

**A66 Northern Trans-Pennine Project  
TR010062**

**3.4 Environmental Statement  
Appendix 14.5 Spillage Risk  
Assessment**

**APFP Regulations 5(2)(a)**

**Planning Act 2008**

**Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009**

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Infrastructure Planning

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**The Infrastructure Planning  
(Applications: Prescribed  
Forms and Procedure)  
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**3.4 ENVIRONMENTAL STATEMENT  
APPENDIX 14.5 SPILLAGE RISK ASSESSMENT**

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## 14.5 Spillage risk assessment

### 14.5.1 Purpose of the assessment

14.5.1.1 This document reports on the assessment undertaken on the risk (likelihood and consequence) to receiving water environment receptors from accidents and spillages during the operational phase of the Project and determines the acceptability of this.

### 14.5.2 Methodology

14.5.2.1 Assessment of accidental spillages of polluting substances from roads has been carried out using Appendix D of *Design Manual for Roads and Bridges (DMRB) LA 113 Road Drainage and the Water Environment (DMRB LA 113)* (Highways England, 2020)<sup>1</sup>. The assessment is conducted with the aim of ensuring provision of appropriate drainage design measures where the risk of a serious pollution incident is more frequent than the 1% annual exceedance probability (AEP) (or more frequent than 1 in 100-year return period), or 0.5% AEP for sensitive watercourses (SSSI, SAC; SPZ; protected area; drinking water supply; commercial activity abstraction).

14.5.2.2 Assessments have been undertaken for each road drainage area (sub-catchment scale). Please refer to the ES Appendix 14.2: Flood Risk Assessment and Outline Drainage Strategy (Application Document 3.4) for further details on the catchments.

14.5.2.3 The results of the assessment are reported as 'pass' or 'fail'. The risk of an acute pollution incident due to accidental spillage or vehicle fire is considered proportionate to the risk of a heavy goods vehicle (HGV) road traffic collision. Thus, the percentage of HGVs on a given road is the main parameter used in assessment of the risk of serious pollution accidents.

14.5.2.4 Other parameters considered include the type and length of road, presence and type of junctions, two-way annual average daily traffic (AADT) flow and emergency services response time depending on whether a site is in an urban, rural or remote setting. If the accidental spillage is less than or equal to 1% AEP (or 0.5% AEP for sensitive watercourses), the risk is considered acceptable and is therefore reported as a 'pass'.

### 14.5.3 Results

14.5.3.1 Detailed results for the spillage risk assessment are presented in Table 1: Spillage risk assessment results. The accidental spillage risk assessment results show that, without consideration of the drainage scheme, the risk of a serious spillage resulting in pollution of the receiving water environment is less than the 1% and 0.5% AEP (1 in

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<sup>1</sup> Highways England (2020) Design Manual for Roads and Bridges LA 113 Road drainage and the water environment. Version 1.

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100-year and 1 in 200-year return period) thresholds (highest individual risk identified as 0.066%).

14.5.3.2 The level of risk to the water environment is therefore considered to be acceptable in accordance with *DMRB LA 113*.

Table 1: Spillage risk assessment results

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
S01-01	A66 mainline	220	No junction	31748	18.3	0.31	0.014	0.007	No
	Roundabout Junction 40	155	Roundabout	31748	18.3	5.35	0.176	0.079	No
S02-01	A66 mainline	1110	No junction	22100	19.5	0.31	0.054	0.024	No
	Side road junction (depot access)	200	Side road	22100	19.5	1.81	0.057	0.026	No
	Slip roads (Kemplay Bank)	700	Slip road	11050	19.5	0.36	0.020	0.009	No
	Slip road merge with A66 mainline	300	Slip road	22100	19.5	0.36	0.017	0.008	No
	Roundabout (Kemplay Bank)	400	Roundabout	11050	19.5	5.35	0.168	0.076	No
S02-02	A66 mainline	350	No junction	22100	19.5	0.31	0.017	0.008	No
	Slip road merge with A66 mainline	100	Slip road	22100	19.5	0.36	0.006	0.003	No
S03-01	A66 mainline	405	No junction	19618	21.6	0.29	0.018	0.008	No
	B6262 junction with A66 mainline	100	Side road	19618	21.6	0.93	0.014	0.006	No

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
	Whinfell Holme access	75	Side road	9809	21.6	0.93	0.005	0.002	No
S03-02	A66 mainline	840	No junction	19619	21.6	0.29	0.038	0.017	No
	Access track junction with A66 mainline	200	Side road	9809	21.6	0.93	0.029	0.013	No
	Access track at Lightwater	10	Side road	9809	21.6	0.93	0.001	0.000	No
S03-03	A66 mainline	580	No junction	19618	21.6	0.29	0.026	0.012	No
	Side road junctions with A66 mainline	200	Side road	19618	21.6	0.93	0.029	0.013	No
	Side roads	280	Side road	9809	21.6	0.93	0.013	0.006	No
S03-04	A66 mainline	410	No junction	19618	21.6	0.29	0.018	0.008	No
	Side road junction with A66 mainline	200	Side road	19618	21.6	0.93	0.029	0.013	No
	Side road (Centre Parcs)	180	Side road	9809	21.6	0.93	0.013	0.006	No
S03-05	Side road (Centre Parcs)	710	Side road	9809	21.6	0.93	0.052	0.023	No
S03-06	A66 mainline	310	No junction	19618	21.6	0.29	0.014	0.006	No
S03-07	A66 mainline	1540	No junction	19618	21.6	0.29	0.069	0.031	No
S0405-01	Temple Sowerby	985	Side Road	18429	23.7	0.93	0.146	0.066	No

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
	Bypass Link West								
S0405-01a	Temple Sowerby Link/ Old A66	710	No Junction	18429	23.7	0.29	0.033	0.015	No
S0405-02	Temple Sowerby Link East	680	No Junction	18429	23.7	0.29	0.031	0.014	No
S0405-03	Kirkby Thore West	660	Side Road	18429	23.7	0.93	0.098	0.044	No
S0405-04	Kirkby Thore crossroad	1380	Cross Road	18429	23.7	0.88	0.194	0.087	No
	Kirkby Thore Westbound slip road	370	Slip Road	9215	23.7	0.83	0.024	0.024	No
S0405-05	Kirkby Thorne North A66	1495	Side Road	18429	23.7	0.93	0.222	0.100	No
S0405-06	Gypsum Access Side Road	915	Side Road	18429	23.7	0.93	0.136	0.061	No
S0405-07	Sleastonhow Lane West	505	Side Road	18429	23.7	0.93	0.075	0.034	No
S0405-08	Sleastonhow Lane East	425	Side Road	18429	23.7	0.93	0.063	0.028	No
S0405-09	A66 mainline	915	No Junction	18429	23.7	0.29	0.042	0.019	No
S0405-10	A66 mainline	2545	No Junction	18429	23.7	0.29	0.118	0.053	No



Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
S0405-11	Powis House Access East	845	Side Road	18429	23.7	0.93	0.130	0.058	No
	A66 Eastbound slip road	175	Slip Road	9215	23.7	0.83	0.012	0.005	No
	Powis House Access East	1380	Cross Road	18429	23.7	0.88	0.194	0.087	No
S0405-12	Powis House Access West	370	Side Road	18429	23.7	0.93	0.055	0.025	No
	A66 Westbound slip road	155	Slip Road	9215	23.7	0.83	0.010	0.005	No
	Powis House Access West	370	Cross Road	18429	23.7	0.88	0.052	0.023	No
S0405-13	A66 mainline	725	No Junction	18429	23.7	0.29	0.034	0.015	No
S0405-14	A66 mainline	600	Cross Road	18429	23.7	0.88	0.084	0.038	No
S0405-15	A66 mainline	600	No Junction	18429	23.7	0.29	0.028	0.012	No
S06-01	Side road at west of scheme	1347	Side road	8082	27.9	0.93	0.103	0.046	No
S06-02	A66 mainline	542	No junction	16164	27.9	0.29	0.026	0.012	No
	Side road junctions	400	Side road	16164	27.9	0.93	0.061	0.028	No
S06-03	A66 mainline	779	No junction	16164	27.9	0.29	0.037	0.017	No
S06-04	A66 mainline	320	No junction	16164	27.9	0.29	0.00015	0.007	No
	Side roads at B6259	538	Side road	8082	27.9	0.93	0.041	0.019	No

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
S06-05	Side road B6259	216	Side road	8082	27.9	0.93	0.017	0.007	No
S06-06	A66 mainline	833	No junction	16164	27.9	0.29	0.040	0.018	No
	Side road junctions with mainline	200	Side road	16164	27.9	0.93	0.031	0.014	No
S06-07	A66 mainline	752	No junction	16164	27.9	0.29	0.036	0.016	No
S06-08	A66 mainline	558	No junction	16164	27.9	0.29	0.027	0.012	No
	Side road junctions with mainline	300	Side road	16164	27.9	0.93	0.046	0.021	No
	Side roads	1805	Side road	8082	27.9	0.93	0.138	0.062	No
S06-09	A66 mainline	1030	No junction	16164	27.9	0.29	0.049	0.022	No
S06-10	A66 mainline	653	No junction	16164	27.9	0.29	0.031	0.014	No
	Side road junction with A66 mainline	200	Side road	16164	27.9	0.93	0.031	0.014	No
S06-11	A66 mainline	561	No junction	16164	27.9	0.29	0.027	0.012	No
	Side road junction with mainline	200	Side road	16164	27.9	0.93	0.031	0.014	No
S06-12	Slip road	268	Slip road	8082	27.9	0.83	0.037	0.016	No
S06-13	A66 mainline	1355	No junction	16164	27.9	0.29	0.065	0.029	No
	Slip road at Broomrigg End	200	Slip road	16164	27.9	0.83	0.027	0.012	No

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
S06-14	Slip road at Broomrigg End	558	Slip road	8082	27.9	0.83	0.076	0.034	No
S06-15	Farm access under the A66 mainline	357	Side road	8082	27.9	0.93	0.027	0.012	No
S06-16	De-trunked A66	132	Side road	8082	27.9	0.93	0.010	0.005	No
S06-17	A66 mainline	692	No junction	16164	27.9	0.29	0.033	0.015	No
	Slip roads at Croft Cottage with A66 mainline	200	Slip road	16164	27.9	0.29	0.027	0.012	No
S06-18	De-trunked A66	810	Side road	8082	27.9	0.93	0.124	0.056	No
S06-19	De-trunked A66	TBC	Side road	8082	27.9	0.93	0.044	0.020	No
S07-01	A66 mainline	2328	No Junction	18713	22.3	0.29	0.103	0.046	No
S07-02	A66 Westbound slip road	1271	Slip Road	9357	22.3	0.83	0.080	0.036	No
S07-03	A66 mainline	1248	No Junction	18713	22.3	0.29	0.055	0.025	No
S07-04	A66 mainline	1016	No Junction	18713	22.3	0.29	0.045	0.020	No
S07-05	A66 Westbound slip road	517	Slip Road	9357	22.3	0.83	0.033	0.015	No

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
S07-06	A66 mainline	1677	No Junction	18713	22.3	0.29	0.074	0.033	No
S08-01	Moorhouse Lane	642	Side Road	16453	26.5	0.93	0.095	0.043	No
S08-02	B6277	348	Side Road	16453	26.5	0.93	0.052	0.023	No
S08-03	A66 mainline	3172	No Junction	16453	26.5	0.29	0.156	0.066	No
S08-04	A66 mainline	1239	No Junction	16453	26.5	0.29	0.870	0.025	No
S08-05	A66 mainline	1938	No Junction	16453	26.5	0.29	0.089	0.040	No
	A66 westbound slip road	552	Slip Road	8227	26.5	0.83	0.036	0.016	No
S08-06	A66 mainline	1760	No Junction	16453	26.5	0.29	0.081	0.037	No
	A66 westbound slip road	173	Slip Road	8227	26.5	0.83	0.011	0.005	No
S08-07	A66 westbound slip road	94	Slip Road	8227	26.5	0.83	0.006	0.003	No
S08-08	A66 eastbound slip road	206	Slip Road	8227	26.5	0.83	0.014	0.006	No
S08-09	Moorhouse Lane	261	Slip Road	8227	26.5	0.83	0.017	0.008	No
S09-01	A66 mainline	1213	No junction	17662	24	0.29	0.054	0.024	No
	Browson Bank Farm Access	100	Side road	17662	24	0.93	0.014	0.006	No
S09-02	De-trunked A66/Browson Bank Farm Access	786	Side road	8831	24	0.93	0.057	0.025	No

Catchment	Road reference	Road Length (m)	Junction type	2-way AADT	%HGV	Spillage factor	Probability factor of accidental spillage (%)	Probability of pollution incident (%)	Unacceptable Risk?
S09-03	A66 mainline	1303	No junction	17662	24	0.29	0.058	0.026	No
S09-04	De-trunked A66	1472	Side road	8831	24	0.93	0.106	0.048	No
S09-05	A66 mainline	985	No junction	17662	24	0.29	0.044	0.020	No
	Slip roads (west of Moor Lane)	200	Slip road	17662	24	0.83	0.026	0.012	No
S09-06 + S09-12	A66 mainline	1277	No junction	17662	24	0.29	0.057	0.026	No
	Slip roads (west of Moor Lane)	857	Slip road	8831	24	0.83	0.055	0.025	No
S09-09	A66 mainline	1093	No junction	17662	24	0.29	0.049	0.022	No
S09-10	De-trunked A66	674	Side road	8831	24	0.93	0.048	0.022	No
S09-11	De trunked A66	389	Side road	8831	24	0.93	0.028	0.013	No

#### 14.5.4 Reference

Highways England (2020) Design Manual for Roads and Bridges LA 113 Road drainage and the water environment. Version 1.