

STAVERTON AND HOLT FLOOD GATE CASE STUDY

A look into the issues caused by local flooding on the B3106 and
the B3107. Securing the safety of local communities with
partnership working.

Background

Dorset and Wiltshire Fire and Rescue Service (DWFRS) is responsible for maintaining an operational readiness to assist in times of need. This is best summarised by the DWFRS vision Statement:

Dorset & Wiltshire Fire and Rescue Service is 'passionate about changing and saving lives'.

Our vision states:

We are much more than a Fire and Rescue Service. We are about helping you to become safer, healthier and to live more independently. Improving your wellbeing and investing in our future generations is central to our way of thinking. We will play a key part in supporting our communities and businesses to grow safely and responsibly. When you need us, we will respond quickly and professionally to limit distress, harm and economic loss.

The service employs over 1000 people. Dorset and Wiltshire Fire & Rescue Service has 50 fire stations serving our local communities. Crews are available to respond to emergency calls 24 hours a day.

This operational response is supported by staff based at a number of other sites, including Service HQ, our Control room (where 999 calls are answered), our Training & Development Centres, Fleet Services (including vehicle workshops) and Occupational Health.

Alongside emergency response, our work also focuses on prevention, protection and resilience – working for and with our communities to ensure that local people are as safe as they can be.

Dorset and Wiltshire Fire and Rescue Service works in two ways to achieve its mission statement, proactively and reactively.

Proactively, with fire safety visits and 72d inspections under the regulatory reform order, and also community safety areas involving home safety checks and boat safety inspections.

Reactively we maintain a commitment to respond to all emergency incidents ranging from animal rescues to road traffic collisions and all fire fighting scenarios.

Over the last few years changes in legislation and weather patterns have meant that Fire and Rescue Services are now being called on to deal with an increased volume of flooding's and water rescue related incidents. The FRS ACT 2004 now infers a responsibility on all FRS's to consider a response to all emergencies and other eventualities, i.e. flooding. An "emergency" means an event or situation that causes or is likely to cause:

- One or more individuals to die, be seriously injured or become seriously ill, or
- Serious harm to the environment (including the life and health of plants and animals).

They may also:

- Enter premises or a place, by force if necessary, without the consent of the owner or occupier of the premises or place,
- Move or break into a vehicle without the consent of its owner,
- Close a highway,
- Stop and regulate traffic, or
- Restrict the access of persons to premises or a place.

Government introduced Flood Risk Regulations 2009 and the Flood and Water Management Act 2010 (FWMA)

The above statutes place new duties and responsibilities on Councils as the Lead Local Flood Authority in the area, to manage the risk of surface water flooding and flooding from minor watercourses.

Flooding in this case is defined as “where land that is not normally covered in water becomes covered in water”. This can be due to heavy rainfall, a river overflowing, groundwater or a combination of these. It does not mean a flood caused by blockage of a sewer or from a burst water main, but does include where sewer overflow is due to heavy rainfall.

In addition to the above flood risk management functions, the authority has:

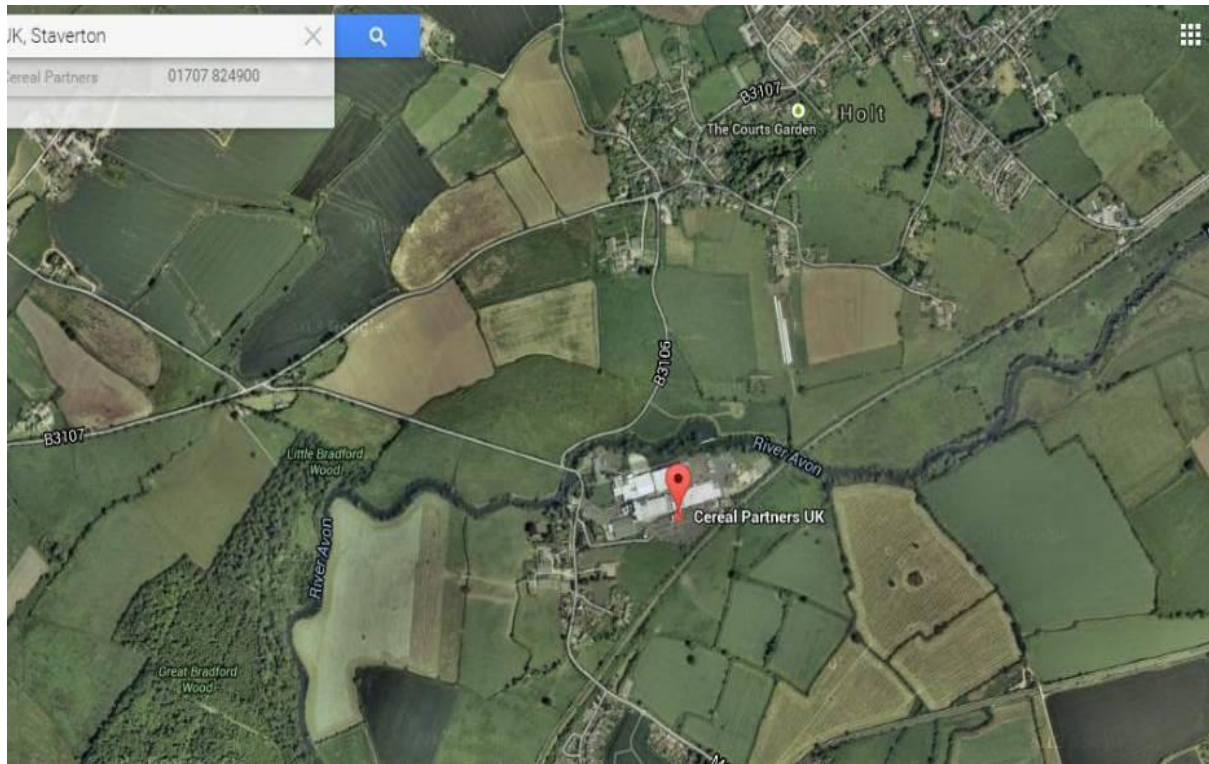
- A duty under the FWMA to investigate any significant flood incidents caused by rainfall.
- As a Planning Authority to implement land use planning and work with communities to avoid inappropriate development in areas of flood risk, being careful to manage land elsewhere to avoid increasing flood risk and to maximise opportunities for sustainable development.

- As an emergency planning authority, to warn and advise the public during emergencies and manage flood recovery, and
- As Highway Authority providing and managing highway drainage and roadside ditches under the Highway Act.

This project looks at a local issue within Trowbridge fire stations fire ground.

Description of the Problem

Within Trowbridge lie two routes that link Trowbridge to Bradford-on-Avon (BOA), Holt, and Melksham. These routes are the B3106 and the causeway from Semington to Forewoods common. Due to their proximity to the river Avon they are extremely liable to flooding and are in constant use by all types of vehicles.



The flood water here can often climb to waist depth which can prove particularly hazardous to rescues, especially when the water is moving swiftly. DWFRS defines swift water as movement / flow over 4mph, or walking pace. Large amounts of debris can also scatter across the road from neighbouring fields carried through by flood water. This becomes another hazard to road users who will be unable to see this debris in the dark, or simply because it is submerged.

Problem

Members of the public through lack of local knowledge and other factors, ignore flood warning signs that have been previously installed and on occasion get stuck. Emergency services are then placed at risk as well as members of the public to affect rescues and also remove vehicles from flood water.

Scope

Why is DWFRS interested in this problem? Our five priorities sum this up.

- Help you to make safer and healthier choices
- Protect you and the environment from harm
- Be there when you need us
- Make every penny count
- Supporting and developing our people

The highways agency as a national entity is responsible for major trunk routes. In this area that involves the M4 and A303. Responsibility for all other roads falls to the County Council, in this case Wiltshire County Council and their highways department. Wiltshire constabulary have a vested interest in this problem as well as WFRS.

The size of the problem to date

Since December 2004 DWFRS attended **21** incidents in this area. We call them Emergency special service calls (ESSC). This essentially means evacuations and rescues from water. The number of persons rescued / evacuated from water was **29**. This includes children and adults. The number of vehicles recovered was approx. **30**.

20802813	16 Mar 2008 14:50:37	WM DERRICK 1 PRIVATE CAR TRAPPED IN FLOOD WATER - NO PERS TRAPPED. WATER RESCUE AND BOAT IN USE. ALL APPLIANCES AI (STOP)
20802831	17 Mar 2008 00:16:49	GM WILLIAMS (STOP) 1 PTE VEH RETRIEVED FROM FLOOD WATER USING 2 WATER RESCUE PER & VEH WINCH AWAITING ARR OF POLICE
20802844	17 Mar 2008 13:41:44	STOP WM BENCE ESSC COMPLETE 1 MINIBUS STUCK IN 3FEET WATER,. 6 PERSONS RESCUED BY FRS USING WATER RESCUE EQUIPMENT AND PERSONNEL. T.M OSCAR OFFENSIVE CREWS DETAINED 15 MINS MAKING UP EQUIPMENT. R41 AWAITING ARR OF POLICE
20812769	14 Dec 2008 03:04:34	STOP WM DERRICK ESSC 1 CAR 3 OCCUPANTS REMOVED FROM FLOOD WATER USING VEHICLE WINCH AWAITING ATTENDANCE OF POLICE
20812826	15 Dec 2008 00:16:15	STOP WM DERRICK ESSC COMPLETE 1 VAN STRANDED IN FLOOD WATER NO PERS PRESENT CREWS SWEEPING AREA WITH TIC. ROAD CLOSURE SIGNS ARE PRESENT EITHER END.
20901347	09 Feb 2009 23:02:26	STOP WM BENCE 1 FEM RESCD FROM VEH PRIOR TO ARR OF FRS ATTEMPTS BEING MADE TO RECOVER CAR T/M O/OFF
20901359	10 Feb 2009 07:56:33	STOP WM BENCE 1 CAR WITH 2 PERSONS INSIDE REM FROM WATER VIA TOW FROM MEMBER OF PUBLIC BOTH CREWS NOW AVAIL AWAITING ARR OF POL
20901380	10 Feb 2009 20:55:42	STOP WM BENCE ESSC COMPLETE 1 MALE RESCUED FROM VEH STUCK IN FLOOD WATER PERSON NOW HANDED OVER TO POLICE INFLATABLE WALKWAY AND 4 WR PERS USED T/M
20901428	11 Feb 2009 19:26:33	STOP WM MAY 2 ADULT FEMALES BEING WALKED FROM RISK ARE CAR LEFT IN SITU REQ ATT OF POLICE
20912293	07 Dec 2009 06:35:23	STOP WM DERRICK 1 PRIVATE CAR IN APPROX 1 FOOT OF FAST FLOWING FLOOD WATER 1 ADULT MALE RESC BY WRT USING INFLATABLE WALKWAY, CREWS ATTEMPTING TO CLOSE OFF ROAD, 41P1 42P1 AI
21211063	26 Nov 2012 14:50:41	STOP CM SKYME ESSC COMP CAR REM FROM FLOOD WATER PRIOR TO ARRIVAL OF FRS T/M OSCAR
21312343	24 Dec 2013 07:34:47	STOP CM BEETY 2 PRIVATE CARS REMOVED FROM FLOOD WATER BEFORE ARR OF BRIGADE NO PSNS TRAPPED TM DELTA DEF
21400149	04 Jan 2014 16:55:17	STOP SM BENCE ESSC COMPLETE. ONE ADULT MALE, ONE ADULT FEMALE AND TWO CHILDREN RESCUED BY FRS FROM VEHICLE IN FLOOD WATER. CREWS IN DRY SUITS AND INFLATABLE WALKWAY USED. T/M OFFENSIVE. APPLIANCE DET 10 MINS.
21500459	15 Jan 2015 17:58:14	WM TADMAN (STOP) ONE MALE RESCUED FROM PRIVATE CAR USING 2 WATER RESCUE PERSONNEL T/M OSCAR.
21312407	24/12/2013	STOP ESSC 2 FLOOD WATER CASUALTIES, NO FURTHER ACTION BY FRS T/M OSCAR OFF

Impact

Summary

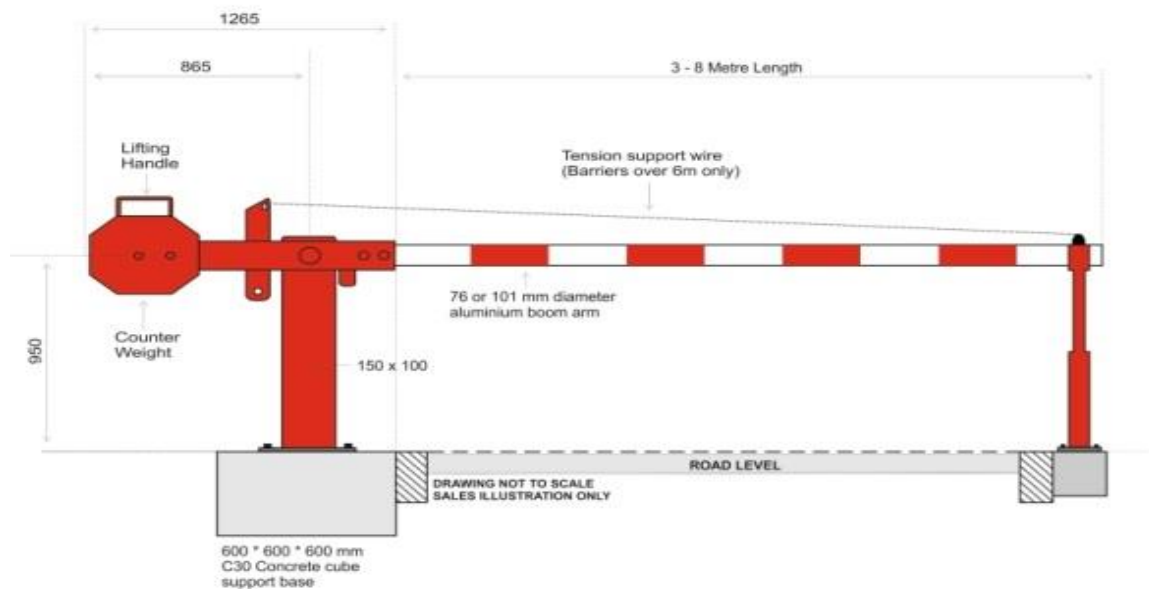
- Costs DWFRS approximately £300 - £400 every shout per appliance in attendance. Factor in officers, control room staff and other agencies and this cost can become thousands of pounds.
- Causes damage to private vehicles and the environment. Vehicles can become so badly water logged that products harmful to the environment can be dispersed via flood water.
- Police attendance at incidents carries a financial implication and safety risk to officers.
- Risk to DWFRS workers and equipment every time a deployment is made for persons or vehicles.

Resolution of the Problem

I propose to install four flood gates, manual swing gates or raised arm gates at the locations pictured. Installation of four flood gates will provide us with the necessary configurations to close both roads or simply one.

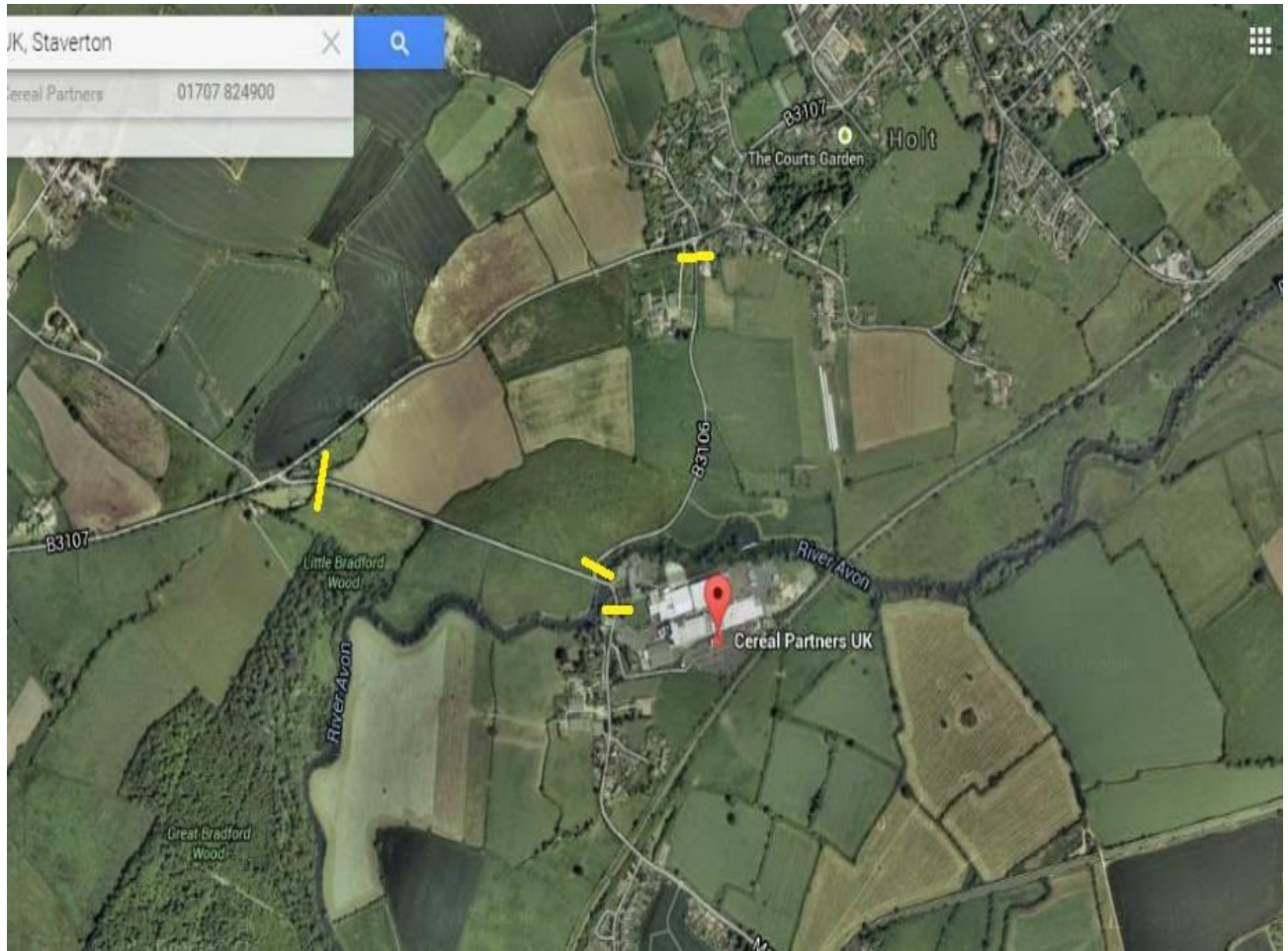
Swing gates will be preferable as they are constructed out of steel and offer increased security and longevity.

Raised arm gates are constructed out of aluminium but can be utilised where space is at a premium.



Positioning

Yellow markers show approx. gate positioning. This will be confirmed at the site survey stage.



Gate 1 – located beyond the Tollgate Public house on the B3106 and in a position to allow access to local farmland. Span approximately 5.15m.

Gate 2 – located at the bottom of the B3106 in close proximity to the traffic lights. Approx span 8m.

Gate 3 – located at Forewoods common crossroads, causeway junc with B3107. Located beyond gated access to timber construction. Approx span 9.9m.

Gate 4 – located at the Cereal partners site before the bridge. Trapeze workplace becomes compromised by this. Evacuation plans for Trapeze would probably ensure no vehicles would be left affected by closure and Cereal partners security could be provided with a key. Approx span 9.2m.

N.B. Trapeze health and safety contact Keith Illingworth 01225 784217 or 784225



Financial consequences

I have approached a manufacturer – Newgate Secured Access Solutions, who can and will install four flood gates to provide us with the necessary configurations to close either both roads or simply one. This will be an estimated cost of £15,000. Installation, survey and reflective markings are included in this price. Bolt on signs and padlocks are to be purchased separately.

With a £5000 contingency in place an application for funding of £20,000 will be sought from relevant parties.

The securing of all gates would be via padlocks. The national FB1 and FB2 type keys and padlocks system could be utilised, ensuring all organisations would have access to lock and unlock all 4 gates. FB1 padlocks can be purchased from as little as £4.

Newgate Secured Access Solutions

Established in 1984. Manufacturer of bespoke, cost effective and reliable security gates, barriers, turnstiles and traffic control equipment.

Installations include airports, MoD bases, hospitals, chemical plants, car and lorry parks, petroleum plants and office developments.

Current client list includes: Heathrow airport, Rolls Royce, Asda, Tesco, Landrover, Boots, Sainsburys and many more.

Contact details – Newgate (Newark) Limited, Brunel Drive, Newark, Nottinghamshire NG24 2DE. 01636 700172

sales@newgate.uk.com www.newgate.uk.com

Funding

A DWFRS manager sits on the North Flood Working Group in Wiltshire. Funding will come from one or a number of the attending agencies, namely the Environment Agency and local authority departments.

Wiltshire Council has set up two Operational Flood Working Groups, one in the north and the other in the south of the county.

The groups mirror the river catchment areas operated by the EA and are a forum for stakeholders with interests in Highways surface water, surface water run off, drainage and flooding to consider the issues relating to flooding and drainage within their respective catchment areas. Stakeholders include Wessex Water, Thames Water, the Highways Agency, Network Rail and the EA.

These issues cover such items as:

- Identifying lead authorities for each issue to enable better more focused, efficient and coordinated response, enabling resources and funding to be targeted effectively
- To make recommendations for bids to fund major projects
- To consider proposals for prioritising funding and programming of schemes, and
- To implement government legislation on drainage and flood management.

<http://www.wiltshire.gov.uk/communityandliving/civilemergencies/floodinganddrainage/floodingofwg.htm>

Legal Issues

Who is responsible for closing gates? – Responsibility will usually fall to the Police upon receiving notification from the Highways Authority. This can be discussed at a later date.

Can the FRS legally close a road – Yes FRS ACT 2004

Some discussion has taken place regarding advanced warning signs. Local Authority Highways are looking into this.

Maintenance

Who is responsible for maintaining gates? – This will likely fall to the local Highways Authority. Area manager Chris Clark believes this to be the case.

Christopher.clark@wiltshire.gov.uk

Securing Gates

Keys will be given to local Police, Highways and Fire services. Additional keys may need to be given to Trapeze and Cereal Partners personnel.