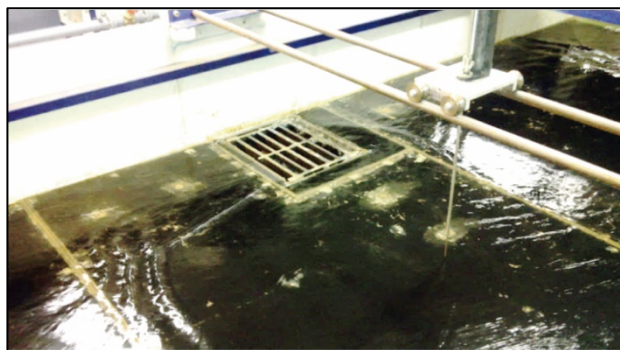


## Gully Guards Flow Test Report



An engineered and sustainable solution to protect drainage systems from build stage and operational waste materials, debris, silt and pollutants.

### Gully Guard technical bulletin: flow tests

Gully pots, particularly in a new build situation where there is exposure to building material debris, are prone to the build-up of sediment. The accumulation of waste materials and sediment can severely impede and ultimately block the Gully Pot's capacity to prevent flooding. A Gully Guard is quick and easy to install, re-usable and prevents the build-up of silt and debris in the gully pot whilst also reducing the cost of emptying the gullies.

The Department of Civil and Structural Engineering at the University of Sheffield has carried out a programme of tests to quantify the effect a Gully Guard has on the flow rate of water passing through a gully pot.

The experimental system (pictured) was established to replicate a full-scale gully system with measuring and collection pipework connected to the gully pot outlet. Two tests were conducted for each of eight different flow rates (with and without a Gully Guard installed). All tests were conducted under steady flow conditions and the relationship between flow depth and rate was calibrated to be equivalent to recognised storm return periods.

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### Results

The following results of the testing programme are presented in table 1 and figure 5.

**Table 1**

Without Gully Guard Installed						With Gully Guard Installed		
Return period (years)	Rainfall Intensity (mm/hr)	Intensity flame inflow rate (l/s)	Depth of gully approach flow (mm)	Flow through gully pot (l/s)	Proportion of flow through gully pot (%)	Depth of gully approach flow (mm)	Flow through gully pot (l/s)	Proportion of flow through gully pot (%)
2	17.2	1.20	2.1	<b>0.36</b>	29.7	2.0	<b>0.36</b>	29.8
5	25.5	1.78	3.0	<b>0.51</b>	28.6	3.1	<b>0.43</b>	24.0
10	33.4	2.03	4.0	<b>0.63</b>	31.1	3.9	<b>0.63</b>	30.8
30	41.85	3.81	6.1	<b>1.17</b>	30.8	6.0	<b>1.13</b>	29.6
50	48.9	5.33	6.2	<b>1.52</b>	28.4	6.1	<b>1.51</b>	28.4
200	55.25	6.29	8.1	<b>2.08</b>	33.1	7.3	<b>1.98</b>	31.6
500	74.25	11.25	10.1	<b>3.19</b>	28.3	10.1	<b>3.16</b>	28.1
N/A	100.25	27.86	15.0	<b>7.63</b>	27.4	14.6	<b>7.59</b>	27.2

**Figure 5**

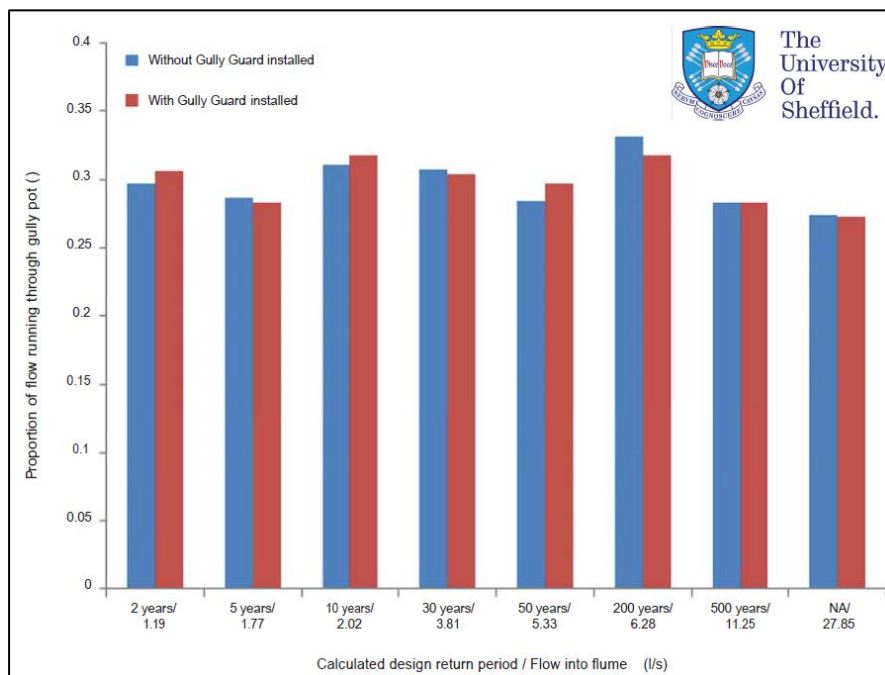


Table 1 & Figure 5\*:  
“Evaluation of changes in standard roadside gully pots during operation of Gully Guard product under simulated drainage conditions” Department of Civil and Structural Engineering, University of Sheffield July 2013.

\* Table 1 and Figure 5 are results taken from The University of Sheffield report – Evaluation of flow changes in standard roadside gully pots during operation of the Gully Guard product under simulated drainage conditions, full report available upon request.

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### Conclusion

The University of Sheffield concluded that there is no significant difference in the flow rate through a gully pot with or without a Gully Guard installed and hence an installed Gully Guard will not significantly affect surface water drainage or present a flood risk.

Version 1

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