

WARWICK DISTRICT COUNCIL

**TO: DEVELOPMENT COMMITTEE 10th JANUARY 2000
HEALTH AND CONTROL COMMITTEE 12th JANUARY 2000**

SUBJECT: FLOODING IN AREAS OF WARWICK DISTRICT COUNCIL

FROM: ENGINEERING & ENVIRONMENTAL HEALTH

1.0 PURPOSE OF REPORT

1.1_ To provide an update to the previous Committee report about the flooding issues raised following the substantial rainfall on 8th August 1999.

2.0 BACKGROUND

2.1 Following the flooding on 8 August 1999 Engineering staff received approximately 500 telephone calls, 150 letters and 100 requests for contact following the receipt of flooding leaflets from property owners who were affected by the flooding.

2.2 Engineering and Environmental Health staff have been following up all notifications of affected properties including making personal visits, outside office hours and including early am, evenings and weekends, to those affected where these have been requested.

2.3 Engineering staff investigated every report received to ascertain the reason why flooding occurred to try and determine whether there were operational or hydraulic deficiencies in the sewer network. In close liaison with Severn Trent Water, considerable CCTV and physical inspection work has been carried out and where defects were noted, orders have been placed to repair the defective sewer system or reports have been forwarded to Severn Trent Water to highlight hydraulic deficiencies in the sewer system.

2.4 In agreement with relevant riparian owners Engineering has already taken action to clear watercourses of vegetation where overgrowth was identified as causing potential problems.

2.5 The Council has approved extra resources to allow an immediate start for a more pro-active approach to address flooding issues within its control and is further committed to ensure that the effort of the various bodied are co-ordinated to ensure solutions are effective and efficient.

2.6 Engineering has reached informal agreement with Severn Trent, The County Council and Environment Agency on the need to establish a Warwick Surface Water Drainage Group that will allow cross agency approach to the solving and prevention of surface water drainage problems within the District. This inter agency working group which will be formalised this year and will be spearheaded by Engineering.

2.7 Cross Agency working is already being used to address problems in Leamington, Ashow, Cubbington, Kenilworth and Warwick.

3.0 PROPOSALS

3.1 Possible ways forward to mitigate the flooding situation in some of the most severely affected flooded areas are shown in the attached Appendix A.

4.0 KEY ISSUES STRATEGY

4.1 Issues in this report have links with the Social, Economic and Environmental key issue strategies.

5.0 CONCLUSION

5.1 The flooding that occurred was caused by the extreme weather conditions and exceeded the design of land drainage, public and private, highway drainage systems.

5.2 Some flooding was exacerbated by operational problems in the drainage network (blockages) and these problems are presently being investigated and rectified.

5.3 Where flooding has been identified to be caused by the hydraulic deficiencies of the public sewer system they have been reported to Severn Trent Water.

5.4 A considerable amount of flooding was caused by land drainage problems, many riparian owners are unaware of their responsibilities under land drainage laws.

5.5 Notional improvement schemes for solutions to hydraulic poor performance in the public sewerage system within the Leamington Spa catchment will form part of the recommendations to Severn Trent Water within the Leamington Spa Drainage Area Study which Engineering is currently undertaking for completion in March 2000.

5.6 Notional improvement schemes for solutions to alleviate watercourse flooding will be the subject of future Committee reports for consideration by Members.

6.0 RECOMMENDATIONS

6.1 It is RECOMMENDED that Members note the content of the report and give their support to devote future funding to carry out flood protection works and further allow Engineering to lobby other agencies and riparian owners to do the same.

I.G.JERMOND
HEAD OF ENGINEERING

J. KIRK
HEAD OF ENVIRONMENTAL HEALTH

Contact Officer: Roger Jewsbury Tel: 01926-450000 Ext 3002

Areas in District Affected: All

Background Papers : Development Committee Report - 1/6/93 & 20th September 1999

WARWICK DISTRICT COUNCIL

**TO: DEVELOPMENT COMMITTEE - 10th JANUARY 2000
HEALTH AND CONTROL COMMITTEE - 12th JANUARY 2000**

SUBJECT: FLOODING IN WARWICK DISTRICT COUNCIL

FROM: ENGINEERING & ENVIRONMENTAL HEALTH

APPENDIX A.

1.0 The findings and proposed actions for the worst flooded areas.

1.1 NORTH LEAMINGTON

1.1.1 Midland Oak Roundabout to Kenilworth Road to Binswood Island

The recently constructed Midland Oak Flood retention Scheme provided an improved degree of protection to properties in the area but due to the rainfall intensity the subsequent volumes of water breached the newly created flood bund. Flood water then reverted to its natural topographical flood route along the watercourse, through house and garden properties in Lillington Road and to the rear of Denville gardens, before entering the Cricket Field adjacent to Warren Close.

This in conjunction with the blocking of the watercourse grill at the end of 2 Cloister Crofts further accentuated the problems with resultant water levels building up before flowing through properties in Lower Woodcote Road and Kenilworth Road.

In addition, once the water breached the Midland Oak Flood retention Scheme it flowed down Lillington Road and Lillington Avenue and into Clarendon Street where it contributed to flooding the already overloaded public sewer system with the subsequent flooding of property cellars.

Subsequent to the flooding event of the 8th August Engineering has undertaken the following:

- An internal CCTV survey of all the watercourse culverts from Lillington Road to College Drive has been completed for its length within the public highway and private sections and any resulting obstructions removed. A re-designed self cleansing grill is to be installed in place of the existing grill to the watercourse culvert at the rear of 2 Cloister Crofts which is prone to blockage.
- In association with Haswells work for Severn Trent in the Lillington area, a basic surface water computerised model was produced in order to establish how the watercourse reacts to various rainfall events. The model includes all the surface water public sewers including the piped and open watercourses contributing to the catchment. The catchment commences in the area of Oakridge Road, Lillington and encompasses the natural drainage route along Valley Road, Midland Oak

Roundabout the Lillington, Bins and Milverton Brooks before outfalling into the River Leam. This basic model has been recently refined with the inclusion of topographical survey data along sections of the open watercourses.

- Four public meetings were arranged by residents in the Lillington Area and were held on the 7th and 9th December 1999 to outline the work undertaken so far. Representatives from Engineering, Severn Trent Water and Haswell Consulting Engineers were in attendance.
- By May 2000 Engineering will have identified and studied the feasibility of a range of preliminary costed options for the North Leamington, Bins Brook catchment, for presentation to a public meeting.

1.1.2 Upper Lillington Road, Park Road, Aldwick Close, Bowers Croft, Sandy Lane, St Andrews Road, Melton Road, Montrose Avenue Lime Avenue, Kelvin Road Telford Road and Leicester Lane.

The public surface water and foul water sewers are subject to investigation work being carried out at the present time by Haswells, the Consulting Engineer working directly for Severn Trent Water. They are in the process of formulating an improvement strategy which will reduce flooding in the area. However, further work may be required by Warwick District Council to improve land drainage in the area of Aldwick Close and North Leamington school playing fields. This work will have to be considered in conjunction with proposals from the Consulting Engineers.

1.1.3 Lillington Road, Clarendon Street, Arlington Avenue and Wathen Road Areas

Flood water from the breached Midland Oak Flood Relief Scheme flowed down Lillington Road and Lillington Avenue into Arlington Avenue and into Clarendon Street and contributed to flooding of property cellars from the already over loaded sewer system in this area. The hydraulic deficiency in the public combined sewers in this area have been reported to Severn Trent Water and suggested improvements will form part of the Leamington Drainage Area Study which Engineering is currently undertaking for completion in March 2000.

1.1.4 Langdale Close

Following CCTV inspection work, an in-effective surface water sewer has been located and supplementary funds have been provided by Severn Trent Water to carry out emergency repairs. This work will be started in the near future.

1.1.5 Newnham Road Area

Foul water sewers in this area are being flooded by private land drainage systems incorrectly connected to the foul sewer system. Therefore, the Environmental Health Department are liaising with property owners to ensure the correct connections are made.

1.1.6 Parklands Avenue

Flooding in this area has been attributed to land drainage flooding down Oakbridge Road flooding the properties in Parklands Avenue and Epsom Road. The land owners have agreed to re-instate a bund around the field at the top of Oakbridge Road which should alleviate these land drainage problems in the future. These areas are also subject to investigation by Haswells as part of the north Leamington scheme.

2.0 ASHOW VILLAGE.

Houses in Ashow and the road adjacent to the point at which the watercourse enters the village culvert has flooded to various degrees, four times in six years. The four occasions were in 1993, 1996, Easter 1998 and the 8th August 1999. The latest flood affected six properties off Main Street and flood damage insurance claims have been considerable.

The cause of the flooding is specifically from the stream, when the volume and speed of water from the upstream catchment can no longer be contained within the culvert, when it overflows and merges with the volume of runoff from adjacent farmland and highways running down the roads into the village.

Subsequent to the flooding event of the 8th August the Engineering Business Unit and County Council, with support from Ward Councillors and Andy King MP, have through partnership working achieved the following:

- An internal CCTV survey of the village culvert has been completed for its length within the public highway and private sections and any resulting obstructions removed. A new highway chamber has been constructed at the junctions of the two roads into the village to provide easier inspection and access to the culvert. A re-designed self cleansing grill is to be installed in place of the existing grill to the village culvert which is prone to blockage.
- The existing ditches, pipe work and grips adjacent to the B4115 and Rocky Lane have been cleaned with new ditches provided where practicable.
- The County Council and Engineering have contacted the Highways Agency and they wish to be involved in a Partnership approach to the problem solving process with the potential for some form of contribution towards any solution. The County Council are also in the process of obtaining from the Highways Agency the original drawings for the A46 Warwick Bypass. A preliminary meeting has been held with WS.Atkins, acting as Agents to the Highways Agency, with a view to removing existing silt from the Thickthorn Wood attenuation area and increasing its size to provided additional storage capacity. A report of their finding is to be submitted within the near future.
- Engineering has undertaken a topographical survey of the affected parts of Ashow village and is carrying out a catchment study and costed design options to mitigate the flooding problem with a view of undertaking a consultation exercise with residents at the beginning of February 2000.

- Engineering and the County Council will endeavour to encourage surrounding landowners to provide additional field ditches or bunding to the sides of fields in order to restrict field runoff onto public highways.

3.0 CUBBINGTON

3.0.1 New Street, Offchurch Road, Ladycroft, Hillcrest

Extensive investigations have been undertaken by Environmental Health in connection with flooding of properties in Ladycroft and Hillcrest. This work has involved two Officers working with Technical Assistants over a period of 8 weeks, taking up to 2 days per week. In summary, the following work has been completed:-

- Checking all inspection chambers on private foul and storm sewers for mis-connections, checking if they are laid in accordance with drainage plans and to assess their overall condition, including some limited CCTV investigation.
- Checking all road gullies for mis- connections and blockages
- Jetting all private storm sewers to clear obstructions and general silt and debris.
- Checking individual property connections, with a view to detecting the extent of storm water being directed or otherwise finding it's way into the foul water system. In detail this has involved dye- tests to 75 properties, and has identified 29 mis- connections of storm water into the foul water system.
- Letters sent to each household to advise them of the investigations
- Checks made on the pumping station after heavy rain

The following conclusions can be drawn from these investigations:-

In heavy rainfall (not necessarily prolonged), water surcharges from the private foul sewer on the driveway of no. 14 Ladycroft. This occurrence is due to the volume of storm water in the foul sewer, and to a large extent could be overcome by re- connecting all of the mis- connected storm pipes into the storm water sewer. Whether the cost of this work should be borne by the owners or the Council is a matter for further consideration.

The private storm water system surcharges in heavy rain on the driveway of no. 27 Ladycroft. In addition, the storm water system in Hillcrest is in poor condition and requires some structural repairs. With mis- connections re- connected to the storm sewer this will only exacerbate the problem of surcharging at no.27 Ladycroft. There is clearly a need for part of the storm water system to be re- laid to prevent further surcharging.

The flooding problem which manifests itself in Ladycroft and Hillcrest clearly originates beyond the immediate catchment area, and no work has been done here to quantify the problem. It is known, however, that surface water from Ledbrooke Road and beyond enters the rear gardens of properties in Hillcrest, and is directed by residents into foul

water sink waste gullies. This clearly contributes to the surcharging at no.14 Ladycroft. Some work has been undertaken by Engineers to attempt to divert some of the surface water at the junction of High Street and Ledbrooke Road., into the storm water sewer.

Engineering have appointed sewer survey contractors to provide information on which a Drainage Area Study computerised model of the public and private foul and surface water sewers can be completed to enable a improvement strategy to be produced. These recommendations will be reported to during the 2000/2001 Committee cycle.

3.0.2 Pingle Brook

Feasibility work has been undertaken to provide land drainage storage in the upstream sections of Pingle Brook to avoid flooding in the New Street area. Negotiations are continuing with Warwickshire County Council and local land owners to enable this scheme to be completed. A further report will be considered during the 2000/2001 Committee cycle.

4.0 **WHITNASH.**

4.0.1 Heathcote Road/Whitnash Road

The hydraulic deficiency in the public combined sewers in this area have been reported to Severn Trent Water and suggested improvements will form part of the Leamington Drainage Area Study which Engineering is currently undertaking for completion in March 2000.

4.0.2 Box Close

Flooding in this area can be attributed to a privately owned watercourse which has been recently cleaned by riparian land owners and is now operating correctly and also, flooding from the foul sewers due to operational problems in the public sewer network which are in the process of being rectified.

4.0.3 Masters Road

The issue of flood water running off the recreational ground will need to be addressed by the riparian owners. Advice may be gained from the Engineering Department on how this may be achieved.

5.0 **KENILWORTH.**

5.0.1 St Johns

Railtrack initially agreed without prejudice to clear the ditch at the rear of Clarkes Avenue which should allow a free outfall for the surface water sewers in the area. Regretfully Railtrack have now appealed against the formal notice. Further meetings with Railtrack have been organised to address this problem and hopefully work will proceed in the near future. Once their work has been completed a comprehensive jetting

programme will be carried out to ensure that all of the surface water sewers are working correctly. The foul flooding the area has been reported to Severn Trent Water and these reports will form the basis of their review of the drainage area study for Kenilworth in the year 2000/01.

5.0.2 Farmer Ward Road and The Gardens

Investigation work has revealed that the public surface water sewer serving The Gardens and Farm Ward Road was damaged by a utility working in The Gardens, which blocked the surface water sewer and allowed flooding to occur. The outfall of this surface water sewer was also blocked at the rear of Farmer Ward Road in land owned by Railtrack, however, the Railtrack culvert has now been relaid and the surface water sewer should be working as efficiently as possible. Forthcoming meetings with Railtrack should clarify this point. It also been identified, that an area of land known as Bates Memorial Field discharges into this surface water sewer via a land drainage system. Flooding off this land caused major disruption and the Amenities Officer has accepted that flood alleviation work is required in this field and he will be reporting to Leisure and Amenities Committee for funds to allow flood relief works to be carried out in the forthcoming financial year.

5.0.3 Kenilworth -Henry Street, Whitmore Road, Offa Drive, Reeve Drive, Priory Road, Farmer Ward Road

These areas were flooded due to the Tanyard Stream being blocked in the land known as Stickleys Scrap Yard off Mill Lane presently being developed by Wimpeys. Further work is required to ascertain whether surface water sewers in the Kenilworth area are hydraulically efficient. Severn Trent Water are being pursued to model the surface water system along with the foul water system when the Drainage Area Study Review is carried out in the next financial year.

5.0.4 Leyes Lane, Keeling Road, Raglan Grove, Villiers Road

Flooding in this area occurred because the existing public water sewer system appears to be hydraulically inadequate and this has been reported to Severn Trent Water who will be assessing this flooding as part of their Drainage Area Study review.

5.0.5 Malthouse Lane, Berekley Road, Amherst Road

Flooding in this area occurred due to the public surface water sewer systems in the area not being able to cope with the immense flows. Flooding did occur in this area on 2 June 1999 but following CCTV work a blockage was removed from the surface water sewer system. Residents in the area have expressed their concern that the extra flows in the area have been created from the run off from the new school which was built in the Hollis Lane. It appears, however, that this school was developed in approximately 1995 and substantial storms since that date have not created flooding problems that occurred on the 8 August. Once again this area will form part of the Drainage Area Study to be undertaken by Severn Trent Water in the year 2000/01. The surface water sewer does discharges into an open watercourse by the side of the Clarendon Inn Public House on

Castle Hill and the riparian owners have been asked to remove silt from this watercourse to ensure that it is also free flowing.

5.0.6 Clinton Lane

Investigation work has revealed that a surface water sewer in this area was blocked and repair work has now been undertaken. Other minor improvements are proposed to offer additional protection in extreme conditions.

6.0 WARWICK.

6.0.1 Saltisford Common, Antelope Gardens.

Following on-going incidents of severe flooding of properties in Antelope Gardens and surrounding areas Council Members gave approval for a flood alleviation scheme.

The contract was awarded to D. W. Clarke Ltd in early November 1999 with a start date of mid-November and a completion date in January 2000.

The scheme, which involved working in partnership with the Environment Agency comprised of the re-routing of the existing watercourse through the Common which created both an area of environmental enhancement and additional capacity during periods of heavy rainfall. An 'earth bund' was also incorporated to hold water back in case of extreme rainfall which offers protection to properties in Antelope Gardens.

The scheme should be completed during week commencing the 10th January 2000.

Whilst the work has been on-going it has created a lot of interest, in particular with the local residents who are very pleased and impressed by what they have seen.

John Magee of the Councils Housing Department has spoken with the chair of the association who commented that the brook has never been named. It has therefore been suggested that the tenants protected by the scheme be encouraged to come up with a suitable name and that in late spring or summer a naming/opening ceremony be held involving local Councillors, tenants and Engineering Officers.

6.0.2 The A4189 Hampton Road.

Residents of Hampton Road and adjoining streets are regularly flooded during intense periods of heavy rainfall which affects gardens and property. The flood water issues from an area of land known as "St Marys Land" within the racecourse complex, across Hampton road, subsequently surcharging highway gullies and then enters property and gardens in Goldsmith Avenue, Burns Avenue and Browning Avenue.

It is anticipated that a bid for funding of a feasibility study, which will identify the full extent of the problem and subsequent alleviation options will be submitted to Members early in the new financial year.

Subject to approval, a feasibility study will be undertaken with recommendations for scheme funding made to Members in November 2000 with a view to implementing the necessary work in year 2001.