

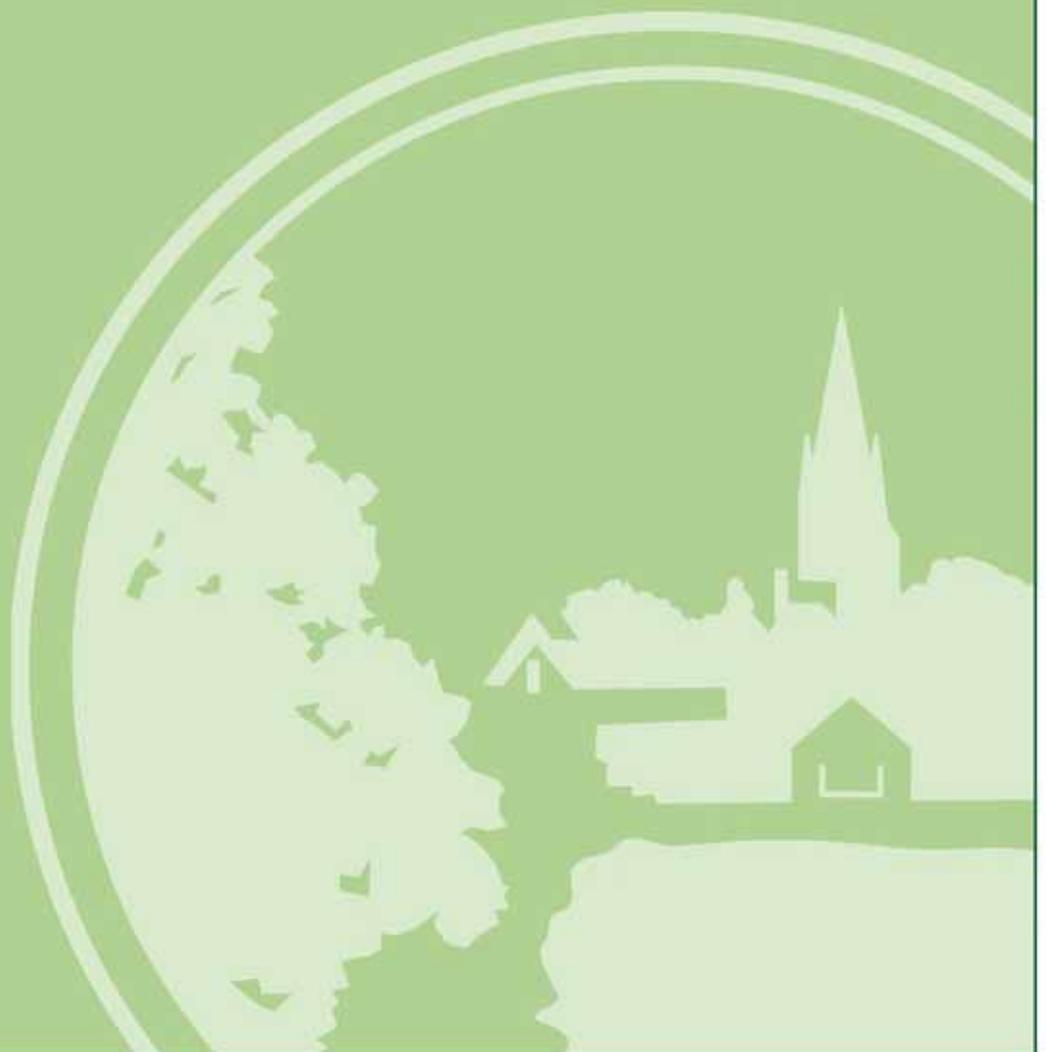


WEST OXFORDSHIRE  
DISTRICT COUNCIL

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# Parish Flood Report: Bladon

November 2008



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## **1.0 INTRODUCTION**

On the 20th July 2007 large parts of the South of England were subjected to intensive storms. The scale and speed of the rainfall was unprecedented and took most communities by surprise causing widespread flooding of highways and property. On this occasion, unlike previous storms / flooding experienced, this impacted on many properties that had never been affected before, due to much of the flooding coming in the form of rain water run off from land.

A swathe of the district was particularly badly affected by the massive storms, which commenced in the morning and subsided in the evening. During the following days further disruption occurred due to rising river levels. At RAF Brize Norton, the records show that over 125 mm (5 inches) of rain fell in 12 hours, and this is a record going back over 100 years. Not only that, but the period from May to July had been the wettest on record since 1903 and meant that the ground was saturated and unable to absorb any more water.

On the 10th October 2007, the District Council's Cabinet considered a report of the Head of Street Scene and approved additional resources in order that a review of the affected areas could be carried out and further reports be prepared for the Council's considerations.

### **1.1 Purpose of the report**

In response to requests from both the Parish and Town Councils and the general public West Oxfordshire District Council has produced a number of reports that identify each individual cause of flooding within the Parish / Town, what work is being carried out by external agencies (EA, Thames water etc); what the potential options are for future mitigation - and who might be best placed to fund such schemes. The reports themselves reflect the series of water systems that all played a part in the flooding experienced in July 2007 and will help all the organisations involved understand the need to sequence their activities.

This report has been prepared by a qualified Engineer in consultation with the key external agencies and seeks to explore the main reason behind why the floods happened in July 2007 and give an overview of the event itself. It will also provide an understanding of the different roles and levels of responsibility for the agencies involved.

This report should be used to make sure that all the agencies involved with flood prevention – like the Environment Agency, Thames Water, Oxfordshire County Council, Town / Parish Councils and private land owners – work in true partnership for the good of everyone in the local community.

A key outcome of the reports is that residents are given a broad overview of the complex linkages between the different organisations involved and also the range of options available.

### **1.2 Roles and responsibilities**

One of West Oxfordshire District Councils key ongoing roles is to continue to lobby National agencies / Government on behalf of the residents and businesses of the district to secure funding and/or additional resources to assist with flood prevention and other relevant activities. The Council will also work closely with other agencies and organisation in order to highlight the local issues and actions identified in the report.

The legal responsibility for dealing with flooding lies with different agencies and is complex, so below is a simplified summary.

**Environment Agency (EA)** – permissive powers<sup>1</sup> for main rivers

**Oxfordshire County Council (OCC)** – Responsible for adopted highways and highway drainage.

**Thames Water (TW)** – Responsible for adopted foul and surface water sewers.

**West Oxfordshire District Council (WODC)** – duties as a riparian<sup>2</sup> land owner, and permissive powers<sup>1</sup> under Land Drainage Act 1991, Public Health Act 1936, Highways Act 1980 and Environmental Protection Act 1990.

**Private land owners** - duties as a riparian land owner.

### **1.3 Consultation and consent**

The key organisations mentioned above are currently carrying out their own investigations, but operate independently of each other, have different methods of prioritisation and different funding criteria. The District Council has consulted with these agencies together with Parish Councils, Town Councils and individual property owners in order to prepare this report.

It is recognised that the majority of the options proposed in this report require further investigations / feasibility studies and / or consultation before they are carried out. Therefore these options may not be appropriate in every case when full costings, environmental, landscaping, biodiversity, built environment and historic factors are fully considered.

When considering protection against future flooding, it must be emphasised that the risk and impact of flooding can be mitigated against but in some cases not fully removed.

### **1.4 Response to this report**

The options section of this report highlights the potential areas of work / activities under the responsible agency, for example the Environment Agency, West Oxfordshire District Council etc. If you have any specific questions relating to these activities please contact the relevant agency using the contact details provided at the top of the chart.

If you have any general questions please contact your Parish / Town Council who have been a key contributor to the production of the report and have agreed to act as the first point of contact.

The Council is also planning to hold a series of 'road shows' in the Parish areas where representatives from all the relevant areas will be available to answer any questions local residents have as well as provide more information on ways residents may help themselves.

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<sup>1</sup> Permissive powers are when an organisation may choose whether or not to exercise their powers. I.e. they are NOT under a duty. In making this choice account must be taken of any factors required by the legislation, plus for example how urgent, how necessary they are, cost, likely result, etc

<sup>2</sup> Riparian owners are responsible for the maintenance of any watercourse within or adjacent to the boundaries of their property.  
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## **1.5 Legal**

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## 2.0 THE DISTRICT COUNCIL'S ACHIEVEMENTS OVER THE PAST 12 MONTHS

### Flood Grants

- 4 WODC Flood Grants totalling £1000 given out.

### Reports

- WODC Parish Flood Reports completed in 2008.

### Actions from the Council's Interim Report published in January 2008

- The table below provides a summary of some of the completed actions identified in the report

Bronze command procedure to be updated to recognise the need for ensuring shift rotas are in place in the early stages of an emergency
Consider producing a revised warning system that identifies a higher category of risk that is only issued in exceptional circumstances
The emergency plan specifically addresses the need to keep in regular contact with elected members
That the Emergency Plan recognises the role the elected members can play in emergency and recovery situations
That in future emergency situations District Councils ensure that they have a representative present at Silver Command from the start of the emergency to act as a conduit for information between Silver Command and the District Councils
The council should encourage all residents residing in the flood plain and in areas at risk of flooding to sign up to the EA Flood Alert system.
Provide clear information to residents and businesses about what type of waste we can collect and how it will be collected
Explanations to residents of our need for bulky waste to be placed on the roadside for collection
Commence a review of the mapping of the many thousands of privately owned ditches and culverts, and ensure they are kept clear and well maintained in accordance with the new policy (2 TOR 3)
Lobby central government for a single agency to take control of all land drainage issues
WODC continues to act in a coordination capacity with key external agencies
Continue to liaise with EA to ensure that procedures relating to planning consultations are robust. Seminar being arranged to take place early in 2008 to progress this
Progress the Strategic Flood Risk Assessment
Consider producing a revised warning system that identifies a higher category of risk that is only issued in exceptional circumstances
Approaches to be made to the EA and Metrological Office with regard to improving their predictive capability
Lobby central government for a single agency to take control of all land drainage issues
WODC continues to act in a coordination capacity with key external agencies
During emergency events, have an external media person (BBC) in Bronze Command
Purchase digital TVs to assist with reviewing weather, local and national news to assist emergency management

### 3.0 EXECUTIVE SUMMARY

#### 3.1 General

Following the flooding events of July 2007, West Oxfordshire District Council (WODC) has responded to requests from both Town and Parish Councils to aid the coordination of all the agencies and bodies that were undertaking their own investigations into the floods through the production of Parish Flood Reports.

This document is the Parish Flood Report for the village of Bladon and has been prepared by the Council's Engineering team. It pulls together information from external agencies and individual property owners. It identifies the causes of flooding in Bladon during July 2007 and potential mitigating solutions.

The report itself is broken down into a number of sections and will include;

- An overview of flooding history in Bladon and flood related issues raised by residents
- A presentation of the problems and causes of flooding in Bladon during July 2007.
- A summary of all the flooding issues and potential mitigation options.
- A breakdown of the recommendations for immediate, mid-term and long term actions including the responsibly agency based on the options identified.

The table below provides a summary of some of the main causes of the flooding in Bladon and the mitigation options that could be applied to alleviate the different flooding problems. More detail is provided regarding the specific locations and the causes of flooding in section 5 of the report.

Source of flooding	Potential mitigation measures
Surcharging of River Evenlode and River Glyme due to constriction of flow at Hanborough Bridge	EA to construct a flood protection bund between Park Street and the River Glyme embankment to protect properties in Park Street
Uncontrolled Highway Drainage	OCC to clean out gullies and connections in Manor Road, Lamb Lane, Church Street and Heath Lane to protect Properties at the junction of Park Street and Lamb Lane
Field run-off to the rear of Heath Lane	Private land owners to provide a ditch cut-off or land drain to the rear of properties in Heath Lane
Under-capacity combined sewer	OCC to remove all highway drainage connections from the combined sewer in Heath Lane and provide a new highway drain with separate point of discharge to the River Glyme
Excess overland flow running off Blenheim land towards Grove Road	Private land owner to clear ditch on Blenheim land to the East of the park entrance in Grove Road.
Overtopping of balancing pond adjacent to the Lower park entrance caravan park	Private land owner to continue to clear out balancing pond on Blenheim land
To the rear of properties 2-10 Park St. Blocked culvert, due to collapsed tree and siltation of the watercourse	Blenheim estates removed tree obstruction and de-silted watercourse in 2006. A continued periodic maintenance regime is required, to ensure channel is free flowing.

## **3.2 Survey**

### **3.2.1 Description of area**

The Parish of Bladon is approximately 1000 Ha (2471 Acres) in size.

A map of the parish is shown in figure 2.

### **3.2.2 Survey approach**

Visual walk-over surveys have been undertaken. Photographs of some of the flood affected areas are shown in Appendix 1.

A review of all correspondence, received by the Council about the July 2007 flooding in the Parish of Bladon has been carried out and incorporated within the findings of the report.

Bladon Parish Council undertook a visual inspection of the gullies in Manor Road, Lamb Lane, Church Street and Heath Lane. It was noted that the majority were either blocked or part blocked. A copy of this report has been sent to OCC.

### **3.2.3 Meetings**

Details of key meetings and site visits attended by District Council representatives that are relevant to the flooding of Bladon in July 2007 are given in the table below;

<b>Date</b>	<b>Main participants and Venue</b>	<b>Description</b>
27/11/07	Site Visit – Cllr Thomas and Nick Hands (WODC) at No.34 – 36 Park Street	Discussions about flooding of property garden and remedial solutions.
18/06/08	Site Visit – Cllr Thomas, Derek Hambridge (Vice-Chairman Bladon Parish Council) and Nick Hands (WODC) at No.34 – 36 Park Street, No. 31 Park Street, No. 9 Heath Lane, Low Park Blenheim and Caravan park Blenheim.	Discussions about Parish flooding causes and solutions
	Site visit- Laurence King, Gordon Hunt, W Barker, C Keeler( Blenheim Estates)	Discussion on flooding of property on Grove road and the public highway. Responsibilities of Blenheim to be agreed.

The District Council has liaised with the Environment Agency, Oxfordshire County Council and Thames Water. The Environment Agency has carried out visual surveys of the flooded areas affected by the main river.

The District Council has contacted some of the owners of properties that flooded in July 2007.

### **3.2.4 Application for Grant Aid**

The District Council has distributed a range of financial support to the residents of Bladon in the form of;

- Emergency Flood Relief Grant Aid of £250

To date the owners of 4 residential properties in the Parish of Bladon have received Emergency Flood Relief Grant Aid, however it is acknowledged that this is not the total number of properties affected as some owners have been reluctant to claim.

Whilst the Emergency Flood Relief Grant Aid was not paid to industrial and commercial properties, the Council did provide advice and support to local business affected by the flooding on funding available from Business Link and other organisations.

### **3.2.5 Flooding History**

From discussions with local residents it was noted that some areas of the Parish of Bladon have flooded infrequently in living memory.

## 4.0 PROBLEMS AND CAUSES

### 4.1 Plans

Appendix 2 contains two plans (Figure 1 and Figure 2).

Figure 1 is a map showing areas in Bladon where flooding occurred in July 2007.

Figure 2 shows the following:

- **Bladon Parish boundary**
- **Environment Agency** - main rivers and enmained water courses in the area.
- **Flood Zone 2, January 2008** - 0.1% annual probability of flooding occurring or low to medium risk. Previously referred to as 1:1,000 year flooding.
- **Flood Zone 3, January 2008** - 1% annual probability of flooding occurring or high risk. Previously referred to as 1:100 year flooding

**Note – this EA map has been updated to reflect the events of July 2007. All references to flood zones in this report refer to the previous EA flood zone map i.e. pre July 2007.**

### 4.2 Area 1 – Park Street

Three properties (No's 31, 34 and 36 Park Street) flooded adjacent to the junction of Park Street and Lamb Lane, opposite the Lince, in July 2007.

Flooding was attributable to either or a combination of the following: (i) Surcharging of the River Evenlode., (ii) Uncontrolled highway drainage run-off from Lamb Lane.

The cause of flooding is the following:

#### 4.2.1 Surcharging of the River Evenlode

Large volumes of surface water flood The Lince due to extensive surcharging and flooding of the River Evenlode where it passes beneath the A4095. The surcharging at the confluence of the Lince where it meets the Evenlode just north of Hanborough Bridge. Flooding is concentrated in the low lying land between the River Glyme and Park Street. The net effect being the flooding of No's 34 and 36 Park Street. The River Glyme and River Evenlode are En-mained watercourses.

#### 4.2.2 Uncontrolled highway drainage run-off from Lamb Lane

During high intensity rain storm events such as July 2007 the highway drainage at the junction of Park Street and Lamb Lane and for the entire length of Heath Lane is incapable of receiving the large volumes of surface water cascading toward it. The net effect is the flooding of No 31 Park Street. The deficiency with the highway drainage in Heath Lane and Lamb Lane appears to be due to blockages noted in most of the gullies.

### 4.3 Area 2 – Number Nine Heath Lane

Number nine Heath Lane flooded as a consequence of extensive field run-off to the rear.

#### **4.4 Area 3 – Lower Park, Blenheim**

Lower Park and adjacent properties in Grove Road and Park Street flooded extensively in June 2008. This was attributable to a blockage in the culvert to the rear and west of properties abutting Grove Road.

#### **4.5 Area 4 – Caravan Park, Blenheim**

During high intensity rain storm events such as July 2007 and June 2008, the balancing pond on Blenheim land adjacent to the caravan park at Eagle Landing fills, overtops and floods the surrounding area adjacent to and opposite the junction between the Blenheim estate and the A4095. This is also due to restrictions in the carrier drain, which runs along the footpath adjacent Grove road.

## 5.0 OPTIONS

The following tables show the possible options available for flood alleviation schemes throughout the Parish, and their potential effectiveness, as assessed by the District Council Engineers.

These options will require further detailed investigation along with the agreement of the responsible landowner, identification of budget and a cost benefit analysis to be carried out before they could be implemented.

Some of the options shown are also mutually exclusive, that is if one option is carried out then another will not be necessary, to find if this is the case for an option, please look at the detailed description in the Conclusions and Recommendations Section (6.0).

If you require further information regarding a particular option, please contact the agency that would be responsible for implementation of the proposal, where this has been shown, using the contact information at the top of the column. If no contact details are shown, there may be a private landowner responsible. If this is the case the District Council will ensure that private landowners are made aware of their responsibilities.

### Area One – Park Street

Area		1		
<b>Flooded Properties &amp; Causes</b>		Three properties flooded. <u>Primary causes</u> – (i) Surcharging of the River Glyme from its throttled junction with the River Evenlode adjacent to Hanborough Bridge, (ii) Uncontrolled highway drainage run-off from Lamb Lane.		
<b>Options</b>		<b>1</b>	<b>2</b>	<b>3</b>
<b>Description of options</b>		Provide cut-off dyke between Park Street embankment and the River Glyme embankment.	Clean out gullies and gulley connections in Manor Road, Lamb Lane, Church Street and Heath Lane.	Raise kerbface near to the junction of Park Street and Lamb Lane.
<b>Responsible Agencies</b>	<b>EA</b> For queries Tel: 08708 506506	Work to be undertaken/ funded by the EA as the River Glyme and River Evenlode are En-mained watercourses.		
	<b>OCC</b> For queries Tel: 08453 101111		OCC to undertake this work as this is highway drainage.	OCC to undertake this work as this is highway drainage.
	<b>Thames Water</b> For queries Tel: 08459 200800			
	<b>WODC</b> For queries Tel: 01993 861000	WODC to co-ordinate works with this proposal.		WODC to co-ordinate works with this proposal. WODC Planning Dept to agree kerb specification.
	<b>Private/Other Organisations</b>			
<b>Effectiveness/ Effects on adjacent land</b>		Controlled flooding of land between Park Street and the River Glyme.		
<b>Cost</b>		£20k – 50K	Up to £5K	Up to £5K

## Area Two – Heath Lane

Area		2	
<b>Flooded Properties &amp; Causes</b>		One property flooded. Primary causes – : (i) Extensive agricultural run-off to the rear of the property, (ii) Surcharging of the combined sewer under Heath Lane to the front.	
<b>Options</b>		<b>1</b>	<b>2</b>
<b>Description of options</b>		Investigate run-off profile and provide ditch or land drainage cut-off to the rear.	Provide independent surface water sewer in Heath Lane and connect storm drainage leaving the combined sewer as foul only..
<b>Responsible Agencies</b>	<b>EA</b> For queries Tel: 08708 506506		
	<b>OCC</b> For queries Tel: 08453 101111		
	<b>Thames Water</b> For queries Tel: 08459 200800		Thames Water to do this work.
	<b>WODC</b> For queries Tel: 01993 861000	WODC to co-ordinate works.	WODC to co-ordinate works.
	<b>Private/Other Organisations</b>	Work to be undertaken/ funded by the private land owner.	
<b>Effectiveness/ Effects on adjacent land</b>			
<b>Cost</b>		Up to £5K	£20k – 50K

## Area Three – Lower Park Blenheim and Area 4 Caravan Park Blenheim

Area		3 & 4		
<b>Flooded Properties &amp; Causes</b>		Extensive flooding. Primary causes – : (i) blockage in the culvert to the rear of properties abutting Grove Road.. (ii) Overtopping of the balancing pond.		
<b>Options</b>		<b>3.1</b>	<b>3.2</b>	<b>4</b>
<b>Description of options</b>		Locate/ unblock culvert running off Blenheim land to the west of the Park entrance.	Replace cut-off ditch to the rear of properties in Grove Road to the west of the Park entrance.	Clear out balancing pond next to Caravan Park and provide flood protection bund around the perimeter.
<b>Responsible Agencies</b>	<b>EA</b> For queries Tel: 08708 506506			
	<b>OCC</b> For queries Tel: 08453 101111			
	<b>Thames Water</b> For queries Tel: 08459 200800			
	<b>WODC</b> For queries Tel: 01993 861000	WODC to co-ordinate works.	WODC to co-ordinate works.	WODC to co-ordinate works.
	<b>Private/Other Organisations</b>	Work to be undertaken/ funded by the private land owner.	Work to be undertaken/ funded by the private land owner.	Work to be undertaken/ funded by the private land owner.
<b>Effectiveness/ Effects on adjacent land</b>				
<b>Cost</b>		£5K – 20k	Up to £5K	£5k to £20k

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Area 1 – Park Street**

#### **6.1.1 Maintenance**

The following on-going maintenance is recommended:

- Action 2 – OCC to clean out gullies and connections in Manor Road, Lamb Lane, Church Street and Heath Lane. Gully connections to be replaced as required.

#### **6.1.2 Flood Defence Improvement Schemes**

The following flood defence improvement schemes are recommended:

##### Immediate (under 1 year)

- Action 3 – OCC to raise the kerb face at the junction of Park Street and Lamb Lane.

##### Mid-Term (under 1 -2 years)

- Action 1 – EA to provide a flood protection bund between Park Street and the embankment to the River Glyme.

### **6.2 Area 2 – Heath Lane**

#### **6.2.1 Flood Defence Improvement Schemes**

The following flood defence improvement schemes are recommended:

##### Immediate (under 1 year)

- Action 1 – Private owner to investigate run-off and provide new ditch or land drainage cut-off to the rear of the property.

### **6.3 Area 3 – Lower Park, Blenheim**

#### **6.3.1 Maintenance**

The following on-going maintenance is recommended:

- Action1 – Private owner to locate and unblock culvert to the rear of the stone wall fronting Grove Road.

#### **6.3.2 Flood Defence Improvement Schemes**

The following flood defence improvement schemes are recommended:

##### Mid-Term (1-2 years)

- Action 2 – Private owner to replace cut-off ditch to the rear of properties in Grove Road to the East of the Park entrance.

### **6.4 Area 4 – Caravan Park, Blenheim**

#### **6.4.1 Maintenance**

The following on-going maintenance is recommended:

- Action 1 – Private land owner to continue to Clear out balancing pond next to Caravan Park and provide flood protection bund around the perimeter.

## Appendix 1: Photographs



Area1- No34 Park Street



Area1- 31 Park Street



Area1- No 36 Park Street



Area 2 - No 9 Heath Lane



Area 4 - Coronation Park Balancing Pond



Area 4 - Low Park Blenheim