

Flood Investigation Report

Site:

**Various Sites, West
Wiltshire**

Date of flood event:	18/19th September 2014
Date reported to Wiltshire Council:	During event
Investigating Officer (s):	WC Representatives
Date of investigation:	September 2014 – May 2015 (on going see OFWG)

1. Details of the Flood Event

Reason for investigation:

Flooding of property in multiple locations.

Locations:

Parishes of:

- Nettleton and Burton
- Box
- Corsham
- Melksham (Shurnhold)
- Melksham Without (Shaw, Atworth, Whitley)
- Trowbridge
- Bradford on Avon
- Lacock

Identified source(s):

Pluvial run off from Intense Rainfall event

Cause/pathway:

An intense storm event, measured at greater than 1 in 150 year rainfall caused extreme run off flows across multiple locations across the western part of the county.

In many cases, the intensity of rainfall overwhelmed the ability of drainage systems to channel it away from properties with resultant property flooding and damage.



Event at: **Corsham**
Date of event: **18th/19th 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 18th/Friday 19th 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 18th. The 115.4mm recorded at Lacock would have given a return period of **481* years**.

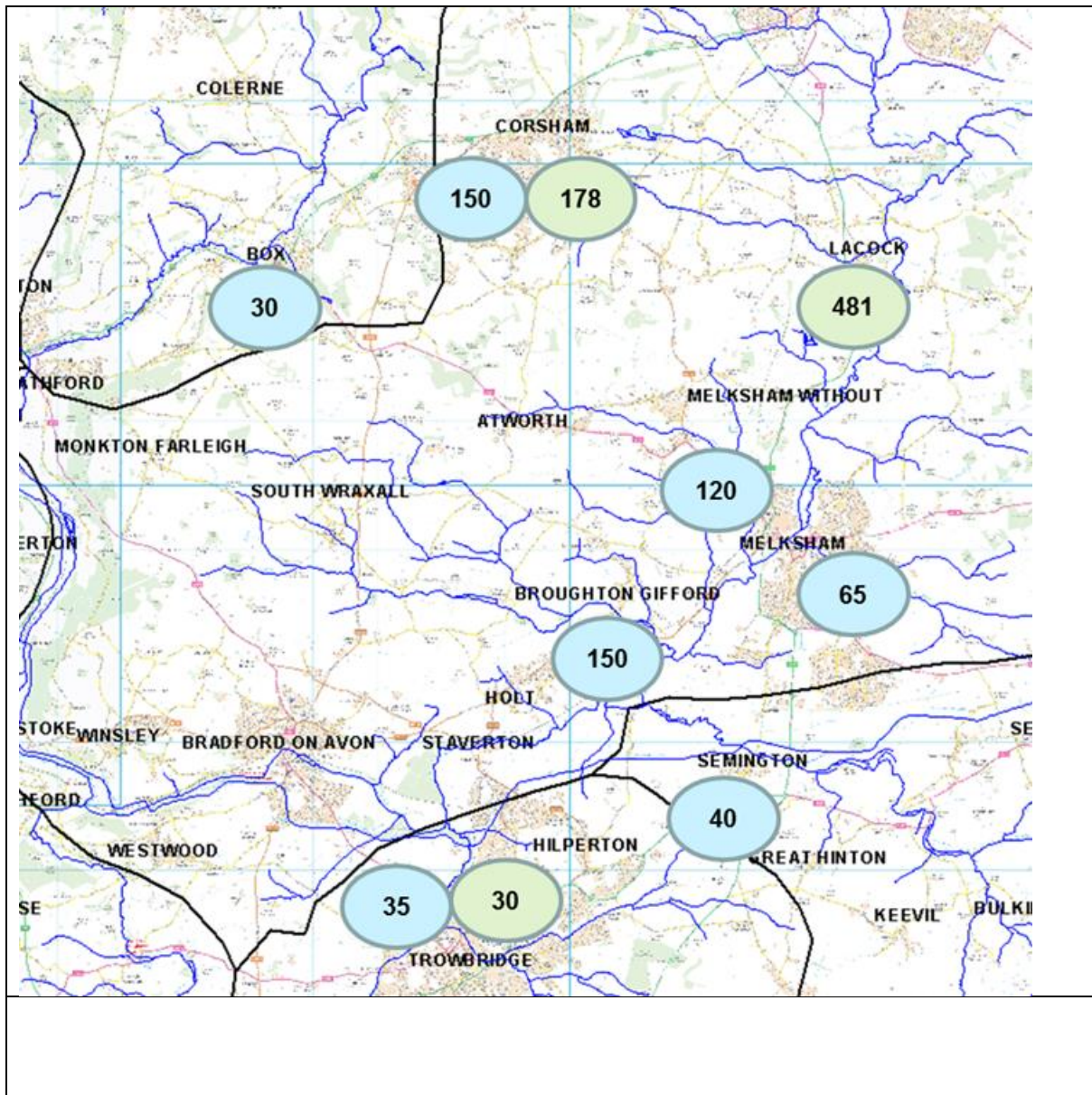
Data from the Dean Hill Rainfall Radar, 2km resolution, gave an estimated 24 hour total (0900-0900GMT) of 81.4mm on the 18th.

To provide guidance on how unusual the rainfall may have been at the Corsham incident site on the 18th/19th 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 th 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.



Extent of flooding:

Flooding was in the main isolated in its extents and moderately short in duration, but damaging to properties due to the quantity of water delivered by rainfall. It generally followed traditionally 'known' routes of flow, but the deluge caused the water volumes to exceed the normal channel capacity and affect adjoining land and properties.

The event over 18th and 19th September 2014 was classed as an extreme event with over 80 properties flooded, with around 20 businesses and 2 schools affected. There were wide spread affects across the West Wiltshire area, affecting a large number of communities.

The Council has been working with the Parish and Town Councils to identify those properties which suffered internal flooding.

In view of the numbers of properties flooded this event was raised at the Operational Flood Working Group (North) for discussion.

History of flooding:

There has been flooding in some of these areas before but no previous records of events of this extent.

2. Outcome of the Investigation

Risk Management Authority:	Wiltshire Council
Flood Risk Management Function:	Land Drainage Act 1991
Date of notification:	September 18th and 19 th 2014 Reports via Out of Hours service and calls from members of the public, Parish and Town Councils
Method of notification:	Discussed at Operational Flood working Group (North)
Action/proposed action in response:	Action by Wiltshire Council <ul style="list-style-type: none"> • Discussion with affected residents, and Parish Councils to identify issues with existing drainage routes • Liaison with landowners to undertake works where capacity of existing systems • Property level protection systems could be installed by affected residents to avoid future occurrences in many locations • Highlight areas at risk and look at the possibility of desk top studies in locations that have received property flooding regularly (as Whitley) • Wessex Water to investigate their Sewer Capacity • Environment Agency regarding Corsham and main river • Mapping projects with Parish Councils and data collection regarding flow paths, with photographs if possible • Update relevant flood plans and flood wardens • Parish Emergency Assistance Scheme (PEAS) to all communities at risk • Site visits with Environment Agency planned

3. Additional Comments:

Date completed:	On going
Completed by:	WC representative
Verified by:	WC Drainage Manager