

**Appendix 14**  
**Accidental Spillage Calculation Sheet**

**Proposed Scheme.**

**Risk of Serious Accidental Spillage - Proposed Road Configuration**

RL road length in km  
 SS serious accidental spillage rate (from DMRB Vol. 11, Part 10, Annex I, Table D.1)  
 AADT annual average daily traffic  
 %HGV percentage of heavy goods vehicles  
 P<sub>acc</sub> probability of a serious accidental spillage in one year over a given road length  
 P<sub>pol</sub> The risk reduction factor (from DMRB Vol. 11, Part 10, Annex I, Table D.2)

**PROPOSED ROAD CONFIGURATION (2025 AADT FIGURES)**

Mainline >100m from Junctions A68		Mainline <100m from Junction A68		Side Road C84		Side Road D47/5		New Side Rd - Mainline >100m from Junctions		New Side Rd - Mainline <100m from Junctions	
RL	1.700	RL	0.400	RL	0.100	RL	0.100	RL	0.900	RL	0.100
SS	0.29	SS	0.93	SS	0.93	SS	0.93	SS	0.29	SS	0.93
AADT	11748	AADT	11748	AADT	1200	AADT	96	AADT	151	AADT	151
%HGV	8	%HGV	8	%HGV	3	%HGV	3	%HGV	3	%HGV	3
$P_{acc} = RL \times SS \times (AADT \times 365 \times 10^{-9}) \times (\% \text{ HGV} \div 100)$											
P <sub>acc</sub> =	0.000169	P <sub>acc</sub> =	0.000128	P <sub>acc</sub> =	0.000001	P <sub>acc</sub> =	0.000000	P <sub>acc</sub> =	0.000000	P <sub>acc</sub> =	0.000000

$P_{pol/year} = \sum P_{acc} \times P_{pol}$

$P_{pol} = 0.6$

<b>P<sub>pol</sub>/year</b>	<b>Return</b>
= 0.000179	Period
	<b>1 in 5581 years for Mainline</b>

The DMRB indicates that the acceptable risk of a pollution incident should normally be 1 in 100 years for discharges to aquifers and to reaches of sensitive watercourses.

**Existing Road Layout.**

**Risk of Serious Accidental Spillage - Existing Road Configuration**

RL	road length in km
SS	serious accidental spillage rate (from DMRB Vol. 11, Part 10, Annex I, Table D.1)
AADT	annual average daily traffic
%HGV	percentage of heavy goods vehicles
P <sub>acc</sub>	probability of a serious accidental spillage in one year over a given road length
P <sub>pol</sub>	The risk reduction factor (from DMRB Vol. 11, Part 10, Annex I, Table D.2)

**EXISTING ROAD CONFIGURATION (2025 AADT FIGURES)**

Mainline >100m from Junctions A68		Mainline <100m from Junction A68		Side Road C84		Cross Road C83-D47/5	
RL	1.700	RL	0.400	RL	0.100	RL	0.200
SS	0.29	SS	0.93	SS	0.93	SS	0.88
AADT	11748	AADT	11748	AADT	937	AADT	343.2
%HGV	8	%HGV	8	%HGV	3	%HGV	3

$P_{acc} = RL \times SS \times (AADT \times 365 \times 10^{-9}) \times (\% HGV \div 100)$

P <sub>acc</sub> =	0.000169	P <sub>acc</sub> =	0.000128	P <sub>acc</sub> =	0.000001	P <sub>acc</sub> =	0.000001
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$P_{pol/year} = \sum P_{acc} \times P_{pol}$        $P_{pol} = 0.6$

**P<sub>pol/year</sub> = 0.000179      Return Period 1 in 5586 years for Mainline**

The DMRB indicates that the acceptable risk of a pollution incident should normally be 1 in 100 years for discharges to aquifers and to reaches of sensitive watercourses.