

## Bung Failure

Revision:1.00

Document No: IW-HSQE-SA-06

Approved By: Claire Lyons

### 1. What Happened?

**A bung which was set up to isolate the inflow of waste water into a wet well failed.**

A safe system of work was setup to pump out the wet well to allow the install of new guide rails. A bung was inserted into the inflow pipe at the previous manhole on the network by the contractor under a confined space permit. The bung was inflated and was observed to ensure it was securely in place and was stopping the flow.

After natural ventilation of the wet well the air quality was checked using a gas detector. The alarm did not activate so the confined space entry proceeded as planned. The operative stepped down onto the entry steps and his personal gas alarm activated, he was instructed to exit immediately.

The operative had exited the space when a loud bang was heard and there was a sudden rush of waste water into the wet well. **It was evident that the bung had failed. Examination of the bung by the manufacturer showed that it was punctured by something sharp - it is unknown what this was.**



Fig 1: Burst Bung

### 2. Immediate Actions

- Confined Space entry to pump out the wet well was ceased.
- Bung was sent to the manufacturer to be examined to determine the failing. It was determined that the bung was punctured by something sharp.

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### 3. Further Actions

- Plan proposed confine space works. Gather all information on the network in question. Determine maximum potential flow into the chamber and if the flow can be mechanically isolated. Where the potential inflow is high investigate if it is possible and reasonably practicable to retrofit the system with mechanical isolators.
- Where possible works should only be carried out on combined sewers in dry conditions, to minimise the flow.
- Where control of inflow is not available mechanically, secondary and tertiary bungs should be installed. Depending on the strength of the flow, a number of bungs should be installed at junction manholes on the network.
- Performance of the secondary and tertiary bungs should be monitored by a dedicated observer (Spotter). Ensure good open lines of communication are in place to raise the alarm if the secondary and tertiary bungs fail.
- Use a pipe bung of suitable size and strength, thoroughly inspect the bung before and after use, where possible assess the pipe for the presence of any sharp or projecting edges before installing the pipe bung, ensure that the bung is fully inserted into the pipe prior to inflating, **never inflate the pipe bung to a pressure that exceeds its maximum working pressure;** and always report any defects identified.
- It may be necessary to have pumping facilities set up at the manhole prior to the wet well, so that in the event of a bung failure the discharge can be pumped out at this point and allow time for operators to exit the wet well.
- All proposed control measures including an emergency response plan in the event of a bung failing must be detailed on site specific method statement, risk assessment and site safety plan. All site staff must be fully briefed on site documentation before works commence.

# SAFETY ALERT



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- All confined space entry must be carried out under a full confined space safe system of work, ensure that all staff are competent to carry out the works. The absence on mechanical isolation of the inflow will influence the confined space risk rating in question.

## 4. Further Information

For further information on this safety alert please contact [hsqe@water.ie](mailto:hsqe@water.ie)

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### 5. Distribution list

Internal		
Asset Operations <input checked="" type="checkbox"/>	Asset Delivery <input checked="" type="checkbox"/>	Asset Strategy <input checked="" type="checkbox"/>
Asset Management <input checked="" type="checkbox"/>	All IW staff <input type="checkbox"/>	
Other Please Specify _____		

External		
Local Authority <input checked="" type="checkbox"/>	DBO <input checked="" type="checkbox"/>	Capital Contracts <input checked="" type="checkbox"/>
Relevant Framework Contractors <input checked="" type="checkbox"/>		
Other Please Specify _____		