Report Title: FLOOD RISK MANAGEMENT UPDATE

1. Purpose of Report:
To provide members of the Environment Overview and Scrutiny Committee with an update on flood resilience progress since July 2007 to date.

2. Relevant Policy or Strategy:
- Corporate Strategy
- Council Plan
- Flood and Water Management Act (April 2010)
- Flood Risk Regulations (December 2009)
- Pitt Report and Government response (published 17th December 2008)
- GCC Cabinet Reports 31st March and 19th November 2008

3. Links to Level 1 Objectives/Targets
Corporate Strategy 2010 - 2013
- Aim 5 - Making Transport Work
  Priority – To continue to invest in the condition of our road network through delivery of our highways programme
- Aim 6 - Managing our Environment and Economy
  Priority – To continue to improve the resilience of flood management by continuing to manage the partnership flood alleviation programme and respond to the Flood and Water Management Act

4. When last seen by Scrutiny
An update report was presented to the Overview and Scrutiny Management Committee at their meeting on 31st March 2009.

5. Key Risks
- Until April 2010, the County Council had only limited legal responsibilities in the area of drainage and flood risk management. However, since the Flood and Water Management Act was given Royal Assent in April 2010, the Act has given the County Council (along with all other County and Unitary Authorities) the status of Lead Local Flood Authority with responsibility for managing local flood risk (including surface runoff, groundwater and ordinary watercourses). Pitt called for ‘simple structures’ to be implemented but responsibilities remain highly complex with a range of agencies responsible for different aspects of flood risk management.

- In the case of riparian owners, many are unaware of their legal responsibilities.

- Other agencies may not act on their responsibilities, now set out in the Act, to provide alternative provision for critical infrastructure at risk of flooding.
• Failure to receive adequate funding for medium/long term investment for flood risk and drainage management will leave Gloucestershire at risk of failing to meet its new responsibilities as Lead Local Flood Authority under the Act and Flood Risk Regulations.

6. Partnership Working
The County Council continues to work in partnership with the six district councils, the Environment Agency (both Midlands and Thames regions), Severn Trent Water, Thames Water, the Lower Severn Internal Drainage Board and other key bodies to ensure the most effective use of public money and work towards achieving the level of resilience against flooding that the community expects, with the resources available.

7. Main Service Issues identified in MTFS process
Delivery of projects has been resourced from the Council Tax levy 2008-09, which the County Council has used to lever in other funds, grant funding from the Government and external sources such as Severn Trent and the Environment Agency.

8. Staffing Issues
Following the flood events of 2007, the County Council set up a Flood Risk Management Team to manage its long-term flood risk strategy and to lead the way in the development of effective flood resilience and alleviation strategies. It also enhanced its own in-house Drainage Team to ensure that the County Council fulfils its own duties and responsibilities in relation to highway drainage.

9. Recommendations

The committee is recommended to:

a) endorse the progress made on future resilience work for the period July 2007 to September 2010, as set out in this report

b) note the steps being taken to address new legislation and secure further funding

c) note that the Future Resilience Programme Board continues to have responsibility for monitoring the performance of this ‘one council’ programme.

Officer Contact
Mark Parker, Head of Service
Mark.parker@gloucestershire.gov.uk
01452 427108
Progress Report for Environment Overview and Scrutiny Committee for the period July 2007 to September 2010

Gloucestershire – Flood Risk Management

16th September 2010
Introduction – Cllr Stan Waddington

In introducing this report, I am mindful of the valuable contribution previously made by Gloucestershire County Council’s Overview and Scrutiny Management Committee. In particular, in establishing an Inquiry to assess the exceptional and devastating flooding that visited the county in July 2007.

In the three years since much has been achieved, and in no small part as a result of the county council taking a leading role in terms of strategic direction, partnership working, and funding.

Initially we focused on developing partnerships and providing match funding for priority flood alleviation schemes to protect residential properties. Later, while continuing this work, we set about raising awareness of riparian rights and responsibilities, and what communities and property owners could do to help themselves to better protect their own households. All of these partnership and engagement themes have been continued with a growing emphasis on local involvement and activity.

In the last year much attention has been directed towards the Flood and Water Management Bill, now the Act, and the Flood Risk Regulations, both of which place substantial new responsibilities on the county council. We have started work on some aspects of the Act and the Regulations, ahead of the much awaited commencement timetable, which will set out when the sections of the Act will be implemented.

Funding for the medium and long term remains a challenge, particularly in the current economic climate. We have, however, continued to devote the funding, which was raised by the 1.1% levy, toward flood risk management activity.

Earlier this year the Audit Commission saw fit, as part of the Comprehensive Area Assessment, to award green flag status to our flood work. I am also very well aware that the county council’s record on flood risk management is widely recognised nationally. I wish to put on record my thanks for the efforts of all those involved with improving flood resilience for the people of Gloucestershire, and recognise the collective goodwill of all partners and the significant contribution they have made to make such progress possible.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction: Cllr Stan Waddington, Cabinet Member for Highways and...</td>
<td>2</td>
</tr>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>4</td>
</tr>
<tr>
<td>1. BACKGROUND</td>
<td>6</td>
</tr>
<tr>
<td>2. CONTEXT: COMPLEX RESPONSIBILITIES</td>
<td>7</td>
</tr>
<tr>
<td>3. PROGRESS</td>
<td>8</td>
</tr>
<tr>
<td>KEY ACHIEVEMENTS</td>
<td>9</td>
</tr>
<tr>
<td>1. Highway Drainage</td>
<td>9</td>
</tr>
<tr>
<td>2. Multi-agency projects</td>
<td>10</td>
</tr>
<tr>
<td>3. Raising Awareness</td>
<td>14</td>
</tr>
<tr>
<td>Campaigning</td>
<td>15</td>
</tr>
<tr>
<td>Riparian ownership and drainage enforcement protocol</td>
<td>15</td>
</tr>
<tr>
<td>Flood Information Pack</td>
<td>15</td>
</tr>
<tr>
<td>Practical help and advice</td>
<td>15</td>
</tr>
<tr>
<td>Country fairs</td>
<td>15</td>
</tr>
<tr>
<td>Life Skills Centre</td>
<td>16</td>
</tr>
<tr>
<td>4. Customer advocacy</td>
<td>16</td>
</tr>
<tr>
<td>5. Influencing and Lobbying</td>
<td>16</td>
</tr>
<tr>
<td>6. Other Projects</td>
<td>16</td>
</tr>
<tr>
<td>Strategic Flood Risk Assessment</td>
<td>16</td>
</tr>
<tr>
<td>Surface Water Drainage Mapping</td>
<td>17</td>
</tr>
<tr>
<td>Defra Household Flood Protection Grant</td>
<td>18</td>
</tr>
<tr>
<td>County Property Protection</td>
<td>18</td>
</tr>
<tr>
<td>7. ‘Putting Our Own House in Order’</td>
<td>19</td>
</tr>
<tr>
<td>Planning and Flood Risk Task Group</td>
<td>19</td>
</tr>
<tr>
<td>Community Resilience Plans</td>
<td>19</td>
</tr>
<tr>
<td>Re-located Emergency Response Centre</td>
<td>19</td>
</tr>
<tr>
<td>Flood resilience of our IT systems</td>
<td>19</td>
</tr>
<tr>
<td>Shire Hall flood protection</td>
<td>19</td>
</tr>
<tr>
<td>Rural Estate – flood drainage management</td>
<td>20</td>
</tr>
<tr>
<td>GCC Gold Command</td>
<td>20</td>
</tr>
<tr>
<td>Schools’ work</td>
<td>20</td>
</tr>
<tr>
<td>Emergency Planning for Schools</td>
<td>21</td>
</tr>
<tr>
<td>Insurance claims</td>
<td>21</td>
</tr>
<tr>
<td>Business Continuity Management Training</td>
<td>21</td>
</tr>
<tr>
<td>Exercise Watermark</td>
<td>21</td>
</tr>
<tr>
<td>Vulnerable People</td>
<td>21</td>
</tr>
<tr>
<td>Business recovery/tourism</td>
<td>22</td>
</tr>
<tr>
<td>Glos Fire and Rescue</td>
<td>22</td>
</tr>
<tr>
<td>Data mapping</td>
<td>22</td>
</tr>
<tr>
<td>Capacity Building</td>
<td>23</td>
</tr>
<tr>
<td>Raising awareness – officers and members</td>
<td>24</td>
</tr>
<tr>
<td>5. AWARDS AND COMMENDATIONS</td>
<td>24</td>
</tr>
<tr>
<td>6. RESOURCES</td>
<td>27</td>
</tr>
<tr>
<td>7. ADDRESSING NEW LEGISLATION</td>
<td>28</td>
</tr>
<tr>
<td>8. THE FUTURE</td>
<td>30</td>
</tr>
<tr>
<td>9. CONCLUSION</td>
<td>31</td>
</tr>
</tbody>
</table>
This report provides Environment Scrutiny and Management Committee with details of the progress made on flood risk management work across the county with the resources available since 2007.

It sets out the background to flood resilience work across the county and recognises the complex mix of responsibilities involved. It recognises that the County Council has delivered 100% (and more) of the prioritised programmes of work that it promised would be completed, largely focusing on deliverable flood alleviation works.

Acting as community leader, the County Council has been and continues to work closely with relevant parties, often contributing funding to secure critical flood alleviation works in areas for which it has no direct responsibility. With the funding and resources available, not every flooding issue has been prioritised for action, but a shared understanding and acceptance of where the responsibility lies and strong working relationships with the district councils and other partners has been achieved.

Appendices give details of completed and programmed flood alleviation schemes, together with maps showing the location of flood alleviation activity across the county during this period. All of the county’s 135,000 gullies continue to be cleaned as part of the ongoing enhanced maintenance programme.

In getting its ‘own house in order’, the council has set up internal and external structures which oversee and monitor progress. Emergency provision has been reviewed, including the relocation of the emergency response centre. Details of work with schools, work to support business recovery and tourism and improved water rescue ability for Gloucestershire Fire and Rescue Service, are also outlined.

The report notes the progress of the national Local Government Flood Forum (LGFF) set up by the County Council to raise the profile of flooding issues, keep them on the national agenda and to press for appropriate long-term investment to fund flood resilience work. The County Council can take pride in the fact that the Forum successfully lobbied for changes to the Flood and Water Management Bill and that the Forum continues to exist under the stewardship of the Local Government Information Unit (LGiU).

It also notes the need for a greater level of personal responsibility in flood resilience and the work that the County Council has done, and will continue to do, to improve awareness amongst Gloucestershire residents and businesses. Comprehensive flood related information and advice is provided on the GCC website: www.gloucestershire.gov.uk/flooding

The County Council will also continue to create a general awareness of their extensive commitment to the management of flood risk in the county, together with partners, particularly amongst affected communities. Going forward, activities will be more directly targeted towards at-risk groups and locations, and will outline the aspects of personal resistance and resilience balanced with the undertakings of GCC.

It is also pleasing to report that the Audit Commission awarded Green Flag status to the success achieved by the County in its flood risk management work.

Finally, the report confirms that the County Council continues to seek out all possible sources of funding for future resilience works to face the challenges that lie ahead, particularly in light of the new responsibilities given to the Council as Lead Local Flood Authority under the Flood
and Water Management Act 2010 and the Flood Risk Regulations. It concludes that Gloucestershire continues to be ahead of the game in its strategic thinking, partnership working and preparation of work programmes, and that the Council is determined to continue securing the best flood resilience improvements possible for its residents with the resources available.
Since the July 2007 floods, work seeking to ‘future proof’ Gloucestershire has been understood in three phases:

- Emergency Phase – emergency response responsibilities and activity
- Recovery phase – getting Gloucestershire back on its feet
- Resilience phase – reducing, but not eliminating, the likelihood of property flooding

After the initial emergency and recovery phases associated with the July 2007 event, the County Council set up a Flood Risk Management Team to lead the development of effective flood resilience and alleviation activity, at the same time taking the necessary steps to get its ‘own house in order’ in terms of emergency management and business continuity risks. The County Council’s own in-house Drainage Team was also enhanced to ensure that its own duties and responsibilities are fulfilled in relation to highway drainage.

The Teams work closely with all different partner organisations (including District Councils, Environment Agency, water companies and Internal Drainage Board) to ensure effective flood risk management activity across the county through good partnership and collaborative working, information sharing and where possible identifying opportunities for joint-funded projects. A wide range of joint-funded projects have been completed including drainage and culvert work, desilting, raising of banks and flood reinforcement. Multi-agency meetings are held regularly with partners to look at all county generic and strategic issues, in addition to regular district level meetings to identify and monitor progress with flood alleviation and resilience schemes. To date, over 130 joint-funded flood resilience projects have been completed across the county through collaborative working with our partners on a broad range of activity. The next meeting of the countywide Multi-agency Flood Risk Management group is arranged to take place in October 2010.

A Future Resilience Programme Board, chaired by Councillor Stan Waddington, has overseen the allocation of funding for all flood resilience projects and regularly monitors progress with the County Council’s flood resilience work programme. The Board last met on 8th September 2010.
2. CONTEXT

A complex environment

The context for flood risk management work is highly complex. There are 15 different groups with an interest or responsibility for flood risk management in the county, all with separate reporting mechanisms, which makes partnership working essential and challenging.

- Environment Agency (3 regions)
- 4 Water Companies (Severn Trent Water, Thames Water, Welsh Water, Wessex Water)
- Gloucestershire County Council
- 6 District councils
- Lower Severn Internal Drainage Board

Until now, the County Council has had direct responsibility for highway (road and footway) drainage, which is managed on its behalf by Gloucestershire Highways and the Drainage Team. Once the water drains away it usually becomes the responsibility of the water companies. Smaller streams and watercourses are overseen by the district councils and, in certain areas, below the 10m contour (parts of the Severn Vale) the Lower Severn Internal Drainage Board. When water eventually reaches the main streams and rivers, the Environment Agency takes the lead.

In addition, anyone who owns land with a watercourse running through it, or alongside it, is deemed to be a riparian owner with certain rights and responsibilities. To raise awareness of these, the County Council in conjunction with partners has produced a leaflet: Waterside Living in Gloucestershire. (See p13)

On 8th April 2010 the Flood and Water Management Act was given Royal Assent, bringing together the Pitt report recommendations and previous policies, in an attempt to provide greater clarity and improve the management of water resources and create a more comprehensive and risk based regime for managing the risk of flooding from all sources. The Act’s purpose is to “make provision about water, including provision about the management of risks in connection with flooding and coastal erosion.” In this sense, it defines the following roles:
Unitary Authorities and County Councils (including Gloucestershire) are given a Lead Local Flood Authority (LLFA) role, extending our responsibility for managing local flood risks to include surface runoff, groundwater and ordinary watercourses.

The Environment Agency are given an overview role of flood and coastal erosion risk management, with responsibility for fluvial, coastal and reservoir flood risk.

(See Section 7 – Addressing New Legislation)

3. PROGRESS

Whilst acknowledging there is still more to be done because of the magnitude of work and limited funding, the County Council has delivered what it set out to do (and more) from the priorities identified each year since 2007. Wherever funding has allowed, all possible steps have been taken to help reduce the impact of further flooding on homes and businesses across the county.

The 1.1% local levy created a £2.3m budget. Of this, £200k was used to generate a £4m capital sum. Of the capital sum £3m was allocated to Gloucestershire Highways (GH) highway drainage improvement schemes and £1m was devoted to multi-agency partnership projects. The remaining £2.1m annual revenue budget has been used as follows each year: £800k for the enhanced highway gulley emptying programme; £300k for jetting and pipe clearance associated with unblocking gullies; £500k to fund the Drainage and Flood Risk Management Teams; while the remaining £500k has been devoted to multi-agency flood alleviation revenue works and campaigning to raise awareness.

The County Council’s key achievements in flood resilience since 2007 are set out below, with further details of completed projects provided in the following appendices, which can be downloaded from the council’s website: [http://glostext.gloucestershire.gov.uk/ecCatDisplay.aspx?sch=doc&cat=13302&path=0](http://glostext.gloucestershire.gov.uk/ecCatDisplay.aspx?sch=doc&cat=13302&path=0):

<table>
<thead>
<tr>
<th>Appendix A</th>
<th>Map showing Gloucestershire Highways completed works across the county since 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix B</td>
<td>Map showing detailed breakdown of Gloucestershire Highways activity across the county for 2010/11</td>
</tr>
<tr>
<td>Appendix C</td>
<td>List of Gloucestershire Highways activity across the county since 2007</td>
</tr>
<tr>
<td>Appendix D</td>
<td>List of GCC supported multi-agency activities showing current and completed works across the county</td>
</tr>
<tr>
<td>Appendix E</td>
<td>GCC contributions to schemes led by the Environment Agency</td>
</tr>
</tbody>
</table>
Key achievements

The County Council has established strong working relationships with its partners, working closely with the district councils, Environment Agency, Severn Trent Water and other bodies to put in place appropriate arrangements to secure delivery of flood recovery and resilience work throughout the county.

Approximately £2m has been awarded from the Multi-agency Fund to the six district authorities, Environment Agency and Lower Severn Internal Drainage Board to fund over 130 partnership schemes.

1. HIGHWAY DRAINAGE

Following the 2007 floods, an in-depth survey by the council identified over 160 locations where improvements to the highway drainage systems would cut the risk of property flooding. There are also a further 500 non-highway related flood risk sites which in most cases involve other organisations such as water companies, landowners, utility companies, district councils and the Environment Agency.

Highway gully and drain cleaning is a priority for the council and, since the 2007 floods, over 135,000 gullies are cleaned annually and up to three times a year in those areas at highest risk of flooding. Even after cleaning, up to 10% of gullies are not draining properly and high pressure jetting units are used to help clear the piped connections from the gullies to the drainage systems. In some cases blockages have to be dealt with by maintenance gangs who carry out necessary repair work. As a result of this intense programme of cleaning and repair the percentage of blocked gullies is reducing.

Since 2007, we have completed over 170 highway drainage improvement schemes. However, there is still a significant amount of work still to be done. In this financial year (2010/11), Gloucestershire Highways has 23 schemes programmed for construction and has identified a further 26 to investigate for potential build in 2011. Drafted programmes of work for 2012 and 2013 show a need for approximately 20-25 schemes per year. For details of the maintenance and improvement schemes
being undertaken, see the list of Gloucestershire Highways Flood Alleviation Work in Appendix C

The 2007 floods inflicted huge, widespread damage to the highway network, and Gloucestershire Highways has worked hard over the last three years to complete most of these repairs in part funded by a successful bid to Department for Transport for £16.5m of grant funding and over £5m of the County Council’s own capital funding.

The scale and volume of work that has been undertaken is a considerable achievement, especially when considered against the backdrop of the last two severe winters where prolonged periods of snow and freezing temperatures made working conditions hazardous and caused further damage to road surfaces.

In addition, the Drainage Team was successful in attracting further government funding for a drainage asset data collection pilot project. Funded through £500k of Transport Asset Data Collection grant, the team has developed a software system for mapping highway gullies and collecting drainage asset information. The project has seen the collection of 11km$^2$ of drainage data initially across Cheltenham and Gloucester since September 2009.

2. MULTI-AGENCY PROJECTS

Gloucestershire County Council chairs a countywide multi-agency Flood Risk Management Group which brings together all the different organisations involved in flood risk management, with the aim of sharing information and helping one another to drive forward positive flood alleviation work. This partnership has focused on specific issues, including endorsing and supporting joint publications and producing a countywide land drainage enforcement protocol.

Six sub groups of the County Flood Risk Management Group have also been set up within each of the six District Council areas, chaired by the relevant District Council and with multi-agency representation; the groups continue to meet regularly. They focus on the exchange of respective work programmes and identification of opportunities for joint flood alleviation and drainage projects and the pooling of partnership funding. They continue to provide an effective and comprehensive means of assessing and tackling local flood issues.

The County Council is about to embark on its third successive year of providing match funding support to flood alleviation schemes in the districts. The overall programme is signed off by the Future Resilience Programme Board (FRPB) and to date the Council has assisted in approximately 130 separate projects from Chipping Campden in the north of the county to Lydney in the south. Partnership working and flexibility remain the key ingredients for the continued success of the multi-agency approach to effective problem solving.
County Council Funding
To date, the County Council has provided over £2m towards district and Environment Agency (EA) flood alleviation schemes, generating over £10.3m of works. The funding to districts alone has generated over £4.3m towards improvements on ordinary watercourses, ditches etc whilst the six major EA schemes that the Council is involved with amount to generating at least a further £6m of flood engineering work (further details below).

Multi-agency schemes completed since 2007 have helped protect over 1000 properties in the County.

Schemes – notable examples
A very recent example of the Council’s multi-agency work is the construction of a new high specification trash screen fitted to the brook in Victoria Park, Moreton-in-Marsh. The screen, there to prevent rubbish from blocking the under-road culvert, is manufactured from stainless steel and is the result of joint funding and partnership working between the EA, Cotswold District Council, GCC, GH and Moreton Town Council.

![Moreton trash screen](image)

Modelling work in the town is now complete providing a much clearer picture of when and where flooding occurs. The next stage is to implement the feasibility study and construct earth bunds and other alleviation structures to slow down the flow of water from higher ground surrounding the town. Quite naturally the timescales of completing detailed modelling and feasibility studies is lengthy and can result in public concern. This has been managed at Moreton through a detailed regular consultation process with all of the partner agencies providing information to local people on progress of the work.
During 2009/10, GCC joint-funded 54 new schemes across the county; including ditch clearance of the main watercourses through the outskirts of Tewkesbury, de-silting of the numerous watercourses through Gloucester City and a grant to Cheltenham Borough Council towards an £820k Flood Alleviation scheme at Warden Hill. A £10k contribution from GCC also enabled Longhope to complete its survey of the town’s watercourses.

In 2007, over 800 businesses were flooded in the county, one of them being Campden BRI, a major employer in the north Cotswolds economy. To avoid a £250,000 excess on their insurance premium, they took the initiative to implement a major flood alleviation scheme. The main feature of the scheme was re-routing of the river channel (shown above). The action taken by Campden BRI to help themselves was impressive and the County Council were delighted to help.

Environment Agency - Regional Flood Defence Committee funding and National Grant Aid

Six Environment Agency schemes within Gloucestershire were considered for funding by the Midlands Regional Flood Defence Committee (RFDC) in January 2009 and were given the go ahead for implementation starting in 2009/10. The Environment Agency committed to spend approximately £6 m on a three year rolling programme, and the County Council pledged £500,000 to these key Environment Agency schemes to help them get off the ground; they are a cost effective way of protecting a large number of properties.

The following schemes were given the go ahead for implementation starting 2009/10:
### Schemes funded out of Local Levy starting in 2009/10:

<table>
<thead>
<tr>
<th>Location</th>
<th>Total cost £</th>
<th>Planned start</th>
<th>Expected completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lydney, Forest of Dean</td>
<td>695,000</td>
<td>2009/10</td>
<td>2010/11</td>
</tr>
<tr>
<td>Slad Brook, Stroud</td>
<td>900,000</td>
<td>2009/10</td>
<td>2010/11</td>
</tr>
<tr>
<td>Daniels Brook, Gloucester</td>
<td>1,035,000</td>
<td>2009/10</td>
<td>2010/11</td>
</tr>
<tr>
<td>Deerhurst, Tewkesbury</td>
<td>590,000</td>
<td>2009</td>
<td>2010</td>
</tr>
</tbody>
</table>

### Schemes funded out of Grant in Aid starting in 2009/10

<table>
<thead>
<tr>
<th>Location</th>
<th>Total cost £</th>
<th>Planned start</th>
<th>Expected completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horsbere Brook, Gloucester</td>
<td>1,900,000</td>
<td>2009</td>
<td>2010</td>
</tr>
<tr>
<td>Prestbury, Cheltenham</td>
<td>900,000</td>
<td>2009</td>
<td>2010</td>
</tr>
</tbody>
</table>

Further details of the schemes are outlined below:

**Lydney** - Construction of a flood wall to protect 11 residential properties in Station Road. The defence will also protect a major business. Forest of Dean District Council, Lydney Town Council and GCC are contributing to the scheme as well the EA. Construction is due to commence in October 2010, subject to planning permission and network Rail approvals.

**Slad Brook** – The scheme is for upstream storage on the Slad Brook to prevent resident and commercial property flooding. Scheme costs are higher that initially anticipated due to the requirement of two storage areas and needing to comply with the Water Framework Directive. New costs are being prepared for the RFDC within the next month.

**Daniels Brook** – 193 properties were flooded by the Daniels Brook in 2007. Flood storage is the preferred option and a flood storage area has been identified and the landowner informed of the plans. The Project Approval Report should be submitted in September 2010. EA believe planning permission may be achieved before the end of the year.

**Prestbury** - This scheme is designed to protect approximately 70-100 residential properties in a 1 in 100 year flood. A combination of flood management measures will be completed including, the connection of existing flood relief culverts, channel improvements and an open flood bypass channel. Construction is due to start in November 2010, with completion in May 2011, subject to proceeding under permitted development powers rather than planning consent.

**Horsbere Brook** - Proposed upstream flood storage will protect 350 properties in the Elmbridge and Longlevens area of Gloucester. EA has advised that the Environmental Impact Assessment has commenced and a revised outline design is being flood risk assessed. Landowner negotiations are ongoing. It is anticipated that a planning application will be considered by Tewkesbury Borough Council in September 2010. Subject to successful purchase of the land and the granting of planning permission, construction will start early in 2011 and take six months to complete.

**Deerhurst** – New flood gates and major work to improve the height of the bund around the village was put in place to protect residential properties, a church and historic buildings. The scheme was **completed in March 2010** and inspected by the then Minister, Huw Irranca Davies, on 8th March 2010.
3. RAISING AWARENESS

The County Council has been actively involved in raising public awareness to make property owners and businesses aware of what they can do to adapt and improve on flood resilience.

The Flood Risk Management Team has revamped and regularly updates the flood information pages on the GCC website: www.gloucestershire.gov.uk/flooding, which provides information on flood resilience, insurance and business continuity advice, as well as links to other sources of help and information. The website outlines simple steps for property owners to take to prepare for a flood, what to do during a flood, and advice and information for residents should their property be flooded.

The website also provides the latest flooding news, together with up-to-date information on the County Council’s flood risk management work. Visitors to the site can download summaries of the gully cleaning programme, the maintenance and improvement work being undertaken by Gloucestershire Highways and a list of joint-funded, multi-agency flood resilience projects to be completed in the current financial year.

There are also a series of information videos on a variety of flood-related topics which explain aspects of the County Council’s flood resilience work and raise awareness of some of the issues surrounding flood risk management in the county. Video topics include gully cleaning, riparian ownership, de-silting of a balancing pond, appropriate disposal of fat, oil and grease to prevent drain blockage, and National Flood Forum Advice on personal resilience.

PROGRESS

Campaigning
In November 2008, a media campaign was launched to highlight the Council’s flood resilience work and the partnership projects underway. Since then, we have sent out regular press releases which have been widely covered in all our local media, including radio and daily and weekly newspapers, internet coverage and a small amount of regional TV coverage, all positive.
A Christmas communications campaign in conjunction with Severn Trent Water on the problems caused by the inappropriate disposal of fat, oil and grease gained national press coverage (Daily Telegraph and Daily Mirror) as well as regional press and broadcast coverage.

Riparian ownership and land drainage enforcement protocol
Working with the multi-agency group the County Council has jointly produced a leaflet for Riparian owners to help river/waterside dwellers understand their responsibilities: ‘Waterside Living in Gloucestershire’. The leaflet aims to raise awareness of riparian ownership and inform the public of their rights and responsibilities. The multi-agency group also developed and agreed a countywide land drainage enforcement protocol.

The Council is keen to promote riparian ownership responsibility where landowners can help themselves and the wider community by maintaining watercourses on their property. We have recently been supporting a Cotswold District Council initiative together with the EA to host a series of ‘Watercourse Awareness’ sessions later in 2010 within the community which will explain personal responsibility, what can be done safely and the support structure available from the various agencies.

A flood information pack was produced and circulated to parish councillors and interested members of the public, containing area-specific details of Gloucestershire Highways work, multi-agency projects, together with fact sheets on agency responsibilities, general information and frequently asked questions. Further updates and fact sheets are planned in the future.

Practical help and advice has been offered to other authorities, for example to Northumberland and Cumbria County Councils following the devastating flooding experienced in 2008 and 2009.

Country Fairs
In 2009, the Flood Risk Management and Drainage Teams manned ‘Flood Risk Management’ stands at the Moreton in Marsh and Frampton upon Severn Country Fairs, to help increase awareness of the work that is being done across the county and also of what individuals and communities can do themselves to help reduce the risk and impact of flooding. The Fairs were hugely successful in providing members of the public with information on the good work that is being done by the County Council and through local multi-agency flood risk management projects. Also, providing information on property protection measures, riparian ownership responsibilities and also providing the opportunity for members of the public to share their experiences and knowledge of local flood issues face to face with Officers.

Life Skills Centre
It is planned that a flood risk scenario will form part of the new Life Skills Centre due to be built next year at Shepherd Way in Gloucester. The Flood Risk Management Team are currently working with Gloucestershire Fire and Rescue Service to develop this aspect of the new PFI funded Community Safety
Project. The Centre will be used by groups of school children, communities and organisations from across Gloucestershire. The scenario will demonstrate the hazards associated with flooding and the actions that can be taken to reduce the associated risks. The set will be equipped with items that will raise awareness about flooding and flood warning helping both children and adults realise what actions they can take to better protect themselves and their property.

4. CUSTOMER ADVOCACY

This continues to be an important area of activity; the County Council has taken active steps to break the cycle where individual flood victims get passed from one organisation to another. Using well established officer links with relevant organisations, the Council can call together site meetings with the right people to make sure the customer understands who is responsible for helping them with their flooding issue. This does not, however, guarantee that the matter can be prioritised or funded, but it does ensure that the customer knows where the responsibility lies.

5. INFLUENCING AND LOBBYING

The Local Government Flood Forum (LGFF) and National Profile
The Council were instrumental in setting up the national Local Government Flood Forum which was launched by Cllr Barry Dare at a symposium in July 2008. The aim of this body was to raise the debate on flood resilience, influence the Flood and Water Bill and ensure that local government gets a ‘good deal’ on funding issues. In 2009, Lord Chris Smith commended the Forum as “… the brainchild of Gloucestershire County Council and aims to give authorities more ‘clout’ in Whitehall, in a drive to avoid future devastating emergencies, like that to hit the county in July 2007.” The Forum has been hugely successful and the fact that Richard Benyon MP (Minister for the Natural Environment and Fisheries) recently used a meeting of the Forum to announce £2m funding for local authorities to undertake Preliminary Flood Risk Assessments is an indication of its high national profile. The administration of the LGFF has now been passed to the Local Government Information Unit.

6. OTHER PROJECTS

Strategic Flood Risk Assessment (SFRA)
Local Authorities in Gloucestershire have taken a strategic role on flood resilience and argued the need for careful planning of future development. This has involved working together with many other partners including Department of Communities and Local Government (DCLG), Government Office for the South West (GOSW) and the Environment Agency (EA). There is a clear need for a joined-up approach to stop unsuitable development that adds to the risk of flooding in our communities.

In September 2008, a countywide Level One Strategic Flood Risk Assessment (SFRA) was completed by Halcrow, funded by the County Council, in conjunction with all of the six District councils. For the next stage, District councils are currently commissioning individual more detailed District-wide Level Two SFRAs.

One of the main functions of a Level Two SFRA is to steer new development away from areas that are at risk of flooding. It also forms part of the evidence base for the production of
the District Councils' Local Development Documents (LDDs) and would be a material consideration in the determination of planning applications.

**Surface Water drainage mapping**

The level one SFRA (mentioned above) provided an initial assessment of flood risk from sources other than fluvial and tidal; historic records were researched and sources of flooding differentiated so that a map could be produced depicting flood risk from other sources across the county. This demonstrated that the flood risks in Gloucester are significant and arise from a variety of sources; however as the assessment was based significantly on historic records, in the absence of any predictive modelling, a complete picture of flood risk from other sources was not possible. However, some 3 months later Gloucestershire’s Pilot Surface Water Management Plan (SWMP) was initiated, which involved an overview study which produced surface water mapping for approximately one quarter of the county.

Nationally, the County Council was just one of six local authorities to be successful in obtaining £50k grant funding to undertake this work which tested Defra’s SWMP guidance. The pilot SWMP demonstrated that surface water flood risk is a particularly significant issue in the county. Surface water mapping, encompassing a combination of pluvial and sewer modelling was undertaken initially for the catchments areas outlined in the image below:

This mapping, in conjunction with extensive consultation on surface water flood risks in the county (in order to improve the SFRA base data) resulted in a much improved understanding of surface water risks, in terms of locations, scale and probability of risk.

**PROGRESS**

This was further refined in central Gloucester city, where the combined pluvial and sewer interaction was modelled with the effect of the urban watercourses, allowing the flooding interactions and controls to be understood. It found the interaction of flooding from watercourses, sewers and surface runoff combine and interact to create particularly complex flooding issues within the central Gloucester city area.

Earlier in 2010, the County Council was awarded further grant funding from Defra to undertake a Surface Water Management Plan in Cheltenham and to complete the overview study of the remainder of the county. Following a rigorous procurement process, a Framework Contract to undertake this work for the County was awarded to Halcrow in August 2010, and work has now commenced on the Cheltenham SWMP with a target date for completion in summer 2011.
In order to meet our new responsibilities under the Flood and Water Management Act and to assist county planning development, it is anticipated that in the future further SWMPs will be undertaken at other high-risk locations across the county, subject to available funding.

**Defra Household Flood Protection Grant**

In December 2008, Defra announced a £5m grant scheme for local authorities. The County Council made a bid on behalf of all six local authorities, and were pleased that as a result in July 2009, Gloucester City Council received £68,000 for 12 properties and Tewkesbury Borough Council £119,000 for 21 properties. The funding provides for the administration, professional home surveys and purchase and installation of flood defences at those properties. The aim is to protect vulnerable residential properties subject to regular flooding where other flood management solutions are not economically or technically viable. The work is being administered by the districts councils and has commenced. However, it has been found that there is reluctance on the part of many householders to accept property resilience measures, and even admit to property flooding, despite the facts. Some homeowners see such measures as an overt admission that their property floods and the resultant fear of a reduced property value. It would seem that they naively hope that the event will not happen again and as time passes and memories fade they can sell the property without loss. It has also been found that the administration and requirements of the scheme procedure is not overly user-friendly. These findings appear to be replicated across the country. It may take time to make the adjustment from resilience measures being seen as blight on the property to one of being a helpful addition. Such was the case with the introduction of burglar alarms many years ago.

**County Property Flood Protection**

The County Council is very keen to promote property protection measures particularly given the lack of certainty of funding for major flood resilience schemes across the county, and as such have recently committed a funding contribution towards a partnership property protection scheme with the Environment Agency and Stroud District Council for properties at Bridgend.

Such schemes will be held up and promoted as exemplars for property resilience self help across the county.

---

**PROGRESS - Putting our own house in order**

7. PUTTING OUR OWN HOUSE IN ORDER

A joined up ‘one council’ approach has been adopted to ensure properly planned strategic outcomes and the best use of resources:

**Planning and Flood Risk Task Group**

This task and finish group was set up as a result of the recommendation of the Scrutiny Inquiry into the Summer Emergency 2007 to investigate the impact of land use planning and new developments on flood risk. Many questions were asked about the planning process which appeared to have allowed inappropriate development in areas of flood risk and also why development could take place but roads, sewers and other drains remain unadopted or may not even be constructed and maintained to suitable standards. The Task Group sought
to provide answers to these questions and not to apportion blame. The full final report, 28\textsuperscript{th} July 2008, can be found at: http://www.gloucestershire.gov.uk/index.cfm?articleid=17054

Community Resilience Plans
The Emergency Management Service provides continued advice and support to local communities, working in partnership with District Councils and supported by GRCC with the development of a Community Resilience CD toolkit based on the GCC plan template. This can be found at http://www.gloucestershire.gov.uk/communityresilience
There are currently just over 40 community groups in Gloucestershire who have developed their own plan and we are hopeful that the CD toolkit will encourage others to follow suit.

Relocated Emergency Response Centre
The new Emergency Response Centre has been up and running for nearly 2 years and includes radio communications, Sky TV and a range of other useful equipment. In 2009, the Emergency Management Service ran ‘open house’ events for County Council members and ran a co-ordination Team exercise.

The flood resilience of our IT systems has been improved. The main server for IT systems including email is now protected. An additional backup email server has been installed at the Tri Service Centre, Waterwells and is now accessible via the Internet with accounts for all GCC members and top tiers of GCC management.

GCC (Corporate Management Team) Gold Command for emergencies - GCC now has a well-established rota in place with 9 fully-trained Directors/Heads of Service on call to attend Gold Control should an emergency arise.

Shire Hall flood protection – works to protect the three most vulnerable and critical areas of Shire Hall have been completed; includes Block 5 basement plant room, Quayside House plant room and Quayside House electricity sub-station.

PROGRESS - Putting our own house in order
Flood boards at Quayside House

Rural Estate – Following the 2007 floods, a desktop assessment was completed to identify those estates where flooding was considered a possibility. During 2009/2010, all of these estates were inspected and detailed notes made of any watercourses or ditches where lack of maintenance could cause a risk to non-GCC property. Council tenants responsible for maintenance were advised wherever problems were identified, and the appropriate works undertaken.

Schools work – In 2008, £1.6m bid to the then Department of Children, Schools and Families was successful. This has been allocated for resilience work at schools most severely affected by the 2007 floods. The Robinswood Sustainable Urban Drainage scheme has been completed and received a commendation from Gloucester City Council for its contribution to the Environment. Schemes for Gardners Lane and Gloucester Road have been completed. Works at Norton are imminent, with the Contractor awaiting approvals from Severn Trent Water. Further work is also programmed to commence or has already commenced in 2010/11 at the following schools; Cleeve, Prestbury St Marys, Moreton in Marsh St Davids, Swindon Village, Pittville, Cheltenham Kingsmead and Robinswood.

![New Ditch – part of the work at Prestbury School](image)

PROGRESS - Putting our own house in order

Emergency Planning guidance for schools - Gloucestershire (Emergency Management Service) is part of the ‘Beacon’ Community Resilience in Schools Project supported by the Department for Education (DfE). Several schools participated in a Focus Group consultation exercise to ‘test’ national guidance which will soon be available. It will cover School resilience and crisis management arrangements, plus classroom teaching aids for use with pupils of all ages.

Insurance claims - The Insurance and Risk Management team looked at insurance claims for flood and severe weather events to identify ‘quick win’ schemes. This involved raising awareness by running a number of risk management presentations at school ‘Roadshows’ about the importance of having controls and mitigations in place which can help reduce insurance claims and lower premiums. This runs alongside larger schemes already in place and the other longer-term projects funded by the £1.6m for schools’ resilience work. The Team continue to monitor the insurance claims received for flood and severe weather events, and in the case of recurring problems, liaise with GCC Property Care for possible solutions.
Business Continuity Management training sessions have been held and Business Continuity Plans have been prepared. Audits will be carried out to ensure that all critical services continue to have up to date plans in place. Currently the biggest challenge is to reflect the many organisational changes in Service Delivery Business Continuity Plans to ensure they remain fit for purpose and effective. Through the GCC Business Continuity web pages and District Council colleagues, GCC continue to promote general BCM advice for local businesses and providing signposts to further advice on becoming more resilient to flooding and other emergencies.

**Exercise Watermark** – GCC's Emergency Management Service will assist the Local Resilience Forum Training Group with a one-day multi-agency Silver T/T Exercise in March 2011 to validate aspects of the Flood Response Plan. This will compliment and support Defra’s week-long national ‘Watermark’ exercise, also in March 2011. Defra’s national flood exercise aims to conduct a wide ranging and publically engaging exercise that tests the arrangements across England and Wales to respond to all aspects of severe, wide-area flooding. Exercise Watermark is a Defra led tier 1 exercise that will be delivered by the Environment Agency.

It will test a number of aspects of preparedness to respond to a severe flood and in particular the core aspects of the National Flood Emergency Framework (NFEF) and pan-regional and national response arrangements. More information is available at: [www.exercisewatermark.co.uk](http://www.exercisewatermark.co.uk)

Local communities, businesses, etc. can also make use of national ‘plug and play’ materials provided by Defra to run their own exercises.

**Vulnerable people** – The Emergency Management Service have conducted a table-top exercise to validate the new LRF Vulnerable People Plan and will run a further exercise to test the information sharing procedures in September 2010. Also, the newly formed ‘Offers of Help’ Team is operational to deal with any offers from the public in a structured way to help the response to a major emergency. Both of these work strands help to fulfil recommendations from the Pitt Report.

**Business Recovery and Tourism work through Gloucestershire First Economic Partnership**

Following the July 2007 floods an evaluation of the economic impact was carried out and the final evaluation report is available on the SWRDA website [www.southwesterdta.org.uk](http://www.southwesterdta.org.uk). This evaluation looked at public sector support to businesses post flooding, the effectiveness of the Partnership’s coordination and response and future needs and the length of impact. Also included is a summary of the range of programmes and outputs developed using the RDA funding.

Throughout 2007, 2008, 2009 and now into 2010 Gloucestershire First has continued to work closely with all its partners to roll outs its flood recovery programme, which has now turned into the Economic Recovery programme under the Economic Taskforce.
The Retail Support Programme in Tewkesbury, Winchcombe and Bishops Cleeve has now been extended into a third year with support from the Economic Taskforce but still continues to provide direct support, advice and guidance to independent retailers in the three towns - a successful review of the initial Severn Trent Water funded programme was completed in the Spring of 2010 and a more focused programme has been developed as a result. The best practice and support from the programme is also being used to support other communities across Gloucestershire.

A comprehensive website www.localshopcampaign.co.uk has been created and is being developed with retailers to enable them to advertise and attract custom – customers as far as Bristol have been using the website to track down specific items and make purchases – it is hoped that the website will become the one portal for the majority of customers looking for local shops and retailers in their localities. Business awards and training will also be used to raise customer and retailer awareness of what is locally available and regular meetings with key speakers on areas of interest have been organised so that retailers have an opportunity to seek impartial advice and guidance on subjects ranging from developing business plans and saving money on energy bills to reducing tax payments.

The Council have continued the programme of positive PR stories for the destination. http://www.express.co.uk/posts/view/31335Beauty-the-rain-couldn-t-wash-away

**Glos Fire and Rescue Service** - Pumping plans have been produced for specific localities, and we now have improved water rescue ability through provision of Hovercraft (funded by Severn Trent) and training. This is just some of the new equipment purchased to combat adverse weather conditions for which training has been provided.

**Data mapping**
A range of flood-related data sets have been put together on one of our Geographic Information Systems (GIS) to enable officers in the flood and drainage teams to more easily access available information. (Detail of Gloucestershire Flooding in 2007 is shown).

The Flood Risk Management Team are also currently looking at the opportunities for a web-based GIS flood risk mapping system and have been particularly interested in a system being
developed in a neighbouring county. The system appears to provide an excellent platform on which to build and continually update map layers with the latest data. The system has the potential to offer access to the district councils and other partners to use the information and to update with their own district information. The Flood and Water Management Act will require that GCC, as the Lead Local Flood Authority, record certain information of flooding incidents investigated, the designation of features, recording of assets, etc. and we are looking at both updating our GCC Flood Website to make it ‘transactional’ and considering other means of data recording and display.

Capacity Building
The recent Defra document, “Draft strategy for skills and capacity building in local authorities for local flood risk management”, promotes three key themes:

- Developing knowledge and skills for existing staff,
- Building capacity through provision of education courses for new staff,
- Providing information and tools primarily for to support local authorities.

In this regard, the County Council positively promote training to improve the knowledge and skills of officers of the flood risk management team by way of in-house and relevant courses.

In September 2010, the County Council took a placement of a foundation degree student. This is a two-year placement that is part-funded by Defra and will both provide development and training for the student, and provide a level of support for the flood risk management team.

It is also noted that Defra are proposing the provision of funding for tools such as IT support to cater for the requirements of the Flood and Water Management Act. We will look to every opportunity to gain benefit from Government support.
Raising awareness amongst officers and members

The Council is keen to improve knowledge and understanding of flooding issues amongst staff and members to facilitate better communication with the public. In this way, we hope that we can reach a large captive audience in a friendly and informal way, and by extension, ensure that key messages are successfully imparted.

In 2009, Professor Carolyn Roberts (expert in hydrology and water resources at the University of Gloucestershire, who also acted as the County Council’s technical advisor for the Scrutiny Inquiry undertaken following the 2007 flood emergency) conducted a series of Flood Workshops for key officers in the authority and district councils working in flood risk management. These workshops were designed to give participants a basic understanding of hydrology and background knowledge to enable officers to perform more effectively, and to communicate concisely and appropriately with each other and others in both emergency and non-emergency situations.

In 2010, the Flood Risk Management Team have also been working with researchers at the Universities of Oxford and Gloucestershire on their latest research ‘Project FOSTER’. The project will deliver a series of unique workshops to Members and officers with the aim of improving participant knowledge of flood science. The workshops are running from October 2010 and will provide an exclusive insight into flood science, as well as the opportunity to discuss important flood topics such as climate change and confidence levels in flood science. They will cover a variety of subjects including:

- The construction and use of flood maps, with a focus on the current Environment Agency flood map.
- The progress and uncertainty of cutting-edge flood models.
- The future of flooding for the River Severn and UK.
- The levels of confidence in flood science.

5. AWARDS AND COMMENDATIONS

- **CAA Green Flag for Flood Recovery Work** - Praise came from the Audit Commission as part of the Comprehensive Area Assessment (CAA). In the report, partners in Gloucestershire - including the county council, six district councils, NHS and police - were given a ‘green flag’. This marks exceptional performance in work to get Gloucestershire back on its feet after the 2007 flooding emergency. In response, Cllr Barry Dare, said: “We are proud of the way the public sector and the people of Gloucestershire responded to the flooding emergency and welcome recognition from the government. Since the events of 2007, the county is regularly asked for advice and support on dealing with similar emergencies, including the recent Cumbria floods. We continue to work hard to support people directly affected and prevent similar floods happening in the future.” The report also rates how public sector organisations throughout Gloucestershire work together for local people. It confirms that the public sector works well to deliver great services at good value for money.

- **Overview Scrutiny Management Committee**
  - Commended in the 2008 Good Scrutiny Awards for its work on the Scrutiny Inquiry.
AWARDS AND COMMENDATIONS

- **Two awards for the Council’s Flood Guide**
  - Best Publication in the Chartered Institute of Public Relations (CIPR) Excellence Awards beating off tough competition from national and international organisations
  - CIPR Local Governments Group’s Excellence in Communications Awards

- **Gloucestershire Highways**
  - **Highways Magazine award** for Consultant of the Year in the at the Excellence Awards in recognition of the work carried out in helping the county respond to the immediate emergency following the summer 2007 floods and the subsequent ongoing flood alleviation project
  - **Shortlisted for a top industry award:** The Ground Engineering Award 2009 in the Health and Safety category for its flood alleviation and relief work on the A46 at Salmon Springs.

- **Commendation received for awareness-raising for vulnerable residents** about rogue traders (Trading Standards Service)
• ‘Community Flood Hero’ Award
In January 2010, Bourton Parish Council were officially commended as a ‘Community Flood Hero’ and received an award presented by then MP David Cameron. This top award recognised the Parish Council’s efforts to reduce flood risk in the village since 2007, highlighting their proactive and enthusiastic approach to protecting the village from future floods through close partnership working with the District Council, County Council and Environment Agency. Fairford Emergency Action Group were also highly commended for their work to alleviate flooding and build community resilience.
£2.3m additional revenue has been raised from the Council Tax levy since 2008/09. In 2008/09, £200k of this was used to secure capital funding of £4m for flood alleviation and drainage works, giving a total of £6.1m:

- £2.1m revenue per annum for enhanced drainage maintenance, reactive jetting, grip cleaning and gully emptying, joint funded multi agency flood resilience revenue works and the establishment of a core drainage and flood risk management team.

- £3m capital funding for highway drainage improvement schemes

- £1m capital for joint funding multi agency schemes.

In respect of the funding allocated for multi agency schemes, on an annual basis each of the district councils has been given the opportunity to submit bids to support match funding for those priorities that could be delivered locally. In response, the Future Resilience Programme Board has allocated in total approximately £1.7m to a wide variety of schemes across the county. This generated a list of over 100 flood resilience partnership projects totalling over £7m of activity by the Districts, allowing for contributions from district councils, the Environment Agency, Severn Trent Water and others. This has given the potential of protecting up to several hundred homes and strengthening local resilience and steps have been taken to ensure local communities understand the joint funding/partnership arrangements.

For details of partnership projects see Appendix D and E (http://glostext.gloucestershire.gov.uk/ecCatDisplay.aspx?sch=doc&cat=13302&path=0).

Gloucestershire Highways – The following additional capital sums were agreed for allocation to Gloucestershire Highways:

- £1m was spent on further highway drainage improvement schemes during 2008/9.

- £1m was spent on four major flood alleviation drainage schemes in 2009/10. These included Tredington Bridge, Castle Street Winchcombe, Nailsworth Town Centre and Watery Lane, Newent.

- £800k was spent on further highway drainage improvement schemes during 2010/11.
Following the Pitt Review into the 2007 floods and the Government’s response published on 17th December 2008, the Flood and Water Management Act was given Royal Assent on 8th April 2010 giving Upper Tier local authorities such as GCC new responsibilities for local flood risk management.

The Flood and Water Management Act 2010

The Act brings together the recommendations of the Pitt report and previous policies, to improve the management of water resources and create a more comprehensive and risk based regime for managing the risk of flooding from all sources. It should be noted that, whilst the Act received Royal Assent in April, we still await the ‘Commencement Orders’ for an indication of how the Act will be implemented and the associated timescales.

A key implication for County Councils and Unitary Authorities is the introduction of the Lead Local Flood Authority role, which enhances their responsibilities so that they lead the co-ordination of flood risk management in their areas. In the main, this extends the responsibilities of the Environment Directorate. The Council will need to take resource and organisational decisions to prepare for these new statutory responsibilities and take steps to formalise their role as a LLFA. However, partnership arrangements are in no way prevented, which will ensure full use of all capabilities and experience locally.

The Act places significant new responsibilities on local authorities, including:

- A requirement to develop, maintain, apply and monitor a strategy for local flood risk management for the area;
- The management of local flood risk, which includes surface runoff, groundwater and ordinary watercourses;
- Leading the co-ordination of local flood risk management, bringing together all relevant bodies to help manage local flood risk;
- Investigating flooding incidents;
- Maintaining a register of structures or features which are considered to significantly affect flood risk and record ownership and state of repair;
- Powers to do works to manage flood risks from surface runoff and groundwater (powers to do works on ordinary watercourses remain with either district authority or IDB);
- Powers to designate structures and features that affect flooding;
- The approval, adoption and maintenance of sustainable drainage systems (SUDS); and
- Contributing towards achievement of sustainable development.

In addition, the Act enables Overview and Scrutiny Committees in LLFAs to hold all the risk management authorities to account. In this way, the public can be actively involved in ensuring authorities perform and fulfil their responsibilities.

As part of it’s new LLFA role, GCC will be required to produce a Local Flood Risk Management Strategy and as such the Flood Risk Management Team are currently ahead of the game in developing the Strategy outlining GCC’s approach to this role and local flood risk management in Gloucestershire, ultimately forming a policy document.
Recognising it is rarely possible to eliminate the likelihood of flooding altogether, the Local Flood Risk Management Strategy sets out to provide the framework to reduce, manage and mitigate the effects of flooding from surface runoff, groundwater and ordinary watercourses.

Flood Risk Regulations
The Flood Risk Regulations came into force on 10th December 2009. Their purpose is to transpose the EC Floods Directive on the assessment and management of flood risks into domestic law and to implement its provisions. The regulations outline the roles and responsibilities of the various authorities consistent with the Flood and Water Management Act 2010 and provide for the delivery of the outputs required by the directive. The Directive requires Member States to develop and update a series of tools for managing all sources of flood risk, in particular:

- Preliminary flood risk assessments (PFRAs);
- Flood risk and flood hazard maps;
- Flood risk management plans;
- Co-ordination of flood risk management at a strategic level;
- Improved public participation in flood risk management; and

It had been originally intended to transpose the Directive through the Flood and Water Management Act 2010, but the Regulations had to be imposed by the end of 2009 in order to avoid infraction proceedings. The Regulations are, however, consistent with the Act and indeed overlap in some cases. The intention is to consolidate the Act and Regulations to achieve a single coherent set of provisions dealing with flood risk assessment and management. Indeed, initially the local and national flood risk management strategies will help shape the work to be completed on the Flood Risk Regulation outputs, and over time the maps and plans produced under the Directive will in turn shape the national and local strategies.

Under the Regulations, as a Lead Local Flood Authority, the Council have responsibility to prepare preliminary flood risk assessments, flood risk maps and hazard maps and flood risk management plans for all other forms of flooding (excluding fluvial, coastal and sewer flooding) including surface runoff, groundwater and ordinary watercourses. We have a requirement to prepare preliminary flood risk assessments before 22nd December 2011; to identify areas of significant risk on the basis of the preliminary flood risk assessments; to produce flood risk maps and hazard maps for the identified areas of significant flood risk before 22nd December 2013; to prepare flood risk management plans for the areas of significant flood risk before 22nd December 2015; and to engage with the public and relevant authorities in the production of those Directive deliverables.

LLFAs must submit their PFRAs, maps and management plans to the Environment Agency six months before the specified December deadlines to allow for collation and reporting to the European Commission. The assessment, mapping and planning cycle continues thereafter on a six-yearly basis, with the first review of the PRFA due by 22nd December 2017. Flood maps must be reviewed by 22nd December 2019 and flood risk management plans by 22nd December 2021. Each review must take into account the likely impact of climate change on the occurrence of floods.
The devastating floods of 2007 were a rude awakening, not only locally but nationally. The Scrutiny Inquiry looking at what took place in Gloucestershire recommended many changes, all of which have now been implemented by the County Council; and nationally the Pitt Report identified shortcomings and made 92 recommendations, many of which have been enacted by Parliament in the Flood and Water Management Act 2010. It is this Act, and the Flood Risk Regulations 2009, that now set the scene for the way forward for flood risk management.

GCC working with its partners has done a great deal over the past three years to improve flood risk to hundreds of properties and gone to considerable lengths to ensure that public money has been effectively invested in flood risk management work. Much of what has been undertaken by the County Council and its partnership with other authorities is in line with the broad spirit of the Act and provides an excellent base on which to go forward.

We continue to await the framework for the implementation of the sections of the Act and the national guidance that will help inform working practices. At this time there remain many unanswered questions about how things will shape up locally, but we recognise that partnership working will remain very important, and we are encouraged by a recent consultation paper on government proposals for funding certain responsibilities of the Act. We hope that this is the beginning of a recognition that the issue needs to be comprehensively considered, particularly at this time of economic restraint.

A great deal has been invested in improving flood risk in the county over the past three years but it should be recognised that improving flood risk by way of large engineering schemes is very costly and now rather unrealistic. Self-help and personal responsibility must play a part in future protection. Awareness of property resilience and help to residents with such schemes must be part of the package of measures for the future.
Three years on from the floods, the County Council can look back with a degree of satisfaction at what has been achieved across the county through the positive partnership flood risk management work that has been undertaken with the district councils, Environment Agency, Internal Drainage Board, water companies and other partners. That said, the County Council is not complacent about its achievements to date and acknowledges that there is still more work to be done.

A strong base has been set down from which we can go forward with our partners to meet the new challenges of the responsibilities in the Flood and Water Management Act and Flood Risk Regulations, at a time of financial restrictions.

Under the Flood and Water Management Act, the County Council is given the role and associated responsibilities of Lead Local Flood Authority for Gloucestershire. The County Council will continue to work hard to fulfil its duty under the Act and lead flood risk management for the county. However, the authority acknowledges that a continued good working relationship with its partners is essential to deliver the service that the people of Gloucestershire deserve.