



WEST OXFORDSHIRE
DISTRICT COUNCIL

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Parish Flood Report: Minster Lovell

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 powers¹ 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 riparian² land owner, and permissive powers¹ 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.

¹ 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

² 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

- 5 WODC Flood Grants totalling £1000 given out.

Reports

- WODC Parish Flood Report for Minster Lovell completed in July 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 to be published in December 2008
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 Minster Lovell 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 Minster Lovell 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 Minster Lovell and flood related issues raised by residents
- A presentation of the problems and causes of flooding in Minster Lovell 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 Minster Lovell 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
Uncontrolled highway run-off	OCC to provide 6 new gullies and new highway drain upstream of The Olde Bakehouse. Private owner to provide land drainage to avoid excess run-off discharging from Ringwood Farm onto the Public Highway.
Water percolation through floor	Private owner to relay floor using hygroscopic membrane moisture barrier.
Siltation of frontage ditch and culverts in High Street	Riparian owner to clean out High Street frontage ditch and culvert crossings.
Surcharging of Mill Stream and ineffective highway drainage	Riparian owner to clean out surface water ditch and reinstate where required across recreation ground and car park.
High water table leading to ineffective septic tanks and soakaways	Private owner to provide new ditch south of boundary of Old Post Office and Windrush Cottage.
Field run-off to properties in Brize Norton Road	Provide field run-off and cut-off ditch to the rear of properties in Brize Norton Road.

3.2 Survey

3.2.1 Description of area

The Parish of Minster Lovell is approximately 816 Ha (2016 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 I.

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

Minster Lovell 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.

3.2.3 Meetings

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

Date	Main participants and Venue	Description
20/11/07	Site Visit – Mrs Evans, Bushy Ground	Discussions about flooding of property caused by development .
20/5/08	Site visit – Mr P Abraham	Flooding on High St. Discussions about Parish flooding causes and solutions
18/6/08	Site Visit – Cllr Colin Olderman, Cllr Tom Smith and Nick Hands (WODC) at Windrush Cottage, High Street.	
23/06/08	Alice Perkins at “The Rosary”, High Street.	Discussions about Parish flooding causes and solutions

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 Minster Lovell in the form of;

- Emergency Flood Relief Grant Aid of £250

To date the owners of 5 residential properties in the Parish of Minster Lovell 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 the Parish of Minster Lovell has flooded 3 times in the last sixty years.

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 Minster Lovell where flooding occurred in July 2007.

Figure 2 shows the following:

- **Minster Lovell 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 – The Olde Bakehouse

“The Olde Bakehouse” located in the High Street floods during periods of heavy rainfall on account of the following: (i) Uncontrolled run-off from Ringwood Farm, (ii) Water percolation through the traditionally constructed stone floor.

The cause of flooding is the following:

4.2.1 Uncontrolled Run-off from Ringwood Farm

Large volumes of surface water cascade off land belonging to Ringwood Farm directly onto the Public Highway. As there is no suitable highway drainage to intercept this flow, it flows across the highway into “The Olde Bakehouse”. It must be stated that OCC are not required to provide drainage to cope with land run-off.

4.2.2 Water Percolation through Floor

During periods of prolonged rainfall the water table in the ground rises and seeps through the traditionally constructed stone floor.

4.3 Area 2 – The High Street

Six properties flooded in the High Street and not everyone claimed their Flood Relief Grant Aid.

Flooding of Minster Lovell High Street was attributable to one or a combination of the following (i) Siltation of property frontage ditch, (ii) Surcharging of the Mill Stream adjacent to Leafield Road (iii) Exceptionally high water table, (iv) Ineffective or non-existent highway drainage, although any drainage system would not have been able to cope with the flow involved.

The cause of flooding is the following:

4.3.1 Siltation of Property Frontage Drainage

From “The Cott” to “The Olde Swan Hotel” surface water is collected in an open channel with culverts at crossing points. Over time both the ditch and the culverts have become silted up on account of inadequate maintenance and flooding occurred.

4.3.2 Surcharging of the Mill Stream

Extensive volumes of flood water over-topped the River Windrush and the Mill Stream channel onto Leafield Road in July 2007. Flood water overflow arches and an overflow channel running parallel to Leafield Road proved ineffective. Historically an overflow ditch ran through the centre of Wash Meadow Recreation Ground but this has now been filled.

4.3.3 High Water Table

The septic tanks and soakaways for the properties off the High Street failed to work in July 2007 on account of an exceptionally high water table created by the high rainfall over a prolonged period of time.

4.3.4 Ineffective Highway Drainage

Highway drainage gullies do not collect water, as they are either located incorrectly or require emptying.

4.4 Area 3 – Brize Norton Road

It is believed that two properties flooded in the Brize Norton Road judging by the number of applicants for the Flood Relief Grant Aid.

Flooding was attributable to either of the following (i) Field run-off from the west and to the rear of 86 to 92 Brize Norton Road or (ii) inadequately maintained highway drainage in Brize Norton Road not taking frontage water away.

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 – The Olde Bakehouse

Area		1		
Flooded Properties & Causes		One property flooded – estimated frequency every 20 years. <u>Primary causes</u> – (i) Uncontrolled run-off from public highway emanating in part from Ringwood Farm, (ii) Water percolation through the traditionally constructed stone floor.		
Options		1	2	3
Description of options		Investigate run-off from Ringwood Farm and provide surface and land drainage cut-off as required.	Provide 6 new gullies upstream of The Olde Bakehouse discharging into a new highway drain to be constructed under the unmade track adjacent to the “Olde House” garden. The new highway drain will connect to the existing land drain to the rear of Windrush Cottage.	Relay stone floor using a hygroscopic membrane to prevent ground water upward ingress.
Responsible Agencies	EA For queries Tel: 08708 506506			
	OCC For queries Tel: 08453 101111		OCC to undertake this work as this is highway drainage.	
	Thames Water For queries Tel: 08459 200800			
	WODC For queries Tel: 01993 861000	WODC to co-ordinate works with this proposal.	WODC to co-ordinate works with this proposal.	
	Private/Other Organisations	Work to be undertaken/ funded by the private land owner		Work to be undertaken/ funded by the private land owner
Effectiveness/ Effects on adjacent land				
Cost		£5k to £20k	£5k to £20k	£5k to £20k

Area Two – The High Street

Area		2			
Flooded Properties & Causes		Six properties flooded – estimated frequency every 20 years. <u>Primary causes</u> - (i) Siltation of property frontage ditch, (ii) Surcharging of the Mill Stream adjacent to Leafield Road (iii) Exceptionally high water table, (iv) Ineffective or non-existent highway drainage,			
Options		1	2	3	4
Description of options		Clean out ditch and culvert crossings between “The Cott” and “The Olde Swan Hotel”	Provide a new ditch and some culvert south of the boundary of the Old Post Office and Windrush Cottage to link into the existing land drainage system to the east	Clean out highway drainage and reinstate ditch in part from Causeway Cottage across the recreation ground car park into Mill Stream.	Connect existing Mill Stream overflow culverts into a new ditch/ culvert system to be provided through Wash Meadow Recreation Ground avoiding the cricket square.
Responsible Agencies	EA For queries Tel: 08708 506506				EA to be approached to part fund this work.
	OCC For queries Tel: 08453 101111	Riparian owners and OCC to clear.		OCC to do this work.	To be approached for funding.
	Thames Water For queries Tel: 08459 200800				
	WODC For queries Tel: 01993 861000	WODC to co-ordinate works with this proposal.	WODC to co-ordinate works with this proposal.	WODC to co-ordinate works with this proposal.	WODC to co-ordinate works with this proposal and possibly part fund scheme.
	Private/Other Organisations		Work to be undertaken/ funded by the private land owner		
Effectiveness/ Effects on adjacent land					
Cost		Up to £5K	£5k to £20k	£5k to £20k	£5k to £20k

Area Three – Brize Norton Road

Area		3	
Flooded Properties & Causes		Two properties flooded in the Brize Norton Road – estimated frequency every 20 years. <u>Primary Causes</u> - (i) Field run-off from the west and to the rear of 86 to 92 Brize Norton Road (ii) Poorly maintained highway drainage in Brize Norton Road not taking frontage run-off.	
Options		1	2
Description of options		Provide deeper and larger cut-off ditch to the rear of properties and connect to existing surface water drainage, via a pumping main, in Brize Norton Road.	Undertake gulley emptying programme twice per year.
Responsible Agencies	EA For queries Tel: 08708 506506		
	OCC For queries Tel: 08453 101111	Consent from OCC required.	OCC to undertake this work.
	Thames Water For queries Tel: 08459 200800		
	WODC For queries Tel: 01993 861000	WODC to co-ordinate works.	
	Private/Other Organisations	Work to be undertaken/ funded by the private land owner.	
Effectiveness/ Effects on adjacent land		Will reduce amount of water causing a risk. However, the existing ditch at the top of the first field should also be reinstated by the riparian owner.	
Cost		5- 10K	Up to £5K

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Area 1 – The Olde Bakehouse

6.1.1 Maintenance

The following on-going maintenance is recommended:

- Option 1 – Private owner to investigate run-off from Ringwood Farm and provide surface and land drainage cut-off as required.

6.1.2 Flood Defence Improvement Schemes

The following flood defence improvement schemes are recommended:

Mid-Term (1 -2 years)

- Option 2 – OCC to Provide 6 new gullies upstream of The Olde Bakehouse discharging into a new highway drain to be constructed under the unmade track adjacent to the “Olde House” garden. The new highway drain will connect to the existing land drain to the rear of Windrush Cottage.
- Option 3 – Private owner to Relay stone floor using a hygroscopic membrane to prevent ground water upward ingress.

6.2 Area 2 – The High Street

6.2.1 Maintenance

The following on-going maintenance is recommended:

- Option 1 – OCC and riparian owners to clean out ditch and culvert crossings between “The Cott” and “The Olde Swan Hotel”.

6.2.2 Flood Defence Improvement Schemes

The following flood defence improvement schemes are recommended:

Immediate (under 1 year)

- Option 3 – OCC to Clean out highway drainage and a partnership formed to reinstate ditch in part from Causeway Cottage across the recreation ground car park into Mill Stream.

Mid-Term (1-2 years)

- Option 2 – Private owner to provide a new ditch and culvert south of the boundary of the Old Post Office and Windrush Cottage to link into the existing land drainage system to the east.
- Option 4 – Connect existing Mill Stream overflow culverts into a new ditch/ culvert system to be provided through Wash Meadow Recreation Ground.

6.3 Area 3 – Brize Norton Road

6.3.1 Maintenance

The following on-going maintenance is recommended:

- Option 2– OCC to undertake gulley emptying programme twice per year at locations where properties are at risk.

6.3.2 FLOOD DEFENCE IMPROVEMENT SCHEMES

The following flood defence improvement schemes are recommended.

Mid term – (1-2 years)

- Option 1 – Private owner to Provide deeper and larger cut-off ditch to the rear of properties and connect to existing surface water drainage in Brize Norton Road., via a new pumped main and silt trap.

Appendix I: Photographs



Area 1- Line of proposed ditch in Wash Meadow



Area 1- Access to Ringwood Farm



Area 1- Location of Surface water overflow from Ringwood Farm



Area 2- Flooded ditch, Frontage of properties'



Area 2- Mill stream adjacent to Leafield Road



Area 2- Mill stream bridge in High Street



Area 2- Recreation car park drainage outlet



Area 2- River Windrush Highway crossing



Area 2- Wash Meadow Car Park Entrance



Area 2- Rosery



Area 2- Drainage Gully in the High Street



Area 2 - Highway drainage outlet to recreation ground



Areas 1 and 2 – Flooding at eastern end of High St, showing source of field run-off



Area 2 – Flooding at western end of High St, outside The Old Swan and leading to bridge



Area 3 flooding