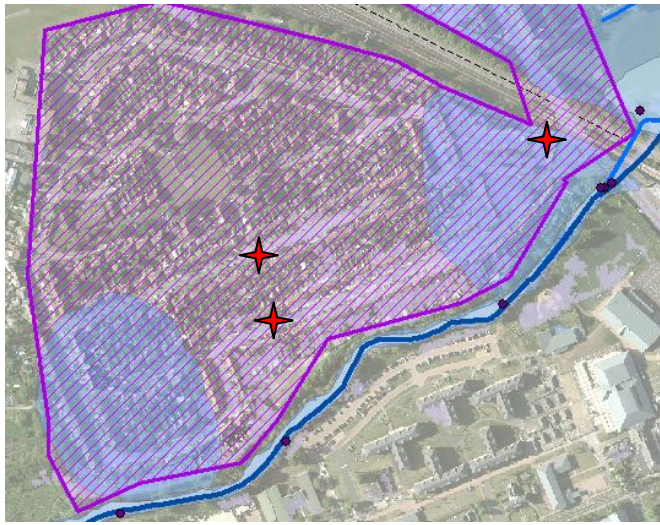

Although this is considered unprecedented weather, the Council wants to ensure that flood events are investigated to ensure that any contributing factors are being managed appropriately by the Council and the other risk management bodies.

The impact was significant to a large number of residents whose houses were flooded internally and a number have not been able to return home.



Investigation is recommended by the Surface Water Management Plan Appendix C Actions. In addition, under Section 19 of the Flood and Water Management Act 2010 Hillingdon as a Lead Local Flood Authority (LLFA) consider investigation appropriate.

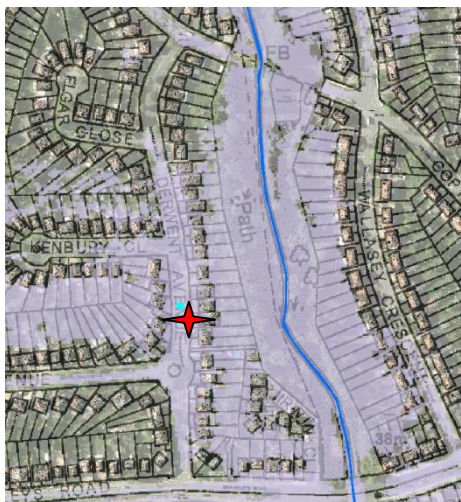
Evidence has been collected from the numerous calls, emails and letters that the Council has received over this period, as well as meetings with residents, and information from local media reports. Requests have also been made to other flood risk management partners for information.



Area affected	a A40 adjacent to Hillingdon Underground Station	
Date of flooding	28/07/2014	
Grid Reference	507664 185051 TQ 0785SE	
Land ownership	TFL responsible	
Map of Area	Photo	
Location of flooding marked as a red star. Critical Drainage Area in purple	Tailback on A40 due to closure, Photo of water posted by Uxbridge South police team to twitter	
		
Duration of flooding	Approximately 12 hours	
Source of flooding	Surface Water	
Cause/Pathway	Heavy rain in a very short period resulted in the overwhelming of surface water drainage arrangements and water built up in low point on the A40	
Impact of flooding	A40 closed, diversions and tailbacks across Hillingdon	
Evidence	Photographs from a variety of sources. The area is also defined as Critical Drainage Area, within the SWMP.	
History of flooding	None	
Summary	Identified as an area of risk within the Hillingdon Surface Water Management Plan (2011) and published on the Hillingdon website. A copy was provided to Transport for London 22 nd Jan 2013.	
Action by TFL	Investigate and determine appropriate actions and share discuss with the Council as the Lead local Flood Authority	
Action by the Council	Further investigation has been undertaken by the Council working with the GLA and Drain London but no information on the drainage infrastructure in the area has been provided by TFL despite repeated information requests. The investigation undertaken by TFL has been requested by the Council on a number of occasions since the event but not yet provided.	

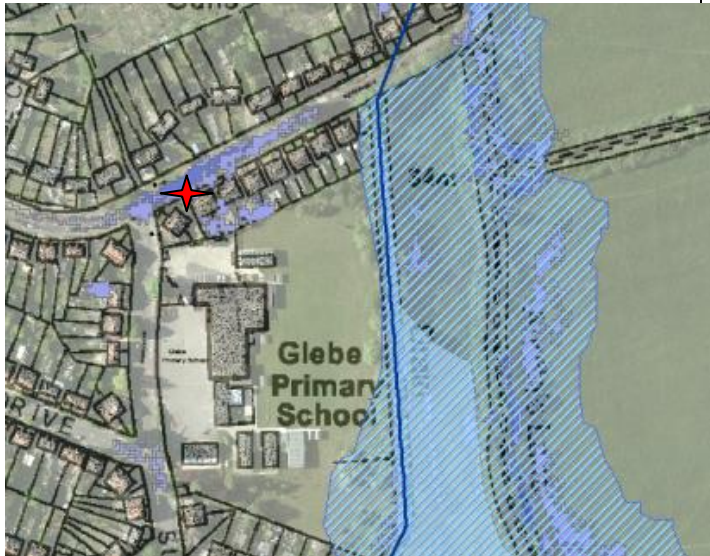
Area affected	b Bedford Road, Clyfford Road and West End Road HA4 6NA	
Date of flooding	28/07/2014	
Grid Reference	509876 185800	
Land ownership	LBH adopted roads and residents	
Map of Area	Photo	
Location of flooding marked as a red star. Blue indicates fluvial flooding and purple surface water taken from EA Flood Maps. Red dots indicate Thames Water Surface water sewer outfalls.		Taken by residents and provided in Environment Agency Flood Data recording report.
		
Duration of flooding	Approximately 3 hours	
Source of flooding	Surface Water	
Cause/Pathway	Overwhelming of surface water sewer, water building up in the low points in the roads and spilling out and over the footpaths and into front gardens. Water levels also built up rear of some properties.	
Impact of flooding	Flooding across access roads and in approximately 23 houses	
Evidence	Photos and anecdotal reports from the Get West London. The location is identified on the Environment Agency Flood Map as an area at risk from surface water and fluvial flooding. The area is also within a Critical Drainage Area.	
History of flooding	None, although on West End Road there have been previous reports of flooding although more details are not known	
Summary	Heavy rain within a very short period of time overwhelmed the local drains. The London Fire Brigade (LFB) attended the scene on the 28 th July to assist residents. Sandbags provided by LFB to 20 -50 properties affected, some internally.	
Action by the Residents	The Council recommends that where appropriate residents identify what they can do to protect themselves. Products that may help such as air brick covers, with information about them and links to where they can be found on the internet are on the 'flooding' page on Hillingdon website.	

	<p>Additionally increasing the permeable areas will help reduce the water flowing towards the sewers. Any new front gardens which are paved should comply with GDPO requirements to ensure they are either permeable or drain to a permeable area within the garden.</p> <p>In addition there is concern by residents that the access road to the rear of the properties may be contributing to flooding. These roads are privately owned and the Council holds no information on their current drainage arrangements. Residents need to work together to ensure that the drainage arrangements are maintained by the owner.</p> <p>Every resident should report issues to Thames Water to ensure that the reports they receive reflect the severity of the situation, and the numbers truly affected.</p>
Action by the Council	<p>The Council are responsible for the gullies in an adopted Highway. The gullies are cleaned on a yearly basis by the Council, and are in this area scheduled to be cleaned in approximately August every year. The gullies were cleaned on 4th August 2014. A number of gullies were covered by parked cars and the Highways service returned at a later date to clear these.</p> <p>Where gullies are blocked the debris is removed and the gullies jetted with water to ensure the connections into the sewers are clear.</p> <p>It should be noted that, in heavy rain, leaves and other debris is washed into gullies, blocking them even if they had been previously clear prior to the flood event.</p> <p>The Council has invested in a new system to review the prioritisation of the gullies so that gully clearing could be more frequently to high priority sites less frequent in less critical areas.</p> <p>Council officers have also checked the Thames Water surface water outfalls and found water flow from them to be impeded by silt and vegetation and have reported it to Thames Water to investigate and take action.</p>
Action by Thames Water	<p>Thames Water are responsible for the surface water sewer that gullies drain into. Thames Water visited the site in August on request of residents and undertook a CCTV survey of the surface water sewer. However they were prevented from completing this because the line was blocked. Further work was commissioned by Thames Water for their contractors to undertake a line clean of the surface water sewer. Tree roots which had blocked the line were cut back. Thames Water has said they will monitor the situation and respond to future reports.</p> <p>The Council have requested that Thames Water investigate the whole length of surface water sewer to the point of discharge into a river so that it can be confirmed that the system functions appropriately.</p>
Action by the Environment Agency	<p>The Environment Agency sent out officers to record information on the flood. The council has been provided with the data collected.</p>

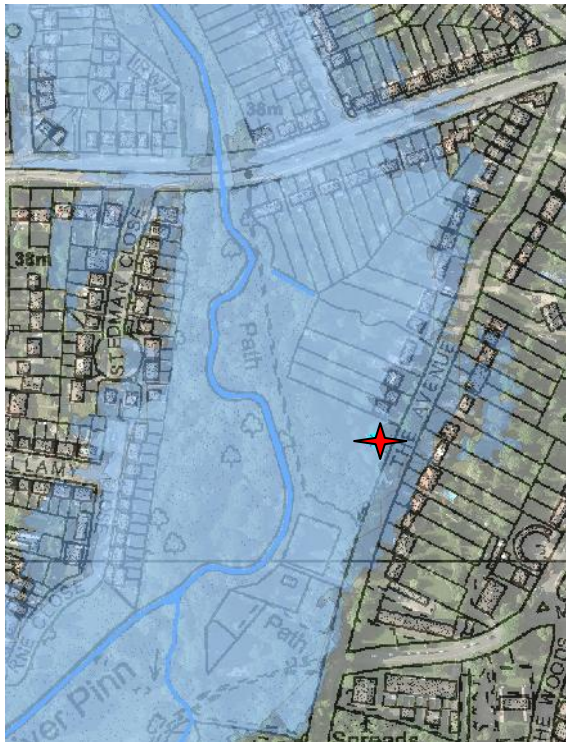

Area affected	c Station Approach, Ruislip HA4 6TP
Date of flooding	28/07/2014
Grid Reference	511149 185418
Land ownership	LBH Adopted Highway
Map of Area	Photo
Location of flooding marked as a red star	Taken by Alan Palmer http://www.getwestlondon.co.uk/news/local-news/two-women-rescued-car-south-7518302
	
Duration of flooding	Approximately 3 hours
Source of flooding	Surface Water
Cause/Pathway	Overwhelming of surface water sewer
Impact of flooding	Flooding of road and footpath. Two ladies required rescuing.
Evidence	Reports from residents to the Council and news papers. The location is identified on the Environment Agency Flood Map as an area at risk from surface water.
History of flooding	30/11/2009, 11/06/2012, 18/07/2012, 27/10/2013, 5/11/2013, 7/02/2014, 14/05/2014
Summary	2 ladies rescued by LFB on the 28 th July after becoming stranded.
Action by the Council	Council Highways services were called by residents and attended on the 28 th July. They used a tanker to remove water until approximately 4pm when Thames Water arrived. The Council team were able to point out the locations of the blockage. Gullies have been checked previously by the Council on a number of occasions and found to be clear. However a blockage in the surface water sewer was identified. It was reported to Thames Water on numerous occasions by the Council over the last few years, following resident's reports of other issues.
Action by Thames Water	Issue reported by the Council to Thames Water in October 2013. Thames Water have attended site on a number of occasions. Tree roots blocking the pipe were found. Works to clear this had still not been undertaken in July 2014. Road closure is required to enable the dig out of and replacement of the pipe work and replace it, as the blockage cannot be moved.



Area affected	d Derwent Avenue, Ickenham UB10 8HJ
Date of flooding	28/07/2014
Grid Reference	507208 186437
Land ownership	LBH adopted Highway
Map of Area	
Location of flooding marked as a red star	none
	
Duration of flooding	Approx 24 hours.
Source of flooding	Surface Water
Cause/Pathway	Overwhelming of surface water sewer
Impact of flooding	Road flooded, and one home flooded internally
Evidence	Anecdotal evidence from residents. The location is identified on Environment Agency Flood Map as an area where water at risk from surface water.
History of flooding	5 times in 2006, twice previously in 2014
Summary	Surface water flooding from overwhelming of the drains. The Thames Water network drains into the Ickenham stream at the end of Glebe Avenue.
Action by the Council	Gullies that the Council are responsible for are checked on a yearly basis. They have also been checked again following this incident and it was confirmed they are running clear.
Action by Resident	Resident advice to contact Thames Water to confirm there was no capacity issue

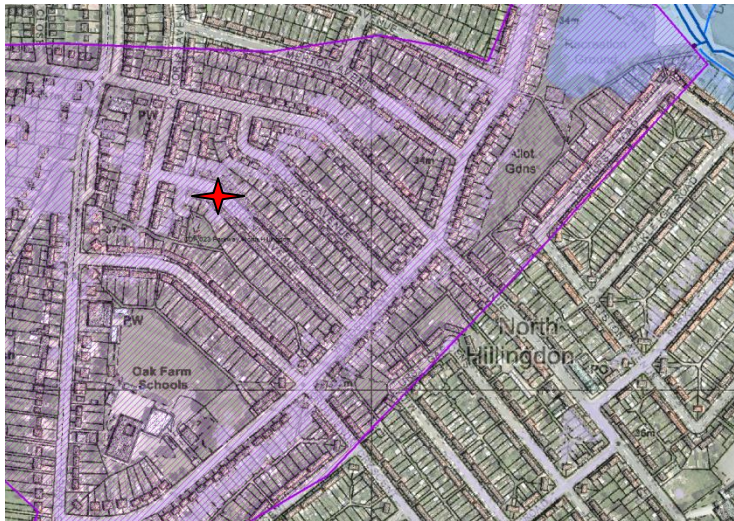

Area affected	e High Road and Austins Lane, Ickenham UB10 8RH
Date of flooding	28/07/2014
Grid Reference	508099 186245
Land ownership	LBH adopted Highway and residents managed by private management company
Map of Area	
Location of flooding marked as a red star	Photo from Get West London
	
Duration of flooding	Approx 24 hours.
Source of flooding	Surface Water and Ordinary watercourse (unconfirmed)
Cause/Pathway	Unconfirmed presumed to be water not draining away into the Ickenham stream
Impact of flooding	Road flooded, almost flooding houses on Church Place and Tweedale Grove
Evidence	Anecdotal evidence from residents. The location is identified on the Environment Agency Flood Map as an area at risk from surface water.
History of flooding	none
Summary	Residents tried to report issue to the Council but could not get through, to anyone after a couple of minutes.
Action by the Council	To investigate maintenance regime of landowner of ordinary watercourse

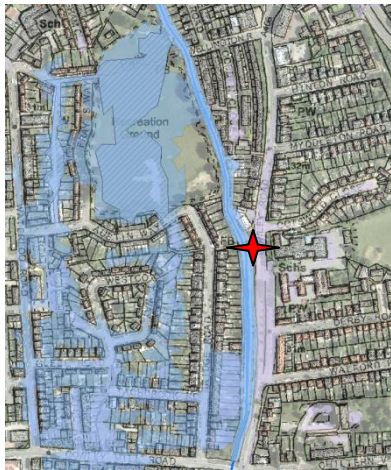

Area affected	f Glebe Avenue, Ickenham UB10 8PQ	
Date of flooding	28/07/2014	
Grid Reference	508480 185679	
Land ownership	Adopted Highway	
Map of Area		
Location of flooding marked as a red star		
		
Duration of flooding	Approximately 3 hours	
Source of flooding	Surface Water	
Cause/Pathway	Highway	
Impact of flooding	Flood water flowed across road and into 4 households.	
Evidence	Photos and correspondence from residents	
History of flooding	1975, 1976 unverified, 1977 flood water entered homes, 1978, 1993, 2006 foul water entered gardens and garages, 2014 flood water entered homes. Identified on the Environment Agency Flood Map for Surface Water as a low lying area.	
Summary	Surface water flooding from the overwhelming of the drains, which also caused issues with foul network. The Thames Water network drains into the Ickenham stream at the end of Glebe Avenue.	
Action by the Council	<p>Council officers have raised the following issues with other bodies:</p> <ul style="list-style-type: none"> • The need for ongoing maintenance by Thames Water on the surface water sewer main • Maintenance of the Ickenham Stream by the Environment Agency. • The Council have also requested the Environment Agency review their river level monitoring and flood warnings within Hillingdon to see if areas currently not covered can be provided with a warning. 	



	<p>The Council has undertaken the following:</p> <ul style="list-style-type: none">• Gullies are cleared on an annual basis.• The clearance of the Ickenham stream by contractors has been prioritised to ensure it is flowing properly. Work is scheduled for November/ December 2014.
Action by residents	<p>Ickenham Residents Association are collecting information on future flood events and mapping them and providing that to the Council.</p> <p>The Council recommend that residents draw up a Flood Plan. Further information about this can be found on the Hillingdon website. Also on products to protect houses from flooding through airbricks</p>
Action by Thames Water	<p>Thames Water have attended site since the event on a number of occasions. In November 14 is Glebe Avenue was partially cleared However manhole covers were jammed, so work is proposed to free them.</p>
Action by the Environment Agency	<p>The Environment Agency is funded by DEFRA to undertake maintenance on main rivers. This is focused on high priority areas, and the Environment Agency has advised that, because the Ickenham stream is not at risk from main river flooding, it is not proposed for maintenance by the Environment Agency.</p> <p>No flood warning is issued for the Ickenham Stream.</p>

Area affected	g The Avenue, Ickenham UB10 8NR	
Date of flooding	28/07/2014	
Grid Reference	507473 186082	
Land ownership	Residents.	
Map of Area	Photo	
Location of flooding marked as a red star	28 th July 2014 Taken by resident	
		
Duration of flooding	Approximately 3 hours	
Source of flooding	Foul Water	
Cause/Pathway	Unconfirmed	
Impact of flooding	A number of garages and the highway	
Evidence	Anecdotal evidence from the Council and residents.	
History of flooding	none	
Summary	Reports from residents regarding the foul sewer flowing into the River Pinn.	
Action by Thames Water	Reported to Thames Water by residents Reference 0081/03SGWZ. CCTV survey shows fractures in the pipe which needs to be resolved. Works ongoing.	

Area affected	h Rockingham Parade and The Lynch, Uxbridge UB82TQ	
Date of flooding	28/07/2014	
Grid Reference	505379 183540	
Land ownership	Adopted Highway	
Map of Area	Photo	
Location of flooding marked as a red star. Blue indicates fluvial flooding shown on Flood Zones	Taken by Steve Terrill GET West London http://www.getwestlondon.co.uk/news/local-news/in-pictures-flooding-hits-hillingdon-7518585	
		
Duration of flooding	Approximately 3 hours	
Source of flooding	River Colne	
Cause/Pathway	The River Colne water levels rose due to the amount of rain falling, and a Flood Alert was issued for the area by the Environment Agency at 10:43am	
Impact of flooding	Flood water flowed across the road and into front gardens. Unverified reports of flooding through airbricks.	
Evidence	Photos and reports from residents	
History of flooding	None, but identified as being within an area at risk of fluvial flooding on the Environment Agency Flood Map.	
Summary	River levels were high	
Action by the Council	Continued monitoring of the situation	
Action by the residents	The Council recommend residents draw up a Flood Plan. Further information can be found on the Hillingdon website. Also on products that can be purchased to protect homes from flooding through airbricks.	

Area affected	i Regents Avenue and Windsor Avenue Uxbridge UB10 9AT	
Date of flooding	28/07/2014	
Grid Reference	508193 184513	
Land ownership	Adopted Highway	
Map of Area	Photo	
Location of flooding marked as a red star, purple hatching defines the critical drainage area, with shaded purple the areas likely to be at risk from surface water		Taken by resident
		
Duration of flooding	Approximately 3 hours	
Source of flooding	Surface Water	
Cause/Pathway	Water built up in the road flowing over footpaths into front gardens and into some homes.	
Impact of flooding	Flood water flowed across the road and into front gardens and in some cases; this resulted in houses being flooded internally.	
Evidence	Photos and reports from residents. The area is also within a Critical Drainage Area identified by the SWMP	
History of flooding	None, but identified as within an area at risk of surface water flooding on the Environment Agency Flood Map.	
Summary	Flood water built up and flowed into houses very quickly	
Action by the Council	To record the event, and refer to Thames Water	
Action by the residents	The Council recommend residents draw up a Flood Plan. Further information can be found on the Hillingdon website. Also on products that can be purchased to protect homes from flooding through airbricks.	

Area affected	j Cowley Road, Uxbridge UB8 2LT	
Date of flooding	28/07/2014	
Grid Reference	505376 183544	
Land ownership	Adopted Highway	
Map of Area	Photo	
Location of flooding marked as a red star	Taken by London Borough of Hillingdon Officer	
		
Duration of flooding	Approximately 3 hours	
Source of flooding	Surface Water	
Cause/Pathway	Overwhelming of surface water sewer by heavy rain.	
Impact of flooding	Cowley Road closed to buses, with tailbacks and diversions	
Evidence	<p>Cowley Road Uxbridge 28th July 2014 - YouTube</p> <p>▶ 0:27 ▶ 0:27</p> <p>www.youtube.com/watch?v=DHOWfN27zY0</p> <p>1 day ago - Uploaded by Nigel Clark</p> <p>Uxbridge Cowley Road flood rain</p>	
History of flooding	None, but identified as being within an area at risk of surface water flooding on the Environment Agency Flood Map.	
Summary	Lower River Colne and Fray's River. Flood Alert issued by the Environment Agency. The River Colne rose above the level of Thames Water pipes discharging water from the road into the river. This meant that water could not drain away quickly, so that it built up in the road until the water level in the river fell again.	
Action by the Council	Gullies checked to ensure they are clear.	

Area affected	I Blossom Way, West Drayton UB7 9HG	
Date of flooding	28/07/2014	
Grid Reference	507162 178683	
Land ownership	LBH Adopted Road	
Map of Area	Photo	
Location of flooding marked as a red star		Photo taken by resident and sent to the Council
		
Duration of flooding	Approximately 3 hours	
Source of flooding	Surface Water	
Cause/Pathway	Highway	
Impact of flooding	Road flooded for a number of hours	
Evidence	Photos and correspondence with residents	
History of flooding	Flooding reported by residents in Jan 2014. The area is also identified within an area at risk of surface water flooding on the Environment Agency Flood Map for Surface Water.	
Summary	Water ponding on the road was not able to drain away into the soakaways as they were full. A recurring issue.	
Action by the Council	There are no Thames Water surface water sewers in this road. All the drainage currently goes to a soak away in the verge. The Council considered a number of options and has created a new soak away to reduce the extent of flooding. However it should be noted there will be more extreme events which may overwhelm this system.	

	Area affected	m Generic queries regarding flooding
	Queries	Actions
1.	Residents providing reports of flooding	Ickenham Residents Association has undertaken to collect information on flood events and provide a Google map of information.
2.	Improved information	A query in a previous flood investigation. More information on the allocation of responsibilities was required following the investigation into last winter's flooding. This has been made available on the Councils website. Specifically, residents can search under 'flooding' 'rivers' and 'property drainage' for more information on rights and responsibilities.
3.	Grants Available	Those who suffered flooding in this event are not eligible for the grants from central government made available to those who were affected in last winter's flood events. Other groups are petitioning government to try to get this grant scheme extended.
4.	Responses to road flooding	<p>The Council has a yearly programme of gully clearance. Despite the maintenance undertaken by the Council, problems can occur even when drainage installations are clean and well maintained. Heavy rain can wash leaves and other material into a gully, blocking them.</p> <p>The water flowing into a gully will then flow into a surface water sewer main. Often flooding can occur, even where the gully is clear, because there is a blockage within the surface water sewer. This can often be because of tree roots growing through the sewer. Surface water sewers are the responsibility of the utility companies, and in Hillingdon, this is Thames Water.</p> <p>When very heavy rain falls on the highway in a short period of time it can often exceeds the capacity of the drainage facilities designed to take it away. Thus some water will be visible on a road after very heavy rain. Roads are designed to contain water on the road within the kerbs.</p> <p>Please allow time to see if the water drains away. Water can remain for a while in low spots in the road even when the drainage system is working.</p> <p>If the water remains after a number of hours, report it to the Council to investigate to see if the gully is blocked. If it is the surface water sewer that is blocked, this will need to be reported to the Utility company to investigate, and cleared. More information on the rights and responsibilities of different parties can be found on the Hillingdon website.</p> <p>If you know it is a gully that is blocked, and have seen a road flood but it has not cleared, please use the following options:</p> <p>Report It on the website or call the Hillingdon Contact Centre: 01895 556000</p> <p>If you know it is a Thames Water Sewer Report it on the Thames Water Website or call them on: 0800 0093964 (choose option 2 and then option2)</p>

5. Conclusion

The Council has considered investigation findings and puts forward the following actions:

Short Term Actions	
The Council	<ul style="list-style-type: none"> As part of the communications plan recommended by a previous flood investigation: <ul style="list-style-type: none"> To develop a survey, this can be used to obtain more specific information about whom and what is affected. This to be used to develop options to alleviate flooding where possible. Promote the 'roles and responsibilities' information so it is clear to residents what the Council can and can't do to alleviate flooding for residents. Promote this to Street Champions to help get the message out. Ensure that the appropriate information is provided when residents report issues, so the appropriate party can be identified earlier. To continue to work with the Environment Agency in prioritising the area's most at risk of flooding from any source for their maintenance. Environment Agency currently focus the maintenance they are funded to undertake on main rivers on areas affected by fluvial flooding however other areas may be more important as lack of maintenance can affect surface water flooding too. To finalise investigations and provide feedback to residents and contacts directly where issues have been reported.
The Environment Agency	<ul style="list-style-type: none"> To provide the Council with its flooding review and information on the actions it will be taking. To share more clearly information on management and maintenance and projects to allow the Council and other Riparian owners to develop their own programme of works and maintenance. To recognise that state of main rivers can have an impact of other sources of flooding.
Residents	<ul style="list-style-type: none"> To take action by producing Community Flood Plans and using the 'resilience' measures tool, (Detailed in the SWMP Options and Actions Plan Part 2 Appendix B).
Long Term Actions	
The Council	<ul style="list-style-type: none"> A number of these actions are already established by a previous flood investigation and are already initiated. <ul style="list-style-type: none"> To review and update the Multi Agency Flood Plan, where necessary to reflect the current flood risks for the borough, To formalise the council's internal flood response plan(s). To review of the ditch management and maintenance programme for the Council. This is already being undertaken by the Flood and Water Management Officer. To review sandbag provision and formulate a clear policy based on cost benefit of reactive response versus the provision of advice by the Council to residents to implement site specific resilience measures.

Ongoing actions following every Investigation	<ul style="list-style-type: none">• To continue working towards delivering the legal requirements of the Flood and Water Management Act 2010 and the Flood Risk Regulations 2009.• To continue implementing the Surface Water Management Plan Part 2 Actions. There are a number of actions to manage flood risk from local sources such as surface water and groundwater which the Council has already set out in the SWMP. Some of these actions are repeated below:<ul style="list-style-type: none">• Following this investigation the Council should update the Surface Water Management Plan: Evidence and Action Plans, Appendix A Site Specific Actions and Appendix C Generic Council Actions.• Continue to progress site specific projects.• To publish the Flood Investigation report and notify other Risk Management Authorities with Actions.• Following investigations, the Council to work with other responsible bodies and identify landowners to ensure they are taking appropriate action to reduce flood risk.
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6. Key links and sources

Organisation	Information	Link
EA	Flood Map for Surface Water and from Rivers and the Sea	http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=floodmap#x=357683&y=355134&scale=2
	Flood Plans	https://www.gov.uk/prepare-for-a-flood/make-a-flood-plan
	Making a flood plan Online	http://apps.environment-agency.gov.uk/flood/151256.aspx
Thames Water	Thames Water To report issues Tel 0845 9200 800 or	http://www.thameswater.co.uk/16266.htm
	Appropriate disposal of fats - Thames Water 'Bin it don't block it' Campaign	http://www.thameswater.co.uk/help-and-advice/9137.htm
London Borough of Hillingdon	Flood Risk Portfolio Including: Surface Water Management Plan Part 1 &2	http://www.hillingdon.gov.uk/26402
	Rivers, Ditches and Canals responsibilities	http://www.hillingdon.gov.uk/28579
	Road Drainage responsibilities	http://www.hillingdon.gov.uk/26542
	Information on Property Drainage responsibilities	http://www.hillingdon.gov.uk/12787
National Flood Forum	Information on flood products	http://www.bluepages.org.uk
BBC	Flood Event articles	http://www.bbc.co.uk/news/uk-england-sussex-28520520
		http://www.bbc.co.uk/news/uk-england-london-28523652
Get West London	Flood Event articles	http://www.getwestlondon.co.uk/news/local-news/in-pictures-flooding-hits-hillingdon-7518585
		http://www.getwestlondon.co.uk/news/local-news/two-women-rescued-car-south-7518302
		http://www.getwestlondon.co.uk/news/local-news/raf-uxbridge-battle-britain-bunker-7522492