WEST OXFORDSHIRE
DISTRICT COUNCIL

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Parish Flood Report:
Ascott-Under-Wychwood

Version 2 - September 2008

Contents

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[1] 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[2] land owner, and permissive powers[1] 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.

1.5 Legal

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

Ditch Clearance

- 1731 Linear metres WODC owned ditches cleared overall
- 1923 Linear metres Privately owned ditches cleared overall
- Overall 2.27 miles of ditches have been cleared

Flood Grants

- 1137 WODC Flood Grants totalling £284,250 given out overall
  - 41 (£10,250) for Ascott under Wychwood
- 40 Red Cross Flood Grants totalling £80,929 administered by WODC overall
- 301 Hardship Grants totalling £155,050 given out overall

Reports

- Interim Flooding Report published October 2007
- 12 Parish Flood Reports completed by June 2008, 1 report for Ascott under Wychwood

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 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 during 2008 to progress this
Progress the Strategic Flood Risk Assessment
Approaches to be made to the EA and Metrological Office with regard to improving their predictive capability
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

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 Ascott-under-Wychwood and has been prepared by the Council's Engineering team. It pulls together information from external agencies and individual property owners and seeks to identify the causes of flooding in Ascott under Wychwood during July 2007 and potential mitigating solutions.

Ascott-under-Wychwood is a rural parish located approximately 8 miles to the north west of Witney and 6 miles south of Chipping Norton in the heart of the Cotswolds. The parish sits in the catchment of the River Evenlode and contains several small tributary watercourses.

Visual walkover surveys have been undertaken of the flooded areas and properties. Meetings have been held with the affected residents and a District Councillor. WODC have record of 34 applications for Grant Aid in Ascott-Under-Wychwood.

Flooding experienced in Ascott-under-Wychwood has been assessed in four separate areas (see section 5) comprising Shipton Road/Gypsy Lane (Area 1), Shipton Road – The Firmstones to the Church (Area 2), The Green/2a Shipton Road (Area 3) and High Street (Area 4).

Shipton Road/Gypsy Lane (Area 1) has flooded frequently in recent years, which has been attributed to a combination of factors including flooding from the Colwell Brook and spring and insufficient surface water drainage. Flood levels in the River Evenlode also have a large effect on flooding in the area.

The Shipton Road between Firmstones and the Church (Area 2) has record of 11 properties flooding during the summer 2007 event. This has been attributed to floodwater from the River Evenlode being constrained by the railway embankment causing flood water to cross farmland to the rear of the properties.

The Green/2a Shipton Road (Area 3) has flooded frequently in recent years, with 12 properties claiming Flood Grant in summer 2007. The area regularly suffers surface water flooding from poor road drainage and a lack of maintenance of downstream watercourses as well as overloading of the Thames Water sewage system. During the summer 2007 this area was flooded from the River Evenlode due to the railway embankment constricting flows.

The High Street (Area 4) experiences surface water flooding on a regular basis, recorded as affecting 8 properties in July 2007. Flooding is attributed directly to overland flow and inadequate road drainage in combination with insufficient maintenance of downstream watercourses.

Flooding problems and how each public and private body is affected, effectiveness of each solution, affects on adjacent land and cost, are included in Section 5 and 6. Priority ranking is also included here.

Conclusions and recommendations, including maintenance and flood defence improvement measures and programme, are shown in Section 7.

4.0 SURVEY

4.1 Description of Area

The village of Ascott-under-Wychwood forms one of 'the Wychwoods', which also include Milton-under-Wychwood and Shipton-under-Wychwood. It is located approximately 8.5 miles to the north west of Witney and 6 miles south of Chipping Norton in the heart of the Cotswolds.

The parish is rural in nature, forming part of the catchment area for the River Evenlode which flows to the north of the village. The River Evenlode floodplain in the vicinity of Ascott is split by the Oxford to Worcester railway embankment.

The parish contains a number of small spring fed watercourses and ditches as described below:

- The Coldwell Brook flows to the west of the village through the Ascott Earl region. This stream originates in the hills towards Leafield and flows in a north westerly direction to its confluence with the River Evenlode upstream of Gypsy Lane.

- In the vicinity of the Coldwell Brook there is a small spring fed stream which originates in farmland to the south of Shipton Road flowing towards the Evenlode.

- A third spring fed stream drains the area around the playing fields above High Street, before entering a culvert under the road and running in an open ditch towards the railway embankment.

There are two more spring fed streams at the east end of the High Street, which cross Mill Lane and run into the field to the north of Yew Tree Farm.

Using the Flood Estimation Handbook (FEH), the catchment area of Coldwell Brook is calculated to be 2.56km^2 and the upstream area of the River Evenlode at the Coldwell Tributary inflow point is 185.5 km^2.

4.2 Survey Method

A visual walk-over survey of properties affected by the July 2007 flooding has been undertaken including Shipton Road/Gypsy Lane, The Green, High Street and Yew Tree Farm. Discussion with the District Councillor residents of Gypsy Lane and the High Street has also taken place.

See Appendix 1 – Photographs.

4.3 Meetings

A summary of meetings about Ascott-under-Wychwood flooding in July 2007 is given in Table 1.

Table 1: Summary of meetings and flooding descriptions

Date	Location	Description
14.04.08	WODC Witney	• To discuss flooding in Shipton/Ascott and data that can be provided by WODC
14.04.08	Shipton Road/Gypsy Lane	• Meeting with Laurence King to discuss flooding at Shipton Road / Gypsy Lane. • 7 Properties flooded by surface, river and sewer flooding. • Problems caused by insufficient capacity for Coldwell Brook at Shipton Road culvert, plus the spring fed stream discharging to the surface water drain. • Sewer flooding caused by failure of pumping station, surface water entering foul network
14.04.08	Ascott Earl House – 48 Shipton Road	• Keith Macaulay is the owner of Ascott Earl House. He states that the cause of flooding to properties on Shipton Road/Gypsy Lane is due to the spring discharging to the surface water drainage. • He also raised concerns over Coldwell Brook culvert under Shipton Road surcharging and the modifications made to Coldwell Brook in the grounds of 50 Shipton Road • He and several other residents commissioned an independent consultancy study of flood risk to this area of the village
14.04.08	The Green/2a Shipton Road	• Site visit with Laurence King • The drainage ditch running west along Shipton Road to the road culvert needs clearing. Network Rail and OCC are jointly responsible for this. • There is a culvert owned by Network Rail running under the embankment across the fields to the River Evenlode.
14.04.08	Yew Tree Farm / High Street	• Site visit with Laurence King • Flooding is reported to have affected cottages to the west of Yew Tree Farm. caused by direct run-off from the access track. Site visit indicates flow can run down access track into fields.
24.04.08	Meeting with Hilary Biles in Ascott	• General discussion of the events of summer 2007 and meeting with Alan Chubb to discuss flooding on the High Street.

WODC has liaised with the Environment Agency, Oxfordshire County Council and Thames Water. OCC, WODC and the EA have met with residents of Ascott-under-Wychwood to discuss the flooding issues.

Table 2: Summary of telephone calls/emails/correspondence made with EA, TW, Network Rail (NR), WODC and OCC.

Company	Comments
EA	The EA have recommended/completed the following: • March 2008, EA published the Upper Cotswolds Flood Review 2007. Regarding Ascott-under-Wychwood, it states that: • The railway bridge is currently acting as a constriction due to the state of the retaining wall, they have contacted NR who are intending to rebuild the wall. • EA are intending to remove the willow tree on the left bank upstream of the railway bridge and also state the potential to construct a bund to protect properties in Ascott. This has already been investigated for effectiveness • They have notified NR of the need to improve maintenance on the small watercourse in the area of the signal box/ level crossing. • The EA have also updated the flood maps locally post July 2007, this is to correctly show the impact of the railway embankment on flood flow routes
OCC	• OCC contacted NR to discuss maintenance work to culvert running under railway embankment and twin-piped culvert under road south of level crossing on Shipton Road. • OCC inspected surface water drainage pipe running from manhole to outfall in Coldwell Brook, reporting it to be in good condition. They are also due to carry out some modelling to calculate volumes of water feeding in from spring
WODC	• WODC met with residents affected by flooding in Ascott • WODC contacted OCC to discuss option to alleviate flooding in Shipton Road • WODC contacted residents in Shipton Road/Gypsy Lane regarding OCC creating a piped outfall into Coldwell Brook below its piped culvert. This would act as a storm overflow into Coldwell Brook for the spring-fed stream • WODC contacted OCC with respect to property extents and drainage responsibility at Yew Tree Farm. Yew Tree Farm is responsible for drainage on its own land. OCC responsibility ends at the highway boundary, as track is privately owned. • WODC conducted land search for LH verge – Gypsy Lane, with a view to re-instating the drainage ditch WODC contacted Dr. Neil Walker requesting he remedy the alterations he has historically made to the section of Coldwell Brook running through his land.
TW	• In a letter of 27th Jan 2003, TW reported sewer flooding is a historical problem at Shipton Road and surrounding areas. This is due to surface water entering foul network and overwhelming the Swan pumping station. • TW also state that some of the surcharges to the foul system are due to power or operation failures at the pumping station. • TW considering viability of refurbishing pumping station • TW preliminary investigations reveal need for more detailed study of storm sewer network in area. They recognise capacity problems exists during heavy rainfall, also stating that network cannot be reasonably expected to cope with all conceivable storm conditions. • TW state matter is being reviewed to be included in capital programme of works. This is done on a priority basis with respect to maximum benefits gained by residents of affected properties. • Residents are encouraged to report all instances of flooding so that TW can afford the right level of priority to the problem. • TW rectified reported flood problems at Church Close

4.4 Application for Grant Aid

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

- Emergency Flood Relief Grant Aid of £250
- 'Hardship' Grants
- Red Cross Grants

To date the owners of 41 residential properties in Ascott-Under-Wychwood have received Emergency Flood Relief Grant Aid, however it is acknowledge this is not the total number of properties affected in the Parish 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.

5.0 PROBLEMS AND CAUSES

5.1 Plans

Figure 1 in appendix 2 shows areas in Ascott-under-Wychwood where properties flooded in July 2007 and where owners have made claims for grant assistance. The flooding can be broadly split into four areas being:

Area 1: Shipton Road / Gypsy Lane
Area 2: Shipton Road, The Firmstones to Church
Area 3: The Green / 2aShipton Road
Area 4: High Street

A map detailing the following is shown in Appendix 2:

- 1% annual probability of flooding - Flood Zone 3 (previously referred to as 1 in 100 year flooding)
  A plan showing the 2008 Environment Agency 1% probability Flood Zone, this is the area defined by the EA as the extent of a flood with a 1 per cent chance happening in any year. This is the high probability risk zone.

- 0.1% annual probability flooding – Flood Zone 2 (previously referred to as 1 in 1000 year flooding)
  A plan showing the 2008 Environment Agency 0.1% probability Flood Zone, this is the area defined by the EA as the extent of a flood with a 0.1 per cent chance happening in any year. This is the medium probability risk zone

5.2 Area 1 – Shipton Road and Gypsy Lane

In July 2007 six properties claimed flood damage grants at Shipton Road/Gypsy Lane.

These properties are located in the 2007 Environment Agency 1% probability of flooding (previously referred to as 1 in 100 year Flood Zone)..

Flooding is attributed to the following:

5.2.1 Surface Water flooding

Shipton Road/Gypsy Lane suffers from surface water flooding due to the connection of a spring-fed stream (originating in farmland to the south of Shipton Road) to the highway drainage system. This is in turn connected to the Coldwell Brook. This linking of the highway drainage outfall at Coldwell Brook means that during a heavy rainfall event, high levels in the Coldwell Brook will block the system. Water feeding into the network from the spring upstream, plus flows backing up from the brook will be forced back up through the system. Flood water is forcibly ejected onto the road at the grated manhole cover and also the corner manhole cover in the garden of 4 Coldwell House. The water then flows down Shipton Road.

During periods of intense rainfall, water flows down driveways adjacent to Coldwell brook directly onto the Shipton Road further adding to the surface water flooding.

5.2.2 Coldwell Brook

During periods of prolonged heavy rainfall the Coldwell Brook backs up behind the private bridge access to Coldstone House and floods onto Gypsy Lane where it flows towards the River Evenlode.

5.2.3 Railway embankment crossing of River Evenlode

Flood water from the Coldwell Brook does not flood houses. However, when the River Evenlode is in flood, the Coldwell Brook backs up and causes flooding to properties. Once past Gypsy Lane bridge, the River Evenlode makes two right hand turns before entering the railway embankment bridge. The bridge is not able to convey flood flows experienced 3 or 4 times in the last year preventing much of the flood water flowing to the north of the railway and exacerbating problems in the Coldwell Brook, Shipton Rd/Gypsy Lane area.

5.3 Area 2 – Shipton Road, The Firmstones to Church

In July 2007, 11 properties located on the northern side of Shipton Road between The Firmstones and the church claimed flood damage grants.

These properties are located in the 2007 Environment Agency 0.1% probability of flooding (previously referred to as 1 in 1000 year Flood Zone).

Flooding is attributed to the following:

5.3.1 Flooding from River Evenlode

Properties on Shipton Road in the region of Firmstones to The Church were inundated by flood water flowing across the fields from the River Evenlode. Water was forced out of the channel on the right bank due to the sharp meander bends in the channel and the angle of the railway bridge culvert. Once on the right bank floodplain, water was obstructed by the railway embankment and forced east along the back of the fields towards the properties on Shipton Road.

5.4 Area 3 – 2a Shipton Road/The Green

In July 2007, 12 properties claimed flood damage grants located in the vicinity of The Green.

These properties are located in the 2007 Environment Agency 0.1% probability of flooding (previously referred to as 1 in 1000 year Flood Zone).

Flooding is attributed to the following:

5.4.1 Railway Embankment crossing River Evenlode
Properties on The Green were inundated by flood water flowing across the fields from the River Evenlode. Water was forced out of the channel on the right bank due to the sharp meander bends in the channel and the angle of the railway bridge opening downstream of Gypsy Lane. Once on the right bank floodplain, water was obstructed by the railway embankment and forced east along the back of the fields towards houses along Shipton Road and The Green.

5.4.2 Inadequate surface water drainage.
The area of properties in the vicinity of The Green were flooded due to a poor network of surface water road gulleys on The Green itself and also due to receiving road run-off delivered from the fields above the village between London Lane and west to Crown Farm/ Heritage Lane. A site visit confirmed that there were only two gulley pots on London Lane between Charlbury Road and the High Street and no gulleys on Church View.

A drainage ditch carries flows from the northern end of The Green under Shipton Road to the railway embankment culvert. However, levels of this ditch and camber of the road mean that surface water collects on the road before entering the ditch. During a storm event surcharging of the culvert under the Shipton Road and railway embankment pushes water back out onto the road preventing further drainage in this area.

On the northern side of the railway embankment surface water regularly collects adjacent to Manor Farm (owened by Mr and Mrs Gripper) farm causing regular road closures. This is due to poor maintenance of the drainage ditch on London Lane conveying flows from the south of the railway line and blockage or incapacity of a culvert carrying surface water under London Lane towards drainage channel linking to River Evenlode. The river frequently breaks its banks in this area , which floods the adjacent land for excessive periods of time.

5.4.3 Sewer flooding
Number 2 Shipton Road and Hazel Cottage suffer from sewer flooding due to failure of the Swan sewage pumping station. This in turn was exacerbated by ineffective surface water drainage and blocked highway drains causing flows to enter the foul sewer network. There are also problems throughout the district with homeowners connecting surface water drainage from private properties to the foul network.

5.5 Area 4 – High Street

Properties on the High Street regularly experience flooding from a number of sources.

In July 2007, 8 properties on the High Street claimed flood relief grants, four of these are located in the Environment Agency 0.1% probability of flooding (previously referred to as 1 in 1000 year Flood Zone).

The causes of flooding in July 2007 were the following:

5.5.1 Railway Embankment crossing River Evenlode
One property on The High street was inundated by flood water flowing across the fields from the River Evenlode. Water was forced out of the channel on the right bank due to the sharp meander bends in the channel and the angle of the railway bridge culvert downstream of Gypsy Lane. Once on the right bank floodplain, water was obstructed by the railway embankment and forced east along the back of the fields through the Green and onto land at the rear of the High Street.

5.5.2 Overland Flow
During periods of intense rainfall, overland flow crosses fields to the rear of properties along the southern side of High Street. One of the properties on the southern side of High Street claimed flood relief grant as a result of direct flooding from overland flow.

5.5.3 Inadequate surface water drainage

During periods of intense rainfall overland flow from farmland to the south spills onto the High Street where it flows towards London Lane, flooding properties where there are low points. Inadequate road gulley provision and potential blockage of the highway drainage at the London Lane end of the High Street provide nowhere for the surface water to go.

Residents of Yew Tree Farm have suffered regular surface water flooding due to an unfinished access road and lack of drainage works completed by the developer. The residents have now purchased the access road and intend to carry out the necessary drainage provision work to remedy the situation.

5.5.4 Poor maintenance of drainage ditches

Half way along High Street on the north side is a small stream which conveys flows from a small spring fed watercourse draining a playing field area to the south of High Street. The watercourse enters a culvert, which is too small for the volume of water, under the road at 9 High Street,before out falling to the open ditch. On inspection, this ditch was heavily overgrown preventing surface water from draining to the River Evenlode. The condition of this stream has led to flooding of a garden on the High Street and also poses a risk to the adjacent electricity substation.

5.5.6 Sewer flooding

A property along the High Street has suffered sewer flooding due to failure of the Swan sewage pumping station. This in turn was exacerbated by ineffective surface water drainage and blocked highway drains causing flows to enter the foul sewer network. There are also problems throughout the district with homeowners connecting private surface water drainage to the foul network.

6.0 OPTIONS

The following table shows the possible options available for flood alleviation schemes throughout the Parish, and their potential effectiveness, as assessed by the District Council Engineers. The areas affected by flooding within the Parish have been given unique area numbers, i.e. Area 1. Several options for flood alleviation projects are identified for each area as "Actions" or "Options".

Many of 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 (7.0).

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.

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 1 – Shipton Road / Gypsy Lane										
	Surface Water Flooding **Flooding due to local highway drainage receiving flows from spring fed stream, then linking to Coldwell Brook. During periods of heavy rain., water spills onto Shipton Road via grated cover on manhole.**									
A	Re-route flows from spring fed stream via new culvert into Coldwell Brook downstream of Shipton Road culvert		Install new piped culvert under Shipton Road to connect spring-fed brook directly to Coldwell Brook. OCC to maintain		WODC to provide a co-ordination role		Will remove spring water from highway drainage which is currently an un-known volume. Reduce surface water flooding on Shipton Road	Increase in water to Coldwell Brook may increase flood risk to Coldstone House	£5,000 Feasibility £20,000 Construction	OCC have said that modelling to ascertain a volume of water will be carried out. This could be used to size culvert under Shipton road
B	Re-instate drainage ditch along Gypsy Lane (in left hand verge) to River Evenlode. Disconnect highway drainage from Coldwell Brook downstream of Coldwell House and link to new ditch out falling directly to the River Evenlode at Gypsy Lane Bridge.		OCC to disconnect highway drainage from Coldwell Brook		WODC to provide a co-ordination role	Riparian owner to reinstate and maintain drainage ditch on Gypsy Lane with outfall to River Evenlode	New ditch will discharge highway run-off to Evenlode reducing pressure on Coldwell Brook		£5,000 to £10,000 Construction £5,000 feasibility	OCC have completed a survey of the highway drainage running from the manhole in the hedge to the outfall at Coldwell Brook and state that it is in good condition.
C	Increase capacity of culvert carrying Coldwell Brook under Shipton Road	EA to be consulted on drainage works	OCC to investigate benefit of upsizing culvert		WODC to provide a co-ordination role		Upsizing culvert capacity will reduce surcharging of flows onto Shipton Road.	More flow running into Coldwell Brook flowing through private land	£5,000 to £20,000	OCC have been approached regarding this option
D	Replace all highway drainage drainage with bigger pipes to accommodate the water volume from the spring at Ascott Earl.		OCC to replace highway drainage.		WODC to provide a co-ordination role		Increasing drainage capacity will reduce surface water flooding.			Has been discussed with OCC
	Coldwell BrookDuring periods of intense rainfall the Coldwell Brook backs up behind the culvert under driveway access to Coldstone House causing flooding of highway									

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 1 – Shipton Road / Gypsy Lane (cont…)										
E	Increase capacity of culvert crossing of driveway to Coldstone House.				WODC to provide coordination role	Riparian owner to increase culvert under driveway to prevent flood water flowing onto the highway.	Upsizing culvert capacity will reduce surcharging of flows onto Shipton Road and in turn reduce pressure on highway drainage.	None	Up to £5,.000	Riparian owner has been approached regarding this solution
F	Re-instate original route of Coldwell Brook running through Coldwell House, removing weirs and sluices	EA to be consulted on drainage works			WODC to provide coordination role	Riparian owner to restore watercourse to original state	Will increase flow through the channel to River Evenlode	Will transfer more water downstream	Up to £5,000	
	River Evenlode The railway embankment downstream of Gypsy Lane bridge restricts flow of the River Evenlode during flood which backs up, flooding land around Gypsy Lane									
G	Re-build railway bridge downstream of Gypsy Lane to include removal of farm access track on right bank.	EA to be consulted regarding new bridge works			WODC to provide co ordination role	NR to investigate rebuilding of railway bridge and potential impact of removing track on structural integrity	Removal of access track will significantly increase bridge capacity and reduce flood levels locally.	Will transfer more water downstream	£100,000 to £200,000	
H	Re-align river channel on approach to railway bridge, construct flood bund	EA to re-align river channel and construct flood bund			WODC to provide coordination role		Removal of "dog leg" will increase flow through the bridge	Will transfer more water downstream	Up to £5,000 feasibility £50,000-£100,000 Construction	
I	Construct flood bund on floodplain to prevent water from running along embankment to properties	EA to investigate construction of flood bund								
J	Maintenance of river banks and channel of River Evenlode – 1km upstream and downstream of railway bridge	The river upstream of the Chipping Norton Hill road bridge is classified by EA as high priority and work will be programmed for 09/10 including: Clearing of the banks of trees and undergrowth from Chipping Norton Hill road bridge to the Rail Bridge Smoothing the river banks upstream of the rail bridge by removing cattle poachers				The riparian land owner has a point of contact at EA to request removal of obstructions to flow should trees fall into the river.	Will maintain current channel capacity		Up to £5,000	
K	Maintenance of floodplain vegetation along River Evenlode	EA to advise				Private landowners to manage / coppice hedgerows and dense undergrowth	Will prevent water level increase on floodplain due to debris build-up against vegetation during flood events		Up to £5,000	

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 1 – Shipton Road / Gypsy Lane (cont…)										
L	Flood resilient measures to properties in the 0.1% probability (1 in 1000 year floodplain)					Homeowners to provide protection against flooding to their properties e.g. flood boards, flood proofing of exterior walls, aquasacs.	Only effective if defences are put in place before the water level rises.	None	Up to £5,000	
M	Install culverts either side of Gypsy Lane Bridge to increase bridge capacity	EA suggested this option			WODC to provide co-ordination role		Effective during periods of high flow	Reduced flooding to adjacent land	£20,000 to £50,000	EA suggested this option
N	Ea TO CONSTRUCT A SWALE ACROSS FLOODPLAIN AREA, TO DIVERT FLOOD WATER BACK INTO MAIN RIVER.	EA to model design and fund this option.				Landowner consent preferred, but EA can serve notice for scheme.	Will act as part of a combination of actions to relieve flood risk in Ascott Earl area.		£5 feasibility and design £10,000 to build.	This option would replace option I , if progressed.
Area 2 – Shipton Road, The Firmstones to Church										
	River Evenlode Water was forced out of the channel on the right bank due to the sharp meander bends in the channel and the angle of the railway bridge culvert (downstream of Gypsy Lane). Once on the right bank floodplain, water was obstructed by the railway embankment and forced east along the back of the fields towards the properties on Shipton Road.									
A	Maintain railway bridge to increase flood capacity by removal of farm access track on right bank.	EA to be consulted regarding new bridge works			WODC to provide co ordination role	NR to investigate rebuilding of railway bridge and potential impact of removing track on structural integrity	Removal of access track will significantly increase bridge capacity and reduce flood levels locally.	Will transfer more water downstream	£5,000k feasibility £50,000-£100,000 construction	
B	Re-align river channel on approach to railway bridge	EA to re-align river channel			WODC to provide coordination role		Removal of "dog leg" will increase flow through the bridge	Will transfer more water downstream	£5,000k feasibility £20,000 to £50,000 construction	
C	Create flood arches in railway embankment to reconnect floodplain to south of railway with floodplain to the north.	EA to be consulted on flood arches			WODC to provide coordination role	NR to investigate viability of inclusion of flood arches in railway embankment to allow flood water to return to the natural floodplain downstream	Flood arches will allow flood waters to return to the floodplain downstream of the railway embankment reducing flood levels in Ascott-Under Wychwood.	Will transfer more water downstream	£5,000k feasibility £20,000 to £50,000 construction	
D	Create earth bund on right bank of floodplain	EA to construct an earth flood bund upstream of the railway embankment to channel flows through the railway bridge and preventing flood water crossing farmland towards Ascott-Under-Wychwood			WODC to provide coordination role		A flood bund would protect properties located on the south of the railway embankment in Ascott from flooding. n.b. this would not protect Gypsy Lane area	Will increase flood levels on surrounding land and opposite flood bank. Flood compensation areas would have to be provided	£10,000k feasibility £50,000-£100,000 construction	

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
E	Flood resilient measures to properties in the 0.1% probability (1 in 1000 year floodplain)					Homeowners to provide flood protection to their properties e.g. flood boards, flood proofing of exterior walls.	Only effective if defences are put in place before the water level rises.	None	Up to £5,000	
F	Maintenance of river banks and channel	EA to maintain riverbanks					Will maintain current channel capacity		Up to £5,000	
Area 2 – Shipton Road, The Firmstones to Church (cont…)										
G	Maintenance of floodplain vegetation	EA to advise				Private landowners to manage / coppice hedgerows and dense undergrowth	Will prevent water level increase on floodplain due to debris build-up against vegetation during flood events		Up to £5,000	
H	Install a ford to the south of the CN road bridge to carry water around the bridge which itself is a severe choke point	EA recommended this idea	Parish Council to approach OCC regarding this option				Will increase flow downstream during times of flood	Reduce flooding as flow will be moved downstream	£5,000 to £20,000	
Area 3 – 2a Shipton Road/The Green										
	River Evenlode Water was forced out of the channel on the right bank due to the sharp meander bends in the channel and the angle of the railway bridge culvert (downstream of Gypsy Lane). Once on the right bank floodplain, water was obstructed by the railway embankment and forced east along the back of the fields towards the properties on Shipton Road.									
A	Maintain railway bridge to increase flood capacity by removal of farm access track on right bank.	EA to be consulted regarding new bridge works			WODC to provide co ordination role	NR to investigate rebuilding of railway bridge and potential impact of removing track on structural integrity	Removal of access track will significantly increase bridge capacity and reduce flood levels locally.	Will transfer more water downstream	£5,000k feasibility £50,000-£100,000 construction	
B	Re-align river channel on approach to railway bridge	EA to re-align river channel			WODC to provide coordination role		Removal of "dog leg" will increase flow through the bridge	Will transfer more water downstream	£5,000k feasibility £20,000 to £50,000 construction	

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 3 – 2a Shipton Road/The Green (cont…)										
C	Create flood arches in railway embankment to reconnect floodplain to south of railway with floodplain to the north.	EA to be consulted on flood arches			WODC to provide coordination role	NR to investigate viability of inclusion of flood arches in railway embankment to allow flood water to return to the natural floodplain downstream	Flood arches will allow flood waters to return to the floodplain downstream of the railway embankment reducing flood levels in Ascott-Under Wychwood.	Will transfer more water downstream	£5,000k feasibility £20,000 to £50,000 construction	
D	Create earth bund on right bank of floodplain	EA to construct an earth flood bund upstream of the railway embankment to channel flows through the railway bridge and preventing flood water crossing farmland towards Ascott-Under-Wychwood			WODC to provide coordination role		A flood bund would protect properties located on the south of the railway embankment in Ascott from flooding. n.b. this would not protect Gypsy Lane area	Will increase flood levels on surrounding land and opposite flood bank. Flood compensation areas would have to be provided	£10,000k feasibility £50,000-£100,000 construction	
E	Flood resilient measures to properties in the 0.1% probability (1 in 1000 year floodplain)					Homeowners to provide flood protection to their properties e.g. flood boards, flood proofing of exterior walls.	Only effective if defences are put in place before the water level rises.	None	Up to £5,000	
F	Maintenance of river banks and channel	EA to maintain riverbanks					Will maintain current channel capacity		Up to £5,000	
G	Maintenance of floodplain vegetation	EA to advise				Private landowners to manage / coppice hedgerows and dense undergrowth	Will prevent water level increase on floodplain due to debris build-up against vegetation during flood events		Time costs to riparian owners	
	Inadequate surface water drainage									
H	Add new surface water carrier pipes and gulley pots.		Insert new gullies at London Lane, Church View and The Green. Inspect existing network for blockages		WODC to provide a co-ordination role		Fitting gullies and regular maintenance will reduce risk of surface water flooding	Reduce standing water on highways	£5,000 to £20,000	
I	Clean out ditch/culverts at Shipton Road and the railway embankment				WODC to provide a co-ordination role, also determine ditch ownership and enforce clearing	Clean out culvert and ditch either side of embankment and twin-pipe culvert under road d/s of level crossing.	Is effective as long as continued maintenance is carried out	Reduce standing water on highways	Up to £5,000	March 07 – NR have jetted out culvert under railway line and pumped out excess water from the carriageway
J	Clear out downstream receiving watercourse on northern side of railway line Investigate road crossing downstream of railway line opposite Grippes Farm where surface water collects.This survey is to include the condition of the river Evenlode.	EA to carry out survey of the condition and therefore capacity of river.	OCC to investigate culvert in road, its capacity and condition OCC to jet the existing culvert		WODC to provide a co-ordination role.	Network Rail have agreed to jetblast the culverts under the road and rail line and clear the ditch to the south. Cornbury estate will clear the ditch from the level crossing north. (after NR have completed their work) Work to be completed mid August to end September	Maintenance of the existing culvert or should it require – a new culvert will prevent surface water flooding of London Lane north of railway line	Improved land drainage	Up to £5,000	NR have cleared drainage ditch. OCC are aware of the problem culvert crossing causing ponding in road

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 3 – 2a Shipton Road/The Green (cont…)										
	Foul sewer capacity exceeded, sewage pumping station overloaded									
K	Investigate capacity of pumping station and potential to upgrade			Investigate capacity of pumping station and potential to upgrade			New rising main installed 2005 Capacity of pumping station found to 1:15 (handles design flows)		Up to £5,000 feasibility	
L	Investigate potential misconnections in system		OCC to investigate misconnections in system in conjunction with TW	Investigate existing principal surface water linking to foul network with view to redesign	WODC to provide a co-ordination role		Will reduce flows into sewer network and reduce pump station failures caused by overloading		Up to £5,000 survey costs only	
M	Individual properties to be fitted with non-return valves on private foul connections					Residents to investigate/arrange fitting of anti-backflow protection	Effective in preventing sewage flooding into properties via direct ingress through foul network connections		Up to £5,000	Some properties already have used this measure
N	Establish ownership of all sections of watercourse on River Evenlode side of railway embankment and ensure regular maintenance to be carried out.				WODC to establish ownership		Regular maintenance should reduce severity of flooding			
Area 4 – High Street										
	River Evenlode Water was forced out of the channel on the right bank due to the sharp meander bends in the channel and the angle of the railway bridge culvert (downstream of Gypsy Lane). Once on the right bank floodplain, water was obstructed by the railway embankment and forced east along the back of the fields towards the properties on Shipton Road.									
A	Maintain railway bridge to increase flood capacity by removal of farm access track on right bank.	EA to be consulted regarding new bridge works			WODC to provide co ordination role	NR to investigate rebuilding of railway bridge and potential impact of removing track on structural integrity	Removal of access track will significantly increase bridge capacity and reduce flood levels locally.	Will transfer more water downstream	£5,000k feasibility £50,000-£100,000 construction	
B	Re-align river channel on approach to railway bridge	EA to re-align river channel			WODC to provide coordination role		Removal of "dog leg" will increase flow through the bridge	Will transfer more water downstream	£5,000k feasibility £20,000 to £50,000 construction	

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 4 – High Street (cont….)										
C	Create flood arches in railway embankment to reconnect floodplain to south of railway with floodplain to the north.	EA to be consulted on flood arches			WODC to provide coordination role	NR to investigate viability of inclusion of flood arches in railway embankment to allow flood water to return to the natural floodplain downstream	Flood arches will allow flood waters to return to the floodplain downstream of the railway embankment reducing flood levels in Ascott-Under Wychwood.	Will transfer more water downstream	£5,000k feasibility £20,000 to £50,000 construction	
D	Create earth bund on right bank of floodplain	EA to construct an earth flood bund upstream of the railway embankment to channel flows through the railway bridge and preventing flood water crossing farmland towards Ascott-Under-Wychwood			WODC to provide coordination role		A flood bund would protect properties located on the south of the railway embankment in Ascott from flooding. n.b. this would not protect Gypsy Lane area	Will increase flood levels on surrounding land and opposite flood bank. Flood compensation areas would have to be provided	£10,000k feasibility £50,000-£100,000 construction	
E	Flood resilient measures to properties in the 0.1% probability (1 in 1000 year floodplain)					Homeowners to provide flood protection to their properties e.g. flood boards, flood proofing of exterior walls.	Only effective if defences are put in place before the water level rises.	None	Up to £5,000	
F	Maintenance of river banks and channel	EA to maintain riverbanks					Will maintain current channel capacity		Up to £5,000	
G	Maintenance of floodplain vegetation	EA to advise				Private landowners to manage / coppice hedgerows and dense undergrowth	Will prevent water level increase on floodplain due to debris build-up against vegetation during flood events		Up to £5,000	
	Overland Flow									
H	Flood resilient measures to properties suffering from overland flow inundation					Homeowners to provide protection against flooding to their properties e.g. flood boards, flood proofing of exterior walls, sandbags.	Only effective if defences are put in place before the water level rises.	None	Up to £5,000	
	Inadequate surface water drainage									
I	Add new surface water carrier pipes and gulley pots along the High Street		Insert new gulley salon the High Street and investigate existing network performance/connections.		WODC to provide a co-ordination role		Fitting gullies and regular maintenance will reduce risk of surface water flooding	Reduce standing water on highways	£5,000 to £20,000	
J	Maintenance of existing highway drainage and investigation of its condition		OCC to regularly clear out gulley pots to prevent blockage of silt and investigate potential blockage in system at London Lane end of High Street				Regular maintenance will ensure operation of highway drainage	Improved surface water drainage	Up to £5,000	
K	Private development at the end of the High Street suffer surface water flooding as the access road is not sealed and contains no highway drainage				WODC to provide coordination role and provide quote for works	Residents to install a surface water drainage system for the driveway to their properties. May involve a new gully to channel water to a soakaway in fields to north of development		Improved surface water drainage	£!5,000	Quotation from contractor received by WODC in May 2008

Option ref	Flood Overview	Description of work required					Key issues			Comments
	Options	**Environment Agency**	**Oxfordshire County Council**	**Thames Water**	**WODC**	**Private**	**Effectiveness**	**Affects on adjacent land**	**Cost**	
		For queries Tel 08708 506 506 Or email enquiries@environment-agency.gov.uk	Main switchboard: 0845 310 1111 Or e-mail: online@oxfordshire.gov.uk	Enquiries: 0845 200 800	Switchboard: 01993 861 000					
Area 4 – High Street (cont….)										
L	Flood resilient measures to properties suffering from surface water flow inundation					Homeowners to provide protection against flooding to their properties e.g. flood boards, flood proofing of exterior walls, sandbags.	Only effective if defences are put in place before the water level rises.	None	Up to £5,000	
M	Establishment of a verge and kerb line to protect houses from ingress of surface water		OCC to investigate the viability of this option including access for farm vehicles		WODC to provide a co-ordination role		A kerb line will help to channel flows to existing surface water drainage and reduce surface water flooding	Improved surface water drainage	Up to £5,000	OCC have not been approached
N	Enlarge capacity of culvert carrying watercourse under High Street at Easter Cottage		OCC to inspect sink hole and culvert, assess work to be done in enlarging capacity.		WODC to provide a co-ordination role		Improve flow capacity of culvert, preventing backing up of water at culvert inlet and in culvert		£5,000 feasibility £5,000 to £20,000	
	Poor maintenance of drainage ditches									
O	Clear out downstream receiving watercourse on northern side of High Street				WODC to provide coordination role	Riparian owner (Cornbury Estate) to clear out and maintain drainage channel		Improved land drainage	Up to £5,000	The ditch across the field from the High Street will be graded by the Cornbury Estate. The PC will discuss the watercourse through the garden from the surface drain with the owner with a view to possibly removing the bends in the stream and other choke points.
	Foul sewer capacity exceeded, sewage pumping station overloaded									
P	Investigate capacity of pumping station and potential to upgrade			Investigate capacity of pumping station and potential to upgrade			New rising main installed 2005 Capacity of pumping station found to 1:15 (handles design flows)		Up to £5,000 feasibility	
Q	Investigate potential misconnections in system		OCC to investigate misconnections in system in conjunction with TW	Investigate existing principal surface water linking to foul network with view to redesign	WODC to provide a co-ordination role		Will reduce flows into sewer network and reduce pump station failures caused by overloading		Up to £5,000 survey costs only	
R	Individual properties to be fitted with non-return valves on private foul connections					Residents to investigate/arrange fitting of anti-backflow protection	Effective in preventing sewage flooding into properties via direct ingress through foul network connections		Up to £5,000	Some properties already have used this measure
S	OCC to investigate maintenance of drainage ditch between London Lane, north of the railway line to the River Evenlode		OCC to investigate							
T	Investigate potential blockage in drainage system at London Lane end of High Street		OCC to investigate				Removal of blockages will help improve drainage and inturn flooding severity			

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Area 1 – Shipton Road/Gypsy Lane

7.1.1 Maintenance

The following on-going maintenance is recommended:

- EA to maintain channel and banks of River Evenlode at Ascott-Under-Wychwood (Option J)
- Riparian / private landowners to maintain floodplain vegetation (Option J)
- Riparian owner to maintain drainage ditch along Gypsy Lane following re-instatement (Option B)
- Riparian owner to maintain Coldwell Brook including culvert crossing access to Coldwell House (Option C)

7.1.2 Flood defence improvement schemes

Immediate (under 1 year)

- Individual property owners to fit demountable/individual flood defence measures (Option L)
- Riparian owner to increase capacity of culvert crossing Coldwell Brook on driveway access. (Option E).
- Removal of weirs and sluices on Coldwell Brook in the grounds of Coldstone House. Re-instate the original line of brook at same location (Option F)
- Re-route spring-fed stream and separate from highway drainage, (Option A)
- Increase capacity of culvert carrying Coldwell Brook under Shipton Road (Option C).
- Carry out works on the railway bridge downstream of Gypsy Lane to remove access track and maintain structural integrity of bridge. (Option G).
- Flood relief culverts to be installed either side of Gypsy Lane Bridge (Option M)

Mid-Term (under 1 -2 years)

- Change highway outfall from Coldwell Brook to newly re-instated drainage ditch to convey flows directly to the River Evenlode (Option B).
- OCC to replace all highway drainage drainage with bigger pipes to accommodate the water volume from the spring at Ascott Earl. (Option D).

Long-Term (3 years or more)

- EA to re-align River Evenlode on approach to the railway bridge crossing downstream of Gypsy Lane (Option H).
- EA to construct flood bund on right bank floodplain (Option I)

7.2 Area 2 – Shipton Road The Firmstones to Church

7.2.1 Maintenance

The following on-going maintenance is recommended:

- EA to maintain channel and banks of River Evenlode at Ascott-Under-Wychwood (Option F)
- Riparian / private landowners to maintain floodplain vegetation (Option G)

7.2.2 Flood defence improvement schemes

Immediate (under 1 year)

- Individual property owners to fit demountable/individual flood defence measures (Option E)
- Carry out works on the railway bridge downstream of Gypsy Lane to remove access track and maintain structural integrity of bridge (Option A).

Long-Term (3 years or more)

- EA to construct flood bund on right bank floodplain (Option D)
- Network Rail to construct flood arches under embankment (Option C)
- EA to re-align River Evenlode on approach to the railway bridge crossing downstream of Gypsy Lane (Option B).
- OCC to instate a ford south of the CN hill road bridge to carry water around the existing bridge during times of flood. (Option H)

7.3 Area 3 – 2a Shipton Road/The Green

7.3.1 Maintenance

The following on-going maintenance is recommended:

- OCC to continue maintenance of existing surface water drainage system and culverts (Option J).
- Network Rail to continue regular maintenance of all their culverts/ditches in vicinity (Option I)
- WODC to establish ownership of all sections of watercourse on River Evenlode side of railway embankment and ensure regular maintenance to be carried out. (Option N)
- EA to maintain channel and banks of River Evenlode at Ascott-Under-Wychwood (Option F)
- Riparian / private landowners to maintain floodplain vegetation (Option G)

7.3.2 Flood defence improvement schemes

Those in italics are suggested in other areas of Ascott –Under-Wychwood

Immediate (under 1 year)

- Individual property owners to fit demountable/individual flood defence measures (Option E)
- OCC to investigate capacity of culvert crossing London Lane north of railway line (Option J).
- Watercourse on River Evenlode side of railway embankment to be substantially cleared of vegetation and de-silted to points of confluence with the River Evenlode. Cornbury Estate will clear the ditch from the level crossing north. NR has agreed to jetblast the culverts under the road and railway line and clear the ditch to the south.(Option J)
- TW/OCC to investigate misconnections in drainage system (option L).
- Individual property owners to fit non-return valves to private foul connections (Option M)
- Carry out works on the railway bridge downstream of Gypsy Lane to remove access track and maintain structural integrity of structure (Option A).

Mid-Term (under 1 -2 years)

- OCC to investigate route/connections and misconnections in conjunction with TW for redesign (Option L)
- OCC to add to surface water drainage, new gulley pots etc (Option H)
- Thames Water to investigate capacity of pumping station and possible upgrade (Option K)

Long-Term (3 years or more)

- EA to construct flood bund on right bank floodplain (Option D)
- Network Rail to construct flood arches under embankment (Option C)
- EA to re-align River Evenlode on approach to the railway bridge crossing downstream of Gypsy Lane (Option B).

7.4 Area 4 – High Street

7.4.1 Maintenance

The following on-going maintenance is recommended:

- OCC to continue maintenance of existing surface water drainage system and culverts (Option J).
- Riparian Owner to clear and maintain drainage ditch on northern side of High Street (Option O).
- OCC to investigate maintenance of drainage ditch between London Lane, north of the railway line to the River Evenlode (Option S)
- EA to maintain channel and banks of River Evenlode at Ascott-Under-Wychwood (Option F)
- Riparian / private landowners to maintain floodplain vegetation (Option G)

7.4.2 Flood defence improvement schemes

The following flood defence improvement schemes are recommended:

Immediate (under 1 year)

- Individual property owners to fit demountable/individual flood defence measures (Option E/H)
- OCC to install a verge and kerb line to protect houses from ingress of surface water (Option M)
- OCC to investigate potential blockage in drainage system at London Lane end of High Street (Option T)
- Private developments to install surface water drainage system(Option K)
- Individual properties to be fitted with non-return valves on foul connections (Option R)
- Carry out works on the railway bridge downstream of Gypsy Lane to remove access track and maintain structural integrity of structure (Option A).
- OCC to investigate upsizing culvert running under High Street (Option N)

Mid-Term (under 1 -2 years)

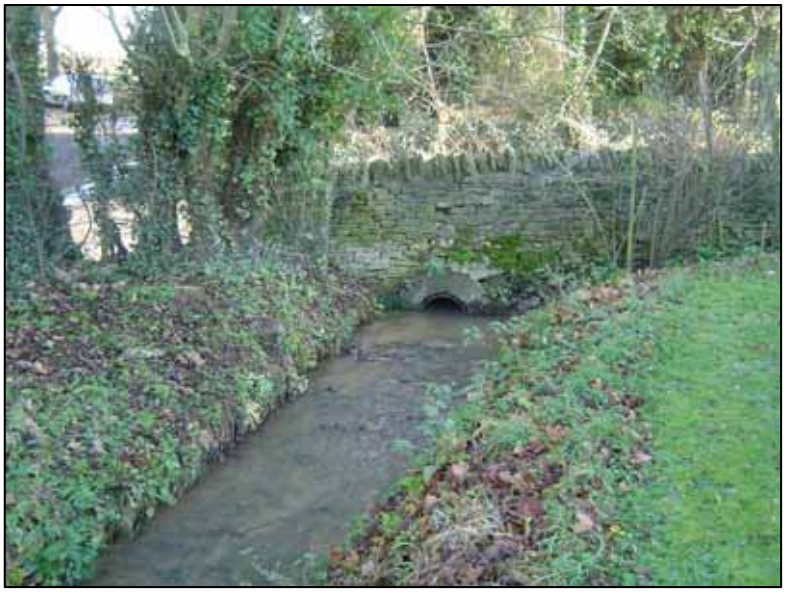
- OCC to add to surface water drainage, new gulley pots along High Street (Option I)
- TW to investigate potential misconnections in system (Option Q)
- TW to investigate capacity of pumping station with potential to upgrade (Option P)

Long-Term (3 years or more)

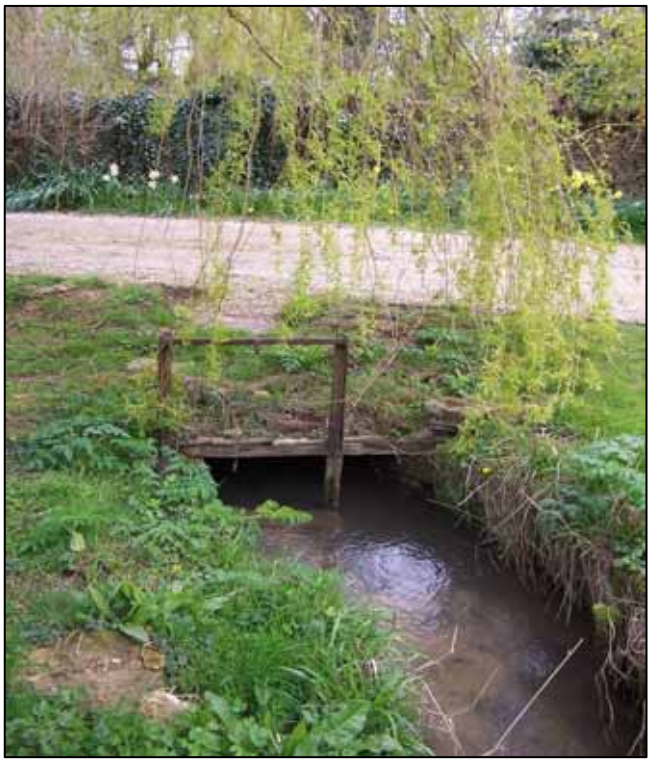
- EA to construct flood bund on right bank floodplain (Option D)
- Network Rail to construct flood arches under embankment (Option C)
- EA to re-align River Evenlode on approach to the railway bridge crossing downstream of Gypsy Lane (Option B).

Appendix 1: Photographs

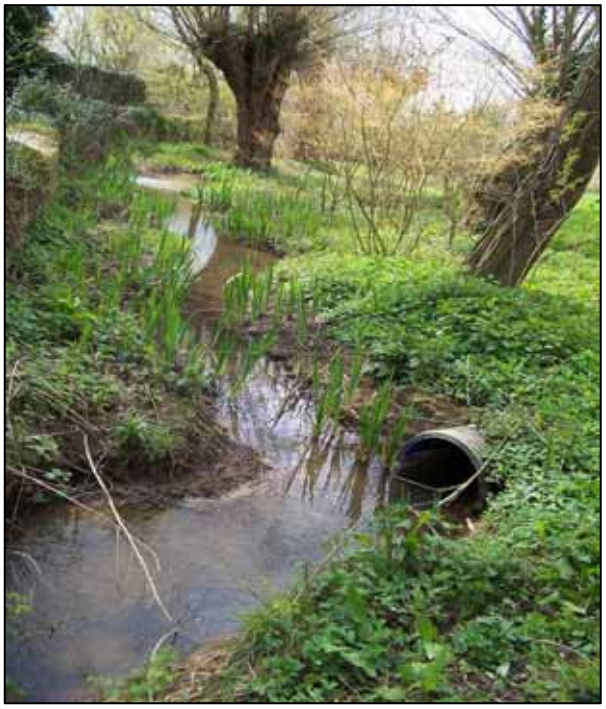
Area 1 Gypsy Lane/Shipton Road



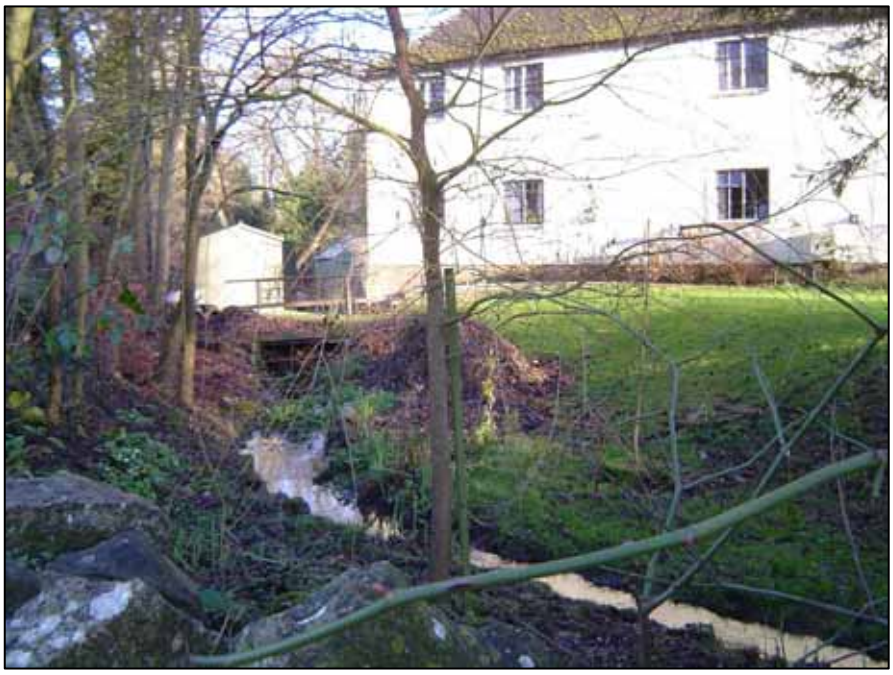
Downstream face of Shipton Road culvert carrying Coldwell Brook in the grounds of Coldwell House



Coldwell Brook, driveway crossing to Coldwell House looking upstream

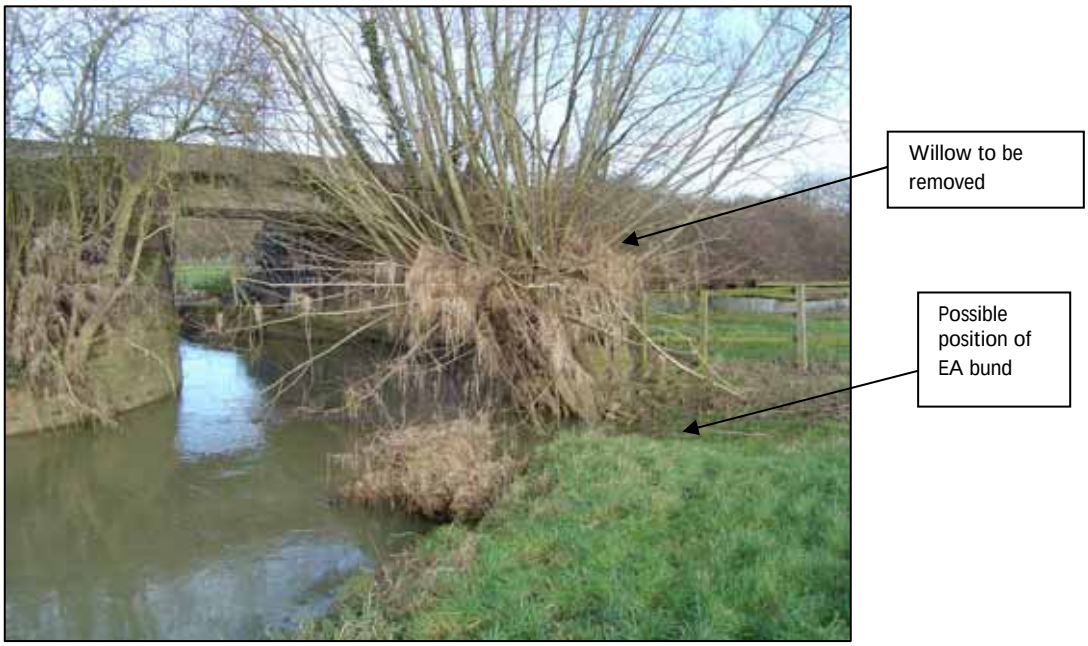


Coldwell Brook downstream of Coldwell House looking downstream towards R.Evenlode showing location of drainage outfalls and condition of channel

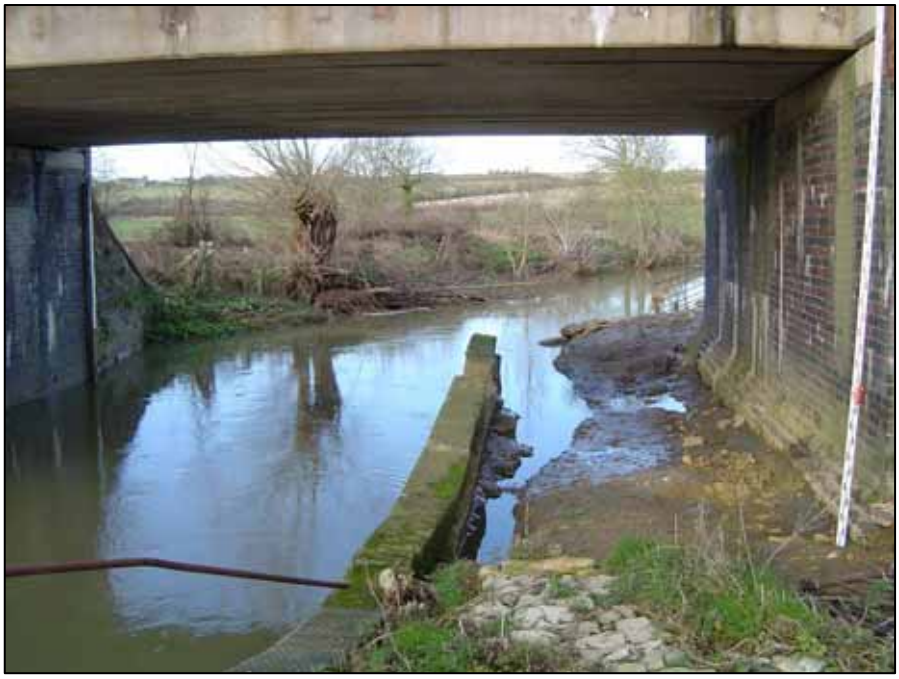


Spring fed stream looking upstream to grounds of 50 Shipton Road. This stream crosses Shipton Road and enters highway drainage.

Area 2 – Shipton Road - The Firmstones to Church

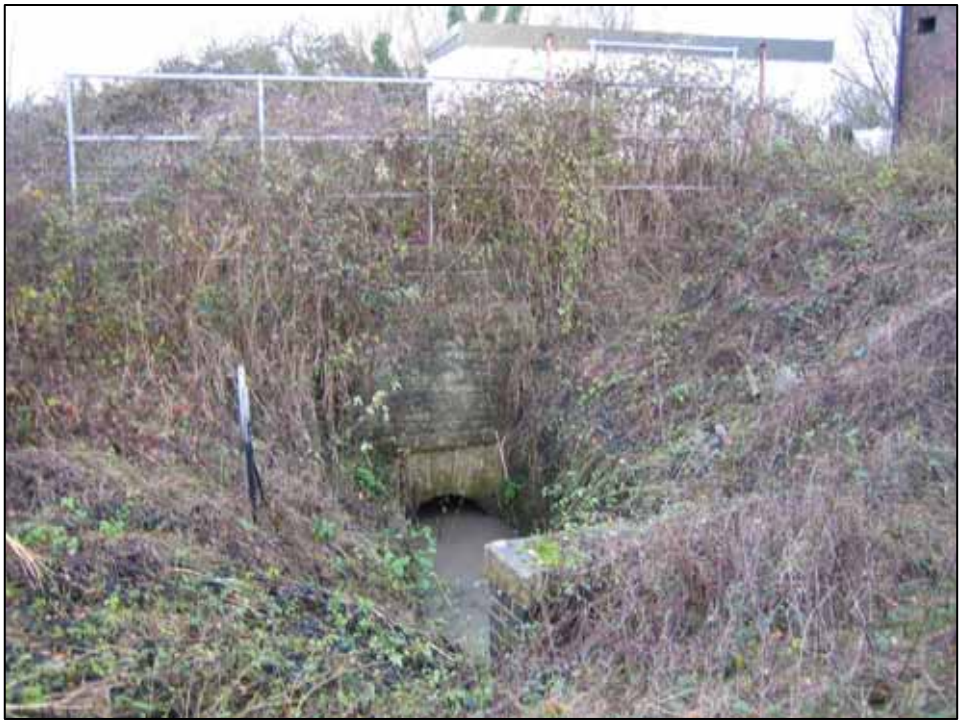


River Evenlode looking downstream through railway embankment bridge. Illustrates sharp change in direction required to allow flow through the railway embankment by River Evenlode. (EA Copyright)



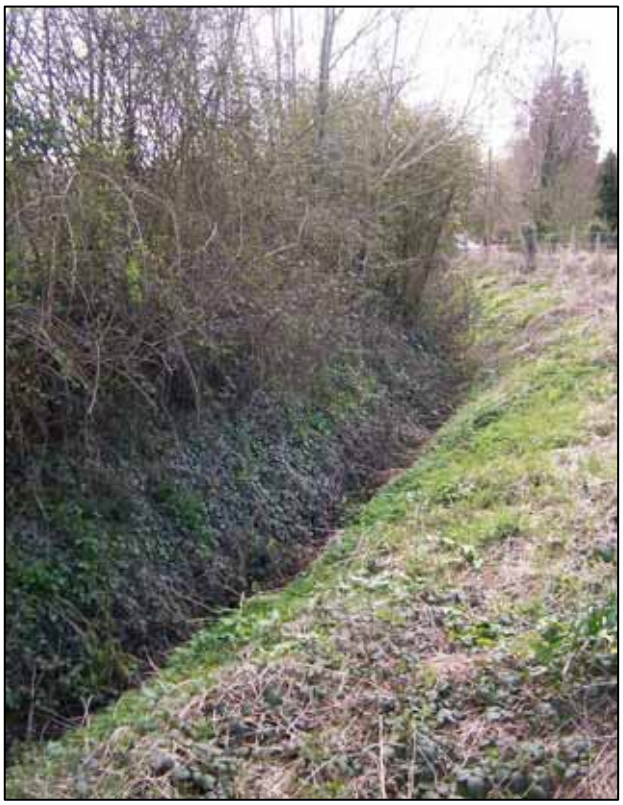
Looking downstream through railway bridge downstream of Gypsy Lane illustrates poor condition of structure and location of farm access on right bank.

Area 3 – 2a Shipton Road/The Green



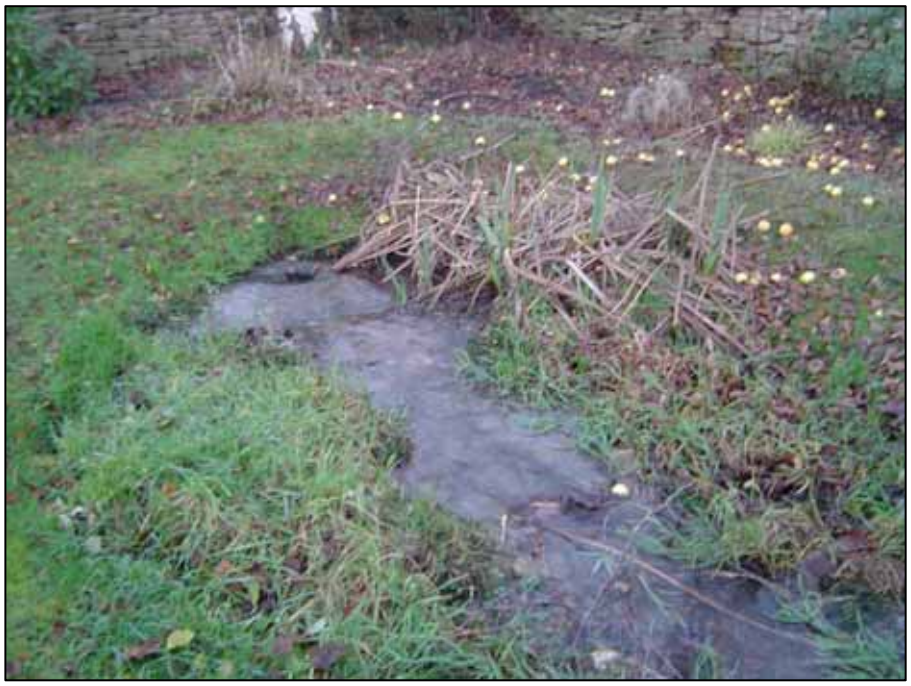
Upstream face of railway culvert – Shipton Road (EA Copyright)

Downstream face of railway culvert – Shipton Road (EA Copyright)

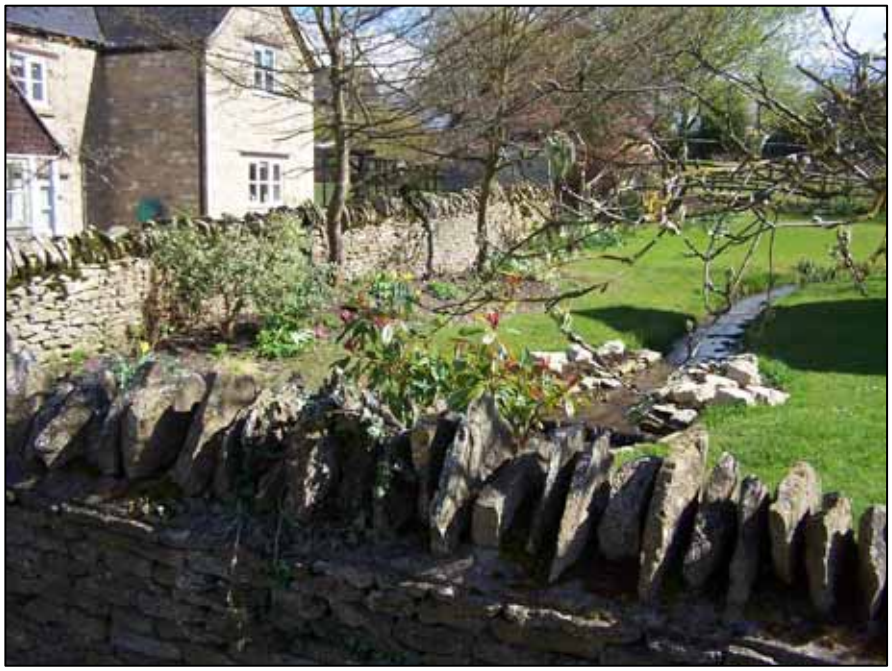


Drainage ditch on London Lane south of junction with The Green and looking north towards railway level crossing (EA Copyright)

Area 4 – High Street

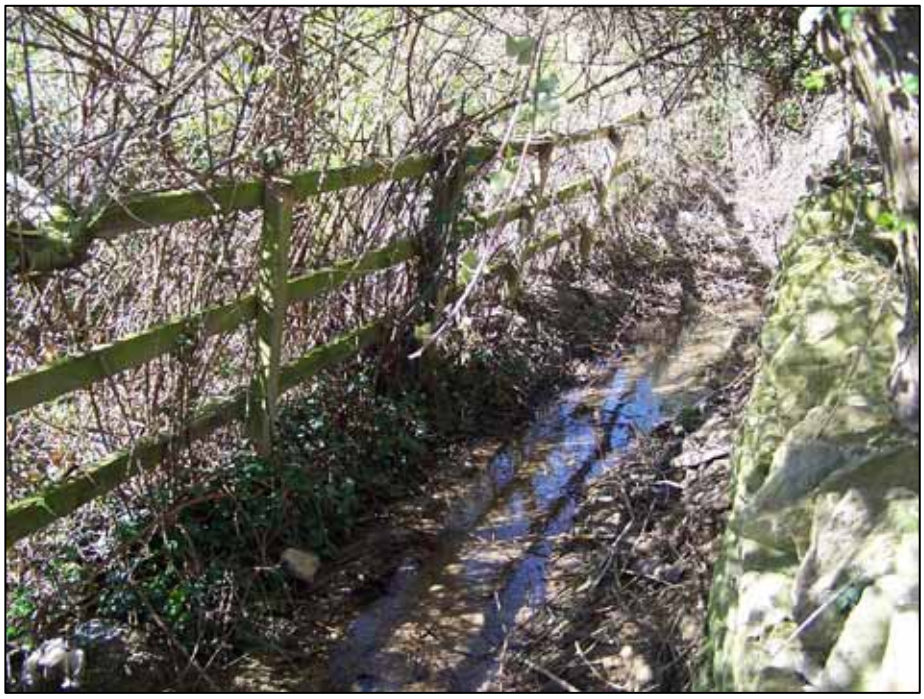


Small stream disappearing into sink hole adjacent to Easter Cottage (Copyright EA).



Easter Cottage – watercourse running through garden of adjacent property

Area 4 – High Street



Downstream of stretch of watercourse at High Street, overgrown