

# Flood Investigation Report

Site: Hill Street/Kitchener's Place  
Trowbridge

Date of flood event:	18/19 September 2014
Date flood event was reported to WC:	
Investigating Officer (s):	WC Representative
Date of investigation:	Various – October 2014 to July 2015

## 1. Details of the Flood Event

<p><b>Reason for investigation:</b></p> <p>Property flooding in Kitchener's Place and Hill St Court, just off Hill Street, Trowbridge</p>
<p><b>Location:</b></p> <p>Hill Street, Trowbridge</p>
<p><b>Identified source(s):</b></p> <p>Pluvial run off from Intense Rainfall event</p>
<p><b>Cause/pathway:</b></p> <p>Intense Rainfall flowing into the drainage system caused the drainage system to surcharge, resulting in overland flow into the courtyards of Kitchener's Place and Hill Street Courts, and thus into properties.</p> <p>In the case of Hill Street Court, the flows collected in a sunken walkway leading from the carpark to the rear of the building along with additional flows from the carpark itself, overwhelming the soakaways installed in the access way. Water collected to a depth of approx. 250mm and worked its way through the wall into the bedroom/living room of the adjacent property.</p>

**Photos:**



Event at: **Corsham**  
Date of event: **18<sup>th</sup>/19<sup>th</sup> September 2014**

**Rainfall Stations used in assessment.**

Station	Distance (miles) & Direction	17/09/14	18/09/14	19/09/14		
Lacock	3.2 E	Trace	115.4	0.2		
Bathford	5.1 WSW	0.0	31.5	0.0		
Castle Combe	5.2 NNW	0.0	71.2	0.0		
Dean Hill Radar – 2km Resolution	- -	0.0	81.4	0.0		

Rainfall measurements in mm

Table represents daily 24hr totals from 0900GMT on the date shown

**Opinions and conclusions on likely significance of the event**

Rainfall Event at Corsham on Thursday 18<sup>th</sup>/Friday 19<sup>th</sup> September 2014

Low cloud, mist and fog gradually cleared back to eastern and north-eastern parts through the morning of Thursday the 18th, bringing a little patchy drizzle there. Some decent sunny breaks developed across most other areas, and whilst many places remained dry, further thundery showers quickly spread into south-western parts of England. Thundery showers then developed across some other parts of the south through the course of the day. With the sunny breaks it was the warmest day so far this month. A few showers continued in the south during the evening, these were still occasionally thundery. Further north, misty conditions spread inland once again.

Friday the 19th started with low cloud and mist for many areas. Whilst most northern and central areas remained dry, organised areas of torrential and thundery downpours spread from the south, with hail. Whilst minimum temperatures were generally around average, it was very mild across the far south. Heavy thundery showers continued across the south during the morning, with isolated torrential downpours across south-western parts. Whilst these eased early in the afternoon, further showers soon developed across eastern England, bringing further torrential and thundery downpours.

The nearby stations at Lacock, Bathford, and Castle Combe gave a 24 hour rainfall total (0900-0900GMT) of 115.4mm, 31.5mm and 71.2mm respectively on the 18<sup>th</sup>. The 115.4mm recorded at Lacock would have given a return period of **481\* years**.

Data from the Dean Hill Rainfall Radar, 2km resolution, gave an estimated 24 hour total (0900-0900GMT) of 81.4mm on the 18<sup>th</sup>.

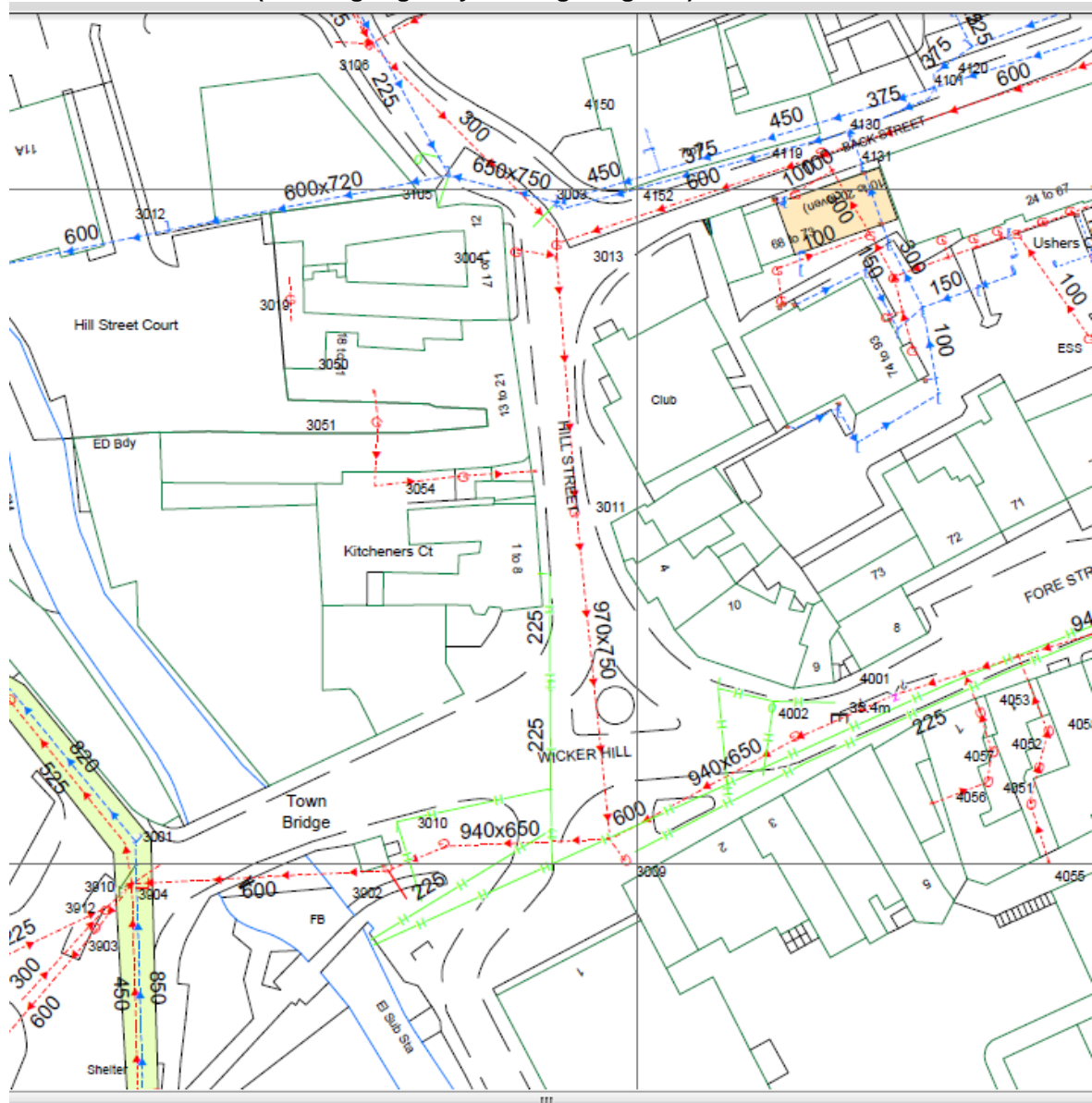
To provide guidance on how unusual the rainfall may have been at the Corsham incident site on the 18<sup>th</sup>/19<sup>th</sup> September 2014, return periods were calculated for various events based on data from the Dean Hill Radar. The highest return period obtained for this event was **178\* years**.

Prepared by	Date
Chris Pilkington	30 <sup>th</sup> April 2015

It is not always the case that the nearest available data site is the most representative of the incident site.

\*The return period assigned to this radar rainfall value is calculated in accordance with the method described in the Flood Estimation Handbook (FEH). The FEH method used to determine return periods is based on analysis of rain gauge data only. Hence, this return period estimate is for guidance only.

## Wessex Water Plans (showing Highway Drainage in green)



All highway drainage has been jetted and CCTV surveyed. Gullies on Hill St are connected via weir walls into the WW foul culvert and were proven with dye. All other highway drainage found to be in good condition. Wessex Water have cleaned/surveyed their systems and found them free of defects. With both systems there was a possibility of silt build up at points, but this is hard to confirm as it would have been cleared by jetting.

The management company of Hill St Court have cleared the channels feeding the soakaways, which were reported to have been in poor condition just before the flooding by the resident interviewed.

**Extent of flooding:**

Hill St Highway  
 Courtyard of Hill St Court  
 Courtyard of Kitchener's Place

**History of flooding:**

High water flows nearer the Town Bridge have flooding in this general area before however never to this extent. The event over 18<sup>th</sup> and 19<sup>th</sup> September 2014 was classed as an extreme event with 80+ properties flooded with around 20+ businesses and 2+ schools over the West Wilts area affecting many communities.

**2. Outcome of the Investigation**

<b>Risk Management Authority:</b>	Wiltshire Council + Wessex Water
<b>Flood Risk Management Function:</b>	Land Drainage Act 1991
<b>Date of notification:</b>	
<b>Method of notification:</b>	
<b>Action/proposed action in response:</b>	Jetting and CCTV surveying of highway drainage revealed no defects within the system on a structural level, however there may have been silt build up that would have contributed to the system surcharging. These would have been cleared by jetting prior to the CCTV survey so are not able to be confirmed. Richard Williams has spoken to the affected householder at Hill St Court about options for property level protection, which the householder is taking up with the building's management company.

**3. Additional Comments:**

<b>Date completed:</b>	03/08/15
<b>Completed by:</b>	WC Representative
<b>Verified by:</b>	