

## **From Mr Peter Lansdown**

**14 August 2017**

### **Ilminster Flood Sunday 23 July 2017**

#### 1. Background

1a. Weather. An extreme weather event struck Ilminster on Sunday 23 July. Very heavy rainfall flooded the town, not from the Shudrick Stream as used to happen but from run-off from the Beacon. This has happened before. I missed the one on 23rd but was in town on a previous occasion when water rose alarmingly in the Market Square in similar circumstances.

#### 1b. Geography.

The town lies between three hills but mostly on the southern slope of the Beacon, the highest of the three and open to the prevailing South Westerly winds. Several wells and one stream (piped under Court Barton) run down from or are fed from the Beacon.

The Shudrick Stream runs down the shallow valley between The Beacon and Pretwood Hill. Some of it is now built over. It flows westwards to the River Ile a mile or so west of the town.

1c. Flash Flood Routes. There are four routes that funnel flash-flood water from the Beacon into the town, from east to west these are:

Dillington Drive to East St/Market Square/Silver St (East)/Ditton St,

Old Road to North St/Market Square/Silver St (East)/Ditton St,

Rutters Lane to Silver St (West)/Wharf Lane - this possibly goes via Court Barton

New Road to Station Road/Silver St (West)/Wharf Lane.

There are possibly others. It appears Old Road and Rutters Lane are the main ones, certainly from my experience the route Old Road/ North St presents a real threat to property in the middle of town.

#### 1d. Property flooded.

A cottage in North St (from the rear not from the road).

Silver St shops, both near the Market Square and below Court Barton.

The Dolphin (from the rear)

Shops along Ditton St.

Cottages along Wharf Lane.

A cottage on Station Road, opposite New Road, nearly flooded.

There were possibly others.

1e. Other Damage. There is a hole in the road in Court Barton beside the Dolphin pub which I think is a consequence of the flooding. It appears to be over the stream that runs under Court Barton and which is audible by the steps to the Minster and through the hole.

## 2. Planning for the Now.

2a. Introduction. The present facilities need to be kept in good condition. In general the drains and roads are the responsibility of the Highways Authority whilst gutters etc are the responsibility of the owner/occupier. This might not be the best way of doing it. Local control of measures to combat floods might be better, particularly in the face of the present financial situation. If Highways has insufficient funds they cannot do the work. Locals who are affected will find a way.

### 2b. Drains.

There are many drains around the town that are blocked. All drains in the town need to be checked clear and functioning. I understand this is done by Highways on a four year cycle. With the severity of current weather events this would no longer appear to be adequate. I understand that when drains are checked if access is restricted by parked cars etc that check is missed. This is not adequate and a system to overcome the problem needs to be found.

I understand there is an old sewer beneath East Street that carries the water away but that it cannot be accessed. If this is the case it needs to be looked at and properly checked to make sure it is functioning properly and a proper regime of regular maintenance established.

2c. Debris. The amount of debris washed off the Beacon (and presumably the other two hills) warrants special attention. Silt, gravel and small rocks were strewn around the affected streets and would have contributed to blocking the functioning drains. Some sort of silt trap installed at the bottom of Old Road and on the other accesses from the Beacon to the Town might prevent this.

### 2d. Roads.

It is the practice to resurface roads regularly with an application of tar and chippings. This raises the level of the road by a small amount each time. This has a cumulative effect. As Ditton St and Wharf Lane act as surface drains in heavy rain this rise in level is significant.

If they were designed for the job they could carry the water away and ease the flooding in Silver St in future events.

2e. Levels. A study of the levels of these two roads might show that water could be drained as far as the Rec and render properties on Ditton St and Wharf Lane safe as well. The natural drainage route here would be via the Shudrick Stream but this is underground and so has a limited capacity but consideration might be given to draining excess flood water into it via a suitable gully or drain. If the levels fit the Rec might provide the space to take flash flood water in an emergency.

2f. Gutters/Downpipes. Some poorly maintained gutters contributed to the flooding on Sunday. It seems flow from the defective gutter on the school in Wharf Lane helped push flood water towards the cottages there. Many gutters in the town overflow and many

downpipes are blocked where they pass under the pavement. Absentee landlords as well as local ones need to be made aware of the problem and some check made on progress towards clearing them. This could be a town council initiative.

### 3. The Built Environment.

#### 3a. Wharf Lane.

The cottages flooded in Wharf Lane might have been spared if the surface water had been retained on the road surface. Two factors prevented this:

The surface of Wharf Lane has risen

The kerb stones are not designed for this purpose.

The level of Wharf Lane would appear to have risen over the years judging by the manhole covers. Lowering it would make the kerb stones relatively higher and help prevent water reaching the sloping ground leading to their front doors. A redesign of the kerb along its length might possibly prevent water breaching it.

Water passing the front doors of the cottages could have escaped had there been a hole in the garden wall of the end cottage. Unfortunately the recently installed Lamplighters carpark the other side of this wall is higher though there appears to be a gully running along the side of the cottage. The Shudrick Stream passes underground at this point so a suitably large drain might provide protection.

3b. Such rain events as this, which Al Gore refers to as “Rain Bombs,” will invariably overwhelm the town’s drains unless their capacity is increased significantly. Underground drains are prone to blocking. In monsoon countries open drains are provided. Maybe suitable roads (Ditton St and Wharf Lane) should be considered for this purpose and made V shaped to carry water down their middle, away from the adjacent properties on either side. Their slope would have to be checked to ensure a steady fall away from the town centre. The lowest point in the town should then be served by a drain of sufficient size to carry water away to wherever it can be deposited, on the Rec or even as far as the canal or River Ile. Should this be the future purpose of the Shudrick Stream?

3c. The Shudrick Stream. It is a little late to think of this because building has been allowed right up to (and in the past over) the stream. Natural water courses provide the most obvious solution to the need for a natural run off facility. If the banks slope at say 45 deg a stream’s capacity will generally meet any contingency. Vertical banks can see water rise alarmingly and that is how they are behind Lamplighters in Wharf Lane. It is noted that the flow of the stream here is impeded slightly by both plants and debris.

3d. The building of cisterns to collect rainwater would help reduce the amount of runoff. A cistern on Old Road on the Beacon, above the allotments, could catch runoff and also provide the allotments with water for irrigation and adjacent properties with water for a communal grey water system.

3e. Individual defence measures can be built in:

Bespoke shutters can prevent ingress through doors better than sandbags,  
Wedges beside doors can deflect fast flowing water away (see Wistaria Cottage, Chaffcombe, TA20 4AH.)

3f. Road contours, speed bumps and kerbs can guide water away from at risk buildings. For instance a diagonal kerb above the old fountain outside The Retreat on the west side of

Market Square could deflect water towards Ditton Street and away from the shops in Silver St.

3g. Water courses. There appears to be a stream running beneath Court Barton beside the Dolphin where the hole has appeared, it presumably runs on across Silver St and on under Wharf Lane. The hole will need repair, alternatively it could be uncovered. If opened to the air by lowering Wharf Lane it would provide defence for the flooded cottages there and become a town "feature."

3h. Sink Holes. Water soaks away very quickly from a puddle that forms by the dropped kerb outside 20 Silver St. It is possible loose water is finding its way under Silver St with a risk to the substrate. A loose kerbstone on the other side of the road might be connected. This might be worthy of investigation.

#### 4. Organisation

4a. County/Town. Presently responsibility for roads and drains lies with the County Council who have many other towns under their umbrella. Such a critical issue as flooding might be a more suitable matter for the local council who are more immediately and personally involved.

4b. SSDC/Town. Planning perhaps needs to take more account of the new extremes in weather and when deciding on planning issues councillors should look in detail at how runoff might be affected and indeed facilitated (see para 3 above.) Current planning regulations may be inadequate in present circumstances and may need to be revised.

#### 4c. Town Council/Locals.

Volunteers. Maybe the town needs a Volunteer Response Team, akin to the Christmas Lights team who should be willing to turn out and undertake urgent work in the event of a town crisis. They could keep the Shudrick Stream and drains clear and turn out when a flood threatens.

Education. During a previous Rain Bomb event when the town experienced runoff from The Beacon a disabled man on crutches was the only person trying to clear blocked drains. I helped him but nobody else showed any concern. There is therefore a need for education to encourage Ilminsterians to be more reactive and self reliant.

4d. Local knowledge of the drains. This is probably inadequate. A plan of where they are and how they are connected would assist local decision making.

#### 5. Prognosis.

5a. The Shudrick Stream used to flood the town. Prolonged rainfall would flood the catchment area and a culvert below Ditton St was too small to allow the water to flow away. The culvert has been enlarged. This recent flood was due not to prolonged rainfall causing the Shudrick Stream to rise but to extreme rainfall over a very short period of time with the ensuing extreme runoff from the Beacon. There was a similar but less severe event a few months ago. Such events are likely to become more common and more severe as the planet warms. We are only at 1 degree above so far. Worse can be expected.

5b. The NASA Drought forecast for 2030-39 actually shows that we can expect less rain. It is still likely to come in intense bursts but there will be less of it and there are likely to be water shortages.

## 6. Conclusions.

6a. Climate Change is bringing changes to our weather patterns and we can expect our rainfall to come in more intense bursts in the future with an increasing risk of runoff and flooding. given the likelihood of less rain it might behove the town in the longer term to build a reservoir on the Beacon to capture rainwater and perhaps develop a town “grey water system” and provide for the allotments. Capturing rainwater would obviously help with flood prevention.

6b. Intense rainfall will require changes to our drainage systems to improve capacity. This might most easily, and probably cheaply, be done by providing surface runoff facilities.

6c. Blocked drains contributed to the flooding (self evident). The routine for clearing them appears to be inadequate.

6d. Actions taken at a local level are more likely to be effective and timely but they need to be informed.

6e. Planning regulations need to reflect measures required to meet the changing weather events.

## 7. Recommendations

7a. An awareness programme should be initiated to explain how changing weather patterns are affecting us and the steps we need to take to ensure we are protected from them. This would enable Ilminster residents to contribute in an informed manner to the protection of their town. Flooding is the present issue but high winds and excessive heat might become issues in the future.

7b. A study should be undertaken to establish how to make the present drains effective and how to overcome the risk of flash flooding. This, amongst other things should cover: buildings at risk, the lowest point within the town, the most suitable place to lead flash flood water and the best means of moving it on into the natural water courses.

7c. The town should take over maintenance of its own drains (and their budget) from the Highways Authority and the maintenance of the Shudrick Stream to enable immediate action, application of local knowledge, implementations of local solutions, and the raising of local money if Highways funds are insufficient.

7d. A plan of the town’s drains should be held by the Town Council if it is not already.

7e. A body of local volunteers should be established to provide the maintenance effort and to react in times of emergency.

Peter Lansdown