

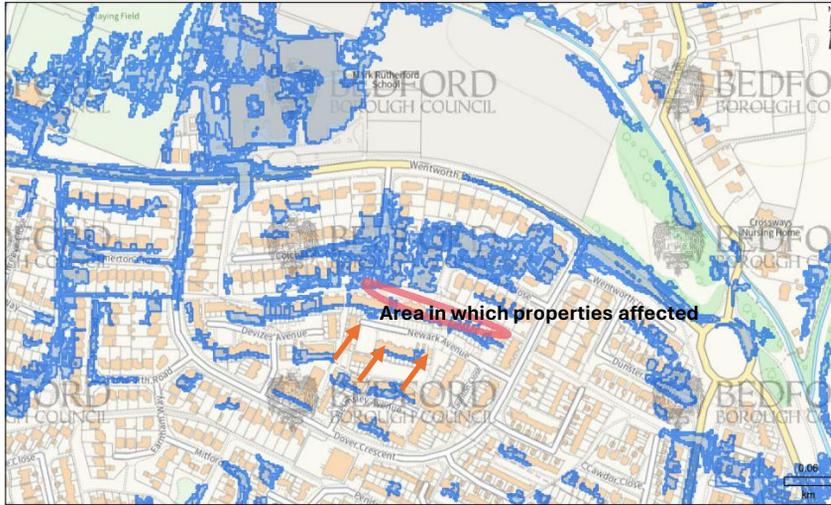
Section 19 Flood Investigation:

Exeter Walk,
Bedford



BEDFORD
BOROUGH COUNCIL

The area of Exeter Walk, Bedford suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



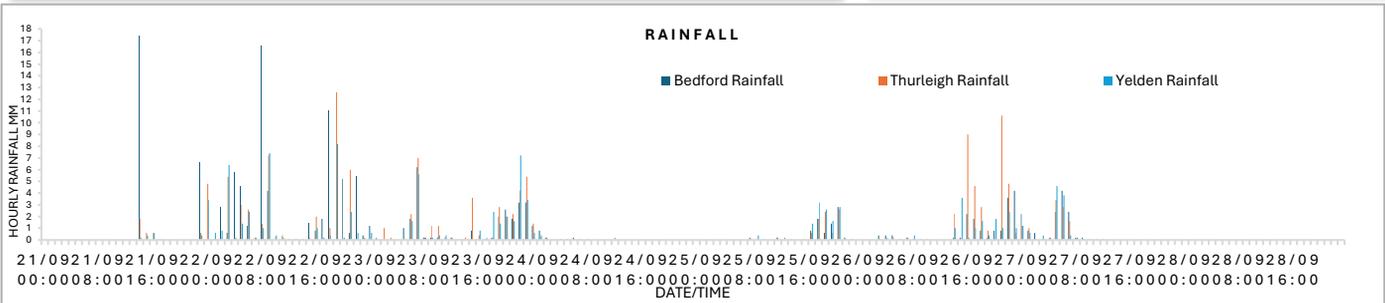
Exeter Walk, Bedford



Surface water Flood Risk
Overland flow direction

Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Exeter Walk in Bedford. For comparison it also identifies the rainfall in the rural location of Thurleigh and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. On the 22nd September 62.4 mm of rainfall was recorded, on top of 24mm the previous day leading to pluvial flooding. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|------------------------------------|
| Complete | Ensure gullies in vicinity are clear and working. | BBC Highways |
| Complete | Ensure Surface Water main and is clear and working. | Anglian Water |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner/Housing Association/LLFA |
| Medium Term (6 – 12 months) | Investigate the appetite to setup a community Flood Group in this location/area. | LLFA |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

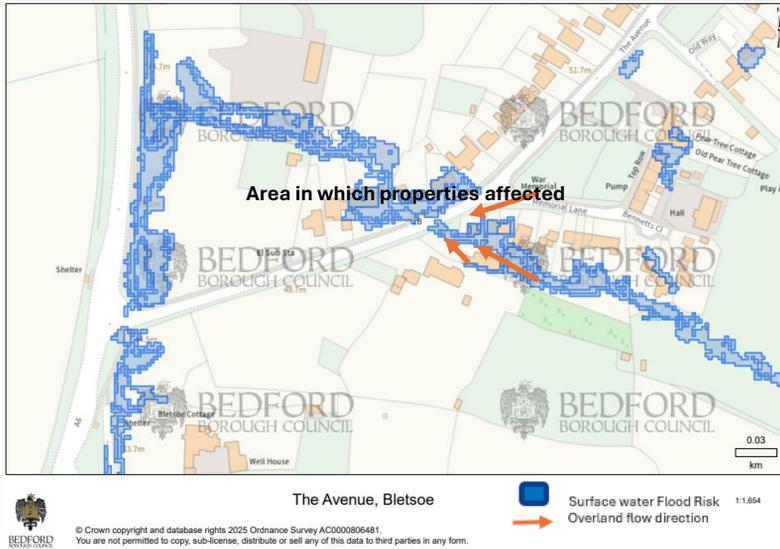
A slow-moving front brought rainfall to Central England, including Bedford Borough. The Borough suffered from two main rainfall events. The first one occurred on the 22nd September when 62 mm fell in Bedford flooding properties internally and externally and causing widespread disruption across the Borough network, and neighbouring Local authorities, including the flooding of the A421. Exeter Walk and the surrounding area suffered both internal and external property flooding along with flooding to roads and footpaths. 5 properties were flooded internally and 2 properties suffered external property flooding to gardens and outbuildings. Due to geographical layout of the area, Exeter Walk sits at a low point. During the intense rainfall events on the 22nd and also the rainfall the day before, the surface water drainage system became overwhelmed, leading to overland flows towards the at risk properties. Water came through the rear of the properties through back doors. In some of the properties up to 13mm of water came in through the back door. Other properties were able to keep the water out with sandbags and aqua sacs. The properties affected sit between a High Risk of surface water flooding (more than 3.3% chance each year) and a Low Risk of surface water flooding (between 0.1% and 1% chance each year).

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 23/09/24: Reports received from residents on Exeter Walk reporting property flooding.
- 23/09/24: BBC Volunteers attend Exeter Walk to carry out impact assessments to assess flood damage and assist in recovery.

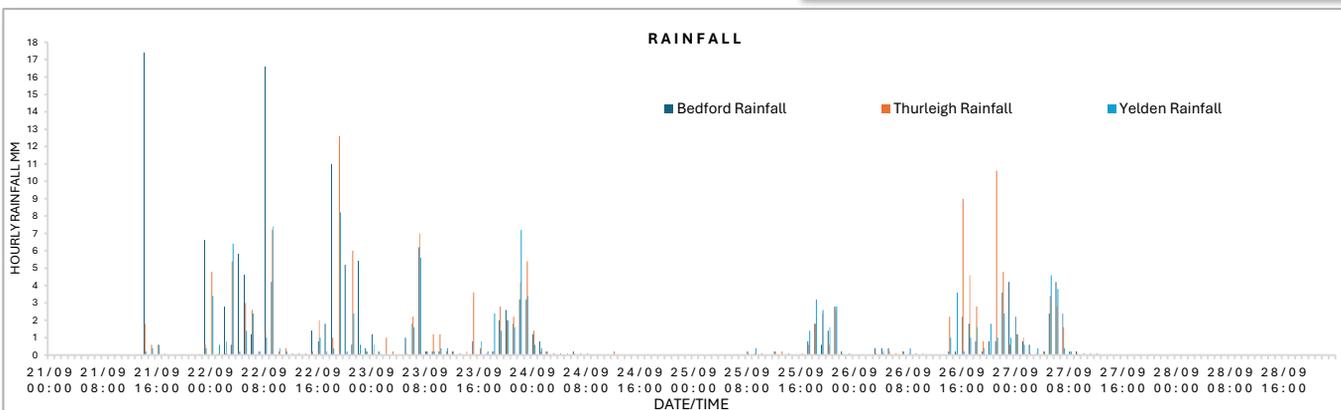
Section 19 Flood Investigation: The Avenue, Bletsoe

The area of Bletsoe, Bedford suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Bletsoe in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|------------|---|------------------------|
| Complete | Ensure gullies in vicinity are clear and working. | BBC Highways |
| Complete | Ensure Surface Water main and is clear and working. | BBC Highways |
| Complete | Complete a full camera survey of the drainage in the vicinity to ensure no defects. | BBC Highways/Homeowner |
| Complete | Carry out necessary repair works to drainage system. | Homeowner |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

The Borough suffered from two main rainfall events. Bletsoe was affected following the second rainfall event. One property flooded internally and one property flooded externally. Gardens and garages were affected. The second rainfall event fell on a now saturated catchment, overwhelming the Highways drainage system, causing overland flows from the road through the gardens, garages and properties of The Avenue. Following the investigation work with Highways after the event where a drainage CCTV survey was completed, a defect/partial collapse was found in the culvert under the properties garden in the downstream end. This was restricting the surface water causing it to back up and flow overland flooding the properties and outbuildings. This may have exacerbated the flooding that occurred here. The properties that were affected are at High Risk of surface water flooding (meaning more than 3.3% chance each year).

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 26/09/24: BBC Volunteers attend properties in Bletsoe affected by flooding.
- 27/09/24: Welfare check carried out via phone call to flooded residents in Bletsoe
- 01/10/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

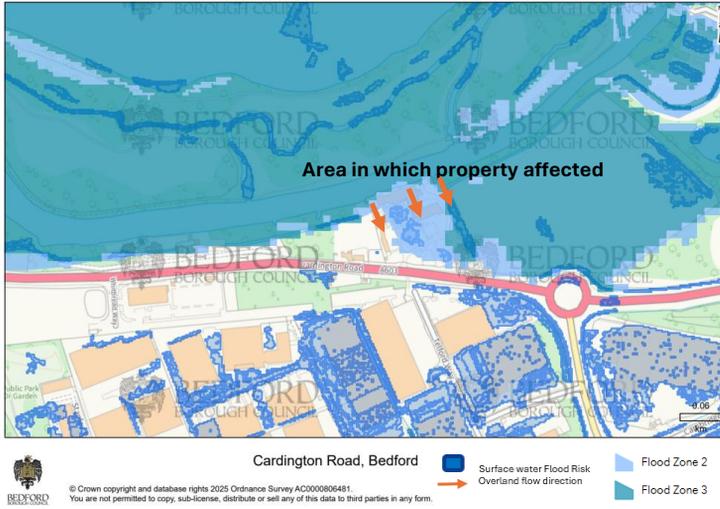
Section 19 Flood Investigation:

Cardington Road,
Bedford



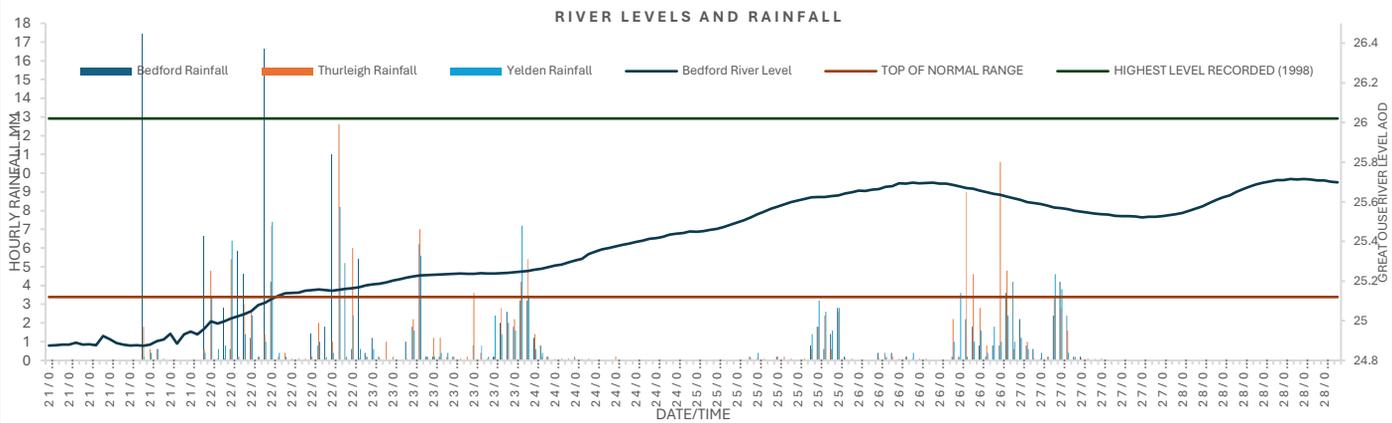
BEDFORD
BOROUGH COUNCIL

The area of Cardington Road, Bedford suffered from fluvial flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Cardington Rd in Bedford. For comparison it also identifies the rainfall in the rural location of Thurleigh and Yelden. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. 62 mm of rainfall was recorded on the 22nd September followed by further rainfall the rest of the week, resulting in two main peaks coming down the River Great Ouse which were at a level where Flood Warnings were issued and properties flooded. Bedfordshire recorded as having their wettest September on record. River levels continued to rise until the first peak came through this location on the 27th September reaching 25.696m AOD the second peak came through several days later on the 29th September which was slightly higher at 25.715m AOD.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|-------------------------------------|--|--------------------|
| Inspections short term (1-6 months) | Inspect main river assets (sluices, weirs, gates, locks and riverbanks) and identify the requirement for remedial works. | Environment Agency |
| Remedial works as required | | |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

Source of Flooding: Fluvial Flooding

Flood Event and Cause:

High river levels at this location caused internal property flooding to one commercial property as the River Great Ouse overtopped its banks. Sewage also backed up in the property as a result of the high river levels, infiltrating Anglian Waters foul system. It was reported that the property flooded on the 27th September at a level of 25mm – 75mm across the whole ground floor. The property was evacuated on the 27th September and was left inaccessible for 5 days. The property is located immediately to the south of the Great River Ouse riverbank in Environment Agency Flood Zone 2, which means that the chance of flooding is between 0.1% and 1% in any given year. After the first rainfall event the catchment became saturated which meant surface water was less able to infiltrate into the ground and more likely to run off into watercourses and form overland flow routes. This period of heavy rainfall and saturated ground conditions contributed to the River Great Ouse overtopping its banks.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain.
- 23/09/24: EA Issue Flood Alert for River Great Ouse
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 26/09/24: Met Office issues Amber Rain warning
- 26/09/24: Flood Warning issued for River Great Ouse at Bedford
- 27/09/24: Flood Warning issued for River Great Ouse at Bedford
- 29/09/24: BBC visit property at risk in location to offer support and advise.
- 02/10/2024: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

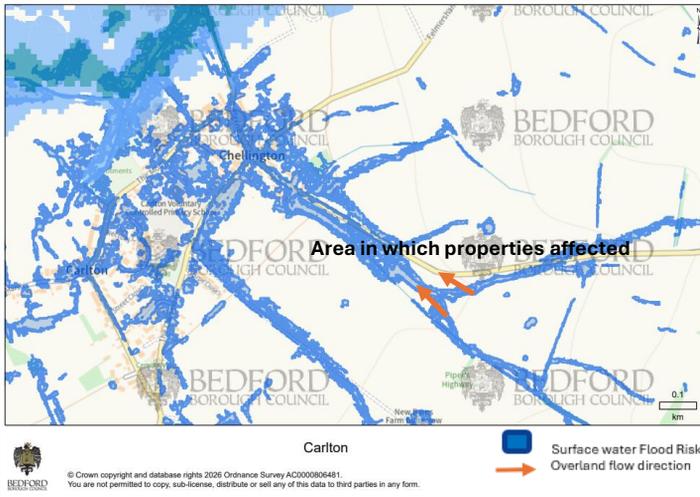
Section 19 Flood Investigation:

Pavenham Road,
Carlton



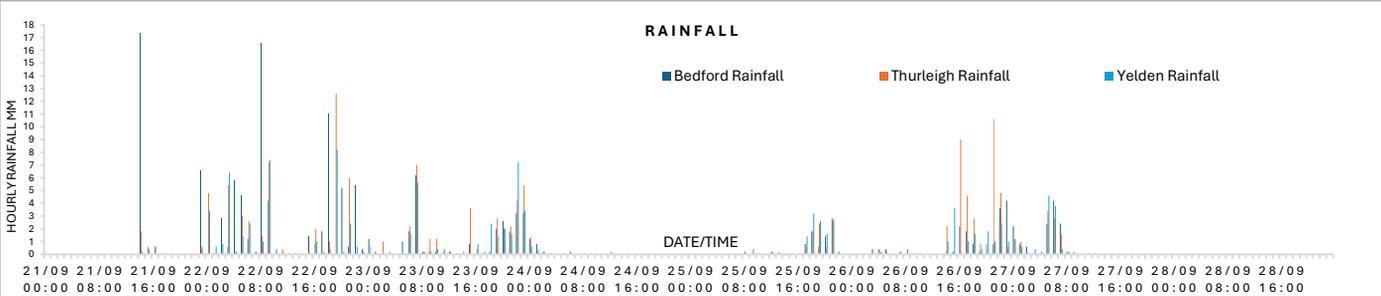
BEDFORD
BOROUGH COUNCIL

The area of Pavenham Road Carlton, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Carlton in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|-------------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Complete | Ensure all ditches and watercourses re inspected and clear and flowing well. | Riparian Owners / LLFA. |
| Ongoing | Continued engagement with and support of the community Flood Group to enable preparedness in advance of a future flood. | LLFA |
| Complete | Explore what additional flood kit can be provided to the community flood group to support and increase their reliance within the community. | LLFA |
| Complete | Investigate the outfall to the main surface water ditches from Carlton to ensure the ditch is clear and free from vegetation and debris. | LLFA |
| Medium Term (6 – 12 months) | Re-visit the benefits of installing an additional culvert on Pavenham Road, Carlton to reduce the flood risk from overland flows from Pavenham Road. | LLFA |
| Medium Term (6 – 12 months) | Explore the feasibility of NFM measures in the catchment around Pavenham Road to help manage the flood risk in the vicinity. | LLFA/ Landowner |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

One property suffered internal property flooding in this location on the 26th September and many more flooded externally to garages and gardens. Roads became completely unpassable. Surface water came through the back of the property from the catchment behind to a level of around 50mm in the internal rooms. Aqua sacs were given by flood group to all those properties at risk. Bridge end was engulfed by fast moving water as it flows towards the River Great Ouse, properties along Bridge End become very close to flooding through their thresholds. Following the rainfall earlier on in the week the catchment had become saturated meaning any further rainfall flowed overland on its quickest route to the River Great Ouse. Those properties at risk of surface water flooding were the properties affected.

Weather Warnings/Flood Warnings and Initial Response:

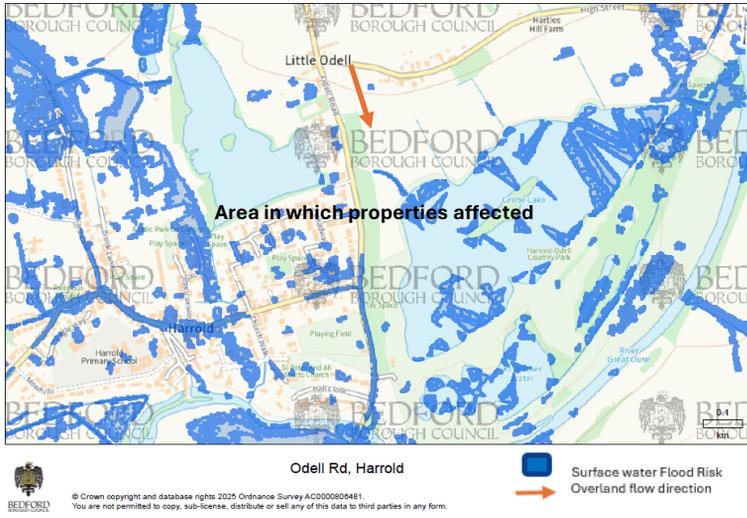
- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Harrold bridge closed due to high river levels
- 23/09/24: Resilience team issue additional Aquasacs to Community Flood Group.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 26/09/24: Reports of properties flooding from received from the flood group in Carlton.
- 02/10/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

Section 19 Flood Investigation: Odell Road Harrold



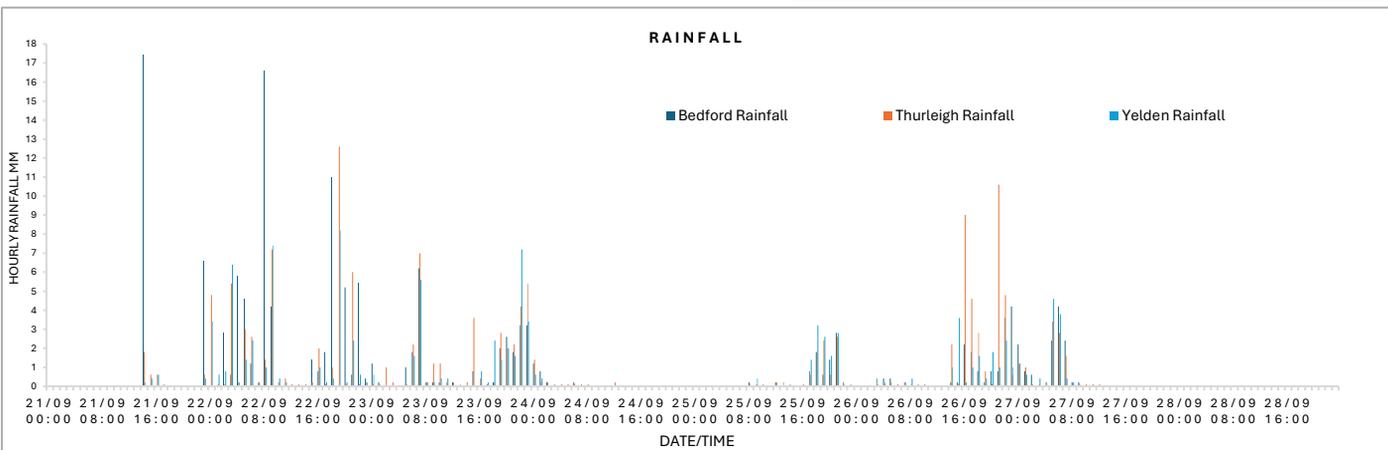
BEDFORD
BOROUGH COUNCIL

The area of Odell Rd, Harrold suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Harrold in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was cause by high river flows in this location.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|-------------------|
| Complete | Ensure gullies in vicinity are clear and working. | BBC Highways |
| Complete | Write to riparian owner of ditch to ensure ditch is dug out. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

Source of Flooding: Pluvial Flooding Flood Event and Cause:

One property suffered internal property flooding in this location on the 26th September, following the second rainfall event. Rainfall at this point fell on a saturated catchment, meaning any additional rain formed overland flows very quickly as ditches, watercourses and the drainage system were already at capacity. Surface water came down Odell Road, up the driveways of the affected property and through the front of the property to a minimal level. Properties are at risk of surface water flooding in this location due to their low level. Following investigations after the event, the road gullies and laterals have all been cleaned and jetted. The gullies all outfall in the adjacent ditch which was in need of maintenance. Letters have since gone out to riparian owners and works have been carried out to improve it.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 23/09/24: Harrold bridge closed due to high river levels,
- 23/09/24: Resilience team issue additional Aquasacs to Community Flood Group.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 25/09/24: Resilience team issue additional Aquasacs to Community Flood Group and engaged with concerned residents.
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 16/10/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery and clean up.

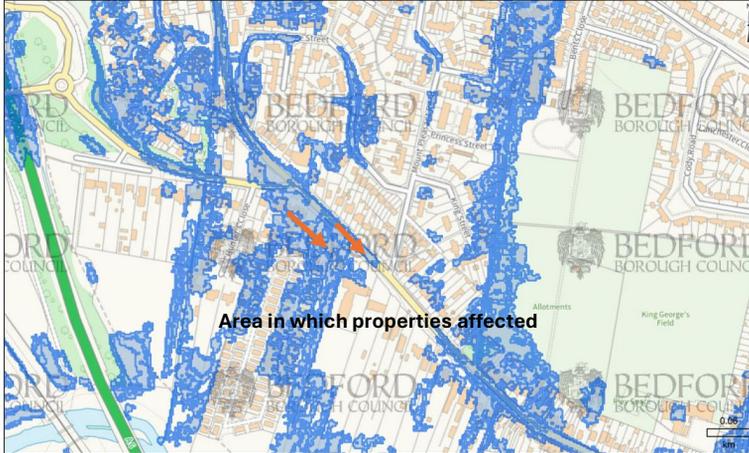
Section 19 Flood Investigation:

High Street
Clapham



BEDFORD
BOROUGH COUNCIL

The area of High Street, Clapham suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.

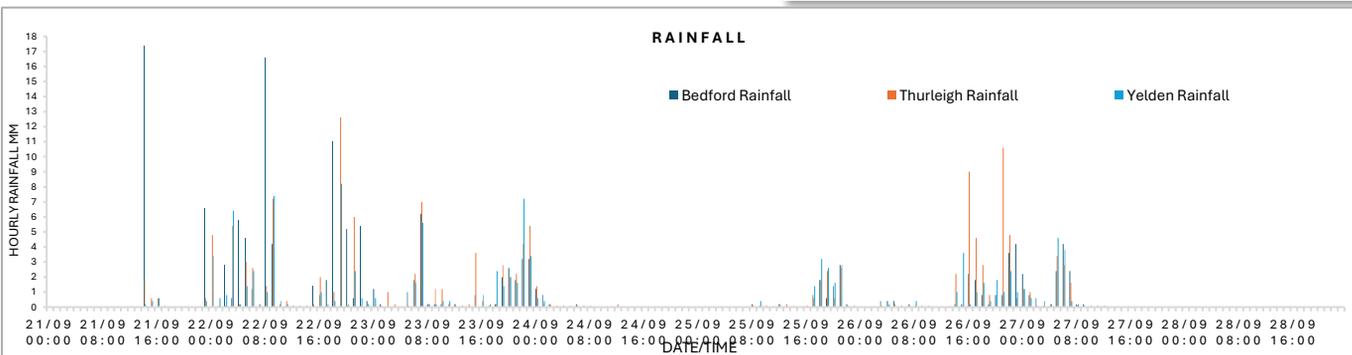


High Street, Clapham

Surface water Flood Risk
Overland flow direction

Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Harrold in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was cause by high river flows in this location.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|---|-------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Complete | Investigate the drainage systems and ditches upstream to ensure they system is working effectively and efficiently to ensure surface water upstream outfalls at its correct location and not down the High Street | BBC Highways/LLFA |
| Ongoing | Continue support with the Flood Group to ensure debriefs/training and flood kit are topped up. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of NFM measures/ SuDs measures in the catchment to reduce the surface water impact. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

Source of Flooding: Pluvial Flooding Flood Event and Cause:

One property suffered internal property flooding in this location on the 26th September, following the second rainfall event. Rainfall at this point fell on a saturated catchment, meaning any additional rain formed overland flows very quickly as ditches, watercourses and the drainage system were already at capacity. Surface water came down the High Street and through the front of the property to a level of around 150mm. Properties are at risk of surface water flooding in this location due to their low level. Previous flooding here had led to the installation of an additional gully in this location; however this soon become overwhelmed and ultimately feeds into the same drainage system.

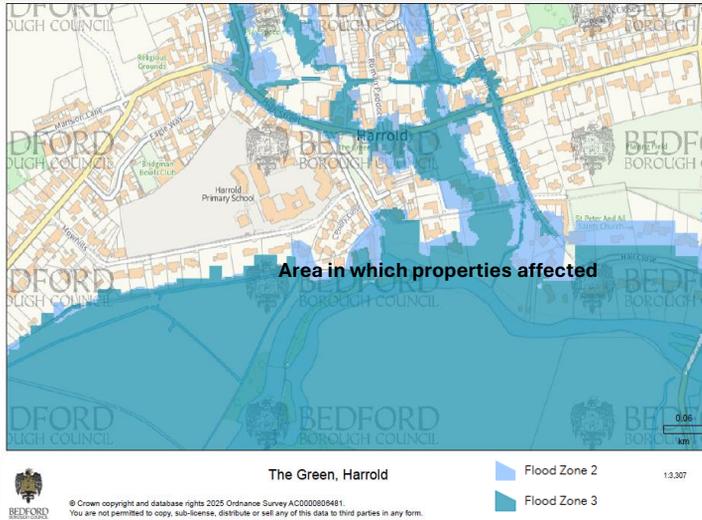
Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Lovell Road, Clapham closed.
- 23/09/24: Resilience Team attend Clapham to offer reassurance and support to concerned residents. Additional Aquasacs distributed to Community Flood Group
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 26/09/24: Clapham High Street flooded
- 29/09/24: High Street closed due to rising river levels, additional Aquasacs distributed to Flood Group
- 29/09/24: Police sent to High Street to enforce road closure
- 3/09/24: High Street re-opened
- 12/11/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery and clean up.

Section 19 Flood Investigation: The Green Harrold

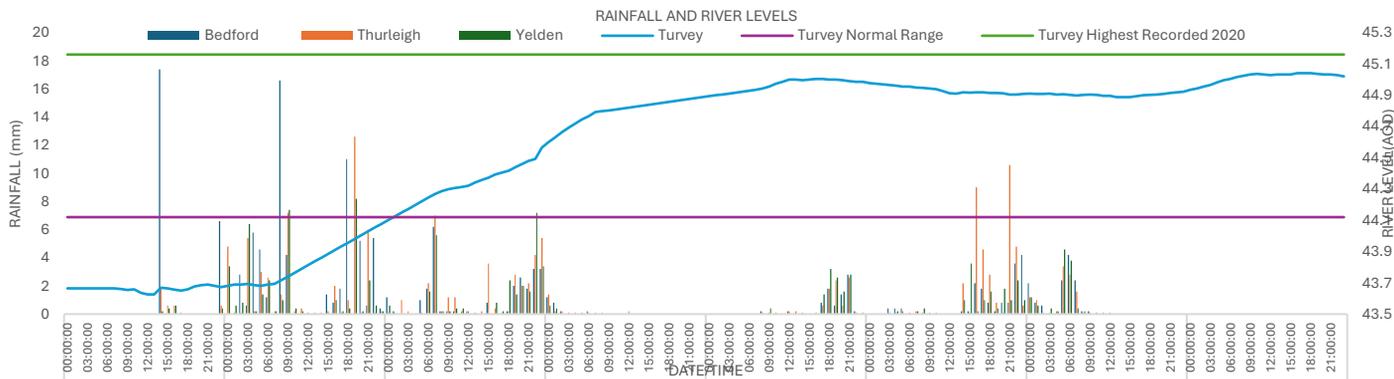


The area of The Green, Harrold suffered from fluvial flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st–28th September 2024 at the nearest rainfall gauge to Harrold in Thurleigh. For comparison it also identifies the rainfall in Yelden and Bedford. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. 62 mm of rainfall was recorded on the 22nd September and on the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. The rainfall resulted in two main peaks coming down the River Great Ouse at a level where Flood Warnings were issued and properties flooded. The graph also shows river levels at Turvey (nearest gauge). Levels reached the first peak on 25th and second peak on the 28th at the higher level of 45 AOD, which was still under the highest level recorded at this gauge in 2020.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|------------------------------|
| Complete | Ensure gullies and culverts in the vicinity are clear and working. | BBC Highways |
| Complete | Inspect Main River Assets and (sluices, weirs, gates, locks and riverbanks) and identify the requirement for remedial works. | Environment Agency |
| Ongoing | Continue support with the Flood Group to ensure debriefs/training and flood kit are topped up. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner/Environment Agency |

Source of Flooding: Fluvial Flooding

Flood Event and Cause:

High river levels on the River Great Ouse caused internal flooding to three properties on both the 26th and 28th September in this location. Three residential properties flooded in this location with many others suffered external flooding. Properties flooded once on the 26th and again on the 28th September 2024. As a result of the first rainfall event river levels on the River Great Ouse reacted leading to high flows down the catchment. After dropping slightly after the first peak came through, levels rose again and peaked towards the evening of the 28th. Residents suffered on both occasions with water entering properties on both times. The lower level of one of the property was flooding to a depth of around 50mm. The extent of the property flooding was less than the December 2020 flood event which is also reflected in the river levels at the Turvey Gauge. The properties in this vicinity are located directly within the River Great Ouse floodplain, in Flood Zone 2 and 3. Flood Zone 3 are areas where the chance of river flooding is greater than 1% in any given year.

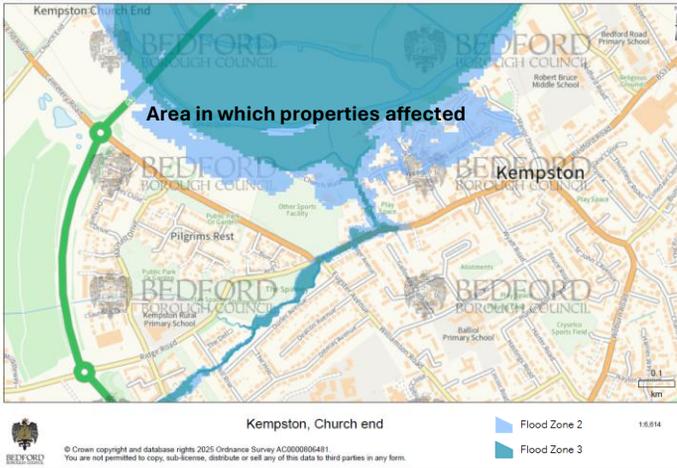
Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain.
- 23/09/24: EA Issue Flood Alert for River Great Ouse
- 23/09/24 Harrold bridge closed
- 23/09/24 Additional Aquasacs distributed to Community Flood Group
- 25/09/24: EA Issue Flood Warning for River Great Ouse at Harrold
- 25/09/24: Resilience Team distribute further Aquasacs to Flood Group for at-risk properties, engage with concerned residents to provide reassurance.
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 27/09/24: Resilience Team receive reports of property flooding in Harrold
- 27/09/24: EA Update Flood Warning for River Great Ouse at Harrold
- 15/10/24: Impact assessment carried out to assess flood damage and assist in recovery.

Section 19 Flood Investigation: Kempston West

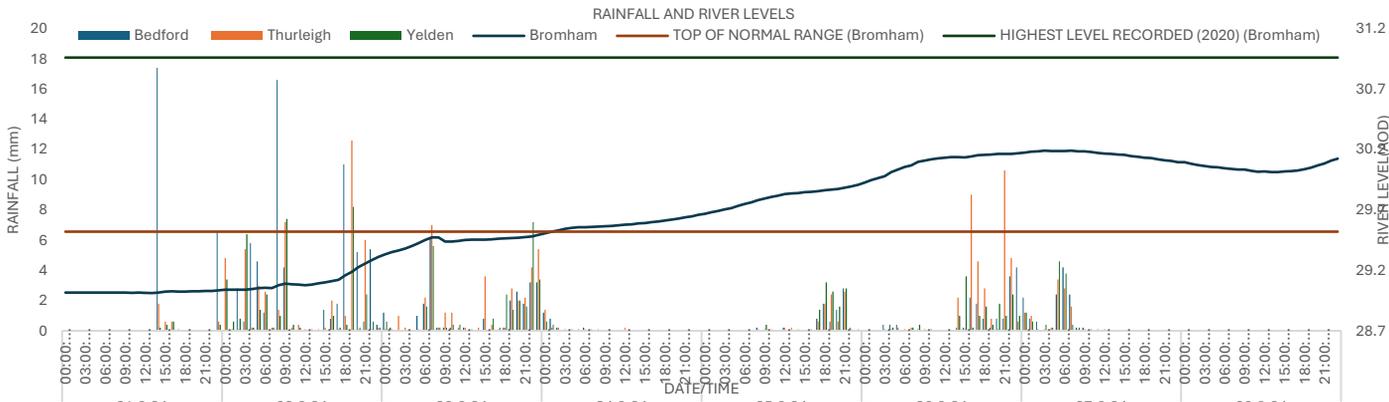


The area of Kempston, High Street, Water Lane and Church Walk suffered from both surface water and fluvial flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the rainfall events during the week 22nd September – 1st October 2024 at the nearest gauge to Kempston, Bedford and Sharnbrook for comparison. The graph also shows river levels at Bromham the nearest gauge to Kempston 3.46km upstream. River levels in the River Great Ouse reacted as a result of the rainfall and saw high levels along the catchment, resulting in two peaks being recorded accounting for the two main rainfall events. Levels exceeded the 'normal range' at 29.52m AOD on the 25th September where low lying land and road flooding is possible and continued to increase. Highest levels were recorded on the 29th September at 10:00 at a level of 30.233m AOD. Highest levels ever recorded at this gauge were in December 2020 where levels reached 30.96m AOD.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|------------|--|--------------------|
| Complete | Ensure gullies and culverts in the vicinity are clear and working. | BBC Highways |
| Complete | Inspect Main River Assets and (sluices, weirs, gates, locks and riverbanks) and identify the requirement for remedial works. | Environment Agency |
| Complete | Set up a community Flood Group and support with training, debriefs after flood event and provide flood kit. | LLFA |
| Ongoing | Continue development of the NFM Kempston Project on the Wood End Brook catchment | LLFA |
| Ongoing | Investigate the feasibility of PLR measures in at risk properties. | Environment Agency |

Source of Flooding: Fluvial Flooding Flood Event and Cause:

High river levels on the River Great Ouse caused internal flooding to four properties in this vicinity on the 27th September and again at some properties water entered again on the 29th September. High river levels from the River Ouse backed up along the Wood End Brook flooding at risk properties. Water came to a depth of between 40mm - 500mm throughout whole ground floor rooms. Some properties became completely inaccessible, two properties self evacuated. Some property owners used water booms and pumps to reduce the impact. Aqua sacs were also provided by the Council to reduce the impact of the flooding. Furniture, walls and flooring were badly damaged in the properties, with no access by vehicles for several days. The properties in this vicinity are located directly within the River Great Ouse floodplain, in Flood Zone 2 and 3. Flood Zone 3 are areas where the chance of river flooding is greater than 1% in any given year.

Weather Warnings/Flood Warnings and Initial Response:

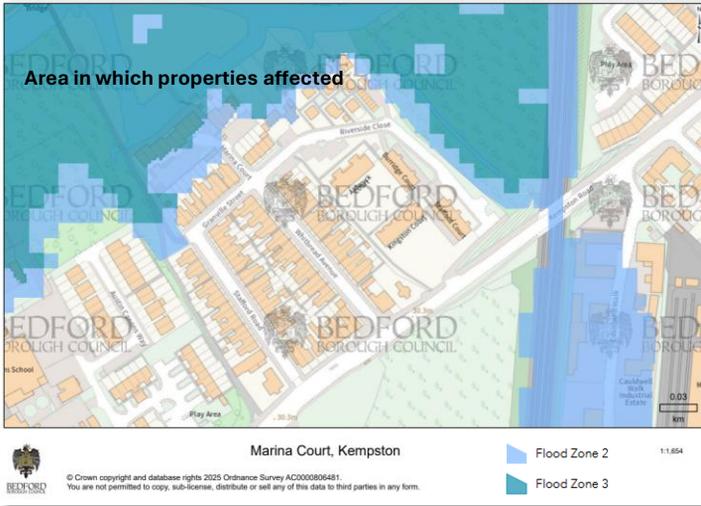
- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 25/09/24: Resilience Team visit area to carry out welfare checks and issue aquasacs to residents.
- 26/09/24: Met Office issues Amber Rain warning
- 26/09/24: BBC Volunteers visit residents and offer reassurance and support.
- 26/09/24: Reports received from residents advising flooding to properties.
- 27/09/24: Flood Warnings issued for Kempston
- 27/09/24: Further confirmed property flooding overnight, further welfare check carried out by Resilience Team.
- 28/09/24: Resilience Team distribute additional aquasacs to residents.
- 01/10/2024: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

Section 19 Flood Investigation: Marina Ct Kempston



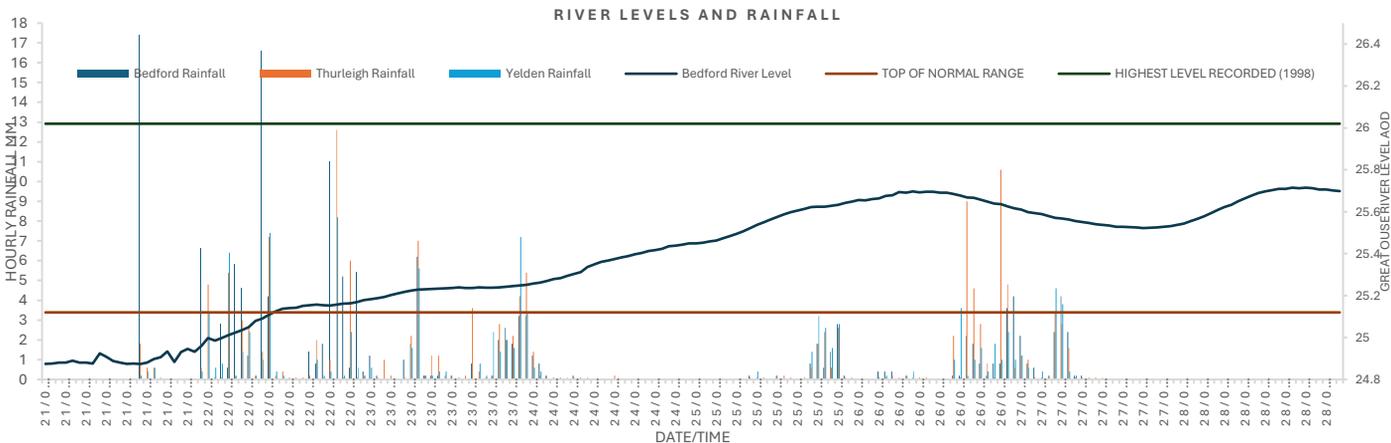
BEDFORD
BOROUGH COUNCIL

The area of Marina Court, Kempston suffered from fluvial flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Marina Court in Bedford. For comparison it also identifies the rainfall in the rural location of Thurleigh and Yelden. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. 62 mm of rainfall was recorded on the 22nd September followed by further rainfall the rest of the week, resulting in two main peaks coming down the River Great Ouse which were at a level where Flood Warnings were issued and properties flooded. The graph also shows river levels at Bedford. Levels peaked first on the 26th September at 25.69 AOD and then again on the 28th at the slightly higher level of 27.7 AOD. Highest levels were recorded on the 29th September at 10:00 at a level of 30.233m AOD. This was below the highest level recorded which was in 1998. Bedfordshire recorded as having their wettest September on record.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|------------|--|--------------------|
| Complete | Inspect Main River Assets and (sluices, weirs, gates, locks and riverbanks) and identify the requirement for remedial works. | Environment Agency |
| Ongoing | Continue development of community Flood Group and support with training, debriefs after flood event and provide flood kit. | LLFA |
| Ongoing | Investigate the feasibility of PLR measures in at risk properties. | Environment Agency |

Source of Flooding: Fluvial Flooding Flood Event and Cause:

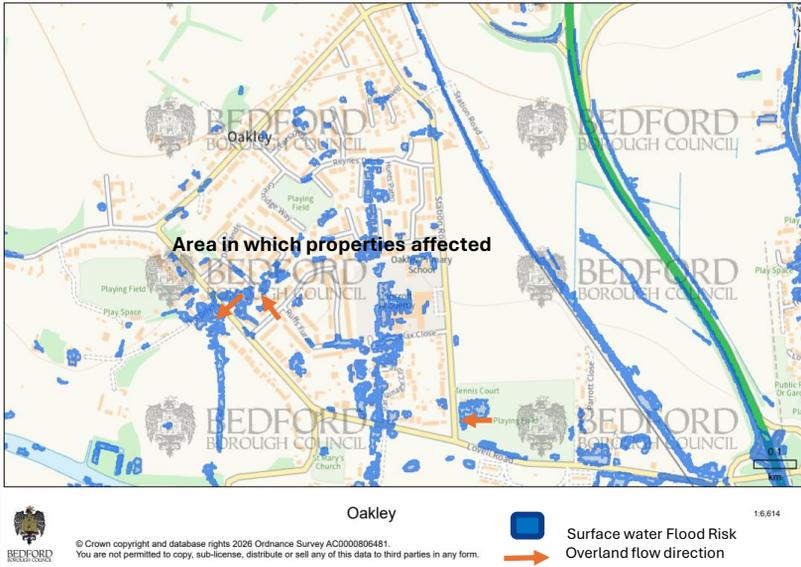
Nine residential properties located in Marina Court flooding internally twice during the week commencing 21st September following the two rainfall events. Properties flooded once on the 26th September and again on the 28th September 2024. As a result of the first rainfall event river levels on the River Great Ouse reacted leading to high flows down the catchment. After dropping slightly after the first peak came through, levels rose again and peaked towards the evening of the 28th. Residents suffered on both occasions with water entering properties both times. Properties flooded to a depth of 400mm throughout the downstairs room. Causing damage to flooding and furniture in some properties. The properties are located in Environment Agency Flood Zone 31, which means that the chance of river flooding is greater than 1% in any given year.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 25/09/24: Aquasacs issued to residents
- 26/09/24: Met Office issues Amber Rain warning
- 26/09/24: Flood Warnings issued for Marina Court
- 26/09/24: Reports received from residents advising flooding to properties
- 27/09/24: Updated Flood Warnings issued for Marina Court
- 29/09/24: Reports from residents at risk of flooding.
- 02/10/2024: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

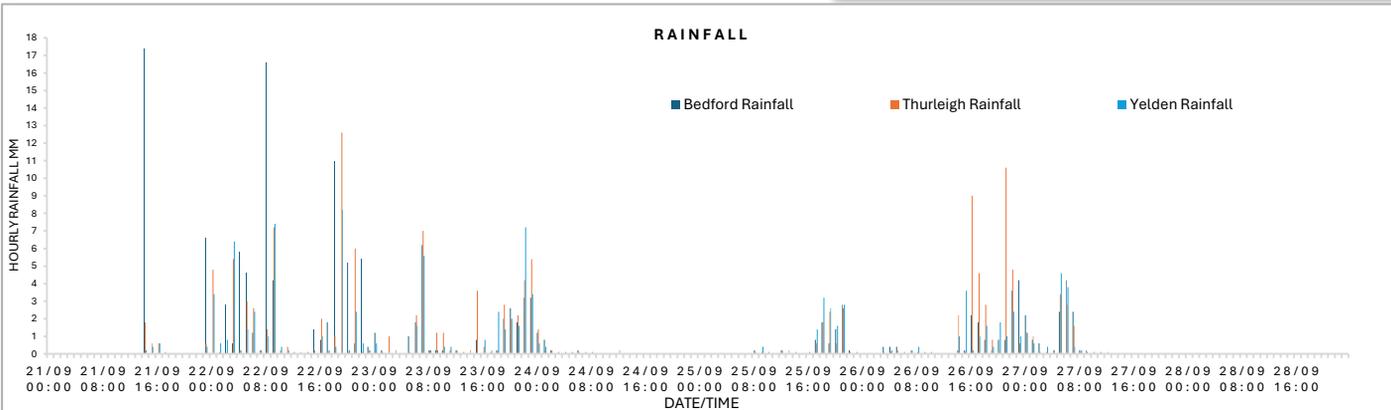
Section 19 Flood Investigation: Oakley

The village of Oakley suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Pavenham in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|-------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Medium Term (6 – 12 months) | Explore the appetite to establish a Community Flood Group in the area. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

Source of Flooding: Pluvial Flooding Flood Event and Cause:

Four properties suffered internal property flooding in Oakley with other properties experiencing flooding to outbuildings, garages and gardens. Three properties flooded on the 22nd and 1 property flooded on the 26th September. The rainfall overwhelmed the Highways drainage system, causing overland flows from the road and into driveways, gardens and properties. The overland flows, flooded properties at a lower threshold than the road. One properties reported the basement full of water and 1 inch of water in the property. The properties that flooded were scattered around Oakley. And are at risk of Surface Water Flooding.

Weather Warnings/Flood Warnings and Initial Response:

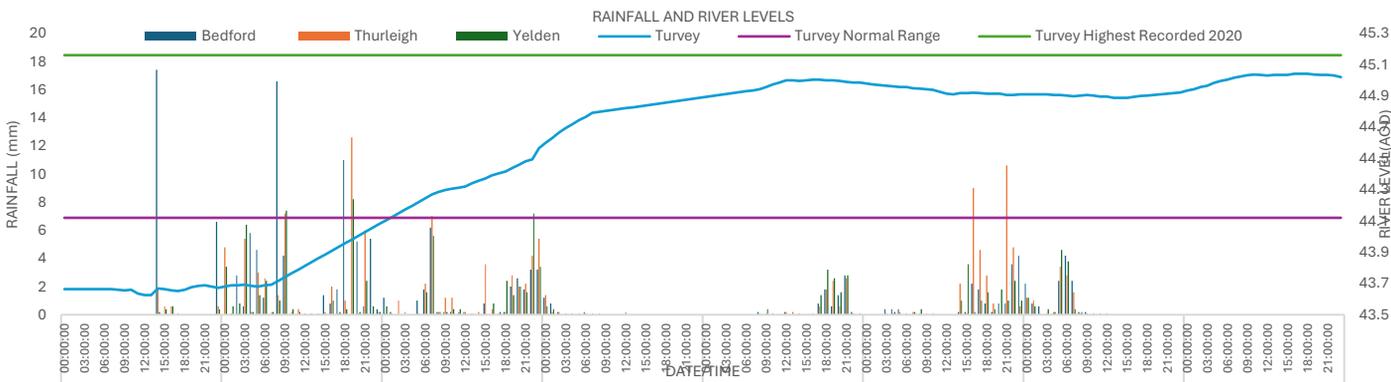
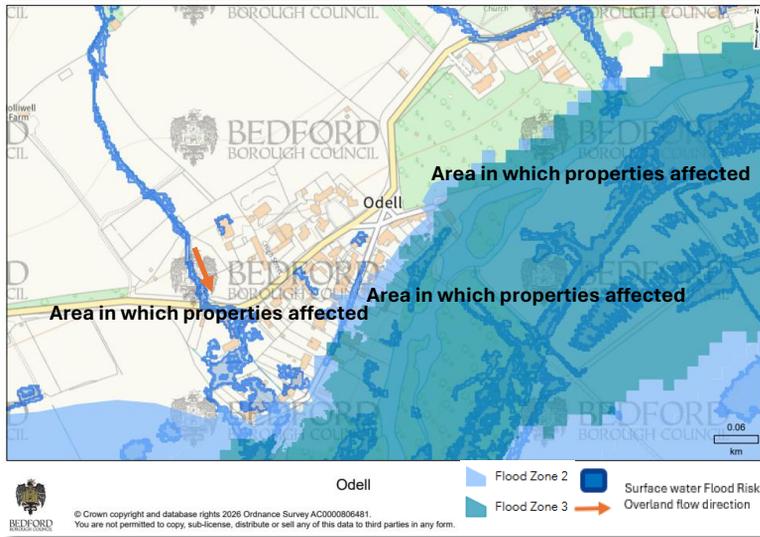
- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Reports received of properties flooding in Oakley. Resilience Team visit those properties affected offering support and advise.
- 24/09/24: Highways deployed to deal with flooding on Paula Radcliffe Way, Oakley slip road.
- 25/09/24: Oakley Bridge closed due to floodwater
- 26/09/24: Met Office issues Amber Rain warning
- 27/09/24: Lovell Road, Oakley, A6 Paula Ratcliff north and southbound closed due o flooding.
- 02/10/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

Section 19 Flood Investigation: Odell

The area of Odell suffered from pluvial and fluvial flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.

Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Odell in Thurleigh. For comparison it also identifies the rainfall in Yelden and Bedford. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. 62 mm of rainfall was recorded on the 22nd September and on the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. It also resulted in two main peaks coming down the River Great Ouse at a level where Flood Warnings were issued and properties flooded. The graph also shows river levels at Turvey (nearest gauge). Levels reached the first peak on 25th and second peak on the 28th at the higher level of 45 AOD, which was still under the highest level recorded at this gauge.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|-------------------|
| Complete | Ensure gullies in vicinity are clear and working. | BBC Highways |
| Medium Term (6 – 12 months) | Investigate upstream catchment for future mitigation options | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner/LLFA/EA |

Source of Flooding: Fluvial and Pluvial Flooding Flood Event and Cause:

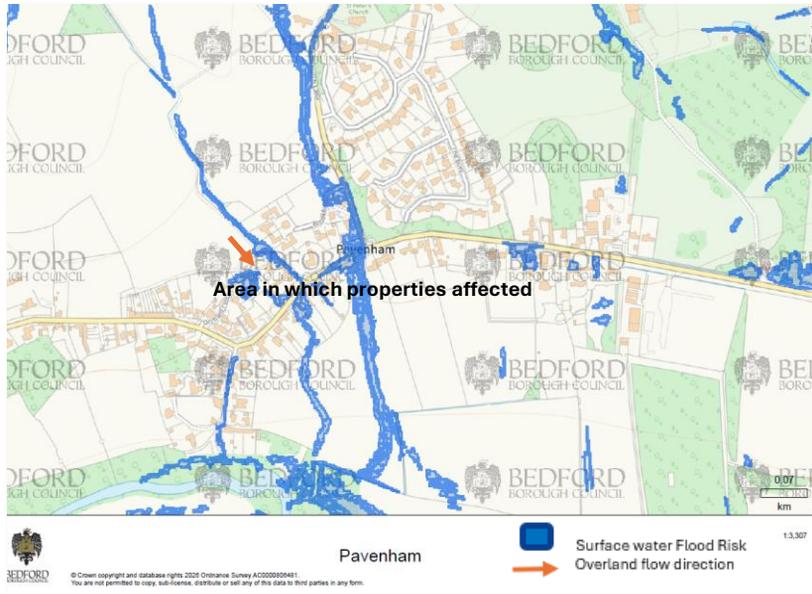
Properties were affected from both pluvial flooding on the 22nd and 27th September and fluvial flooding on the 27th and 29th September. Several properties flooded twice during this week. During the second large rainfall event not only was the catchment now saturated, but the River Great Ouse was rising as a result of the earlier rainfall leading to the fluvial flooding. Four properties flooded internally in total with many gardens, garages and roads also being impacted in the area. The saturated catchment led to overland flows and small ditches and watercourses overtopping flooding at risk properties. One property reported internal flooding up to 450mm in depth across whole of ground floor. Flood gates were in place. The property was still habitable with electrics working as sockets had been raised following a previous flood. Another property had surface water across the whole of the ground floor, the electrics tripped and damage was caused to the boiler. Damage was also caused to the resident's car. Access could only be gained to the property from the rear. Aqua sacs were provided to the property from the community flood group.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 22/09/24 Reports received of property flooding
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 24/09/24, Flood Warning issued for River Great Ouse at Odell
- 25/09/30: Reports received of property flooding
- 25/09/24: Council Resilience team deployed to Odell to check water levels, assess properties with reported flooding and reassure residents. Aquasacs distributed to Flood Group.
- 26/09/24: Met Office issues Amber Rain
- 26/09/24: Reports received of property flooding
- 27/09/24, Flood Warning Updated for River Great Ouse at Odell
- 30/09/24 Reports received of property flooding
- 02/10/2024: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

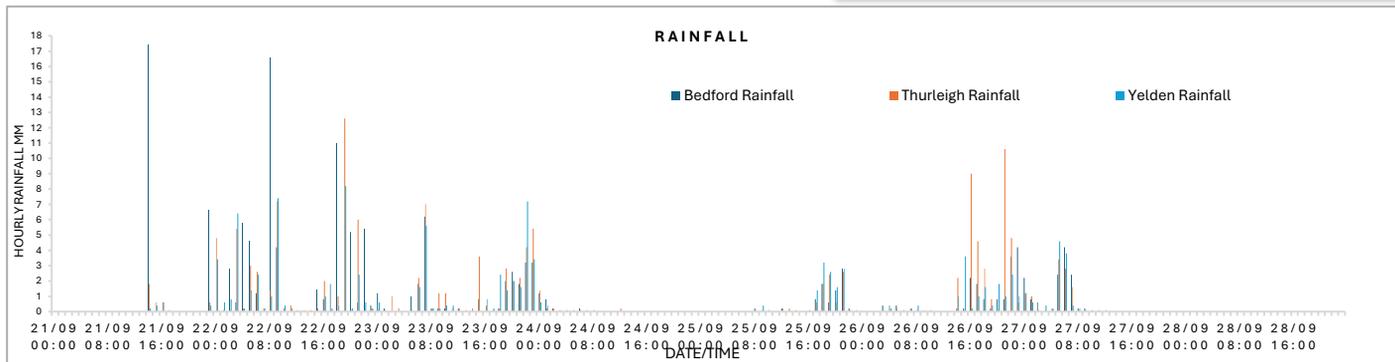
Section 19 Flood Investigation: Pavenham

The area of Pavenham, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Pavenham in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



| RECOMENDATIONS | | |
|-----------------------------|--|-------------------|
| Timescales | Action | Responsible Party |
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |
| Medium Term (6 – 12 months) | Investigate upstream catchment for future mitigation options | LLFA |
| Medium Term (6 – 12 months) | Explore the appetite to establish a Community Flood Group in the area. | LLFA |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

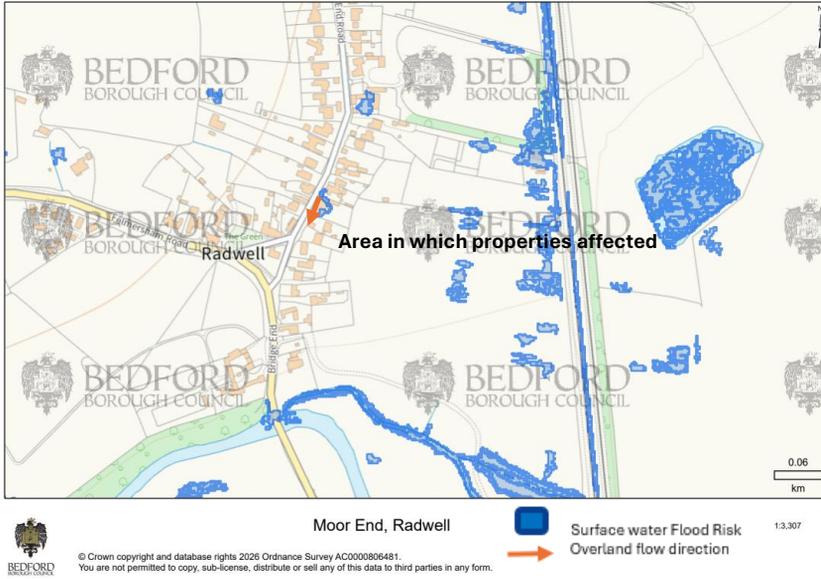
One property flooded internally in this location on the 26th September following the second large rainfall event. After the first rainfall event, another property was affected by a small amount of seepage through the front door. Rainfall at this point fell on a saturated catchment, meaning any additional rain formed overland flows very quickly as ditches, watercourses and the drainage system were already at capacity. The overland flows from the surrounding fields flooded a flooded one property to 1 inch across the ground floor. Aqua sacs were given to the property affected and support was offered by the community. Other properties in Pavenham came extremely close to internal flooding as water came up to door thresholds. Properties in these locations are at risk of surface water flooding. Aqua sacs were provided to other properties where able.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 23/09/24: Highways drainage team deployed to Pavenham t alleviate flooding to High Street.
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 27/09/24: Reports received of property flooding in Pavenham
- 04/10/2024: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

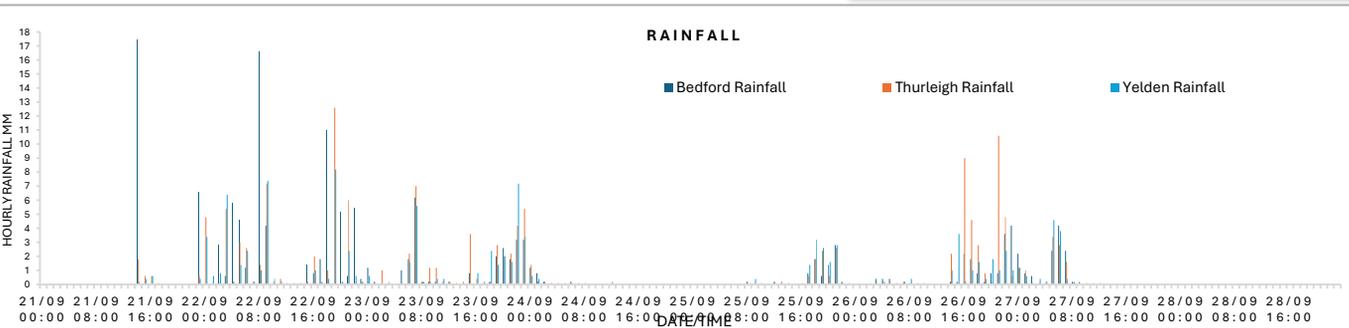
Section 19 Flood Investigation: Moor End, Radwell

The area of Moor End, Radwell, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Radwell in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|-------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Medium Term (6 – 12 months) | Explore the appetite to establish a Community Flood Group in the area. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

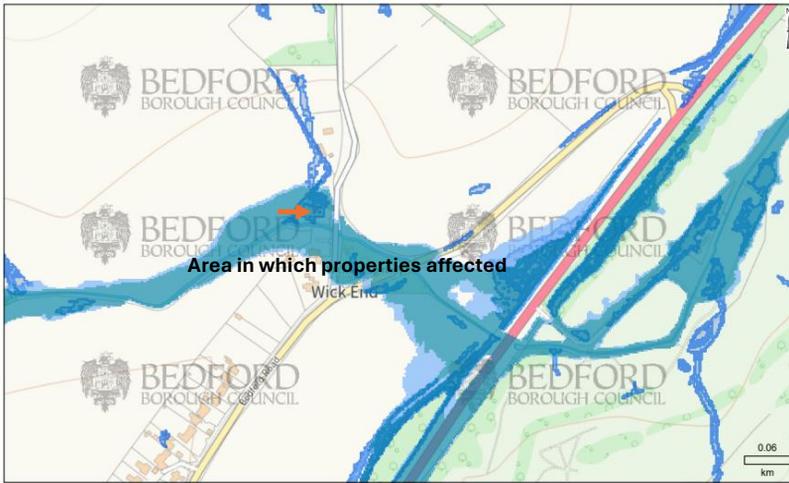
Source of Flooding: Pluvial Flooding Flood Event and Cause:

One property suffered internal property flooding in this location on the 26th September, following the second rainfall event. Rainfall at this point fell on a saturated catchment, meaning any additional rain formed overland flows very quickly as ditches, watercourses and the drainage system were already at capacity. The second rainfall event overwhelmed the Highways drainage system, causing overland flows from the road and into driveways, gardens and property. Around 76mm inches of water flooded the property from the rear patioed doors. Neighbours supported by digging a trench in the garden to allow the water to escape. Gullies on the road were reported being completely blocked. The property affected is at low risk of surface water flooding.

Weather Warnings/Flood Warnings and Initial Response:

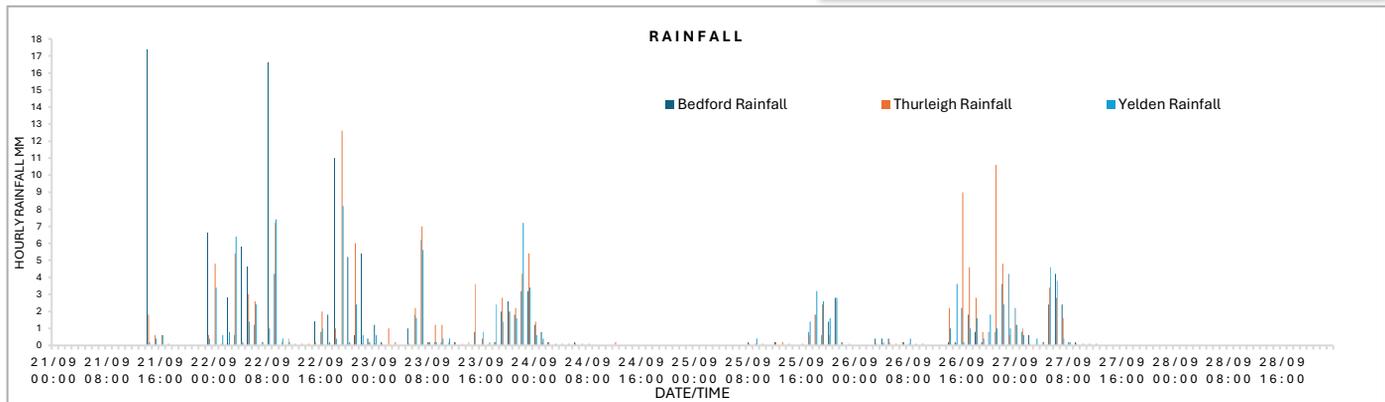
- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues amber rain warning,
- 23/09/24: Radwell Bridge closed due to high river levels.
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 26/09/24: Met Office issues amber rain warning
- 26/09/24: Reports received of residential properties starting to flood in Radwell.
- 26/09/24: Highways drainage team deployed to Radwell to assist in gully clearance
- 27/09/24: Further reports received from residents in Radwell requesting assistance due to floodwater about to enter homes.
- 27/09/24: BBC volunteers attended to carry out welfare checks for flooded residents
- 02/10/2024: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

The area of Wicks End, Stagsden, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Stagsden in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough as seen on the graph, leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|------------|---|-------------------------|
| Complete | Ensure underside of Wick End bridge over the brook is clear of debris | BBC Highways/Structures |
| Complete | Riparian owner given advice to clear the brook of trees and debris | Homeowner |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

One property suffered internal property flooding in this location on the 26th September, following the second rainfall event. Rainfall at this point fell on a saturated catchment, meaning any additional rain formed overland flows very quickly as ditches, watercourses and the drainage system were already at capacity.

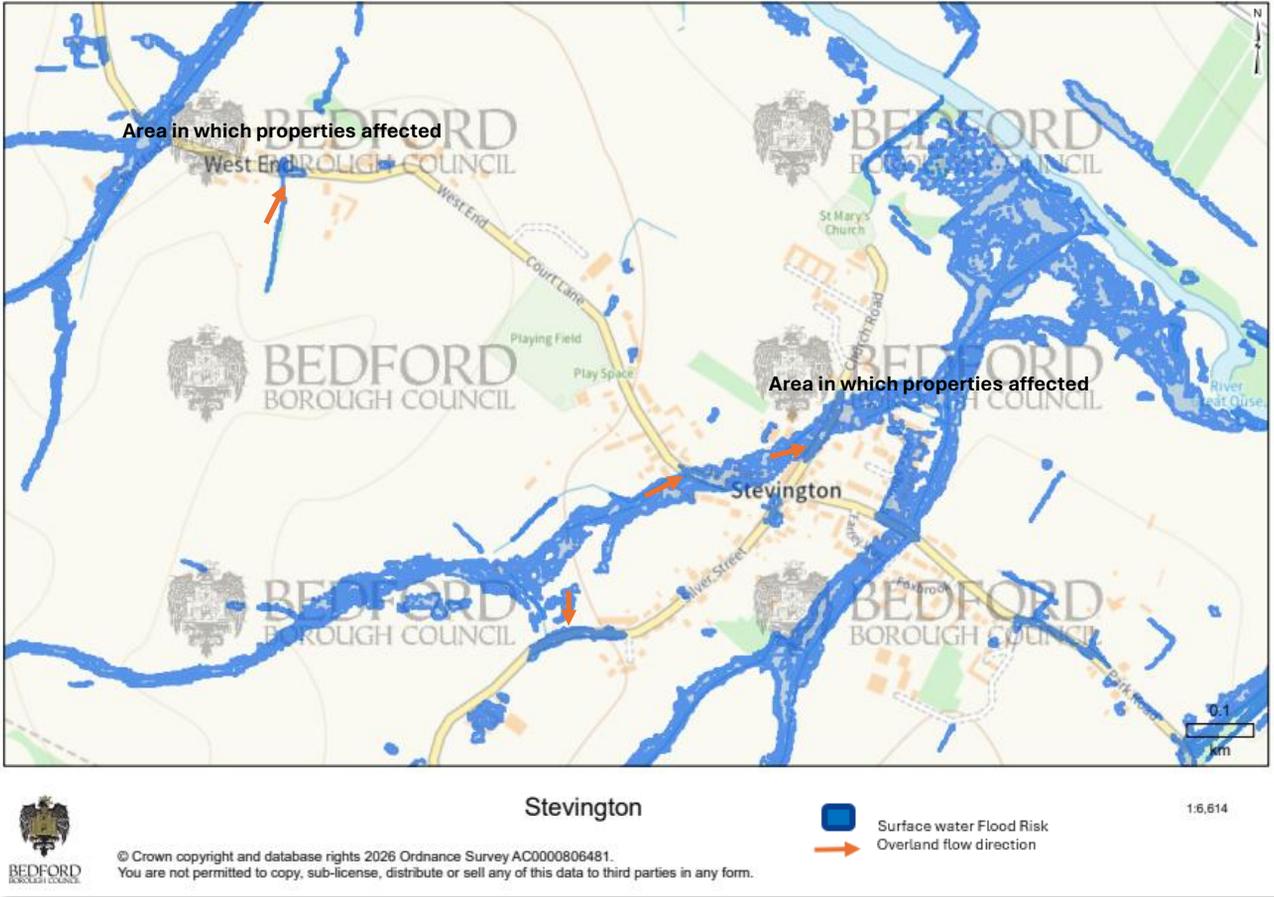
Surface water from the adjacent brook flooded the garden then entered air bricks to one property at Wick End, Stagsden. Water got to a depth of 300mm throughout the property. There were various trees and undergrowth in the adjacent watercourse that collected further debris causing partial blockages in the watercourse.

The property affected is at high risk of surface water flooding.

Weather Warnings/Flood Warnings and Initial Response:

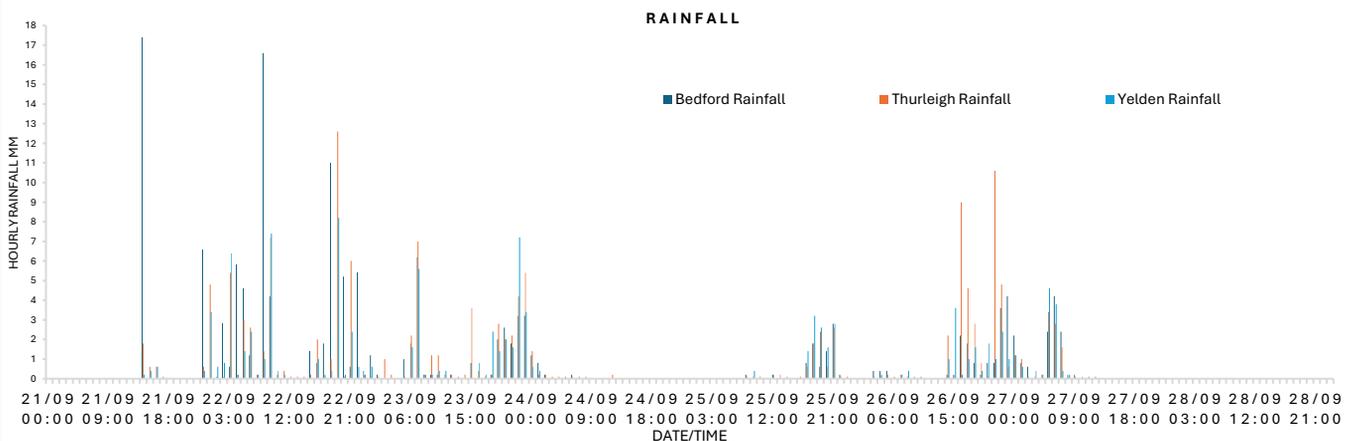
- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 02/10/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

The area of Stevington, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall Data

The graph below shows the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Stevington at Thurleigh. For comparison it also compares the rainfall in Bedford and the rural location of Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. On the 22nd September 62.4 mm of rainfall was recorded during that day in Bedford and in Thurleigh 48mm . Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also record 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



The area of Stevington, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.

RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|---------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Complete | Ensure AW foul is clear and working. | Anglian Water |
| Ongoing | Continue support with the Flood Group to ensure debriefs/training and flood kit are topped up. | LLFA/SFG |
| Medium Term (6 – 12 months) | Investigate the culvert at West End Church Walk and Court Lane and explore mitigation options to reduce the impact in this location. | LLFA/Highways/SFG |
| Medium Term (6 – 12 months) | Investigate the feasibility of NFM within the catchment to reduce the overall surface water flood risk to the community. | LLFA/SFG/Landowners |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

Stevington was affected from surface water flooding following both the first and second rainfall event. On the 22nd external properties flooding impacted garages of 4 properties on Burridges Close. The rainfall caused the drainage system to become overwhelmed and the local topography caused ponding at the lowest point of the Close.

On the 26th September a further 48mm of rainfall was recorded in Thurleigh on a now saturated catchment. There were four separate flooding incidents within the village of Stevington with a total of 6 properties experiencing internal flooding and 33 properties experienced external flooding to gardens and garages.

West End: The catchment upstream of West End was saturated during the first rainfall event leading to overland flow and the ditch all becoming quickly overwhelmed, water was also backing up from the road culvert. The layout and size of the culvert under the road exacerbated the flooding in this area. The road was completely inundated to a depth of approximately 250mm. Water rose to within 30mm of property thresholds, however aqua sacs given by the flood group prevented internal flooding. Three garages were flooded and access to a local farm was cut off. Church Road: Significant flooding occurred in this location where the ditch is culverted through a 90 degree bend. The culvert was overwhelmed, directing water across the driveway and onto the road, the local topography saw flows pond at the low spot and immediately adjacent to a number of low-lying properties. Four residential properties suffered internal flooding (depth of 300mm), while nine others saw gardens and garages affected. Aquasacs were used to protect other homes.

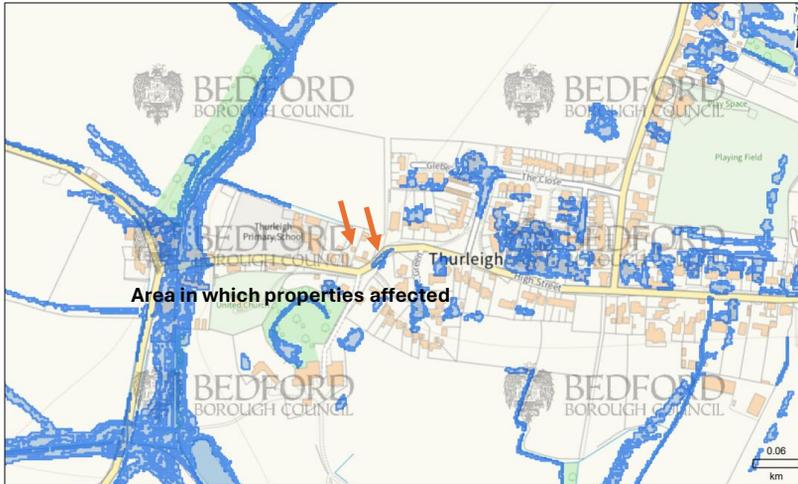
Court Lane: Due to the "throttling effect" at Church Road, the Court Lane ditch and culvert could not convey upstream flows. The local topography and subsequent flow path resulted in internal flooding for two properties and external flooding for 12 others, including garages.

Silver Street: The highway experienced flooding to a depth exceeding 300mm, though no internal property flooding was recorded.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Resilience Team attend Stevington to offer assistance and advise.
- 23/09/24: Met Office issues Amber Weather Warning for Rain.
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 25/09/24: Road from Bedford to Stevington closed due to surface water. BBC volunteers sent to Stevington to carry out welfare checks.
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 26/09/24: Council receives reports of residential properties flooding in Stevington. Highways drainage vehicle sent to support in pumping.
- 27/09/24: BBC Volunteers sent to Stevington to carry out impact assessments to help with recovery and clean up and support Community Flood Group.

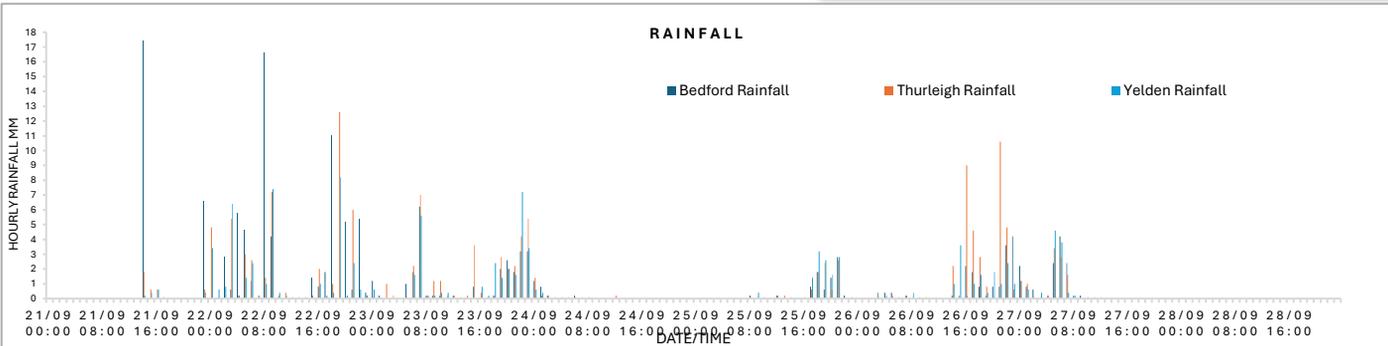
The area of Thurleigh, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Stagsden in Thurleigh. For comparison it also identifies the rainfall in Bedford and Yelden. That week 150mm of rain fell in the Borough. Bedfordshire recorded as having their wettest September on record. Two main rainfall events impacted the Borough as seen on the graph, leading to pluvial and fluvial flooding. Rainfall amounts differed hugely across the Borough depending on where those thunderstorms fell. On the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.

Thurleigh
 © Crown copyright and database rights 2026 Ordnance Survey AC000006481. You are not permitted to copy, sub-license, distribute or sell any of this data to third parties in any form.



| RECOMMENDATIONS | | |
|-----------------------------|---|-------------------|
| Timescales | Action | Responsible Party |
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Medium Term (6 – 12 months) | Complete a drainage and CCTV survey in the vicinity to investigate the condition of the Highway Drainage. | BBC Highways |
| Medium Term (6 – 12 months) | Explore the appetite to establish a Community Flood Group in the area. | LLFA |
| Medium Term (6 – 12 months) | Investigate the drainage of the upstream catchment. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties and or additional drainage. | Homeowner |

Source of Flooding: Pluvial Flooding

Flood Event and Cause:

Two properties suffered internal property flooding in this location on the 26th September, following the second rainfall event. Rainfall at this point fell on a saturated catchment, meaning any additional rain formed overland flows very quickly as ditches, watercourses and the drainage system were already at capacity.

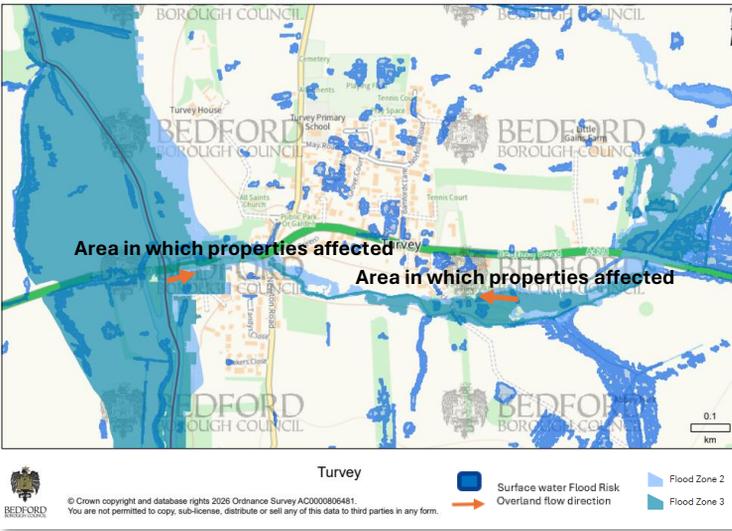
The overland flows from the surrounding fields caused flooding from the rear of the properties. Exacerbated by the floor level of the properties being lower than ground level. The properties flooded up to 75mm in depth. It was reported that changes to a footpath at the rear of the properties could have exacerbated the flooding from the field and ditch. It was also reported that heavy vehicles and the sharp bend at the front of the property may have contributed to damage to the Highways drainage at the front of the properties, reduced the amount of water getting away from the property. The properties that flooded are not at risk of surface water flooding.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Reports of properties flooding from across Bedford Borough
- 23/09/24: Met Office issues Amber Weather Warning for Rain.
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 26/09/24: Property flooding reported in Thurleigh
- 02/10/24: Impact assessment carried out to assess flood damage and assist in recovery.

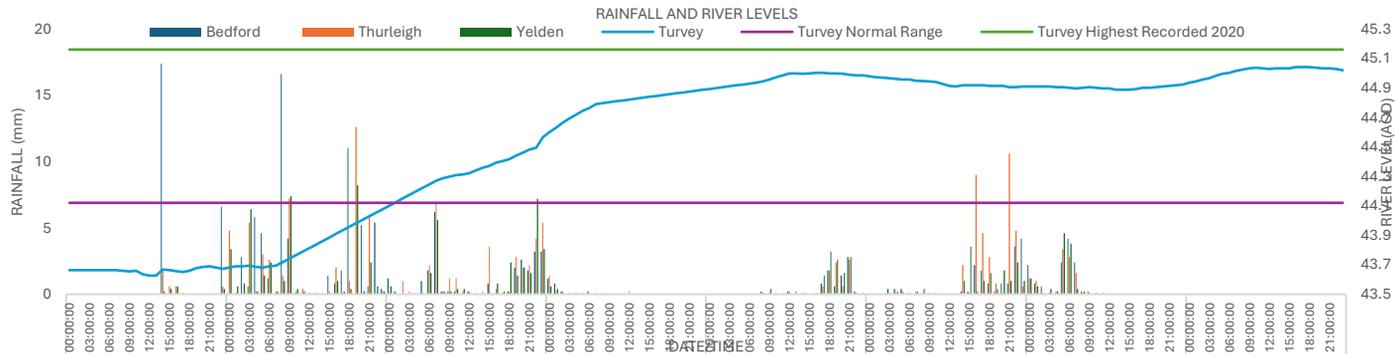
Section 19 Flood Investigation: Turvey

The area of Turvey, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Odell in Thurleigh. For comparison it also identifies the rainfall in Yelden and Bedford. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. 62 mm of rainfall was recorded on the 22nd September and on the 26th September 36mm was recorded in Thurleigh however local rain gauges in other another village recorded 56mm. Thurleigh gauge also recorded 10mm in one hour on the 26th. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. It also resulted in two main peaks coming down the River Great Ouse which were at a level where Flood Warnings were issued and properties flooded. Bedfordshire recorded as having their wettest September on record.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|-----------------------------|--|-------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Complete | Ensure Surface Water main and is clear and working. | Anglian Water |
| Ongoing | Continue support with the Flood Group to ensure debriefs/training and flood kit are topped up. | LLFA |
| Medium Term (6 – 12 months) | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

Source of Flooding: Pluvial Flooding Flood Event and Cause:

Four properties flooded internally in this location on 21st, 22nd, 23rd and 27th September as a result of pluvial flooding. The huge rainfall volumes overwhelmed the drainage systems and led to overland flows down roads combined with small watercourses overtopping flooding properties. On the 21st and 23rd September, residential properties in Tandy's Close flooded. Water came through the front and side doors from overland flows and into the kitchen. On the 22nd September 2024 one commercial property flooded on the ground floor to a depth of 50mm via the front door and porch. On the same day a residential property in Jack's Lane flooded on the ground floor to a depth of 150mm via the front and back doors and gaps in floors/walls. On the 26th September a residential property in Jack's Lane flooded in the basement to a depth of 150mm. Some of the properties that flooded are at risk of surface water flooding.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Properties confirmed to have flooded in Turvey, visited by Resilience team for welfare checks, support for Flood Group and monitor water levels.
- 23/09/24: Met Office issues amber rain warning,
- 24/09/24: Flood Warning issued for River Great Ouse at Turvey
- 25/09/24: A428 at Turvey closed
- 25/09/24: Additional Aquasacs distributed to Flood Group
- 26/09/24, Met Office issues amber rain warning
- 26/09/24: A428 at Turvey reopened
- 27/09/24: Flood Warning Updated for Turvey
- 27/09/24: BBC Volunteers sent to support Turvey Flood Group
- 28/09/24: A428 at Turvey closed
- 30/09/24, A428 Bridge at Turvey re-opened
- 01/10/2024: Impact assessments carried out to assess flood damage and assist in recovery.

Section 19 Flood Investigation: Potters Cross, Wootton



The area of Wootton, suffered from surface water flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Potters Cross, Wootton

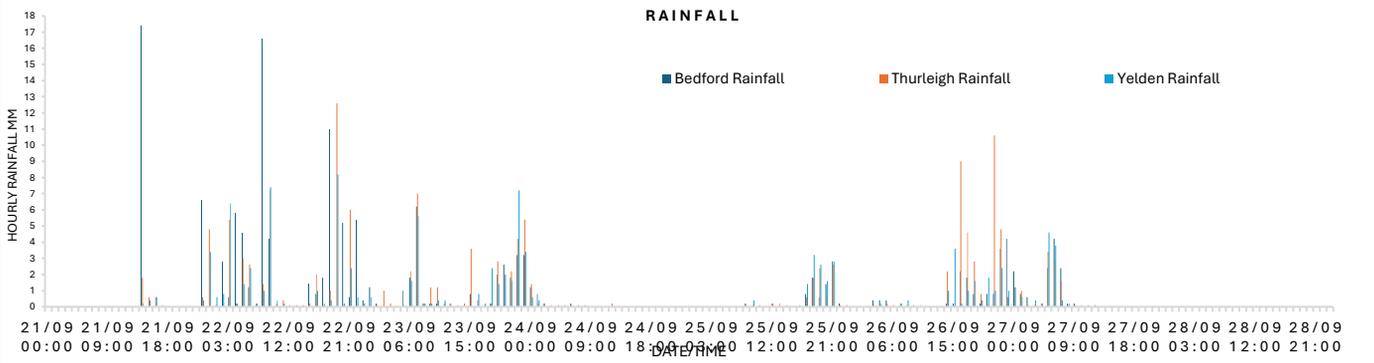
■ Surface water Flood Risk
→ Overland flow direction



© Crown copyright and database rights 2026 Ordnance Survey AC0000806481. You are not permitted to copy, sub-license, distribute or sell any of this data to third parties in any form.

Rainfall Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st- 28th September 2024 at the nearest rainfall gauge to Wootton in Bedford. For comparison it also identifies the rainfall in the rural location of Thurleigh and Yelden. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. On the 22nd September 62.4 mm of rainfall was recorded, on top of 24mm the previous day leading to pluvial flooding. Bedfordshire recorded as having their wettest September on record. This unprecedented rainfall amount caused local drainage systems to quickly become overwhelmed, causing overland flows towards at risk properties. No flooding was caused by high river flows in this location.



RECOMMENDATIONS

| Timescales | Action | Responsible Party |
|------------|--|-------------------|
| Complete | Ensure gullies and culverts in vicinity are clear and working. | BBC Highways |
| Complete | Ensure all outfalls into the brook are clear and free flowing | BBC Highways |
| Complete | Ensure the gullies on the bridal way of Potters Cross are placed onto the cyclical gully cleansing cycle | BBC Highway |
| Complete | Ensure any required maintenance is carried out on the brook | IDB |
| Complete | Investigate the feasibility of PLR measures in at risk properties. | Homeowner |

Source of Flooding: Pluvial Flooding

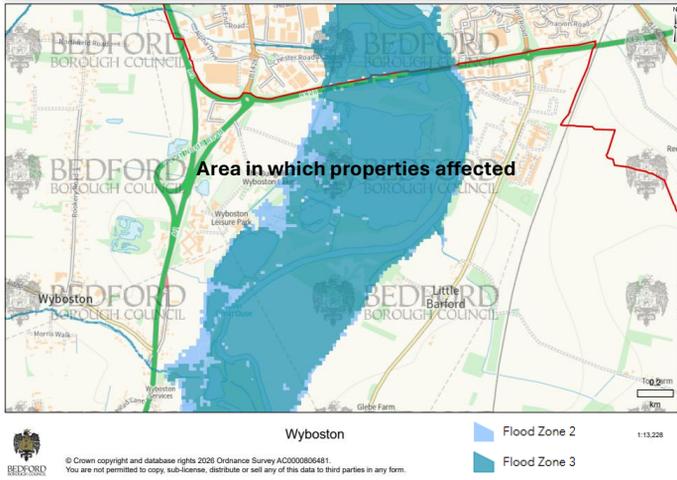
Flood Event and Cause:

Property flooding occurred in this location following the first rainfall event on the 22nd September. Two properties flooded internally at this location. Properties reported water through a side door affecting the porch and kitchen on one property and though the wall and floor affecting the kitchen and lounge of another. Water came to a depth of 200mm within the properties. Damaging flooring, furniture, and plaster. There is an IDB watercourse on the other side of the bridal way/track that was in high flow however the property suffered from surface water flooding. Gullies on the track are piped directly into the brook so it would be likely that the gullies and surface water on the road could not get away with the high flows in the watercourse, leading to pooling of water on the track and flooding of properties at the lower threshold. The properties flooded are at high risk of surface water flooding.

Weather Warnings/Flood Warnings and Initial Response:

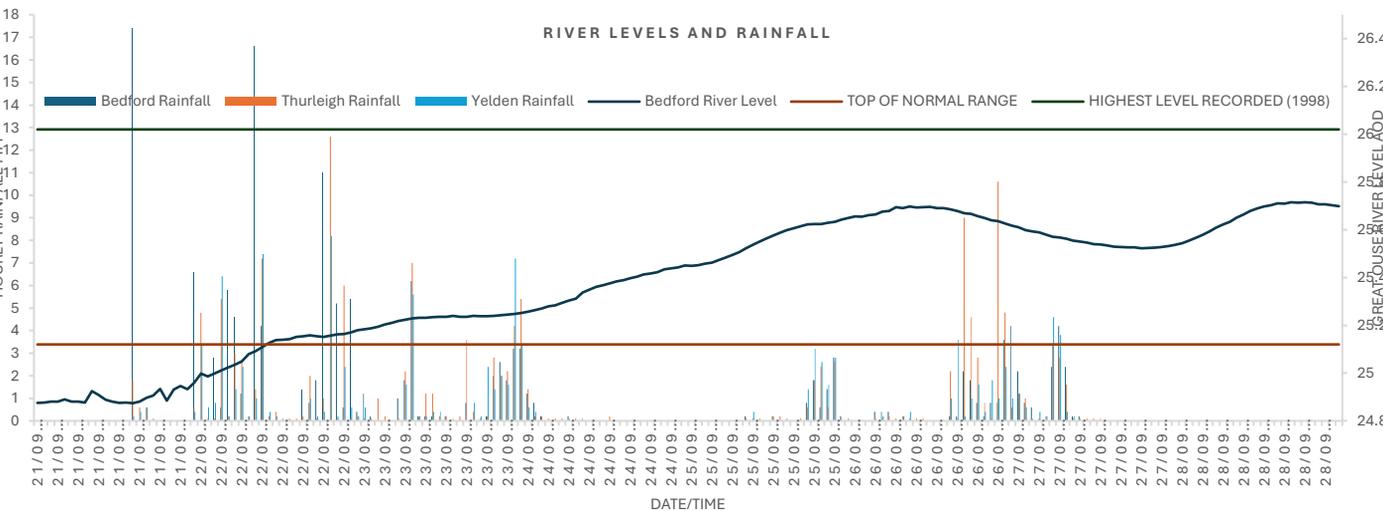
- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK.
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Residential property flooding confirmed in Wootton
- 23/09/24: Met Office issues Amber Weather Warning for Rain
- 23/09/24: Flooded properties in Wootton attended by Council Officers for welfare checks and advice.
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 02/10/24: BBC carry out Impact assessments in assistance with partners to assess flood damage and assist in recovery.

The area of Wyboston, suffered from fluvial flooding in September 2024. Under the Flood and Water Management Act 2010, Bedford Borough Council as the Lead Local Flood Authority (LLFA) has the duty to investigate the flood event. The scope of this flood investigation is to identify the source, cause and impact of flooding from available information; identify actions completed by relevant Risk Management Authorities (RMAs) in response to the flood event; and consider actions to better understand and manage the risk of flooding in the affected area.



Rainfall and River Data

The graph identifies the hourly rainfall amounts recorded during the week of 21st– 28th September 2024 at the nearest rainfall gauge to Wyboston in Bedford. For comparison it also identifies the rainfall in the rural location of Thurleigh and Yelden. That week 150mm of rain fell in the Borough. Two main rainfall events impacted the Borough leading to pluvial and fluvial flooding. 62 mm of rainfall was recorded on the 22nd September followed by further rainfall the rest of the week, resulting in two main peaks coming down the River Great Ouse which were at a level where Flood Warnings were issued and properties flooded. River levels continued to rise until the first peak came through this location on the 27th September reaching 25.696m AOD the second peak came through several days later on the 29th September which was slightly higher at 25.715m AOD.



RECOMENDATIONS

| Timescales | Action | Responsible Party |
|------------|--|-----------------------------------|
| Complete | Inspect Main River Assets and (sluices, weirs, gates, locks and riverbanks) and identify the requirement for remedial works. | Environment Agency |
| Ongoing | Investigate the feasibility of PLR measures in at risk properties. | Property Owner/Environment Agency |

Source of Flooding: Fluvial Flooding

Flood Event and Cause:

One commercial property located at Wyboston Lakes reported internal flooding. Significant flooding affected the entire building up to 2 foot in height causing damage to flooring and furniture. Flooding in the area started on the 26th September and the building flooded internally on the 27th September as river levels on the River Great Ouse continued to rise. Levels peaked on Saturday 28th September.

Access to the areas was completely cut off as the main road in and car park were all affected. Two large lakes adjacent to the River Great Ouse, fill and rise as river levels rise on the River Great Ouse. Flood water encompasses the whole of the area once water overtops the lakes. The Environment Agency Flood Map for Planning identifies the property in Flood Zone 3, which means that the chance of flooding is great than 1% in any given year. The mapping shows that the Wyboston Lakes and surrounding areas are located in the River Great Ouse floodplain, which means that they are expected to flood when the River Great Ouse overtops its banks.

Weather Warnings/Flood Warnings and Initial Response:

- 21/09/24: Met Office issues Yellow Weather Warning for Rain and Thunderstorm for much of the UK
- 22/09/24: Significant heavy rain across the Borough leading to multiple reports of property and road flooding. Resilience and Highways respond to reports, issuing aqua sacs to those at risk and closing roads where required.
- 23/09/24: Met Office issues Amber Weather Warning for Rain.
- 23/09/24: EA Issue Flood Alert for River Great Ouse
- 24/09/24: EA Issue Flood Warning for areas close to the River Great Ouse at Wyboston
- 26/09/24: Met Office issues Amber Weather Warning for Rain.
- 27/09/24: EA Issue Flood Warning for areas close to the River Great Ouse at Wyboston, Eaton Socon, Eynesbury, Eaton Ford and St Neots
- 05/10/24: EA remove Flood Warning for Wyboston
- 15/10/24: Impact assessment carried out to assess flood damage and assist in recovery.