

REPORT FOLLOWING HEAVY RAIN IN HILTON

23RD/24TH DECEMBER 2020



1.0 Properties etc. affected

A full survey has not been conducted, but the following has been gleaned from conversations with a limited number of residents:

- A resident fell into the ditch, and was briefly submerged, just outside Hilton House on the morning of 24th January. To what extent this was caused by passing traffic or was due to poor demarcation of the edge of the ditch, is not known
- No houses were flooded
- Graveley Way appeared to be the worst affected
- 3 garages flooded
- 1 house cellar flooded
- Several houses came 'within inches of water entering the property'
- As an aside, at least 5 vehicles attempting to go through standing water were flooded and marooned

2.0 Preceding Rainfall

Annual average rainfall Hilton for past 45 years = 560 mm

Total rainfall Hilton for 2020 = 645 mm

6-month total July – Dec 2020 = 478 mm

- Therefore, in the 6 months (50% of a year) leading up to 24th Dec 2020, Hilton received 85% of the total annual average rainfall. This resulted in the ground being at saturation point well before the rain event of 23rd Dec 2020.

Rainfall recorded for 23rd Dec 2020 = 40.1 mm

- In the 28 days leading up to the 24th December, rain was recorded on all but 2 days with a total of 109.5 mm rain recorded. This is more than twice the monthly average.
- Note that rainfall for a given day is measured at 9.00 a.m. the day after. However, there was negligible rain between 11.30 p.m. on the evening of 23rd December and 9.00 a.m. on 24th.

In short, on Dec 23rd 2020, nearly a month's worth of rain fell in a single 24-hour period onto what was already very saturated ground.

3.0 Actions taken by Parish Councillors and members of the public to minimise, alleviate and understand the flooding of December 2020

- 3.1 In the weeks leading up to December 24th the Village Maintenance Person, as well as at least one identified member of the public, removed debris from the grids at the eastern end of The Ware and at the northern end of the Crossroads Pond.

- 3.2 In the early evening of 23rd December, a parish councillor placed signs out on Church End advising motorists that the ford was impassable.
- 3.3 Between approximately 7.00 p.m. and 8.00 p.m. on the evening of 23rd December, 2 Parish Councillors inspected the principal ditches within the village and found most were running unimpeded. One exception was the culvert under the entrance to Kidman's Farm Cottage (Graveley Way). The blockage at this point was not total but flow was restricted and the adjacent pond had breached. "Water" was noted to be flowing /gushing from several drain manhole covers.
- 3.4 Between 7.30 and 8.30 a.m. on the morning of 24th December 2 members of the public again cleared the grids specified in 3.1 above as well as inspecting and removing some debris from all of the major culverts within the village.
- 3.5 Subsequent discussions with residents along Graveley Way reveal that the flooding probably reached its height at some time between 3.00 and 4.00 a.m. on the morning of 24th December. (Noting para 2 above that negligible rainfall occurred after 11:30pm 23rd December).
- 3.6 On the morning of 24th December, a Parish Councillor compiled an account of the flooding including photographs which was sent to all Councillors and the clerk.
- 3.7 In the afternoon of 26th December debris building up against culverts was cleared between the Crossroads pond and the point where the outflow joins West Brook at the Five Arch Bridge.
- 3.8 Dialogue took place between 2 concerned Councillors on the evening of 26th December ahead of storm 'Bella'. Inspection of rain gauge at 5.30 a.m. on 27th December showed that the threatened 'heavy rainfall' had resulted in only 2.0 mm so no further action taken.
- 3.9 Parish Councillor met with a resident of Graveley Way on 4th January 2021 to discuss the flooding that had occurred to his garage. Although noticed by the PC member previously, some of the discussion centred on the blocked culvert under Graveley Way that allows for water flow between the ditch on the northern side of Graveley Way and the ditch on the southern side of Graveley Way. This culvert exits just to the east of the entrance to 10-14 Graveley Way.
- 3.10 On 15th January it was noted that the brick facing to the culvert by Green End (east end of the Green) had collapsed severely restricting the flow of the main ditch. The Village Maintenance Person, assisted by a member of the public, removed broken brickwork from the bottom of the ditch.
- 3.11 On 24th January a Parish Councillor cleared a blockage in the culvert running under Tithe Lane, about half way between Graveley Way and Chapel Close.
- 3.12 On 3rd February the culvert N/S Graveley Way (3.9 above) was cleared by a local farmer.

4.0 What has been done by the Parish Council following the lessons learned from the October 2001 flood event.

- 4.1 Following the flood event of October 2001, the then Parish Council commissioned David Noble, a renowned local drainage expert, to survey the drainage system for the village of Hilton and to suggest measures the Parish Council could take to minimise a repeat occurrence. The following is taken verbatim from his report

Conclusions

Where possible the Parish, assisted by others as necessary, should seek to improve the local drainage system as follows and in order of priority:

- 1. Ensuring all culverts are clear of obstruction*
- 2. Pursue investigation of the outflow arrangements from the Crossroads Pond*
- 3. Seek to improve the control of the drainage along Tithe Lane*
- 4. Investigate restoration of watercourse between Graveley Way and West Brook*
- 5. Continue to de-silt as necessary the ponds alongside Graveley Way and attend to open watercourses sections*
- 6. Undertake maintenance to the Parish Drain. (Correctly termed the 'Town Drain'.)*
- 7. Restoration of ditch to north of the High Street and control outflow to Reeve's Ditch*

4.2 Given below are the actions that have been taken using the same numbering system as above:

1. A. Residents written to, reminding them of their riparian obligations. Perhaps a reminder letter is due?
B. Periodic clearing of culverts is part of Village Maintenance Person's job remit.
2. A robot survey of the outflow in September 2002 showed David had incorrectly concluded that one of the two 450mm pipes flowing out of the northern end of the Crossroads Pond did not work. The Village Maintenance Person and a Parish Councillor applied the 'ping-pong ball test' on 15th January 2021 and established that the left-hand pipe flows into the ditch along the St Ives road about 8 metres further north than the right hand one. This confirms the findings of the robot survey and establishes that the outflow from the pond is actually twice what David Noble concluded.
3. A revised drainage scheme for Tithe Lane was considered. However, the PC was unable to secure the necessary permissions to complete the project.
4. This was based on a 1926 map. More recent draining of the local fields means that the relevant ditch along Graveley Way now only takes a very small percentage of the field drainage water therefore there is little or nothing to be gained from re-establishing the link between these two water courses.
5. On-going and shows a large improvement especially to open water courses.
6. Some limited work undertaken where the Town Drain joins the ditch that comes down from Pitt Dene Farm. Part of this Pitt Dene Farm ditch between the south-east corner of The Wilderness and the Hilton to Fenstanton road is classed as an Awarded Water Course and was cleared by HDC in 2002. In early 2020 two Parish Councillors cleared a large amount of debris from a culvert halfway along the awarded section. A previous Parish Council concluded that the cost of clearing and re-profiling the Town Drain was not cost-effective. There is little evidence to question this.
7. Full restoration of the ditch along the north side of High Street has not been undertaken however, the culvert under High Street linking it to Reeves Ditch was jetted in about 2008. The outflow from Reeves Ditch has been re-established with excess vegetation cleared annually.

5.0 Suggested actions for the Parish Council following the heavy rainfall event of 24th December 2020.

5.1 Write to residents whose properties lie adjacent to water courses within the village where appropriate, reminding them of their riparian responsibilities. The conversation with a resident of Graveley Way revealed that it is stipulated within his title deeds that it is for the property owner to ensure unimpeded passage of water along the adjacent ditch.

5.2 Investigate the cause of the poor flow in the culvert under the entrance to Kidman's Farm Cottage and ensure it is rectified.

5.3 Re-profile the open ditch along the south side of Graveley Way in front of Kidman's Farm Cottage.

5.4 Observations by two Parish Councillors show that there is a severe restriction where the ditch running north along the St Ives road joins West Brook at Five Arch Bridge. Since this is an Awarded Water Course under the control of HDC, they should be asked to clear this area. It is worth noting that this restriction would not have contributed to the flooding within the village in December 2020.

5.6 Dialogue with CCC following the flood event in 2001 revealed that they check, and clear as necessary, seven culverts within the village on an annual basis. It would be worth investigating to see if this schedule still operates.

5.7 Investigate improved demarcation of the ditch outside Hilton House and discuss with interested parties.

5.8 Investigate the several culverts round the village that exist but do not flow, e.g., there is a pair of 650 mm culverts, located at the northern end of the ditch outside Hilton House, that appear to take water under the B1040 to the Crossroads Pond. Currently only one of these operates. In addition, there is another that appears to take water from Chequers Croft and ends at the ditch in front of Kidman's Farm Cottage, again this does not flow.

5.9 Several residents reported vehicles, especially tractors, travelling far too quickly through the floods with consequential "bow waves" causing increased flood risk. How can we reduce their speed?

5.10 Clarify ownership and responsibilities of the various water courses within and around the village.

5.11 Discuss with Tithe Lane owner (CCC) to improve the drainage /gradient/ surface/ layout etc. with the intention of getting it reprofiled. Occasional flooding of the lane may be expected, but the current arrangement means that the lane is realistically impassable for several weeks after such an event. This is depriving the community of a valuable asset for a period each year.