

**PURLEY FLOODING REVIEW TEAM**

# **Final Report**

**on flooding events in Purley on Thames  
31 December 2002 to 7 January 2003**

**Draft 8 - 8/12/03**

**January 2004**

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## **PREFACE - *Martin Salter MP***

I am a fisherman and a politician. I care about the rivers in the Thames Valley where I love to spend my leisure time and the people I represent in my constituency of Reading West which includes the village of Purley, much of which is built in the Thames floodplain.

On Saturday morning, January 4<sup>th</sup> I once again put my fishing waders and accompanied my colleague and local councillor John Chapman on a tour of the flooded streets and houses of Purley. We met angry and upset residents who felt abandoned by their local council which has



responsibility for emergency planning. We met residents who had no idea that their properties were built below the 1947 flood level and whose ground floors were now under several feet of filthy brown river water. We also saw the marvellous rescue work being carried out by the South East Berkshire Emergency Volunteers (SEBEV) who at the time appeared to be the only competent authority apart from the parish council who were doing anything to help local people.

In the six and a half years that I have been an MP my Purley constituents have experienced serious flooding on two occasions – in December 2000 and again more severely in January 2003. In fact from 1894 to the present day there are 19 separate recorded incidents where the depth reading on the tail gauge at Mapledurham Lock exceeded the 12 ft 9 inches level – the point at which Purley begins to flood. Given this well documented history the people of Purley are entitled to ask why some of the authorities and statutory agencies appeared so ill-prepared to offer them the help and support that they needed.

Where was the Emergency Plan? Why weren't sufficient useable sandbags available? Did residents receive adequate warnings of the impending floods? Why were volunteers from the parish council and the local voluntary rescue service expected to play such a key role when the statutory agencies should have had paid staff available? These are questions that should have been answered many years ago.

There are other issues, some of which I have already raised in the House of Commons and some which I will pursue elsewhere. They include the need to substantially increase the Civil Defence Grant which funds emergency planning in England and Wales from the current £19 million to a figure closer to the £70 million suggested by the Local Government Association and the Emergency Planning Society. Secondly, there is the need to ensure that the insurance companies provide cover for all householders and assess flood risk based on reality and not simply rely on crude post-coding. Thirdly, there is the difficult issue of

compensation for those not insured and lastly the prospect of the installation of costly flood defence barriers which still may be only of limited use.

This report goes some way to answering the questions and is a valuable contribution but the fact remains that it should not have been necessary. Procedures and emergency plans should have been in place and it should have been tried and tested from 1947 onwards. West Berkshire Council's emergency planning has been lamentable however I am both pleased and relieved that there will now be a new Purley Flooding Emergency Response Plan. I would like to pay tribute to the hard work of all the members of the review team who have produced this excellent report. I will do what I can to help turn these recommendations into action.

## **EXECUTIVE SUMMARY – *John Chapman***

This report enquires into the flooding that occurred in Purley on Thames in early January 2003. It does not set out to apportion blame, although there were failings on the part of some of the statutory authorities. Rather, it attempts to understand what caused those failures and why people's expectations were not met in practice and thereby to put in place measures which will minimise the impact of flooding in the future.



The key point to note is that much of lower Purley is within the Thames flood plain and has a long history of flooding. There is little that can be done to prevent flooding, however there is a lot that can be done to alleviate the effects of flooding. House owners must be very clear that the responsibility to protect their property is mainly theirs and they should not expect either a high priority or a significant level of assistance from statutory authorities unless life is threatened.

What has emerged from the deliberations of the review team is a view that the major failing was one of communication. Residents did not feel they were given adequate warnings and were unprepared to meet the threat of flooding. They did not feel there was anyone to turn to when the flooding occurred and could not get information about the situation and the likely next steps to take.

When we tested the understanding of the several agencies involved we found that their interfaces with other agencies left a lot to be desired. There was no co-ordinated plan which had been tested beforehand and no real understanding of the roles of the other agencies. A simple example was that the Local Authority assumed that the police came equipped with loud-hailers and would take command of an emergency situation whereas the police have not used loud hailers for many years and classify flooding as a developing situation, not an emergency. As a consequence West Berkshire Council have acquired some loud hailers, set up two emergency vans and has agreed a protocol with the Environment Agency and the Parish Council as to how to respond to warnings and mobilise resources.

A lot of publicity has been given to residents having problems with insurance and selling their houses as a result of companies using post codes to assess risks. We have come across instances of people living 100 feet and more above the river who have been told their premiums will be increased because they live in an area subject to flooding when all they share with such areas is their postcode RG8-8. Most of the houses in the low lying areas are in fact built such that their living areas are well above the 1947 flood level and hence are little affected by flooding. As a result we have promoted the joint mapping exercise between the Environment Agency and the Association of British Insurers and have asked the Association to ensure that all

properties in a flood plain are given a proper assessment and offered insurance commensurate with their actual risk.

We have looked into the possibility of increased protection from flooding. The Environment Agency has produced a pre-feasibility report of possible flood defences for Purley. This report indicates a scheme which is technically, economically and environmentally acceptable, however when set against other schemes its priority is so low that we cannot envisage it being implemented in any reasonable timescale.

A key output from the study is a Purley Flood Emergency Response Plan (FERP) This forms part of the District's Emergency Plan and will be of interest to other parishes and districts liable to flooding. As well as setting out the roles of the several agencies, as agreed with them, it provides basic information about available resources and check lists for people with defined roles. This plan is being supplemented by crisis cards and information packs which will be distributed to potentially affected households and available generally. What this has highlighted is an enormous discrepancy between what householders and council tax payers expect and what the several agencies are prepared to do and are funded for.

What has emerged from our discussions with various companies and residents is a collection of advice and good practice. Much of this has been summarised and included either in the main text or as an appendix. It will form the basis for the information packs to be distributed to residents.

One agency which did emerge with great credit was the South East Berkshire Emergency Volunteers (SEBEV). It was fortuitous that one of their members lived in the area and was able to scramble their resources early on in the crisis. Their volunteers worked tirelessly and earned the grateful thanks of many residents who were rescued or helped by them. As a result we have ensured that their funding from West Berkshire has been increased. We were particularly pleased to see them gain a Queen's Award for their efforts in Purley.

We are convinced that one of the major reasons for the 2003 flooding was that the aquifer was unable to cope with the sudden deluge of water. In the past the underlying chalk has usually been able to absorb a considerable proportion of the rainfall, unlike the situation in 1947 when a long period of extremely cold weather prevented water from melting snow being absorbed. In recent years government imperatives to water supply companies have been to keep aquifers full as a hedge against drought. In this area this is a totally mistaken policy and steps should be taken to maintain adequate capacity in the aquifer, for example by piping water to regions which do not have the enormous reserves of water we have.

## **1 INTRODUCTION**

### **1.1 Formation**

The floods that overwhelmed part of the Purley River Estate in early January 2003 took everyone by surprise and showed up considerable defects in the response and capability of the several agencies deemed responsible as they attempted to grapple with the situation as it unfolded. It was quite clear at the end of the events that whatever the rights and wrongs of the matter, there was a serious discrepancy between public expectations and the agencies plans and capability to respond.

As a consequence, the MP for Reading West, Martin Salter and Chief Executive of West Berkshire Council, Jim Graham, in consultation with The Environment Agency and the support of Purley on Thames Parish Council agreed the need for a thorough review of the events under the chairmanship of John Chapman, the West Berkshire Member for Purley on Thames.

### **1.2 Membership**

Membership of the Review Team was agreed as:-

John Chapman (Chairman)

Paul Bryant (West Berkshire Council Member for Speen)

Geoff Findlay (West Berkshire Member for Cold Ash)

Owen Jeffery (West Berkshire Member for Thatcham)

Royce Longton (West Berkshire Member for Mortimer and Leader of Council)

David Betts (Chairman of Purley on Thames Parish Council)

Ralph Miller (Purley on Thames Parish Council and resident of River Estate)

John Southall (former Chairman of Purley on Thames Parish Council)

Jeannie Smart (resident)

They were to be assisted by the following officers of West Berkshire Council and the Environment Agency:-

John Parfitt (West Berkshire Council, head of Public Protection)

Sean Murphy (West Berkshire Council, Emergency Planning Officer) replaced by Roz Baxter in November

Kate Vincent (Environment Agency, Flood Warning Officer)

Jan van der Vliet (Environment Agency, Flood Defence Operations)

Naomi Ashcroft (Environment Agency, Flood Defence Project Manager)

Clerk:- Ray Fulbrook (former Clerk to Purley on Thames Parish Council)

### **1.3 Terms of Reference**

The Terms of Reference were agreed as:-

- 1 To enquire into the events relating to the flooding of the River Thames at Purley in January 2003.
- 2 To determine the reaction of the several official and unofficial agencies which were involved and to note subsequent changes in procedures or practices.
- 3 To identify the key issues which have arisen and to make recommendations thereon.
- 4 To produce a Flooding Emergency Response Plan (FERP) for Purley which is compatible with the West Berkshire Emergency Plan.
- 5 To produce a final report

### **1.4 Meetings**

A series of meetings were held at the Purley on Thames Parish Office between March and December 2003. Various residents and representatives of other agencies were invited to take part and give evidence. On one occasion the panel visited the Environment Agency's premises at Wallingford to see the control centre and meet relevant specialists and, on another, to hear a presentation on a possible flood defence scheme for Purley.

### **1.5 Final Report**

The final report has been compiled from sections contributed by several members of the team. A small editorial committee has attempted to reconcile differences in opinion between the several contributors and to bring in a level of consistency of style.

The team has received considerable support, both logistical and technical, from West Berkshire Council and the Environment Agency. Both have made many observations and suggested corrections, most of which have been adopted. However they wish to make the following statements:-

Environment Agency

"In order to achieve accuracy and consistency, the authors of this report asked the Environment Agency for comments before publishing the final draft. The Agency recommended changes, many of which were included. However, the Agency does not accept any responsibility for the accuracy of this report and does not agree with all the views expressed. The Agency's views are more accurately set out in the "Pre-feasibility Study Report for a Purley Flood Alleviation Scheme" dated 14th November 2003."

West Berkshire

## **2 THE SCENARIO**

### **2.1 Purley on Thames**

The original settlement of Purley dates from the 7<sup>th</sup> or 8<sup>th</sup> century when people began to live on what was essentially an island rising from the marshes which covered most of the Thames Valley in this area. This slightly higher ground is where the present church is located. The village is located some 4 miles west of Reading at a point where the River Thames takes a sharp turn northwards to skirt the valley on the Chilterns side on its way from Pangbourne. A lock is situated at Mapledurham which controls the flow of water that passes the River Estate.

The present parish is sharply divided by the main Great Western Railway which runs over an embankment from Tilehurst Station to just before New Hill and then through a cutting as far as Westbury Lane. Apart from the cluster of development to the east of this area the valley forms part of the North Wessex Downs Area of Outstanding Natural Beauty and has statutory protection against development other than a few farms and associated cottages.

The Purley River Estate originated in the 1920s after the owners of the Purley Magna Estate sold off a plot of about 16 acres to the Mountfield family who had the intention of building a mansion. When they discovered the potential flooding problems they subdivided the land and sold it off in plots of mainly 11 ft by 60 ft to campers and fishermen for £5 a plot. In the Second World War people, especially from London, self-evacuated themselves and constructed chalets or lived in caravans or other temporary buildings. Over the years there has been a gradual merging of plots to enable more substantial houses to be constructed. At the present time almost all the plots have been redeveloped several times and now contain modern dwellings.

In the 1950s the County Council tried unsuccessfully to have the estate closed and the buildings removed, however the residents had rights which well preceded the 1947 Town and Country Planning Act. For much of this period the area was without utility services and most houses relied on water pumped from the underlying gravels. Night soil was collected each morning.

In 1965 a Guidance Plan for the area was agreed with Bradfield Rural District Council which set minimum standards for the redevelopment of plots. The essentials of this guidance plan have been incorporated into subsequent Local Plans. A key guidance was that all new dwellings had to be constructed such that the living areas were above the 1947 flood level. In the 1970s the major roads were made up to highway standards and adopted as public highway. At the same time gas and other utilities were introduced so that now virtually every house is fully serviced.

The Purley River Estate is defined by the roads: Mapledurham Drive, Colyton Way, Wintringham Way, River Gardens, Brading Way, Chestnut Grove, Park Walk, Oak Tree Walk, The Short and the north side of St Mary's Avenue. The adjacent estates of Waterside Drive, Church Mews, Thames Reach, Lilac Close, Chiltern View, Primrose Close and the south side of St Mary's Avenue are all on the slightly higher ground and have not been subject to flooding in recent years.

### **2.2 The River Thames**

The River Thames is Britain's premier river. It extends about 210 miles from its source in Gloucestershire to its tidal estuary east of London. Its catchment basin is approximately 11,000 square kilometres covering most of south central England. Of this approximately 220 Sq Km (5%) are liable to flooding. It has numerous

tributaries that drain into it along its length.

As it passes Purley on Thames the height above sea level at the head of Mapledurham Lock is 131.77 ft at the 1894 flood level. Mapledurham Lock uses a river depth gauge originally installed in 1883 with a tail measurement (see Appendix 7) at low water of about 8 feet. Flooding at River Gardens occurs when this level reaches about 12 feet 9 inches (3.88 metres). The 2003 event reached 15 feet 6 inches and the greatest recorded level occurred in 1894 at 17 feet 4 inches. The greatest known level occurred in 1774.

### 2.3 Underlying Geology

The underlying geology in the Thames Valley at Purley is of about 5 feet of alluvial deposit, then about 20 feet of gravel, then about 5000 feet of chalk. There are some layers of clay but these are relatively small and scattered: they have little effect on water saturation or flow. There are considerable flows through the gravels draining from the escarpments to south (Tilehurst) and north (Mapledurham) and from the Goring Gap.

The stretch of the River Thames which forms the NE boundary of the Parish of Purley on Thames has, as on its right hand (south) side a wide stretch of low-lying meadow. On the left (north) is the flood plain is relatively narrow

Apart from the shallowness of the banking, the geology of this stretch of the Thames Valley lacks a substantial clay cover on top of the chalk which forms the Cotswold uplands to the west and the Chilterns to the east.

This stratum is a permeable layer (some 5000 ft deep at its maximum) and forms a substantial subterranean reservoir of many million cubic feet. This aquifer receives input from rainfall over an elevated surface area of some 4600 Square kilometers.

The River Thames, having cut down through the overlaying strata to form the Goring Gap, exposes the chalk layer at this point. Emerging at the south east of the Goring Gap the resulting meadows with only a thin gravel/alluvium deposit on top of the chalk, are an almost continuous spring line along this section. The village is therefore subject both fluvial spillage and to a rising watertable

### 2.4 Past Flooding Events

The River Thames has flooded regularly over the years. The earliest recorded serious flooding in Purley dates from 1774. The following table notes the major events recorded at Mapledurham Lock following the installation of a gauge in 1883:-

<i>Year</i>	<i>date</i>	<i>head</i> (inches)	<i>tail</i> (as per gauge) ft	<i>tail</i> in	<i>tail</i> (metres)
1894	Nov	52	17	4	5.29
1900	Feb	34	15	10	4.83
1903	June	32	15	8	4.78
1904	Feb	36	15	11	4.85
1915	Jan	30	15	4	4.68
1929	Dec	33	15	7	4.75
1947	mar	42	16	6	5.03
1959	Jan	25	14	10	4.52

1974	Nov	22	13	10	4.22
1979	Dec	22	14	2	4.32
1990	Feb	24	14	1	4.30
1992	Dec	21	13	6	4.12
1993	Jan	18	13	0	3.97
1994	Jan	23	13	4	4.07
1995	Feb	20	13	4	4.07
1998	Apr	17	12	10	3.91
1999	Jan	18	13	4	4.07
2000	Dec	25	14	6	4.42
2003	Jan	32	15	6	4.73

The tail measurement is the one which is most critical to residents of Purley. This is the reading on the depth gauge board just below the lock. Nowadays there is an electronic sensor which measures the tail in metres. Flooding of River Gardens begins when this reading reaches 3.88 metres (12 ft 9 in)

Further events were recorded in the Parish registers:-

In 1774 Benjamin Skinner noted in the parish register on March 11th *'The greatest flood in the river Thames remembered to have happened within the memory of the oldest inhabitants. The water ran into the church which is an event of which there is no tradition ever to have happened before. The water in the church was ankle deep and continued there for several hours.'*

In 1794 a scheme for rebuilding the manor house adjacent to the church was cancelled owing to a severe flood. The new mansion (Purley Park) was eventually constructed on higher ground to the south.

On 29th October 1848 the Rector noted *'there was so high a flood this day that the congregation were conveyed to and from the church in waggons'*

The rector noted on 14th November 1852 *'A very high flood, the churchyard impassible. Divine service in the schoolroom for two Sundays'*

The Reverend Richard Palmer recorded in March 1862 *'After a very dry and mild winter a high flood in March, not so high as '48 or '52'*

It did not appear that in either 1894 or 1947 the church suffered flooding thus one may surmise that the levels of these years were greatly exceeded in 1774, 1848 and 1852. The 1774 flood must therefore have been at least two feet worse than 1894.

In 1947 people recalled that the water was lapping up the lower parts of New Hill whereas in 2003 the water reached no further than the top of Mapledurham Drive.

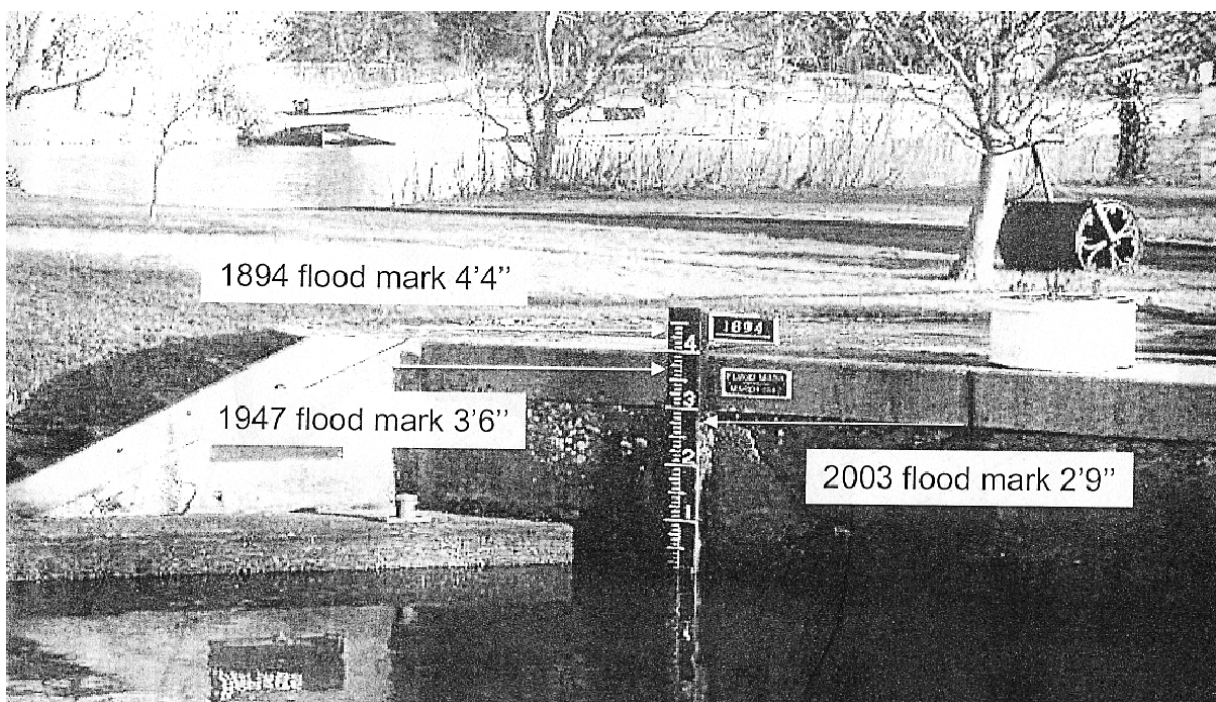
From this data one may regard the 2003 level as being a 50 year event and the 2000 level at around a 15 year event, with the 1894 level at about a 100 year event.

## 2.5 The Catchment Area

The River Thames above Teddington drains a catchment area of some 11,000 sq km of which 4600 sq km (42%) lies above Purley. The following table sets out the contributions to the flow at Purley in average, drought and flood conditions for the major tributaries and the reaches of the Thames to the next tributary.

Tributary and following reach	Area	Contribution to flow at Purley		
		Sq Km	Flood %	Drought %
Churn	145	2.4	2.0	2.1
Ampney	65	1.6	0.7	1.2
Ray	83	2.4	2.9	2.3
Coln	176	3.2	9.8	5.4
Cole	445	12.2	2.2	9.9
Leach	166	4.3	3.9	4.0
Windrush	536	4.7	21.2	15.0
Evenlode	474	12.6	12.1	12.0
Cherwell	1005	27.2	13.4	21.1
Ock	347	6.7	9.8	7.5
Thame	948	20.1	12.8	16.7
Pang	202	2.6	4.3	2.8
<b>totals</b>	<b>4592</b>	<b>100</b>	<b>100</b>	<b>100</b>

What this shows is the importance of the rainfall over the Banbury area (Cherwell) and Chilterns (Thame) to the possibility of flooding in Purley. Each of these major tributaries and reaches are in their turn fed by numerous streams and drainage



systems. Many of these are overgrown and water passage impeded. When a significant rainfall occurs blockages can be swept away releasing more water than the rainfall would have predicted.

*Recommendation 2.5.1 – Riparian owners and those responsible for ditches and drainage systems should be encouraged to provide better management with a view to maintaining a smoother flow.*

## **2.6 Flooding Risks**

We classify properties in Purley on Thames in three groups:-

- A Properties situated well above the flood plain. As a crude definition we use the railway as the boundary with all properties to the south being totally free of flooding risk
- B Properties situated on the flood plain but either built on land which is above the 1947 flood level or built up such that all living areas are above this level. While such properties may be inconvenienced by a flood they are not likely to suffer any serious loss by a flood up to the 1947 level.
- C Properties situated on the flood plain with living areas below the 1947 level. These properties are likely to experience flooding when the river reaches a given level and at that level it is probable that there will be a measure of loss.

There are two quite distinct types of flood that affect Purley:-

- First there is simply a rise in the level of water in the river Thames such that the property becomes effectively situated within the river and thus subject to the flow of water in the river. Water is a comparatively heavy substance and the force exerted by a relatively slow flow can be considerable. The force increases as the square of the flow rate and thus at quite moderate flow rates loose objects such as cars and dustbins are likely to be swept away or overturned.
- Second caused by a rise in the level of groundwater. This is the most common effect on Purley and, at given levels of the river, certain properties are likely to have standing water in their gardens.

Water is likely to penetrate properties in a number of different ways:-

- through doors
- through draught bricks
- through cracks in masonry
- through the floor
- through sewage outlets
- through other service ducting.

In later sections these risks are evaluated and means suggested for minimising them.

### 3. THE 2003 FLOODING EVENTS

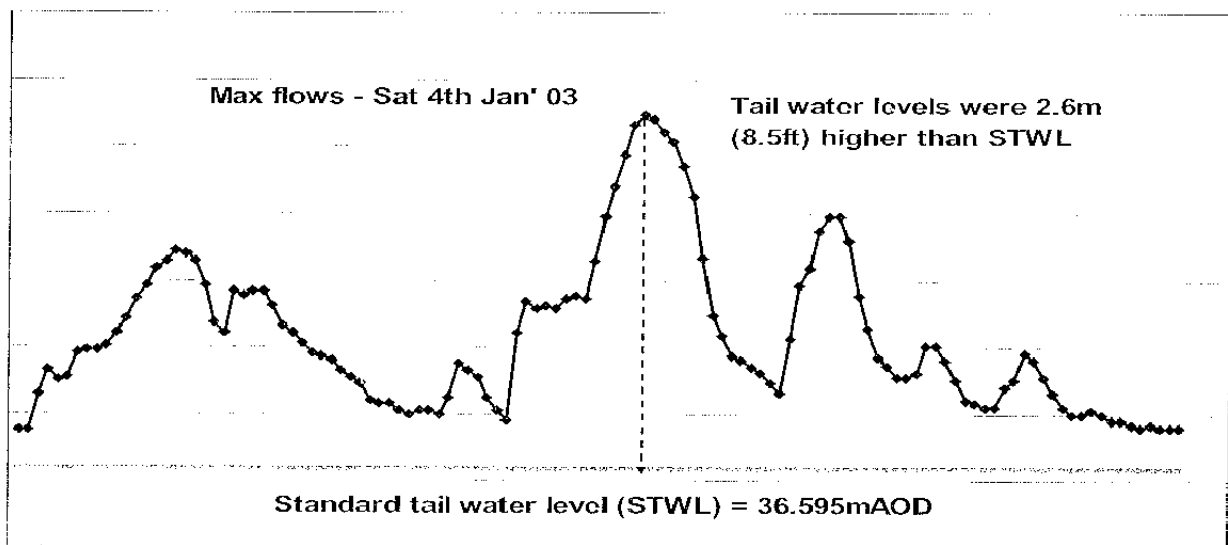
#### 3.1 Background

Approximately twice the average monthly rainfall was recorded across most of the Thames catchment area in November and December 2002. During the 5 days from 26 December 2002 to 01 January 2003, there were 5 days of particularly heavy rain with precipitation of 59.3 mm being recorded against an average for the whole of December of 71 mm. The river levels on the Windrush, the Ock, the Thame, the Pang and the Cherwell were at exceptionally high levels, even higher than those recorded in 2000 when the pattern of rainfall was very different with rainfall being more evenly distributed over a 2 month period. Further, the underlying rock aquifer had remained topped up and was unable to absorb the additional heavy rainfall which drained via the Thames. Plots for the 14-day periods from 0900 on 08 December 2002, and 27 December 2002, showing rainfall in the Thames catchment area, and corresponding rise in water levels at Mapledurham Lock, are shown on page 16.

The Environment Agency (EA) issued a 'Flood Watch' on 23 December 2002. The combination of the upper Thames tributaries peaking into the Thames within a relatively short time interval, coupled with already high levels in the Thames, contributed to the subsequent flooding of the Thames over its entire length. A 'Flood Warning', which was issued by the Agency at 1219 on 31 December 2002 remained in force until 1400 on 09 January when improving conditions lead to the Warning being downgraded to 'Flood Watch'. The 'All Clear' was issued on 11 January 2003.

West Berkshire Council (WBC) reported that officers in Emergency Planning and

**Tail water levels at Mapledurham before, during and after the 2003 flood**



Environmental Health kept a watching brief from 22 December 2002 following receipt of adverse weather and the Flood Watch Warning noted above. The Council's Emergency Operations Centre was activated at 1205 on Saturday, 04 January 2003.

During the period of the Flood Warning, the water level at Mapledurham Lock reached the third highest level in the past 110 years since records began. It was exceeded only in 1894 and 1947; the 2003 level at the Lock was just 0.305m below the peak of 5.029m recorded in 1947 and some 0.304m higher than the January 2000 flood level. The reports of residents in Purley based on 25 years of experience clearly indicated that the floods which followed the exceptionally heavy rainfall in late December 2002 did not follow the pattern of earlier floods in that water came from the direction of the Lock across the fields. Residents noted, in particular, that previous flood reference points were meaningless. In the absence of factual reports and advice on the ground, individual residents were caught out by both the sudden advance of flood water from a non-expected direction, and the speed with which the water advanced.

### **3.2 Chronological Review of Events**

Tuesday, 31 December 2002 A "Flood Warning" was issued by the EA at 1219 advising the possibility of flooding. At the same time, the Agency (EA) issued Automated Voice Messages (AVM) to 67 Purley residents who had signed up for the free flood alert system. Additionally, 3 previously appointed (summer 2000) Flood Wardens helped to pass warnings to 24 residents in Chestnut Grove and River Gardens. The Flood Warning (FWA23/4 - covering the River Thames from Benson to Hurley) was received by WBC at 1254 and passed to Service units within the Council. By early afternoon, water was reported in the back gardens of Chestnut Grove, the lowest area on the estate. By late that evening, gardens in the Chestnut Grove area were flooded to a depth of some 6 inches.

Wednesday, 01 January 2003 The morning saw further heavy rain and water levels continued to rise in the flooded garden areas. By early afternoon, residents in Chestnut Grove considered the situation serious and started to lift white goods in garages and utility rooms; cars were parked on higher ground. WBC reported that the situation was being monitored but that there was no cause for immediate action.

Thursday, 02 January 2003 At first light, houses in Chestnut Grove were flooded with 12 in of standing water in the garden of No 8 Chestnut Grove as flood water advanced from Wintringham Way. The WBC Emergency Planning Officer (AEPO) advised callers that the flood threat was increasing and that the situation was being monitored. However, after an internal meeting of the services concerned it was decided that there was no cause for an immediate escalation of the response as very few telephone calls had been received. Usable sandbags (white plastic) had already been removed from the store and residents seeking to protect their homes found that the older hessian bags had rotted and were useless. Residents, concerned by the bow wave from local service buses, which exacerbated the problems faced by householders, arranged for the suspension of the service round the estate. However the AEPO at WBC believed the situation to be stable, in the absence of telephone calls from residents. Calley's Avenue flooded in the evening and residents were aware that levels were rising rapidly.

Friday, 03 January 2003 Following a 'Flood' meeting held by WBC staff at Faraday Road, two EHOs visited Purley to assess the situation. They were told by residents that 'it floods here every year; its not much of a problem'. Nonetheless,

residents in Purley noted that water was some 15in deep in houses in Chestnut Grove that morning with water pouring out of manhole covers in Wintringham Way. Flood water then advanced across the playing fields and Mapledurham Drive and flowed down into Purley Meadow. That afternoon, WBC Social Services and Housing were placed on standby in case an emergency response was required. By 1600 some householders in the lowest areas had 30 in of water in their homes and WBC was aware that a number of gardens in St Mary's Avenue were flooded. Although Thames Valley Police and WBC EHOs were onsite during the day, with the former being present to ensure that vacated homes were safe from intruders, officers had departed before sightseers started driving round the Estate in 4x4s and on 'scrambler' type motorbikes. Residents became increasingly annoyed at both these 'visitors' and the transit of lorries down Colyton Way, as bow waves from vehicles exacerbated the problems faced by householders by further raising water levels and flooding garages. A request by residents to WBC for 'Road Closure' signs, of which there is no reference in the WBC log, went unheeded. In their reports of events, residents clearly saw Friday, 03 January as the day on which external assistance was needed. They were very grateful to South East Berkshire Emergency Volunteers (SEBEV), who self-activated through one of their Purley resident members, for the advice assistance and direction which trained members of the organisation willingly gave. Unfortunately, West Berkshire Council was not informed of this activation.

Saturday, 04 January 2003 West Berkshire Council requested a further supply of sandbags from the Environment Agency at 0830 and two WBC engineers made an on-site assessment at 0930 by which time flooding had been reported on Brading Way. An on-site meeting took place at 1000 between WBC representatives (AEPO & 2 engineers) and SEBEV. A further supply of sandbags was delivered to Ringway staff at Purley at 1030. At 1100 Cllr Chapman offered to arrange for the Parish Council to open The Barn to provide shelter and hot drinks and to act as an assembly and transit point for those awaiting possible evacuation. Shortly after that meeting, a radio report was heard by residents indicating that the flood would peak at 1200. In the event, this was erroneous information. A temporary WBC Emergency Operations Centre was activated at Streetcare at 1205. At 1430 a contingency decision was made to open the Cotswold Centre as a temporary 'rest centre'; a member of WBC staff was deployed to manage it and WVRs members were activated. WBC ordered a mini-bus and 2 further members of WBC staff were sent to Purley to assist in any necessary evacuation in conjunction with SEBEV. An on-site report to WBC EOC indicated that SEBEV had helped some 70 residents to evacuate their homes and an unknown number had done so without assistance. Although water was waist deep in many places, welfare checks by both WBC and SEBEV later that afternoon indicated that very few people were seeking assistance from outside agencies; most were content to make their own alternative accommodation arrangements although a very limited number sought temporary accommodation. Those who remained in their homes were visited and given advice on water, hygiene and waste facilities. At 1550 requests were made by WBC staff for the presence of Thames Valley Police to ensure the security of vacated premises and engineers from SEB to check on electrical safety. Given that there was only a limited requirement for transit to the Barn, the mini-coach for transit to the Barn was stood down at 1800. At 1955 power supplies to Colyton Way and the Barn failed and staff at the Barn were withdrawn. A decision was taken to close the Cotswold Rest Centre at 2130 that evening, and stand-down the WRVS who had

been manning it, as there was no further requirement for their services.

*Sunday, 05 January 2003* WBC AEPO was on site at 0800 with engineering staff to check on flood levels and evaluate the option of using pumps to clear standing water. The presence of SEB engineers was requested and a gritter ordered to deal with icy, but flood-free roads. By that afternoon, the EA reported that there was no risk of a further surge on the River Thames, peak levels had been reached and conditions were stable. The WBC EOC stood down at 1805.

*Monday, 06 January 2003* There was additional confirmation by the EA that morning that further surges were not forecast and levels were predicted to fall. WBC held a meeting to determine 'recovery' priorities and further resources were deployed to the site. Some pumping was undertaken where possible as water levels started to recede.

*From Tuesday, 07 January 2003* The Thames Water pumping station at Purley was activated on 7 January, By 08 January all roads were clear of flood water except River Gardens where houses 1-15 were clear but the remaining 10 properties remained inaccessible.

#### **4 - LONGER TERM CONSEQUENCES**

It was not until October 2003 that the last resident, forced to evacuate their house, was able to return. During the period since January 2003 residents have suffered varying degrees of distress.

We have no way of estimating the total amount of property damage that occurred during this particular flooding incident. Not all the damage has been claimed for on insurance, but nevertheless we have evidence that many insurance companies have either increased their premiums or set much higher excess amounts, in some cases to people who do live in the vulnerable parts of the village. However so far as we have been able to ascertain insurance assessors have been helpful to residents and most claims satisfactorily dealt with. This is dealt with in section 13.

There has been an effect on property values, we estimate an average reduction of around 20%. However whether this is actually an effect of flooding or merely reflects a downturn in the market is difficult to distinguish. What is however evident is that houses are changing hands and the housing market is adjusting and not collapsing as many feared. Despite the potential risk, Purley remains an attractive place to live. This is dealt with more fully in section 14.

Many residents lost a lot more than replaceable possessions. They lost cherished memories and memorabilia, usually through a failure to get their priorities right and to have a plan in place. Advice for the future is given in Appendix 5.

Despite the escape of foul sewage and many properties being contaminated by flood water we know of no serious health problems. The clean up operations appeared to go reasonably well and people took proper advice (see Appendix 6)

What we have been unable to fully quantify is the degree of psychological problems triggered by the floods. For those who have seen their property values vanish or who have lost many treasured possessions the anguish is clear, but there are many who felt utterly helpless and isolated and the shock of these events will remain with them for the rest of their lives.

## 5 ISSUES ARISING – *John Chapman*

We identified thirteen key issues to be addressed. These were:-

- The functioning of the flood warning system operated by the Environment Agency.
- What people could do to protect and safeguard their own property
- What agencies and facilities were available to evacuate people in an emergency
- Information flow. This included advice to residents of affected areas both before and during an emergency
- The possibilities for a flood alleviation scheme
- The relationship between a flooding situation and the emergency and contingency planning arrangements.
- The control over development by the planning process
- The effect of flooding upon insurance
- The effect of flooding upon house prices
- The powers available to control unreasonable and criminal behaviour
- The effect of flooding upon public utilities
- The arrangements for clearing up after a flood.
- Strategic Management of water supplies

Evidence was taken from a number of agencies and persons affected. This evidence is summarised in sections 6 through 18 of this report. From this evidence we were able to come to a number of conclusions and to make a number of recommendations.

The key outcome from these issues is the need for a Flooding Emergency Response Plan (FERP) for Purley This is described in section 18.

## **6 - THE FLOOD WARNING SYSTEM**

### **6.1 Catchment Areas**

There are 24 different catchment areas in the western area of the Thames Region. Catchment areas have varied topography in terms of the height of the ground and landscape, distinctive geological makeup in terms surface and sub-surface rock strata, and differing hydrology affecting the way in which river and drainage systems react to specific climatic conditions and rainfall. The Environment Agency operates a real time monitoring network linked by communication and computer systems to its offices in Wallingford and Reading. Rainfall, groundwater levels in the strata below the topsoil, stream and river levels are monitored in each river catchment area and on the River Thames itself. Within the western area of the Thames Region, there are:

62 Gauging Stations measuring river levels and flow;

407 Observation Boreholes giving groundwater levels;

38 Telemetered Rain Gauges recording both total rainfall and intensity;

40 Flood Warning Sites sited at key points in catchments not covered by the Gauging Station network, and

98 Meteorological Office registered daily rain gauges supplementing the above information.

### **6.2 Weather Forecasts**

Primary information on advancing weather systems likely to produce longer periods of rain is supplied to the Agency by the Meteorological Office who also send out early warning of severe weather conditions. The Environment Agency's Hydrometric Network noted above tracks the effects of weather systems across catchment areas and helps the Agency monitor the ensuing effect on river and ground water systems.

### **6.3 Flood Predictions**

In late December 2002 and early January 2003, the monitoring information enabled the Agency both to keep a close 24-hour watching brief on the way in which river systems reacted to the persistent and heavy rainfall and to assess the interaction of ground and surface waters. The Agency was thus able, at an appropriate time, to alert local authorities, service providers and residents in areas which were likely to be subject to flooding. In retrospect, that information has been used both to assess the impact of the heavy and persistent rain on an area-wide basis and perform a post flood analysis. Further, the information has also been used to calibrate computer models to be used in the design of a possible flood defence scheme. The Purley community will benefit from changes made recently to the Thames Flood Warning arrangements. Whereas the River Thames (West Area) was divided into 4 Flood Warning Areas at the time of the recent flooding, these areas have been revised and seven Flood Warnings Areas have now been stipulated which will make it easier to take account of the individual tributaries feeding into the River Thames. The changes should enable the Environment Agency to target the Flood Warning system more precisely to individual communities in danger of flooding.

### **6.4 Flood Warning Codes.**

Each of the 4 Flood Warning Codes shown below indicate the level of danger associated with the specific warning:

- Flood Watch – Flooding possible: *be prepared*;
- Flood Warning – Flooding of homes, businesses and main roads is expected: *Act now!*
- Severe Flood Warning – Severe flooding is expected. Imminent danger to life and property: *Act now!*
- All Clear – issued when Flood Watches or Warnings are no longer in force.

A Flood Watch is issued when water levels along a river are expected to overtop the banks.

A Flood Warning is issued when the Environment Agency anticipates flooding of property. (*Note that in their terminology 'property' refers to the living areas of a house not the garden*)

The Severe Flood Warning is triggered when around 100 properties are at a risk of being flooded or there is imminent risk to life; such a decision would be issued on the basis of river levels, the number of properties affected and the likely impact on major infrastructure.

A final message that may be issued is the 'All Clear' which indicates no flood watches or other warnings are currently in force.

Nationally, the Agency aims to give a two-hour warning in advance of any flooding taking place. However in certain cases this may not always be possible.

## **6.5 Distributing Warnings**

The Agency warns the public of imminent flooding by disseminating information to professional partners (local authorities, emergency services, and utilities) and the media via fax. All messages are sent at the same time.

Warnings are also disseminated directly to public recipients via the Agency's Automatic Voice Messaging System (AVM) if they have registered. A pre-recorded message detailing the level of warning issued, the area for which the warning is in force and advice on what action to take, is sent via telephone. If anyone is interested in finding out more about this service please ring the Agency's Floodline on 0845 988 1188.

A new Multi-media warning dissemination system is currently being developed which will allow for other mediums to be used for issuing warnings such as e-mail, text message etc.

Other current methods of communicating Flood Warnings include:-

- Flood Warden Schemes -set up in association with a local community. The flood warden acts as an additional way of reinforcing/passing on warnings and any supplementary information.
- The media -warnings are issued through the media; they are broadcast on TV weather bulletins and on radio weather and travel reports. Flood warnings are also displayed on ITV Teletext regional weather pages (page 154) and on BBC Ceefax (page 419).
- Floodline 0845 9881188 -Environment Agency Flooding information line. A single national number for the public to ring on any matter associated with flooding throughout England, Scotland and Wales. All calls are charged at local rate. You can listen to the service in English or Welsh and there is a Minicom number 0845 602 6340 for hearing

impaired people.

Floodline offers these options:

- To listen to recorded information on the latest flooding situation anywhere in England, Scotland and Wales. By choosing option 1 and inputting a quick dial code, you will get the latest information for your area. The quick dial code for the Purley area is 0111241.
- Road and travel information
- To connect to an operator. You can request further information, report flooding, make a general enquiry or request to be put through to your local office

The Agency's website [www.environment-agency.gov.uk/flood](http://www.environment-agency.gov.uk/flood) displays current Flood Warnings in force and information on to do before, during and after a flood. The internet is not a mechanism for issuing warnings.

### **6.6 Flood Warnings to Purley Residents (December 2002/January 2003)**

A Flood Watch was issued at 10:48 on 23 December 2002; A Flood Warning followed at 12:19 on 31 December 2002 reflecting the persistent heavy rain and consequent rise in river levels. The Flood Warning was downgraded to Flood Watch on 09 January 2003 at 14:00 with an All Clear being sent out on 11 January 2003. The Flood Warning was issued to the 67 registered Purley residents in a pre-recorded flood warning sent via the Environment Agency's Automated Voice Messaging System (AVM) some 12 hours before flooding of properties was first reported. That message was also sent to 3 volunteer Flood Wardens residents in Purley who were part of a flood warning scheme established in the summer of 2000. Those Wardens in turn passed on the warnings to residents of River Gardens and Chestnut Grove.

### **6.7 Purley Flood Warning Arrangements**

In the recent past, the summers of years 2000 and 2002, the Environment Agency has offered 200 properties in the Purley area the opportunity to enrol in the Flood Warning Service by AVM. Following the severe flooding which took place, the Environment Agency's Flood Warning Team has been working closely with residents and the Parish Council to improve flood warning arrangements for the Community. Immediately after the January flooding, Agency staff made arrangements for a permanent Flood Warning board to be displayed at the local shop showing when Warnings were in force. Following a public meeting with local residents in late January 2003, at which Agency staff noted the concerns of local residents, further registration forms for the AVM system were distributed; 125 properties in Purley (double the pre-flood number) are now registered to receive the automated Flood Warnings. A further meeting in March 2003, chaired by the Agency and attended by local residents, Flood Wardens and Parish Councillors, identified 110 properties not registered for the AVM flood warning service. A further 7 volunteer Flood Wardens were recruited that evening and the 110 properties not registered on the AVM system will receive warnings from their Flood Wardens. A cascade system (via the Flood Wardens) was also arranged whereby information from the Lock Keeper will be disseminated to the community in the event of flooding. The new arrangements have been confirmed in letters sent to residents. A volunteer member of the Flood Warning Team also sits on the Purley Flood Review Group.

## **6.8 Raising Public Awareness.**

The Agency addresses flood risk management in many ways including raising awareness of flood risk and providing advice. Their National Flood Awareness Campaign is currently in its 5th year of a 10-year campaign strategy. As part of the campaign a direct mailing has been sent to selected properties within the Indicative Floodplain to alert residents to the risk of flooding in their area. In addition to the direct mailing, radio and newspaper adverts supplement the campaign. The campaign theme this year was “*Act now, be prepared for flooding*” One of the key campaign messages include “*There are simple steps that people can take in advance to prepare for flooding. It is important that people take responsibility to protect their homes and families to reduce the risk where they can*”

## **6.9 Website and Flood Line Performance**

The EA's website suffered degradation in its services during the period 01-06 January 2003 (severe on 01 & 02 January) because of the excessive number of users accessing the web site for updates on the National Flooding situation. Whilst this loss of service was regrettable, it must be appreciated that the website is not the primary means of issuing Flood Warnings to specific areas at risk

The number of telephone calls to the Floodline service over the Christmas and new year period topped 125,000. A review of the Floodline service operation is always conducted after a major flooding event. This includes statistical performance information, complaints and issues raised by the Public/Agency/supplier and includes a customer satisfaction survey.

The Agency accepts the information on Floodline was not detailed enough for a large number of people

and is seeking to improve the information given. The response of the River Thames is very complex and is influenced by the distribution of rainfall across the whole of the Thames catchment and the differing response of individual tributaries.

Due to this complexity, it is only possible to provide information on how fast water levels rise on the River Thames for up to 24 hours ahead until a definite flood peak has been identified. When this has happened they can provide a more accurate forecast on how much more the levels might rise.

Following the 2003 flooding, the Agency has improved its Floodline telephone service so that callers will be able to receive more pertinent, local river information.

## **6.10 Conclusions**

The arrangements that have been put in place by the Environment Agency are regarded as suitable and reasonably robust.

***Recommendation 6.1*** *The wardens who have now been appointed should form a key link within the Purley FERP between the residents and the command and control systems that are required. Their views on their role should be sought and where necessary training should be provided.*

## **7 – PERSONAL PROPERTY PROTECTION**

### **7.1 Responsibilities**

It is each householder's responsibility to take precautions to protect their property from the consequences of flooding. Unfortunately when flooding does occur panic is likely to set in and one's priorities can get very muddled. It is important that each householder prepare their own 'plan' and puts it into action at the appropriate time.

Appendix 5 sets out some advice on what one can do to prepare for a flood.

### **7.2 Conclusions**

Individual householders can make some provision to protect their property from flooding but at particular levels these protective measures are likely to be overwhelmed. You should have a plan in place and never underestimate how stressful the situation may become.

*Recommendation 7.1 Householders should be provided with a basic pack of information outlining the protective measures available and identifying sources of suitable equipment.*

*Recommendation 7.2 Householders should be provided with a check list of actions to be taken should their property be in imminent danger of flooding. This will include suggested priorities, safety precautions and location of cars.*

*Recommendation 7.3 Householders should take steps to acquaint themselves with the relationship between the indicated level of the river and the vulnerability of their property to flooding.*

*Recommendation 7.4 West Berkshire Council should make available to householders, on request, its measurement of a specified part of the property (eg front door sills) as related to the flooding level indicated by the tail reading at the lock.*

## **8 – EVACUATION AND COMMUNITY HELP**

In section 7 above we have dealt with individual householders' plans and precautions. In this section we deal with what can be done by the community at large to provide assistance, especially to the old frail and vulnerable.

### **8.1 The Electoral Register**

The electoral register is perhaps the best check list of who is living where. Each area on the Purley River Estate is covered by a flood warden who will take steps to be aware of anyone who is not on the register, who is not registered for the AVM system and who might need help.

These lists will be available to the Parish Council and can be made available to other agencies on request.

### **8.2 Community Resources**

We must emphasise that the responsibility for action remains with the householder - help from the community can be provided only if it is asked for and resources allow. The Purley FERP (see section 19 below) will identify resources known to the parish. This may include boats, tractors, ladders and other items of useful equipment.

Priority will be given to the old and frail and people with disabilities.

Anyone who is evacuated will be taken in the first instance to one of the rest centres that have been designated. It is at these centres that food and warmth will be provided if possible.

It is highly unlikely that either the Police or the Fire and Rescue Services will be on the spot or rendering any assistance unless there is a serious risk to life or the possibility of looting.

## **9 – COMMUNICATION**

### **9.1 Introduction**

The overriding conclusion of the team, following the review, was that the major problems occurred because of breakdowns in communication between the several agencies deemed to hold responsibility and between them and the general public. In general these breakdowns occurred because of quite different expectations on the part of receiver and sender.

In this section we will look at the communication problem from the perspective of the several parties so that we can begin to understand why, in a crisis situation, many of the communications were actually ineffective.

#### **9.1 Public Information Prior to the Emergency**

A vast amount of public information was available in the advance of the flood. Every property in the flood plain should have received booklets and leaflets from the Environment Agency advising on how to prepare for flooding and how to respond to flooding and there is no reason to assume that they did not. They would also all have been invited to register for the Floodline AVM service and receive automated flood warnings by telephone. Take-up of this service in Purley was – despite regular reminders – not particularly high. This can be attributed to the fact that most people were living in houses which had not flooded for 50 years and genuinely believed they were not at risk. There was also an understandable reluctance on the part of some people to recognise that their home might be at risk of flooding.

Despite the amount of advice and information available, it seems clear that many residents did not know where to lay their hands on it with the waters rising around them. Electronic communication media such as web pages and e-mail are unlikely to prove particularly useful in this situation and booklets and leaflets may well have been thrown away, forgotten, or be inaccessible. Simple checklists designed to be carried in wallets or stuck on the fridge door with a magnet are far more likely to be of use.

#### **9.2 The Residents**

Flooding occurs in Purley to some extent virtually every year and flood alerts and warnings issued by the Environment Agency are often ignored by residents who take the view that they are unlikely to be affected. This applies whether the resident is registered to receive a warning via the AVM or via the flood warden network.

What the warning systems failed to do was to alert residents to the fact that the flooding was indeed going to affect them. There was little or no hint in the warnings issued as to the potential magnitude of the flooding or to the speed at which the flood waters would rise. Thus when it became apparent that they were going to be affected most residents were totally unprepared.

At this stage they turn to the authority which they believed might be in a position to help them. Some phoned the Environment Agency for more information but found the information they did receive was of little value. Others contacted their District Councillor to ask how to get extra sandbags or whether the Council could help a neighbour. All the District Councillor could do was to pass on messages and despite many phone calls little or no action resulted. Others phoned the Council direct or tried to contact the police or the Fire and Rescue Service with similar effect. It appeared clear to residents that these agencies were not geared to respond

to the situation that the residents found themselves in.

As the situation developed and the several agencies began to respond the perspective was more one of lack of action than action. The bus service ceased and the expected refuse collection did not take place. The sandbag supply ran out and anyway many people did not have the means to carry the sandbags from the store to their homes. When representatives of the District Council did appear on the scene and tried to respond to people's requests they were not identified as such and not differentiated from, for example, the sandbag suppliers provided by a local radio station.

The one organisation that was immediately recognisable as such was SEBEV. They self activated at 7.00 pm on Friday 3rd January and their volunteers and vehicles were readily identifiable. It was natural therefore that residents saw them as the only agency in a position to help them. However SEBEV were not in a position to offer advice and help on behalf of either the police, the council, the Fire and Rescue Services or the Parish Council.

Most residents were capable of looking after their own interests, either by sitting it out in a house built above the 1947 flood level or by decamping to friends on higher ground. As they came to terms with their situation they were able to make enquiries of the several agencies and make the necessary arrangements to return to their property. What they were generally unable to do however was to get any estimate of the likely timescale of the emergency. The responses to the questionnaire (see Appendix 4) indicate that almost a quarter of the residents did indeed contact the Council during the period 2nd to the 4th Jan although the quality of information received was perceived as poor.

Other residents, particularly the old and frail or those that had not lived in Purley for very long, felt totally abandoned. They were generally incapable of taking the necessary precautions to protect their property and apart from evacuation by SEBEV had to rely on friends and relatives to help them.

Where evacuation was required no one was aware that both the Cotswold Centre and the Barn were available as rest centres or that the Council had laid on a minibus service. There was no effective mechanism for communicating up to date and authoritative information to residents. No one seemed to be in control.

### **9.3 The Parish Council**

The Parish Council consists of 13 members and one officer (The Clerk) All members are unpaid volunteers and of the 13 no less than 6 live in the vulnerable areas of the Parish and were more concerned with their own property than with Parish Council business. Parish resources are very limited, what they had was made available, eg the Barn as a rest centre, but, by and large, the other agencies were unaware of what resources the parish had to offer and in no position to make use of them.

Members of the Parish Council struggled to acquaint themselves with the developing situation but apart from passing on messages and responding to queries were in no position to act. They were not party to the District's Emergency Plan and had no role to play.

In fact, Purley Parish Council had little or no established channel of regular communication with the Environment Agency or the flood wardens and, therefore, no clear picture of the developing situation. Neither did it have a system in place for placing its members on alert or establishing early communications with WBC and

other agencies. These shortcomings need to be addressed. (The Parish Council did, however, have a plan for establishing The Barn at its Goosecroft Recreation Ground as an emergency reception centre. This plan was put into effect, on the its own initiative, on the Saturday morning. Unfortunately, poor communications at the flood scene meant that few victims knew about it.)

The Chairman of Purley Parish Council, using a personal mobile phone, was able to act as a local communications node – conveying messages between personnel on the ground and at Newbury – for most of the Saturday. This was far from satisfactory and demonstrated the need for a local communications centre as part of a structured response plan.

#### **9.4 The District Council**

It is the District Council which is charged with the duty of preparing for emergencies and offering a structured response. As flooding occurs regularly in Purley they were not able to differentiate between a 'normal' event which involves merely issuing sandbags and cleaning up afterwards, and a potentially serious situation as occurred in January. In fact the number of telephone calls from the Purley area was no more than usual when flooding does occur and the callers, most of whom were experienced in such events, did not seem unduly alarmed or indicate anything out of the ordinary.

At some point on the Friday The Council received a call from one of the EA's volunteer flood wardens. The message received was, we understand, along the lines of 'no real problems, but we could do with a few more sandbags'. Later statements from Council officers gave the impression that this message was taken as some sort of official advice that further help was not needed. It has even been stated, incorrectly, that this was a communication from the Parish Council. In fact it was only the personal view of one individual – seeing only a small part of the picture – and speaking for no one but herself and her immediate neighbours.

Nevertheless, following further advice from the Environment Agency, the District Council did put a few of their departments on standby and continued to monitor the situation. Meanwhile staff were sent to site to deal with specific problems.

The District Council had no means of evaluating the situation other than from calls received and the reports of various junior officers who were on site. As a result a message was sent out on Friday night indicating that as everything was under control they could go home for the weekend. This message was the subject of a heated dispute with the Parish Council as it appeared that the District believed they (the Parish) was dealing with the situation and had the resources so to do. There was a further misapprehension that the police were active on the scene and would activate the emergency procedures at an appropriate time. The information from the Environment Agency similarly gave little or no indication that this was far from a normal situation.

It was not until the Saturday (4th) that it was evident this was not a 'normal' situation and a temporary emergency control centre was activated. Again there was the problem that there was no mechanism in place to inform the public or for the centre to be properly informed as to what was going on. Senior officers of the Council had by now been alerted, mainly through radio reports, that something serious was amiss and there were many telephone calls to try to gain a coherent picture. Unfortunately almost every party questioned had a different perspective and far from clarifying the situation it began to appear to be even more confused.

When the District did begin to take matters in hand, eg by closing off Colyton Way, it soon became obvious that they had no powers, or indeed resources, to actually enforce any orders they wished to make.

In retrospect the District made an assessment about the capability of the Parish Council which was ill founded and assumptions as to the actions of other agencies such as the police, which were either long out of date or little more than a pious hope. It is evident that there was no properly structured response plan in place which had been agreed in detail with other agencies.

### **9.5 The Police**

The police seemed to have taken a totally detached view of the developing situation. In so far as they were concerned it was not a crime scene and not an emergency. They were not equipped to tour the River Estate to give advice, neither did they see it as their role. Some officers were around to ensure properties were not looted or vandalised while owners were absent but there was no obvious attempt to deal with inconsiderate motorists causing waves by driving too fast or with vandals who had planted nailed boards beneath the waters.

The police's position was that they would continue to monitor the developing situation but would intervene and take control only when a serious threat to life or property developed.

### **9.6 The Environment Agency**

The Environment Agency were striving to keep their information up to date and to inform the public via their established mechanisms. The information they were able to provide was far too general to be of much use to people in Purley who were wanting much more specific information for example as to when a peak would be reached and how high it would be. The type of warnings issued could not anticipate the sudden rush of water across the fields from an entirely unexpected quarter when water levels rose to the point where the estate was effectively within the flow of the main river rather than suffering from overflow and rising ground water.

The Lock Keeper, who knows many of the residents personally, did his best to interpret the 'inside' information he had from fellow lock keepers and his own experience and to inform residents. This was a service very much valued by many people.

### **9.7 SEBEV**

It was fortuitous that a member of SEBEV lived in the area and recognised the seriousness of the developing situation. As a result they were activated far earlier than they would have been as part of the District Council's procedures. They set up a control centre on site and deployed volunteers to tour the estate and rescue people by boat. They were also able to provide advice and temporary shelter. Again their services were greatly appreciated.

However as they had not been called out officially, none of the official agencies thought fit to keep them informed or to set up an effective liaison until 10 am on the Saturday.

### **9.8 Improving for the Future**

Command and control of the response to a flood emergency of this magnitude clearly falls within the remit of West Berkshire Council. Many lessons have been learned and references made in other parts of this report. In particular The Parish Council is developing a Purley Flooding Emergency Response Plan which docume-

nts agreed protocols between themselves and the other agencies alongside which will be a crisis card and information packs developed in conjunction with the Environment Agency. This plan will form part of a total West Berkshire Emergency Response Plan.

In addition, emergency support staff on the ground should be highly visible, easily identifiable and be in a position to pass on up-to-date information. We understand that West Berkshire Council will be providing suitably marked clothing for their staff and for use in any future emergency. There will also be a suitably marked vehicle to act as a focal point for disseminating information. ‘?Old’ technology such as loud hailers can play a useful role here, but it is important that they are used sparingly and in a structured manner if they are not to contribute to the overall ‘noise’ and confusion of a flood emergency.

It should be recognised that WBC is seriously under-funded and under-resourced for dealing with emergencies – and parish councils even more so. Also, public expectations of the support which ought to be available are often wildly unrealistic. Even so, a more structured approach to the use of existing resources, together with improved communications, should result in a speedier and more effective response in future.

### **9.9 Informing the public**

Additional information over and above the basic flood warning status needs to be made available to those living in the flood plain during the build up to any flood event. A cascade system has now been put in place whereby flood wardens will receive further advice on the possible extent of any flooding from the Environment Agency via a confidential enquiry line and from the keeper at Mapledurham Lock and will communicate this to residents on their list. The Parish Council will also have access to this additional information in assessing its response to a flood warning.

Communication with the public during a flood emergency is, inevitably, more difficult. During the 2003 event it was clearly less than satisfactory. This is confirmed by the fact that very few residents were aware that the Parish Council had opened the Barn as a temporary reception centre, or that a shuttle bus was available to take them to and from the Barn. In fact, only one couple made use of the facility all day.

This problem has been partly addressed by the appointment of more flood wardens. It is essential, however, that the wardens receive the necessary information and are encouraged to pass it on to those on their list. This can be accomplished via a central communications point in the Parish Office using telephones and/or messengers. Updates can also be provided from here for broadcast on local radio stations and regional TV programmes and for posting on notice boards in the flood area, particularly at the shop.

### **9.10 Conclusions**

There was a serious mismatch between expectation and reality, not only on the part of the general public, but also between the several agencies that accept a responsibility to respond to such situations. This was compounded by ineffective communications and a lack of a clear command and control mechanism. It does not really matter where command and control is located but it must have visibility and be seen as being in control.

Many of the lessons learned have already been implemented so many of the

recommendations below are by now obsolete. Nevertheless they have been left in place for reference.

*Recommendation 9.1 Purley on Thames Parish Council should produce an information pack incorporating advice and guidance and general information as produced by the several agencies. This should be distributed to everyone in the RG8-8 postal zone.*

*Recommendation 9.2 Every year in the Autumn, flood wardens should check each household to ensure that their list of names and addresses is current and to supply a copy of the information pack to new residents on request.*

*Recommendation 9.3 Purley on Thames Parish Council should produce a 'crisis card' which carries key telephone numbers to be used in the event of a flooding situation. This should be distributed to all residents of Purley beyond the junction of New Hill and Purley Village.*

*Recommendation 9.4 Purley on Thames Parish Council should upgrade telephone and electrical power point facilities at the Parish Office and make provision for the office to be used as a control centre for the distribution of information when flooding is imminent.*

*Recommendation 9.5 Purley on Thames Parish Council should establish a clear understanding between themselves and the Emergency services at West Berkshire Council to determine the circumstances under which command and control is passed to West Berkshire.*

*Recommendation 9.6 Purley On Thames Parish Council and the Environment Agency should review their arrangements, in conjunction with the flood wardens on an annual basis.*

*Recommendation 9.7 Every year in the Autumn, flood wardens should check each household to ensure that their list of names and addresses is current and to supply a copy of the information pack to new residents on request.*

## **10 – A FLOOD ALLEVIATION SCHEME**

### **10.1 The Problem**

The vulnerable parts of Purley are subject both to fluvial spillage and to a rising water table, although the flood water source is predominantly from the River Thames. Both overflow of the banks, and seepage through the relatively free-flowing gravel channel, rapidly distribute water over the flood plain once river levels rise.

The nature of the geology at this point does not easily allow a simple embankment solution to flood prevention but needs to take account of the required balance between overspill from the Thames and rising groundwater - especially under conditions when mutual high levels allow neither to relieve excess water from the other.

The Environment Agency (in previous guises) has proposed potential alleviation schemes in the past, most notably in 1992, However; none has so far successfully addressed the dual problem circumstances in both technical and economic terms while at the same time being environmentally acceptable. These solutions were not pursued.

### **10.2 The Pre-feasibility Study**

Following the 2002-3 winter flooding, the Environment Agency, (with Peter Brett Associates) set up a pre-feasibility study. Its starting point was to look at options for protecting the flood-susceptible parts of Purley against a '100yr + climate change' event with potentially 400 properties at risk under these conditions. Particular emphasis was put on a medium to long-term (10yr outlook) solution and to report on those options which could sensibly be taken forward to a full investigation.

It is clear that any flood prevention scheme must successfully tackle both spillage and rising water-table problems. Consideration of two particular options - to do nothing or to build a relief channel (Maidenhead Jubilee River type) - were not thought appropriate and did not form part of any further proposal. However, the provision of a total protection scheme, may require work on a such a large scale that it destroys what it is aiming to protect.

The Pre-feasibility Study Report (published on 26th November 2003) arrived at 3 potential solutions:-

- 1.a full height permanent wall
- 2.full-height demountable defences
- 3.a dwarf wall, supplemented by demountable defences

Each would need to be supported by improved drainage and dispersion schemes.

The considered view of the Study Team was that Option 3 was the scheme most likely to be acceptable to most interested parties. This would entail a combination of permanent dwarf structures in the River Gardens and Marina areas, a land-scaped earth bund around Home Farm, a sunk cut-off wall to minimise flows though the gravels and a substantial drainage grid with 2 or 3 new pumping stations.

A preliminary report was made to the members of the Purley on Thames Flood Review Team by members of the Environment Agency Study Group. This presentation covered a brief review of past assessments, each of three currently considered options and a more detailed assessment of their preferred solution.

Progress to a Full Feasibility Study will be determined by the balanced evaluation of its technical viability, environmental impact, cost and population protection.

### **10.3 Environment Agency Assessment of the Scheme**

The work, so far, considered that Option 3 was technically and economically viable with an estimated cost of approximately £4.9m at present value. The likely cost to the community of flood damage - at the considered event level - was estimated at £11.7m giving a benefit/cost ratio of 2.4. Environmental impact would be minimal although temporary disturbance during construction would be noticeable.

Before progressing further on detailed planning, further local consultation would be carried out although the Agency's preferred option coincides with that expressed by approximately 50% of the local residents' responses. This further work would entail detailed ground investigation, full-scale pump tests and a topographic survey; with the aim of refining and clarifying the design details so that the scheme can be moved forward while funding is being secured.

The other major factor in the decision process is the DEFRA prioritisation. Using its weighted evaluation system (based on Economic, People and Environment ratings) the current score is for Purley is 8. Schemes rated for likely approval in the coming year must reach 20 - for 2005/6, this may be reduced. On this assumption, it is unlikely that Purley will be sufficiently highly ranked for a number of years.

### **10.4 The Review Team's Conclusions**

The Purley Flood Review Team does not accept the assumption that the proposed scheme will never become sufficiently highly ranked and believes that work must be progressed further. We are satisfied that the proposed scheme is technically sound and would relieve the anxiety of many residents.

#### *Recommendation 10.1*

*The Government should make additional funding available to enable schemes such as the Purley one to stand a reasonable chance of being constructed within a comparatively short timescale.*

## 11 – EMERGENCY PLANNING

### 11.1 Background

Emergency planning has gradually evolved from the ‘air raid precautions’ arrangements that were begun just before the Second World War. These ‘precautions’ involved the Home Office and Local Councils and were focussed mainly on fear of gas attack. As a result, local wardens were appointed and supplies of shelters, gas masks and ear plugs were distributed and householders were inundated with pamphlets full of good advice. After the war it was realised that the threats had been badly anticipated and most of the advice was actually unnecessary or superfluous.

After the war emergency planning was dominated by concern about nuclear threats and it was not until the early 1990s that the Home Office recognised that there was a need to plan for and deal with a very wide variety of civil contingencies. As a result, Principal Local Authorities and other organisations have been required to establish and maintain an emergency planning function, although the funds allocated to this function are grossly inadequate.

### 11.2 The Basic Principles of Contingency Planning.

Five activities are fundamental to the process:-

- **Assessment** - whereby Organisations examine their own areas and assess their vulnerabilities.
- **Prevention** – whereby Organisations take steps to eliminate, isolate or reduce the risks
- **Preparation** – whereby Organisations develop plans, acquire equipment and make arrangements with other organisations in order to be have a capability to respond. This also includes training staff and holding regular exercises.
- **Response** – whereby Organisations respond to the situations that occur, establish priorities and mobilise their resources accordingly.
- **Recovery management** whereby Organisations deal with the physical, social, psychological, political and financial consequences of an emergency

When it comes to handling an emergency the basic principle is that the police should be in overall command and that they establish a cordon around the site of the emergency to protect the other organisations that are engaged on the site from interference. As part of this cordon each organisation should establish a forward control point on the perimeter of the cordon to ensure effective coordination. The organisations most likely to be dealing with the actual emergency are: the Fire and Rescue Services, Ambulance and medical, The military or the Local Authority. Other Organisations will provide off site services such as hospital, mortuary, rest centres, food, transport and counselling. When the emergency has been dealt with the police have an ongoing duty to protect the site, determine whether or not there is a crime scene and if so to protect any evidence.

### 11.3 The Failures of Emergency Planning

The major failings in the Purley flooding incident arose because of a complete lack of understanding between the several agencies concerned. So far as the Police were concerned there never was an emergency situation because life was not endangered

and there was no immediate catastrophic threat to property – they defined it as a ‘developing situation’ The Environment Agency put out flood warnings but became so overwhelmed that their computer and communications systems were unable to cope with the demand. Added to which serious breakdowns occurred, eg with the website, and it became very difficult for the public and other organisations to get accurate, up to date information. Other organisations were either slow to react or their reactions were ineffective. West Berkshire Council, to whom many people turned, did not have effective procedures in place to assess the information that they were supplied with, neither were senior officers properly briefed or alerted. Many assumptions were made as to the responses of other organisations which simply did not materialise. When West Berkshire did appear on site there was little to identify them as such and so, many people believed that West Berkshire either did not care or was not prepared to respond.

Set against this scenario the South East Berkshire Emergency Volunteers (SEBEV) self activated themselves as one of their members was living on the River Estate. They established a control and rest centre and were very evident to all and sundry. While it may be technically true that as part of the West Berkshire planned resources they would have been called out anyway, it is clear that their actions brought help to many people much earlier and they were perceived as being the only organisation that cared.

#### **11.4 Immediate Consequences**

As a consequence of the failures noted above West Berkshire has taken simple steps to acquire yellow jackets identifying West Berkshire staff and large labels to identify West Berkshire vehicles. Two mobile control centres have been acquired and steps have been taken to acquire other equipment that would be useful in such situations. They have been party to this review and are thoroughly reviewing their internal procedures and encouraging parishes and communities to develop their own contingency plans.

The Environment Agency for their part have built up a new network of flood wardens and is developing improved prediction and warning systems. Their staff have been active participants in this review.

Purley on Thames Parish Council have recognised both their role in coping with such emergencies and their limitations. They have been both active participants in this review and in the development of the Purley Flooding Emergency Plan (FERP) Discussions with other Agencies eg the Police have dispelled many false assumptions and have helped to ensure that the procedures built into future plans are both far more realistic and robust.

#### **11.5 Arrangements in West Berkshire and Neighbouring Authorities**

**West Berkshire** provides one Emergency Planning Officer with a Deputy. They are responsible for developing plans. Emergency Planning is located within Public Protection and several of the other senior officers in that department, and indeed senior officers from other departments are able to take control of emergency situations should they arise. A main switchboard (01635-42400) is maintained during the day and calls can be placed to either the emergency planning officer or to another senior officer as may be directed from time to time to the switchboard. Out of hours a separate number (01635-42161) is used and a very experienced duty officer takes re-routed calls at home and can contact an appropriate senior officer within minutes.

**Bracknell Forest** have a service called Forestcare which operates for 24 hours and this can take all manner of queries, dealing mainly with emergency planning, pollution and highways issues. In addition there is a public helpline operating out of hours and a private number for emergency services. As part of their emergency plan the council has a 24 hr/365day duty officer rota. They get paid a flat fee for the week and get overtime if called out. The team is eight strong and is dedicated to emergency planning issues although they may have other jobs within the council when not on this duty. They will be activated by Forestcare for emergency issues and become the liaison officers who would go to site to assess and escalate as required.

**Windsor and Maidenhead** have a 24 hr/365 day CCTV control room which receives all out of hours calls from the public or other emergency services. The control room staff can contact the operations unit in case of major and many minor incidents. At all times there is a duty flood officer and an emergency response unit (occasionally the same person) There are 8 officers on this rota and they decide the level of response from the Royal Borough.

**Slough** have a recorded message for out of hours use on their main switchboard., flooding issues are directed at the highways team. There is a private number for the use of other emergency services and there is a well defined cascade system for alerting senior officers in the case of a serious emergency. There is a “District Coordinator” a chief officer and some second tier officers hold the role for a week and are on 24/7 standby. Also a ‘District Liaison Officer’ – a second or third tier officer who will be present on site if required. Again a weekly assignment 24/7. The major incident plan calls for certain resources, including equipment and manpower to be on standby at all times.

**Reading** has a main switchboard manned by security staff out of hours. A security officer is always on duty and will assess any incoming calls and can deploy the emergency Response Team Duty Officer if thought necessary. The Emergency Planning Officer has developed and maintains a cascade system similar to that of Slough. The emergency team has 7 duty officers, 4 incident control officers and 10 or more communications officers.

**Buckinghamshire** have a duty Emergency Planning Officer on a 24/7 basis contacted through the Fire and Rescue Service. EPOs are paid a flat fee and are equipped with a vehicle and communications equipment. Three of the four Districts have duty officers usually from Environmental Health who liaise with other District Officers. The County has a 24/7 number and calls are distributed either by switchboard or recorded message. When a major incident occurs the duty EPO assesses the situation and decides whether or not to activate the emergency centre which is always kept on standby. The duty EPO can then be deployed to site.

**Hampshire** has a team of 6 duty emergency planning officers on a rota. The major incident plan is activated only when an emergency service activates a ‘major incident’ and notifies the EPO

Being ‘on site’ for an incident (as mentioned above) usually implies the officer being on the police cordon or control room to coordinate responses with other agencies. This is often referred to a ‘Silver’

### **11.6 The Draft Civil Contingencies Bill**

This bill which was referred to in the Queen's speech in November 2003 proposes a number of significant changes to emergency planning.

First it extends the scope of 'emergency' to include serious threats to:-

- Human welfare (eg loss of life, homelessness, disruption of food supplies loss of energy or disruption of medical services)
- The Environment (eg contamination, flooding)
- Economic Stability
- Security of the UK

Secondly it defines a number of 'Category 1 Agencies' who are required to collaborate and draw up contingency plans (these include West Berkshire Council, The Environment Agency, the Police, the Fire and Rescue Service and the NHS Ambulance Trust) There are also 'Category 2 Agencies' who will have a legal duty to support the category 1 Agencies. These include the public utilities and the Health and Safety Executive.

Thirdly a regional tier is proposed. This will provide 'leadership' and 'coordination' especially with the Home Office. It will be guided by a Regional Committee.

### 11.7 Funding for Civil Contingencies

A recent survey by the Local Government Association concluded that the amount spent on civil contingency planning was woefully inadequate. Money is spent at two levels, first by the Home Office to support Police, Fire and Ambulance Services etc. and secondly by The Office of the Deputy Prime Minister to support first tier Local Authorities (County Councils, Unitaries etc) The following table sets out some basic information:-

<b>Authority</b>	<b>number</b>	<b>total spend</b>	<b>a v e r a g e spend</b>	<b>a v e r a g e O D P M grant</b>
1st tier LAs	172	£32M	£186K	£110K
Shire districts	238	£4M	£16.8K	nil
West Berkshire	1	£109K		£68K

Note that some of the County Councils pass on a small amount of the total Home Office Grant of £19M to their Shire Districts. The Local Government Association are advising that a more realistic grant would be of the order of £70M

## **12 – BUILDING CONTROL AND PLANNING**

### **12.1 Planning**

The modern planning system started with the "1947 Town and Country Planning Act". Over the years this has been developed to give us the planning environment we have today.

The planning system requires that for any significant development be it a building or land use the developer must apply for and obtain planning permission from the local authority. The only exceptions are the so-called "code operators" - gas, electricity and telephone operators or some developments on crown properties.

Development is controlled by the Local Plan. This is produced by the local authority, is subject to public scrutiny and eventually scrutinised by the Department of the Environment. This Plan defines the sort of development that may be allowed in any area. It also gives guidance of a more general nature to protect the environment.

In allowing any particular development the local authority may impose conditions. For example, a requirement for a toxic site to be decontaminated before development or for an archaeological evaluation. In the case of Purley Park River estate houses are required to be built above the 1947 flood level.

There is a presumption that any development allowed should accord with the local plan or so called "Planning Policy Guidance" from the Department of the Environment.

The Council is obliged to consult various interested agencies on a development. Depending on the development these may include for example English Heritage, Thames Water or the Highways Authority. Their advice may result in a refusal. The Environment Agency could object to a development on flooding grounds and their advice would be given a very heavy weighting.

If any development is refused the applicant may appeal to the Minister of the Environment who may overrule the Council. Thus even if a house were below the 1947 flood level or The Environment Agency objected, an inspector may allow it although this would be surprising.

### **12.2 Building Control**

Building control ensures that any building is erected to any relevant "building regulations". Many of these standards will be imposed nationally such as insulation levels. Some may apply to specific areas or to conditions in a specific application.

The Council employs building inspectors to ensure that a development complies with the building regulations and any additional conditions. They can require a developer to put right any infringements and in extreme situations can impose a "stop order" that makes any further construction illegal. This could take place where a developer has decided to build below the 1947 flood level and has refused to rectify the situation.

### **12.3 Application to the Purley Park River estate**

New buildings are normally only permitted within the built area as defined in the local plan. The built area is tightly drawn around the Purley Park River Estate. Thus the extension of the built area would not normally be permitted.

Local Plan policy HSG.16 uniquely applies to the Purley Park River Estate. It includes under

paragraph (f)

*"flood level; in order to allow for possible flooding, the District Council will require new dwellings to be constructed to a minimum floor level of 39.82 metres (103.63 ft) above O.D. Newlyn".*

This level is the 1947 flood level. The local plan imposes no further development restrictions. The other items do not refer to flooding.

A key factor in imposing conditions is reasonability. Thus if an existing property is constructed below the 1947 level and the owner seeks to modify a wall for example, it would not be considered reasonable to require the whole house to be demolished or rebuilt above the flood level. Once built as an authorised development a permission cannot be rescinded. Where a house has been built without benefit of planning permission a certificate of lawfulness can be applied for after four years and after twelve years there is a presumption that the development was lawful.

The Local Plan cannot require developments. Thus the design of the roads which could prevent flooding or prevent the roads themselves flooding is not possible. It cannot be used to require flood defences to be constructed. However, it is possible for any new development to contribute to developments such as raising the road level. Currently the local plan does not suggest such procedures.

The local plan is updated from time to time. The current one runs until 2006. It would be possible to include further policies for Purley Park River estate to alleviate flooding.

#### **12.4 Building in a Flood Plain**

A flood plain is an area which can take up excess water from a river by allowing it to flow overground. It is technically defined as *"all land adjacent to a watercourse, as defined in the Land Drainage Act 1991, over which water flows in time of flood or would flow but for the presence of flood defences"* Under normal circumstances development is not permitted in a flood plain as it is likely to impede the flow of water. However for historic and practical reasons there are often existing developments within a flood plain. Central Government has issued PPG25 which gives fairly clear guidance on these matters. and advises Local Authorities to fully evaluate the risks requiring developers to produce a Flood Risk Assessment. However there is widespread ignorance on the part of property owners and developers as to the risks inherent in developments on a flood plain.

At the same time the vulnerability of individual plots to flooding is poorly understood and maps produced by the Environment Agency and other bodies are often imprecise encouraging developers to be prepared to take risks. PPG25 is quite clear than developments in an area not otherwise susceptible to flooding may themselves induce flooding by obstructing underground water flows. Thus home owners who may be prepared to accept risks to themselves should be prevented from adding to the risks of others.

Local Planning Authorities, in consultation with the Environment Agency should seek to reduce flood risk where possible, protect flood plains for their natural purposes allowing them to function effectively and protect a flood plain from inappropriate development.

## 13 – INSURABILITY

### 13.1 Evidence from Residents

The evidence obtained from residents indicates a very wide variation of practice between the different insurance companies. Generally claims on existing properties have been dealt with swiftly and sympathetically by insurers, however there is evidence that when it comes to renewal of policies premiums in the RG8-8 area have increased significantly and, in some cases, companies have refused to insure.

The following is a summary of evidence obtained from both insurance companies and residents arranged by company.

- **ABBEY NATIONAL**

*Their representative stated that if a property had been flooded in the past 10 years they probably would not offer insurance. They were unconcerned by whether or not the house was built above the 1947 flood level, only whether or not it was located in a flood plain. They would however continue to cover existing properties and would research new applications.*

- **CO-OP**

*Mr A of Mapledurham Drive has lived in Purley for 35 years and experienced flooding in 2000. He has reported no problem with his insurance.*

*Mr B of Wintringham Way has lived in Purley 50 years and had no problems with claims.*

*Mr E of Colyton Way needed a considerable amount of remedial work after the flooding. Their claim was settled satisfactorily.*

- **LLOYDS BANK**

*Mr F of Wintringham Way moved in shortly after the flooding. Had great difficulty getting any company to insure his property but eventually Lloyds Bank agreed but at what was regarded as a high premium.*

- **NORWICH UNION**

*Their representative stated that they would not newly insure any property in a flood plain and liable to a less than 75 year flood risk. They would however continue to renew existing policies. They regard Purley as well within the 75 year risk although they were not clear as to the definition of 'Purley' it appeared they used the RG8-8 postcode as a definition. They are in the process of creating a 3 dimensional flood map of the flood plains but have not yet completed the West Berkshire section.*

- **PRUDENTIAL**

*Their representative said they would probably not issue a new policy to properties in 'Purley Village' if they had been flooded within the past 10 years. They would however continue to cover existing properties.*

- **TSB**

*Mr C of Wintringham Way has lived in Purley for 25 years and had no problems with claims*

- **COMPANY NOT NAMED**

*Two companies contacted said they would evaluate each application on an individual basis.*

*Mr D of Wintringham Way moved to Purley this year. Had problems getting insurance from any company when he phoned them direct, however a broker responded with an acceptable quotation.*

*Mr G of River Gardens has been flooded frequently in the 25 years he has lived in Purley. He has had no problems with insurance.*

*Mr H of Hazel Road had his premium increased by 25% which his insurance company attributed to the fact that RG8-8 is now assessed as a higher risk area. (NB Hazel Road is about 150 feet above the river)*

*One new purchaser could not get new cover for his property, however the insurer of the previous owner agreed that he could take of the previous policy.*

### **13.2 The Role of the Environment Agency re insurability**

The Environment Agency is the lead authority in flood mapping and flood risk assessment for England and Wales. The Agency has recently produced a Flood Mapping Strategy, outlining a five-year programme of flood mapping work, which will improve and increase information on flood risk over time.

At a national level, The Agency is also working with the Association of British Insurers (ABI) to support the insurance industry's commitment to continue to offer insurance to the vast majority of homes and businesses in flood risk areas.

The Agency has no role in determining insurance cover, but does share a common goal with the Association of British Insurers (ABI), to improve flood mapping and provide the best available information to the public.

In order to assist householders and insurers in providing insurance, the Agency has supplied ABI member insurance companies with information that gives a national assessment of likelihood of flooding, from rivers and the sea, within the floodplain taking into account flood defences. It provides a first step for insurers in assessing insurance.

However, insurance companies may continue to refer policyholders to the Agency to source more detailed, local information.

Where the information is available, the Agency will provide more details relating to the standard of flood protection in the area, and confirm whether or not, there are any planned improvement schemes to flood defences or natural channels that may reduce the existing flood risk.

The Agency may also be able to provide additional information, such as known or recorded flood levels, in order to compare with surveyed ground levels at a property and to determine whether the property will flood internally. This information may also assist a property owner whose property is clearly beyond a flood plain but has been identified as being at risk by the insurance company because of postcode grouping.

This is just one stage in the five-year programme of flood mapping work. The work will also involve updating the internet based Indicative Floodplain Map every three months starting in September 2003. A second phase, which will come online in September 2004, will see a new Flood Map for England and Wales. This will replace the current Indicative Floodplain Map. It will show some flood defence information and more detail on the likelihood of flooding, from rivers and the sea.

### **13.3 A New Initiative**

We were pleased to note a report in the Sunday Telegraph of 23rd November, that Bureau Insurance is teaming up with Floodguards to provide insurance for those previously uninsurable against flooding. The new scheme called 'Flood Insure' however it requires householders to invest in flood defence equipment from Floodguards.

The report also notes Norwich Union undertaking a reappraisal of properties in flood risk areas using their new flood map.

### **13.4 Conclusions:**

The provision of insurance is a business decision for the individual insurance companies and currently the subject of discussion between Government and the insurance industry. The Environment Agency is providing the Association of British Insurers with information on current and planned flood defences, to allow them to make the best assessment of risk. The Agency currently spends £370 million a year on flood defence. This will rise by £150 million over the next four years as a result of increased Government funding. It is important to recognise that flood defences can never guarantee complete protection from flooding. Also, any proposals for flood alleviation need to demonstrate that they are technically sound, environmentally acceptable and economically justified. At present we are unable to put forward any schemes which fulfil these criteria for the Lower Thames.

A number of people who are either failing to disclose information to their insurers or who are misleading them face refusal of claims should they be affected. It is imperative therefore that everyone is honest with their insurers. In many cases insurance companies use the postcode as an indicator of risk and for setting the premium. Contact with an insurance company will normally result in an application being assessed on simplistic grounds and people are advised to either use a broker or ask to speak to a senior underwriter.

The information available to the insurance industry from the Environment Agency should enable a proper risk assessment to be made for the setting of premiums in postcode areas where flooding has occurred. Within the Purley floodplain the majority of properties are constructed so that their living areas are above the 1947 level and are likely to suffer little or no damage in flood events less than 100 years. In addition the larger part of the RG8-8 postcode area is well above any danger of flooding,

## **13.5 Conclusions**

*Recommendation 13.1 Householders should use the services of a broker or a senior underwriter when applying for insurance.*

*Recommendation 13.2 Insurance companies should be encouraged by government, by legislation if necessary, to assess each risk on its merits and not adopt simplistic approaches such as use of a postcode.*

*Recommendation 13.3 Insurance companies should avail themselves of the information provided by the Environment Agency via the ABI.*

## 14 – PROPERTY VALUATION

### 14.1 Evidence

A number of estate agents were contacted and residents queried about the effect of flooding on the values and saleability of their properties. The comments of the several agents are noted below:-

- PATRICK WILLIAMS

*It is now much harder to sell properties in Colyton Way and Wintringham Way and other houses in close proximity to the river. They have sold a property in Waterside Drive without a problem.*

- SANSOME AND GEORGE

*Did not believe the property market had been affected by recent events. They had sold one while the flood water was still in the garden. Generally people take the view that is you live near a river you can expect flooding.*

- WHITEKNIGHTS

*They sold two properties in Wintringham Way with about a 10-15% reduction in the original asking price. Potential buyers are well aware of the problems in Purley and given an equal choice would probably select a property in Tilehurst over one in Purley.*

- HALIFAX

*Have sold one house in Colyton Way with a 10% reduction in price. The agent felt that house prices in Colyton Way, Wintringham Way, Mapledurham Drive, Chestnut Grove and River Gardens had suffered a 10% reduction in value due to flooding.*

- VILLAGE PROPERTIES

*Two properties have been taken off the market because the vendors could not get their asking price. One was sold in Church Mews without problems. The agent felt that there could well be a problem selling properties in those areas affected by the recent flooding.*

Several householders commented as follows:-

*Mr G of Wintringham Way had put his property on the market shortly after the flooding. Two people expressed an initial interest but the flooding put them off. Their agent suggested a reduction in price of 5-10% but they decided not to move.*

*Mr H who had recently purchased a house said he had paid less than the asking price but was well satisfied with his purchase.*

*Mr J of Wintringham Way had purchased his house at under the asking price.*

*Mr K of Wintringham Way had had their house valued before the floods at £300-320K. They are at present considering an offer of £270K and believe that the flooding has seriously affected the value of their property.*

*Mr L of Colyton way has been told his property is now unsaleable other than as a building plot*

*Mr M of Wintringham Way removed his property from the market after*

*being advised to reduce the asking price by 20%.*

### **14.3 Compensation**

We have been made aware of a former government scheme for compensating property owners when natural disasters have caused ruination. We further understand that this scheme has been withdrawn in recent years. It would appear however that such a scheme would be very appropriate to several situations in Purley.

### **14.4 Conclusions**

House prices in areas affected by the flooding appear to have lost 10-20% of their value as a result. Houses with living areas below the 1947 flood levels are likely to be either unsaleable or must be sold at an even greater discount.

## **15 - Individual/crowd Control**

Whilst most people can be relied on to act sensibly in an emergency situation, it is inevitable that not all will do so. The event of 2003 highlighted a number of problems. In particular, there were instances of people insisting on driving 4x4 vehicles along flooded roads with complete disregard for the impact that their bow wave would have on neighbouring properties. There were also potentially dangerous examples of vandalism with, for instance, sharp objects being placed below the surface of the flood waters. In addition, crowds of curious members of the public gathered to watch, adding to the confusion, causing parking problems and potentially hampering the activities of those seeking to deal with the problems.

There is a widely held public perception that there should be a permanent police presence on the ground during a flood emergency and that this would provide a solution. In fact, police presence during an emergency of this nature is always going to be severely limited by availability and competing priorities. The police take the view that their finite resources are intended for the purpose of combating crime rather than dealing with 'nuisance' and that this view would be supported by the majority of members of the public outwith the area of the flood. They will, of course, respond to specific complaints, but will not take on the role of policing the streets on an ongoing basis throughout the emergency.

Police did visit the scene during the day and we are assured that police patrols did take place at night and were successful in preventing any attempt at looting homes in the flood area. This activity would not, however, have been visible to the public in general.

The question remains as to how 'nuisance' activities can be controlled without the deterrent of a permanent police presence. We have established that command and control responsibility in an event of this nature falls upon West Berkshire Council. As the highways authority, WBC has the power to close roads and to limit access. A prompt and visible response from WBC, putting people on the ground with road closure signs and manning barriers, would go some way towards providing a solution. The ability of West Berkshire personnel to communicate with groups of people through the use of a loud hailer might help in dispersing groups of sightseers who were getting in the way.

## **16 – UTILITIES**

A home needs to be provided with a range of services provided by number of different public utility service companies. In the following sections we note how these may be affected by flooding and what simple precautions can be taken.

### **16.1 Sewerage**

Almost all houses in the Purley area are now provided with mains drainage which removes waste products from the house and pumps them to the sewage farm at Pangbourne. While every attempt is made to ensure the sewerage pipes are watertight it is simply not possible to ensure this. Thus when flooding occurs floodwater will penetrate the sewage pipes and as a consequence the pumps have to be turned off. Houses on the River Estate have never been allowed to deal with effluent by the use of septic tanks due to the high levels of the water table. We are not aware of any contraventions of this regulation.

Floodwater containing sewage can back up in drains and then enter a property via sinks, washing machines and toilets. To avoid this install ant-backflow valve to drains and sewers. Also consider placing a sandbag in your toilet basin. This will slow down water backing up the system and provide a small level of filtering.

We are aware that many of the connections to the main sewers are shoddily built and faulty, leading to a considerable amount of raw sewage being released. These connections are the responsibility of householders and where practicable they should be identified and repaired.

### **16.2 Electricity**

Floodwater conducts electricity hence if any outlet or junction box is affected by water a serious shock hazard can be present. Houses built above the 1947 flood levels should not be affected when there is water in gardens as the incoming cables are water proof. However if you have electrical outlets in the garage or other outbuildings it is wise to turn off the electricity supply at the mains using a wooden stick for added safety.

Any electrical equipment should be disconnected from the mains and taken to a place of safety, well clear of any water.

Do not attempt to repair or operate any damaged or water affected electrical goods until they have been checked by a certified electrical engineer.

### **16.3 Telephones**

Telephone land lines will probably work even when submerged in water. However nowadays many telephone systems eg cordless phones require a main supply to function. These should be disconnected and treated as electrical equipment (see 16.2 above).

Mobile phones should not be affected and are likely to prove their worth in flooding conditions. However note that their batteries will need recharging so do not use them unnecessarily.

### **16.4 Gas**

Gas supplies should not be affected by flooding. However flooding can seriously affect gas appliances and create explosive situations, for example by extinguishing pilot lights. It is therefore strongly recommended that when flooding is likely all gas supplies should be shut off at the meter.

## **16.5 Water Supply**

Water meters and pipework kept in good condition will not normally be affected by flood water. If there are defects in the system the water pressure inside the pipes is usually sufficient to prevent contaminated water entering the system. Nevertheless a supply of bottled water for drinking is a sensible precaution.

## **17 CLEAN UP OPERATIONS**

After a flood has occurred a great deal of work is usually needed to restore a property and the neighbourhood to the state it was before the incident. As a general rule it is the responsibility of each individual property owner to do this with the Council responsibly for made up roads. The paragraphs which follow set out the legal and practical issues surrounding this subject. Public perceptions and expectations are such that many will be surprised at who has the legal duty to do certain things which most people would expect the Council to do. In reality, the Council would want to work with the community and affected individuals to bring about a speedy return to normal and would help to co-ordinate activities on site to achieve this. However, at a time when many look to others to apportion blame and/or ongoing responsibility it is important that legal responsibilities are clarified.

Responsibility for clearing and cleaning up after a flood depends upon the premises and location which needs to be cleared and cleaned. The owner or occupier of any property is ultimately responsible for ensuring that it is kept clean regardless of any mitigating reasons why it may have become soiled (e.g., flooding). It may be possible for the owner/occupier to recover the costs of cleaning from their insurers and/or from those who are shown to be responsible for causing soiling. When flooding occurs there is rarely anyone to sue, and we turn to our insurers. The local authority is responsible for cleaning roads and any other land which it owns but it is not responsible for cleaning private property, though sometimes, where possible, it will try to assist by arranging for damaged items to be disposed of after they have been assessed by insurers. If for any reason someone refuses to clean their property the Council does have legal powers to do so and recover the costs of so doing from them.

Assistance in cleaning properties cannot be provided directly by the Council, though in certain circumstances it may be possible to agree with insured persons and their insurers that the Council could arrange for contractors to do the work and recover the costs directly. This very much depends upon the scale of the clean up operation and the willingness of insurers to participate in this collective arrangement.

When flooding occurs it is not just humans who are affected and the rat population is usually displaced from its natural habitats such as drains and ditches. It is not unusual to see rats around during and after floods as they scavenge for food. During, and in the immediate aftermath of a flood, there is very little which can be done to prevent rats but as soon as the clean up operation is underway it is everyone's responsibility to ensure that food waste is not left around as an attractant for rodents. Ultimately, it is the responsibility of each owner/occupier to disinfect their properties of any rats that may be present. As with cleaning, the Council only has obligations to disinfect its own properties but can use its powers to require owner/occupiers to disinfect theirs. If they fail to do so, the Council can carry out the work and recover the costs of so doing.

Appendix 6 provides more detailed advice.

## **18 STRATEGIC MANAGEMENT OF WATER SUPPLIES**

### **18.1 The Local Situation**

Purley gets its water from an artesian well in Pangbourne which penetrates the saturated chalk underlying this part of the Thames basin. This chalk is some 5000 feet thick.

The 15 square miles or so of the valley between the Goring Gap and Purley alone would hold around 800M cubic metres of water at a porosity of 20% The whole of the Thames Water area consumes only about 2.8M cum/day so our aquifer alone could supply that without noticing.

In addition the actual flood plain has a bed of pure gravel to a depth of about 20 feet and it is estimated that approximately two thirds of the water from the catchment area flows though the gravel rather than in the bed of the Thames.

Nevertheless in response to the 1976 drought, water supply companies were enjoined to 'save water' and encouraged to ensure that the aquifer was kept as full as possible. In the past it has been estimated that of the rainfall over the Thames basin at least half could be easily absorbed into the aquifer and hence not need to pass down the river in one surge. The policies that have been adopted have, we believe, significantly added to the incidence of flooding over the past ten years or so.

We note the proposal to build a reservoir at Abingdon has been resurrected recently.

### **18.2 A National Grid for Water**

There are parts of the country that have a significant deficit in water supply, one may cite the East Midlands, the south west and the Kent /Sussex coastal area. Because water supplies are organised on a river catchment basis there has been little incentive to build a national grid for water supplies, yet such a grid might actually alleviate flooding in areas like the Thames Valley and reduce the need for reservoirs and hose pipe bans in other areas.

The potential environmental benefits of such a scheme may be observed in a much more limited concept much closer to home. In dry conditions the River Pang catchment area is insufficient to maintain a proper flow in the Pang. As a result we used to get serious problems with blockages, the river running dry and stranding fish etc. A scheme was devised whereby water could be piped from Pangbourne to closer to the source of the Pang so that in dry weather water could be recycled to keep a steady flow, thus maintaining the ecology and preventing obstructions from building up.

## **19 - THE PURLEY FLOODING EMERGENCY RESPONSE PLAN**

The Purley Flooding Emergency Plan is recorded in a separate free standing document which sets out general principles and provides lists of resources and action check lists. We are grateful for the document produced by the Hampshire Flood Steering Group entitled Managing Flood Risk in Parishes and other help provided by the Environment Agency. The plan has been produced in concert with the Emergency Planning Section of West Berkshire Council and is compatible with the District-wide plan and hence with Home Office plans.

It is intended to review the detailed lists in this plan on an annual basis and to do a more thorough review every five years.

While this plan focuses upon the flooding risks in Purley, much of the material could also relate to a variety of other risks and apart from the resource lists much of the plan is relevant to other parishes in the area and is freely available.

## **20 - ACKNOWLEDGEMENTS**

First we would like to acknowledge the help given to the team by officers of the Environment Agency and of West Berkshire Council. They have both been free with their information and have given us access to advice and facilities without question. Secondly to thank all those residents of the River Estate who gave evidence to members of the team, some with interviews, some via written submissions and many by completing the questionnaires put out by West Berkshire and The Environment Agency. We actually had more offers of help than we were able to take up and apologise to those who offers we were not able to take advantage of.

We would also like to acknowledge the help we have had from leaflets and reports published by a variety of organisations over the years. A summary list appears below.

### **Bibliography**

Parish registers of the Church of St Mary the Virgin Purley on Thames

Report of R V W Stock on the floods of March 1947

Lockkeeper's Records at Mapledurham Lock

Managing Flood Risks in Parishes – Hampshire Flooding Group

Environment Agency booklets and leaflets:-

- Flooding in Gardens

- Damage limitation

- After a Flood

- Flood Products

- Building a sandbag wall

- Sources of flooding

Dealing with Disaster – Cabinet Office 3<sup>rd</sup> Ed

Draft Civil Contingencies Bill – Cabinet Office June 2003

Emergency Planning for Districts (Local Govt Association Oct 2003)

River Thames Society Flood Committee Report (Oct 2003)

## **21 - SUMMARY OF RECOMMENDATIONS**

*A list of all the recommendations noted above.*

**Appendix 1 – Lock Measurements**

**Appendix 2 – Purley Flood Defence Feasibility Report**

### **Appendix 3 – Myths and Misapprehensions**

During the course of this project we came upon a number of firmly held theories, assertions, beliefs and opinions relating to the flooding events and the performance of the several agencies. In this appendix we set out some of these and dismiss them as having no relevance to the issues in hand.

They are in no particular order.

#### ***A3.1 The Jubilee River Scheme caused the flooding in Purley***

Comment:- The Jubilee River is a flood alleviation scheme that is designed to alleviate flooding in Maidenhead, Windsor and Eton. It is operated when the flow in the River Thames at the Old Windsor Weir in Wraysbury exceeds 190 cubic metres per second. At this point 20 cubic metres per second is diverted to the Jubilee River. The flow is increased in steps of 15 cubic metres in relation to the increase in Thames flows.

During the recent event the Jubilee River was first opened on 23 December 2002 and was opened further until 4 January 2003 when the Jubilee River was operating at approximately 60 per cent of its design capacity. During this time the flow in the Jubilee River increased from 22 cubic metres per second to 144 cubic metres per second. For the same period the flow in the River Thames increased from 200 cubic metres per second to 260 cubic metres per second. Closing of the gates commenced on 10 January and was completed on 11 January. It is estimated that 400 properties were protected from flooding and disruption to a further 1000 properties prevented by operating the Jubilee River.

There is some xxx metres of height difference between the Jubilee river and Purley. If there had been any back up of water from Maidenhead to Purley then most of Reading would have been under water. This patently did not happen and the team are wholly satisfied that there is no connection whatsoever between the Jubilee Scheme and Purley.

#### ***A3.2 Weirs were closed to hold water back and that caused flooding in Purley.***

Comment:- The Environment Agency's Waterways Team controls the operation a number of weir structures on the Thames. Under normal conditions these weirs are operated in accordance with legislation to ensure sufficient depth in each reach of the River for both navigation and abstraction purposes. During high flow conditions, the weir gates are systematically opened to allow passage of the increased flows to the Tidal Thames.

There are 44 weir locations on the non-tidal Thames. On 27 December 2002, 19 of the weirs were fully open. By the 31 December, 43 of the weirs were fully open. The only weir not open was the Romney Weir at Windsor, which does not need to be fully opened as the bridge at Windsor passes less flow than a fully open weir.

The Agency does not use Weirs to hold water back in flood conditions. Their Weirs are operated to ensure headwater levels do not rise above the statutory maximum. In conditions such as the recent floods, all gates are fully open on all Weirs. They therefore have no further control of the river until the flow drops back.

#### ***A3.3 - The Thames Barrier caused flooding in Purley***

Although designed to prevent tidal flooding, the operation of the Thames Barrier helps to manage the amount of water within the River Thames. The Thames Barrier closed a record fourteen consecutive times between New Year's Day and 8 January, ensuring reduced river levels were maintained between Hampton Court and Green-

wich thereby protecting thousands of properties from potential flooding.

The operation of the Barrier was necessary because of high spring tides coming up the Estuary into East London meeting high river levels flowing into West London. This presented a significant flooding risk from the Thames in the City and upstream of the Thames. The Barrier works by holding back the tide thus creating "room" into which the rain swollen Thames and its tributaries can flow.

Again the difference in height between London and Purley makes it impossible for the operation of the Thames Barrier to affect Purley without also flooding all of London and most of the valley below Reading.

***A3.4 The Environment Agency is responsible for maintaining all rivers and watercourses.***

Comment – It is the riparian owner is responsible for river maintenance and bank repairs.

***A3.5 The Environment Agency owns all the rivers.***

The Agency owns the lock & weir sites on the Thames and a small number of operational sites, flood storage areas, boreholes, gauging weirs etc. The Agency does not own all the rivers.

***A3.6 The Environment Agency is responsible for operating and maintaining weirs.***

The Agency is only responsible for the Thames Lock weirs and its gauging weirs. During emergencies or flooding events their gangs will visit certain privately owned weirs and structures to remove obstructions if it is safe to do so. The Agency would not operate privately owned weirs unless it is an emergency and the owner has requested our assistance.

***A3.7 Thames Conservancy did a better job and always dredged out the channels.***

Thames Conservancy had a larger workforce that operated in a manner that could not be justified today - either financially or ecologically. New legislation prevents certain methods of heavy maintenance e.g. dredging and re-profiling riverbanks along entire reaches.

***A3.8 The Environment Agency only maintains the lower section of a particular river but it should carry on up to the headwaters.***

The Agency is only resourced (money and manpower) to work on main rivers to the main river limit. The distinction between main rivers and ordinary watercourses is shown on our statutory maps.

***A3.9 The Environment Agency has a duty to protect property and should pay compensation***

The legislation that governs flood defence sets out the Agency's role in terms of providing flood protection and maintenance of watercourses as a series of powers, not duties. As such they have no powers to pay compensation, unless claimants are able to prove they have been negligent.

If anyone did wish to pursue this matter they should write in the first instance to the Agency's Customer Services Manager, Swift House, Frimley Business Park, Camberley, Surrey, GU16 5SQ, explaining the claim and why you think the Agency is liable.

### **A3.10 *The Fire and Rescue Service has a duty to rescue people from flooding***

Flooding is a 'developing situation' and as such does not constitute an emergency unless there is a serious risk to life. The Fire and Rescue Service will not involve itself in rescue situations unless there is an imminent threat.

### **A3.11 *Global Warming is causing Flooding***

This issue is raised in the River Thames Society Report and there is no conclusive evidence either way. It is not regarded as a significant factor in the Purley flooding situations. As a precautionary principle planning guidance is recommended to discount historic event periods by 20%, so for example a 100 years event should be treated as likely to be an 80 years event in future.

### **A3.12 *The Council is responsible for clearing and cleaning homes affected by flooding.***

While this is a widely held view it is not true. See Section 17 of the main report.

### **A3.13 *The Council is required to stop rivers flooding***

The Council has certain responsibilities in respect of drainage ditches, but like the Environment Agency, it has no power or duty to stop rivers overflowing. It does have regard to EA advice when considering whether a particular planning application may exacerbate or create new flooding risks.

### **A3.14 *The Council can stop anyone building anything in locations which are liable to be flooded***

If only this were true! The Council works closely with the EA to identify at risk locations and will try to use planning controls to limit inappropriate development on known flood plains but there are no powers to ban all such developments. However, many at-risk locations were developed many years before planning controls existed. - see section 12

### **A3.15 *The Council must notify all residents if their homes are likely to be affected by flooding***

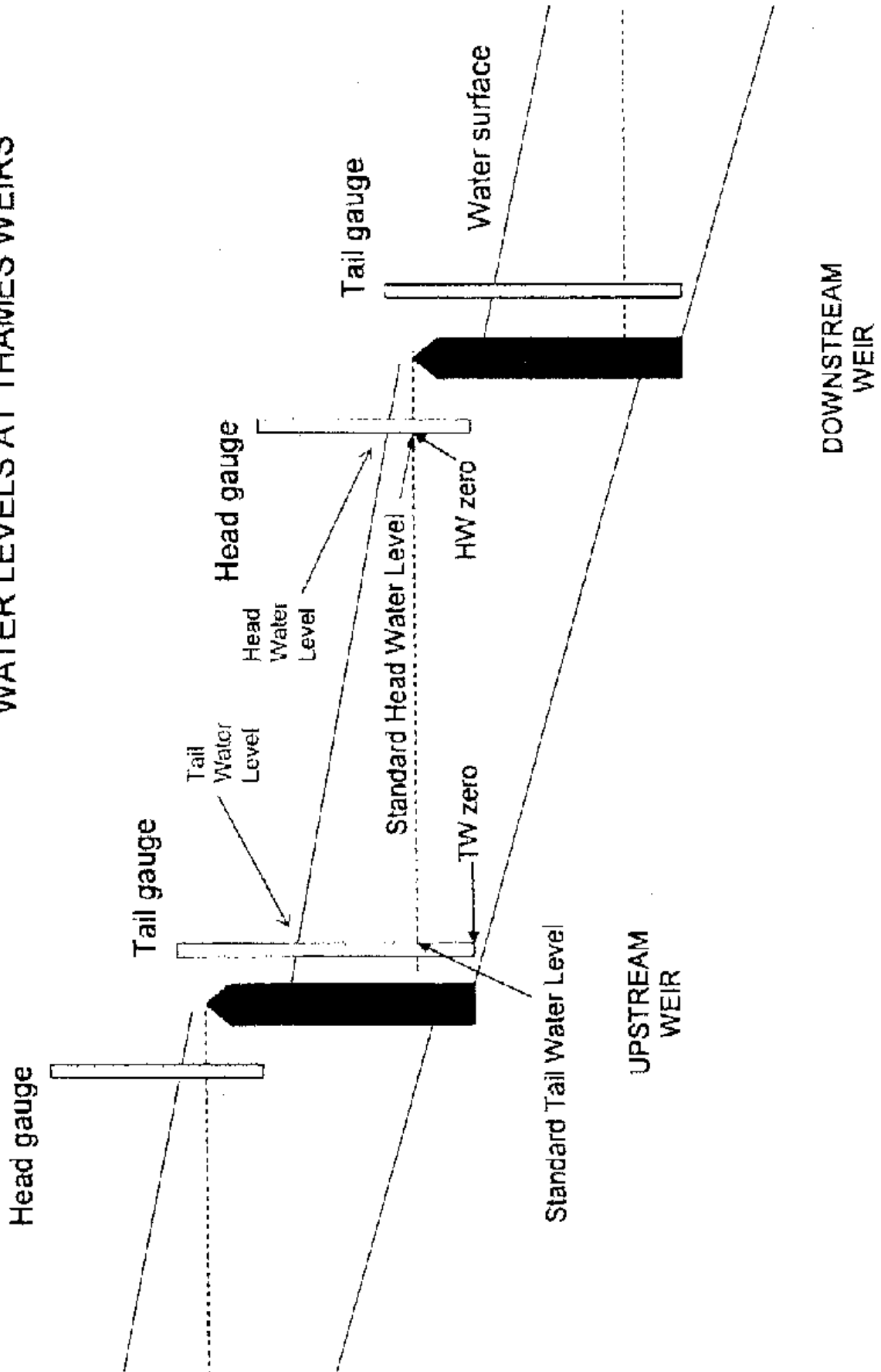
Responsibility for this used to rest with the Police but that changed in 1994 when it was transferred to the Environment Agency. The EA has established its Floodline Service which gives graduated warnings to local residents via a variety of systems. The Council's Emergency Planning Service also receives these warnings plus severe weather warnings from the Met Office, and between us we try to ensure that local communities are advised of any developing risk. Where necessary, the Council's Major Incident Plan is activated and an Emergency Operations Centre is established to deal with public calls and to co-ordinate local authority and voluntary sector services.

### **A3.16 *SEBEV had to take action because West Berkshire Council failed to do so.***

This is not true. The flooding which was occurring was not an immediate incident (such as a train crash) but a developing situation which did not necessitate a rapid deployment of resources on site. However, at a crucial moment which could not have been foreseen, the water level rose rapidly. A SEBEV member, who lives in Purley, did not formally "scramble" the organisation "*Because WBC are not doing anything*" but because he needed personal assistance to deal with the problems at his property. Once on site SEBEV volunteers saw that others needed similar assistance and agreed to provide it. As SEBEV are identified in the West Berkshire Major Incident Plan as a specific resource which they would want to deploy in such circumstances there was no need for them to call them out as unbeknown to us they

were already on site.

### WATER LEVELS AT THAMES WEIRS



WBC staff had been on site at various times prior to and during the floods and played a significant role in providing assistance to local residents (as proved by the responses to the community questionnaire). West Berkshire readily accepts that for a variety of reasons their “profile” was not high, but that does not mean that they failed to respond. They have taken action to ensure that in future our staff and vehicles will be highly visible!

**A3.17 The Council has a duty to provide supplies of sandbags to all flood prone properties. If this had been done, floodwater would not have got into properties in Purley**

There is no duty on the Council to provide sandbags but it does work closely with the EA to try to ensure that sufficient sandbags are in locations where flooding is a risk. Both organisations also worked closely to ensure that supplies were replenished as quickly as possible. However, much of the flooding in Purley did not involve the river overtopping its banks but rather water percolating up from the ground, which is why water actually came up through the floors inside houses. In such situations sandbags will not prevent flooding. They are best suited to prevent water flowing into premises through door openings but even here, water can still find its way in via airbricks and other openings. While it is recommended that each householder in flood prone areas should obtain and use specialist equipment such as door barriers, airbrick sealers etc., even these would not have stopped the water “percolating “ up through floors.

**A3.18 The Council must rescue anyone who is stranded in their homes and take care of their possessions.**

Rescuing people from dangerous situations calls for specialist trained staff such as those employed by the Fire and Rescue Service and Ambulance Service. WBC staff are not trained in such specialist techniques as lifting and carrying other people and it would be very dangerous for all concerned if our staff tried to do so. In situations where there is an imminent threat to a person’s wellbeing, the emergency services will initiate their own procedures for effecting a rescue. Personal possessions may well be important to individuals but they have to take second place to the well being of humans!

Security of homes and possessions rests as always with the householder, though of course in any situation where mass evacuation was needed the Council would work closely with the Police to try to minimise the risk of looting, but it has no responsibility to protect individual or groups of properties.

## **Appendix 4 - Residents' Questionnaire**

### **A4.1 Introduction**

In February 2003, all properties in the flood-affected area of Purley received a questionnaire which sought feedback from residents on the following issues:

1. Advance warning arrangements
2. How their property was affected
3. Help received from agencies/organisations
4. Self help arrangements
5. West Berkshire Council services
6. Expectations of organisations and agencies
7. Arrangements for dealing with future flooding

This Appendix provides quantitative data from the survey and a review of the narrative responses. It is not intended to be a statistical assessment of the incident or residents' opinions; it is intended to be a more objective assessment of local feelings and opinions than perhaps was gained in the immediate aftermath of the flooding. The findings will indicate some of the issues which need to be reviewed by all or some of the agencies involved.

106 responses out of a possible 365 were received, which is a return rate of 29%

### **A4.2 Advance warning arrangements:**

#### ***Local awareness:***

80% of respondents were aware that they live in an area which was prone to flooding

30% received some form of advance warning

#### ***Environment Agency (EA) warning systems:***

30% of respondents used the EA's Automated Voice Messaging (AVM) system

22% were aware of the AVM but had not registered with it

46% were unaware of the AVM system

#### ***EA Floodline Service:***

41% were aware of and used the Floodline service

41% were aware of the Floodline service but did not use it

#### ***Preferred Advanced Warning System (based upon each respondent's top two preferences):***

55% chose the EA's AVM

46% chose Floodwatch and Flood Warning notice boards in the community

46% chose loudspeaker announcements from vehicles touring the area

35% chose radio announcements

15% chose other methods, particularly personal contact by local Flood Wardens

**Awareness of EA Website for flooding information:**

46% were aware of the website, 54% were unaware

**A4.3 How property was affected:**

*“Property” means any part of a premises, including gardens and outbuildings*

*“Habitable parts” include living rooms, kitchens, bathrooms, and passageways linking them.*

*“Non habitable parts” includes gardens, sheds, garages*

61% of respondents had non-habitable parts of their property affected by flooding

10% of respondents had habitable parts of their property flooded

**Date on which parts of the properties were affected:**

	DATE						
	29th	30th	31st	1st	2nd	3rd	4th
<b>Non hab</b>	1	2	3	9	14	29	4
<b>Hab</b>	-	-	1	1	3	2	2

**Flooding incidence:**

39% of respondents stated that this was the first time their property had been flooded

28% of respondents stated that their properties had been flooded previously

**Property datum levels:**

47% of respondents stated that the habitable floor levels of their property were above the 1947 flood mark

4% stated that they were below the 1947 flood mark

36% did not know

**A4.4 Help received from Agencies/organisations:**

SOURCE	DATE					
	1st	2nd	3rd	4th	5th	6th
<b>WBC</b>	1	3	7	6	1	-
<b>SEBEV</b>	-	-	3	11	1	1
<b>Friends and n'bours</b>	-	-	-	2		
<b>Family</b>	2	-	-	1	-	-
<b>Fire Service</b>	-	-	2	-	-	-

***Knowledge of the Floodwardens:***

12% knew how to contact the Floodwardens, 72% did not

**A4.5 Self Help Arrangements:**

***Sandbags:***

25% of respondents knew the location of the sandbag store but 68% did not  
27% got sandbags from the store, and 5% got them from elsewhere

71% of respondents who had sandbags delivered to them obtained them  
from WBC services (and received over seven hundred bags in total  
delivered on 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>)

9% collected sandbags, while 16% needed assistance with two thirds of  
them receiving it from WBC services

(NOTE: Several respondents commented that while they had sandbags they were  
ineffective because the water was not pouring into their properties but was rising up  
through the floors)

***Home flood prevention equipment:***

20% of respondents stated that they had some form of flood prevention  
equipment at the property (sandbags, pumps, door screens)

40% requested information on equipment types and suppliers

**A4.6 West Berkshire Council's services:**

***Contacts:***

25% of respondents contacted WBC, mainly by telephone between 2<sup>nd</sup> and  
4<sup>th</sup> of January

25% of respondents saw, spoke to and/or received assistance from WBC  
services on site mainly between 2<sup>nd</sup> and 4<sup>th</sup> of January but thereafter  
with ongoing daily site visits and calls to each property by PPS staff.

***Opinion of information provided by WBC in terms of:***

Quality      Good = 5%      Fair = 8%      Poor = 22%

Timeliness    Good = 5%      Fair = 8%      Poor = 22%

***WBC's role in future flood situations?***

The following is a list of the most frequently expressed expectations:

- Provide more, readily available sandbags, delivered to properties
- Provide better more accurate information before, during and after the flood
- Be visible on site
- Be contactable at base and on site.
- Provide a regularly updated "Flood Crisis Card"**Community**



**Expectations of Agencies and Organisations:**

















# Mapledurham Lock. Peak tail water levels : 1892 to 2003

