



WEST OXFORDSHIRE  
DISTRICT COUNCIL

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# Parish Flood Report:

## Finstock

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 organisations 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 Report for Finstock 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
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 Finstock 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 Finstock 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 Finstock and flood related issues raised by residents
- A presentation of the problems and causes of flooding in Finstock 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 responsible agency based on the options identified.

The table below provides a summary of some of the main causes of the flooding in Finstock 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 a new highway drain and gullies for the entire length of Dark Lane
Surcharging of combined sewer	OCC and Thames Water to remove surface water connections from the combined sewer in Finstock and connect to separate drainage outfall
Highway Drainage ditch over-topping in Witney Road	Riparian owner to clear out ditch and re-profile opposite Blackberry Lane junction.
Agricultural run-off to rear of properties in the High Street	Private owners to provide land drainage to rear of properties fronting the High Street.

## 3.2 Survey

### 3.2.1 Description of area

The Parish of Finstock is approximately 308 Ha (761 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 Finstock has been carried out and incorporated within the findings of the report.

Finstock 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 Finstock in July 2007 are given in the table below;

<b>Date</b>	<b>Main participants and Venue</b>	<b>Description</b>
08/08/07	L king ( WODC) and flooded resident on High St	Discussed source of flooding.
26/06/08	Site Visit – Roy Townsend, Ty-Ni, High Street, Finstock and Nick Hands (WODC)	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 residents in the district. In Finstock, the form of

- Emergency Flood Relief Grant Aid of £250 per dwelling has been used.

To date the owners of 4 residential properties in the Parish of Finstock 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**

Prior to July 2007 there had been no history of flooding in Finstock for 70 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 Finstock where flooding occurred in July 2007.

Figure 2 shows the following:

- **Finstock 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 – Dark Lane**

One property and the Thames Water pumping station in Dark Lane flooded in July 2007 for the following reasons: (i) The junction of Dark Lane and the High Street is located in a topographical low spot, (ii) The culvert and ditch running down Dark Lane is full of silt and debris, (iii) Combined sewer surcharging.

The cause of flooding is the following:

#### **4.2.1 Location**

A large volume of surface water cascaded down the High Street settling in a low point at the junction with Dark Lane. Adjacent properties were flooded.

#### **4.2.2 Blocked Ditch and Culvert**

During periods of prolonged rainfall the ditch and culvert running down Dark Lane (which is an unmade access lane) to the left surcharges due to an accumulation of silt and debris located within.

#### **4.2.3 Combined Sewer**

Due to insufficient capacity within the combined sewer surcharging occurs during periods of intense rainfall.

### **4.3 Area 2 – Blackberry Lane**

One property flooded at the junction of the High Street and Blackberry Lane. This was attributable to one or a combination of the following (i) Flooding of Witney Road ditch, due to an accumulation of debris within and the shallow depth, causing flood water to cascade across Witney Road and down Blackberry Lane. (ii) Insufficient kerbface to driveways off Blackberry Lane.

The cause of flooding is the following:

#### **4.3.1 Witney Road Ditch**

Opposite the junction with Blackberry Lane, Witney Road ditch floods during periods of heavy rain. The flood water cascades across Witney Road, down Blackberry Lane to flood Holly Cottage at the junction of Blackberry Lane and the High Street.

#### **4.3.2 Insufficient driveway kerbface**

Properties in Witney Road flooded from the rear off Blackberry Lane. This was due in part to insufficient kerbface between the driveway and the road.

#### **4.4 Area 3 – The High Street**

Properties flooded in the High Street due to excessive surface water run-off from agricultural land to the rear.

## 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 may be implemented. Thames water do not intend to propose the provision of a new surface water sewer for the village at this time.

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 – Dark Lane

Area		1	
<b>Flooded Properties &amp; Causes</b>		One property flooded – estimated frequency every 50 years. <u>Primary causes</u> – : (i) The junction of Dark Lane and the High Street is located in a topographical low spot, (ii) The culvert and ditch running down Dark Lane is full of silt and debris, (iii) Combined sewer surcharging.	
<b>Options</b>		<b>1</b>	<b>2</b>
<b>Description of options</b>		Provide a new upsized highway drain and clean out/ connect/ provide gullies for the entire length of Dark Lane.	Ensure all surface water connections are taken off the combined sewer and connected to a separate outfall 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	This is an action for OCC.	
	<b>Thames Water</b> For queries Tel: 08459 200800		Thames Water to undertake this work.
	<b>WODC</b> For queries Tel: 01993 861000		WODC to co-ordinate works.
	<b>Private/Other Organisations</b>		
<b>Effectiveness/ Effects on adjacent land</b>			
<b>Cost</b>		£20k to £100k	£20k -50K

### Area Two – Blackberry Lane and Area Three – The High Street

Area		2 & 3		
<b>Flooded Properties &amp; Causes</b>		Extensive flooding – estimated frequency every 10 years. <u>Primary causes</u> – : (i) blockages in highway drainage ditch in Witney Road, (ii) Shallow driveway threshold to properties in Blackberry Lane, (iii) Agricultural run-off to rear of properties in the High Street.		
<b>Options</b>		<b>2.1</b>	<b>2.2</b>	<b>3</b>
<b>Description of options</b>		Clear out and re-profile Witney Road ditch	Re-kerb driveway entrance to provide 50- 75mm upstand.	Provide land drainage to rear of properties.
<b>Responsible Agencies</b>	<b>EA</b> For queries Tel: 08708 506506			
	<b>OCC</b> For queries Tel: 08453 101111	.	OCC could assist with this work	
	<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>	Riparian owner to undertake this work	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>		Up to £5k	Up to £5K	Up to £5K

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Area 1 – Dark Lane**

#### **6.1.1 Flood Defence Improvement Schemes**

The following flood defence improvement schemes are recommended:

##### Immediate (under 1 year)

- Action 1 – OCC to provide a new upsized highway drain and clean out/ connect/ provide gullies for the entire length of Dark Lane.
  
- Action 2 – Thames Water to ensure all surface water connections are taken off the combined sewer and connected to a separate outfall.

### **6.2 Area 2 – Blackberry Lane**

#### **6.2.1 Maintenance**

The following on-going maintenance is recommended:

- Action 1 – Riparian owners to clean out Witney Road ditch and re-profile opposite Blackberry Lane junction.

#### **6.2.2 Flood Defence Improvement Schemes**

The following flood defence improvement schemes are recommended:

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

- Action 2 – Private owner/OCC to raise driveway threshold.
- Action 3 – Private property owner to provide land drainage to rear of properties in the High Street.

## Appendix I: Photographs



Area I - Ramp between High Street and Dark Lane



Area I - Water damage in Dark Lane



Area I - High Street repaired manhole damaged from surcharging



Area I - Flooded Property



Area I - Highway drainage in Dark Lane



Area I - Highway drainage in Dark Lane



Area 2- Blackberry Lane



Area 2- Property in Blackberry Lane Area



Area 2- Low driveway threshold



Area 2- Blackberry Lane



Area 2- ditch North Witney Road



Area 2- Affected property