APPENDIX 8.5

ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Job no: P0000346600
Job name: A82 Crianlarich Bypass

METHOD D: SIMPLE ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Calc by: J Miller **Calc Date:** 30/07/2008

Watercourse: D/S of Detention Basin at Southern end of bypass: Drainage Area Network A

Assessement Method D is used assuming the Water Quality Objective of the receiving watercourse is RE1 - tributary of R. Fillan

Traffic flow:	AADT figures, Crianlarich Bypass, Figure 4:1
SS:	DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.1
Percentage HGV vehicles	Noise traffic data.pdf
Road Length	Fig 4.1 FRA 230708.dwg

		Road Length (km)	AADT 2026 (veh/day)	SS
1	**Rural Trunk Road, No Junction**	0.120	3200	0.29
2	**Rural Trunk Road, Roundabout**	0.375	4100	3.09

Percentage of HGV vehicles 6 %

P_{OL} 0.6 ; DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.2

P_{OL} = The propability, given an accident, that a serious pollution incident will result.
P_{ACC} = Annual Propability of an accidental spillage with the potential to cause serious pollution impact
P_{INC} = The propability, of a spillage accident with an associated risk of a serious pollution incident occuring

P_{ACC} = Road Length x SS x (AADT x 365 x 10-9) x (HGV/100); DMRB - Volume 11 Section 3 Part 10 HA 216/06 page AI/11

	P_{ACC}	Total P_{ACC}	P_{INC}
1	0.0000024	0.000107	0.0000639
2	0.0001041		

The propability of a spillage accident with an associated risk of serious pollution incident occuring is less than 1% so spillage prevention is not required.

Checked By: Jason Ball
Date: 30/07/2008

Job no: P0000346600
Job name: A82 Crianlarich Bypass

METHOD D: SIMPLE ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Calc by: J Miller **Calc Date:** 30/07/2008

Watercourse: D/S of Detention Basin at Northern end of bypass: Drainage Area Network B

Assessement Method D is used assuming the Water Quality Objective of the receiving watercourse is RE1 - tributary of R. Fillan

Traffic flow: AADT figures, Crianlarich Bypass, Figure 4:1
SS: DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.1
Percentage HGV vehicles Noise traffic data.pdf
Road Length Fig 4.1 FRA 230708.dwg

		Road Length (km)	AADT 2026 (veh/day)	SS
1	**Rural Trunk Road, No Junction**	0.527	3200	0.29
2	**Rural Trunk Road, Roundabout**	0.100	6700	3.09

Percentage of HGV vehicles 6 %

P_{OL} 0.6 ; DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.2

P_{OL} = The propability, given an accident, that a serious pollution incident will result.
P_{ACC} = Annual Propability of an accidental spillage with the potential to cause serious pollution impact
P_{INC} = The propability, of a spillage accident with an associated risk of a serious pollution incident occuring

P_{ACC} = Road Length x SS x (AADT x 365 x 10-9) x (HGV/100); DMRB - Volume 11 Section 3 Part 10 HA 216/06 page AI/11

	P_{ACC}	Total P_{ACC}	P_{INC}
1	0.0000107	**0.0000560**	**0.0000336**
2	0.0000453		

The propability of a spillage accident with an associated risk of serious pollution incident occuring is less than 1% so spillage prevention is not required

Checked By: Jason Ball
Date: 30/07/2008

Job no: P0000346600
Job name: A82 Crianlarich Bypass

METHOD D: SIMPLE ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Calc by: J Miller **Calc Date:** 30/07/2008

Watercourse: D/S of Filter Trench at Northern End: Drainage Area Network C

Assessement Method D is used assuming the Water Quality Objective of the receiving watercourse is RE1 - tributary of R. Fillan

Traffic flow:	AADT figures, Crianlarich Bypass, Figure 4:1
SS:	DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.1
Percentage HGV vehicles	Noise traffic data.pdf
Road Length	Fig 4.1 FRA 230708.dwg

		Road Length (km)	AADT 2026 (veh/day)	SS
1	**Rural Trunk Road, Roundabout**	**0.2528**	**6700**	**3.09**

Percentage of HGV vehicles 6 %

P_{OL} **0.6** ; DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.2

P_{OL} = The propability, given an accident, that a serious pollution incident will result.
P_{ACC} = Annual Propability of an accidental spillage with the potential to cause serious pollution impact
P_{INC} = The propability, of a spillage accident with an associated risk of a serious pollution incident occuring

P_{ACC} = Road Length x SS x (AADT x 365 x 10-9) x (HGV/100); DMRB - Volume 11 Section 3 Part 10 HA 216/06 page AI/11

	P_{ACC}	Total P_{ACC}	P_{INC}
1	0.0001146	**0.0001146**	**0.0000688**

The propability of a spillage accident with an associated risk of serious pollution incident occuring is less than 1% so spillage prevention is not required

Checked By: Jason Ball
Date: 30/07/2008

Job no: P0000346600
Job name: A82 Crianlarich Bypass

METHOD D: SIMPLE ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Calc by: J Miller **Calc Date:** 30/07/2008

Watercourse: Detention Basin at Southern end of bypass: Drainage Area Network A

Assessement Method D is used assuming the receiving waterbody is groundwater (Detention basin)

Traffic flow:	AADT figures, Crianlarich Bypass, Figure 4:1
SS:	DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.1
Percentage HGV vehicles	Noise traffic data.pdf
Road Length	Fig 4.1 FRA 230708.dwg

		Road Length (km)	AADT 2026 (veh/day)	SS
1	**Rural Trunk Road, No Junction**	0.120	3200	0.29
2	**Rural Trunk Road, Roundabout**	0.375	4100	3.09

Percentage of HGV vehicles 6 %

P_{OL} 0.3 ; DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.2

P_{OL} = The propability, given an accident, that a serious pollution incident will result.
P_{ACC} = Annual Propability of an accidental spillage with the potential to cause serious pollution impact
P_{INC} = The propability, of a spillage accident with an associated risk of a serious pollution incident occuring

P_{ACC} = Road Length x SS x (AADT x 365 x 10-9) x (HGV/100); DMRB - Volume 11 Section 3 Part 10 HA 216/06 page AI/11

	P_{ACC}	Total P_{ACC}	P_{INC}
1	0.0000024	**0.000107**	**0.0000320**
2	0.0001041		

The propability of a spillage accident with an associated risk of serious pollution incident occuring is less than 1% so spillage prevention is not required.

Checked By: Jason Ball
Date: 30/07/2008

Job no: P0000346600
Job name: A82 Crianlarich Bypass

METHOD D: SIMPLE ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Calc by: J Miller **Calc Date:** 30/07/2008

Watercourse: Detention Basin at Northern end of bypass: Drainage Area Network B

Assessement Method D is used assuming the receiving waterbody is groundwater (Detention basin)

Traffic flow: AADT figures, Crianlarich Bypass, Figure 4:1
SS: DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.1
Percentage HGV vehicles Noise traffic data.pdf
Road Length Fig 4.1 FRA 230708.dwg

		Road Length (km)	AADT 2026 (veh day)	SS
1	**Rural Trunk Road, No Junction**	0.527	3200	0.29
2	**Rural Trunk Road, Roundabout**	0.100	6700	3.09

Percentage of HGV vehicles 6 %

P_{OL} 0.3 ; DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.2

P_{OL} = The propability, given an accident, that a serious pollution incident will result.
P_{ACC} = Annual Propability of an accidental spillage with the potential to cause serious pollution impact
P_{INC} = The propability, of a spillage accident with an associated risk of a serious pollution incident occuring

P_{ACC} = Road Length x SS x (AADT x 365 x 10-9) x (HGV/100); DMRB - Volume 11 Section 3 Part 10 HA 216/06 page AI/11

	P_{ACC}
1	0.0000107
2	0.0000453

Total P_{ACC} 0.0000560

P_{INC} 0.0000168

The propability of a spillage accident with an associated risk of serious pollution incident occuring is less than 1% so spillage prevention is not required

Checked By: Jason Ball
Date: 30/07/2008

Job no: P0000346600
Job name: A82 Crianlarich Bypass

METHOD D: SIMPLE ASSESSMENT OF POLLUTION IMPACTS FROM ACCIDENTAL SPILLAGES

Calc by: J Miller **Calc Date:** 30/07/2008

Watercourse: Filter Trench at Northern End: Drainage Area Network C

Assessement Method D is used assuming the receiving waterbody is groundwater (Filter Trench)

Traffic flow: AADT figures, Crianlarich Bypass, Figure 4:1
SS: DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.1
Percentage HGV vehicles Noise traffic data.pdf
Road Length Fig 4.1 FRA 230708.dwg

		Road Length (km)	AADT 2026 (veh day)	SS
1	**Rural Trunk Road, Roundabout**	0.2528	6700	3.09

Percentage of HGV vehicles 6 %

P_{OL} **0.3** ; DMRB Volume 11 Section 3 Part 10 HA 216/06 Table D.2

P_{OL} = The propability, given an accident, that a serious pollution incident will result.
P_{ACC} = Annual Propability of an accidental spillage with the potential to cause serious pollution impact
P_{INC} = The propability, of a spillage accident with an associated risk of a serious pollution incident occuring

P_{ACC} = Road Length x SS x (AADT x 365 x 10-9) x (HGV/100); DMRB - Volume 11 Section 3 Part 10 HA 216/06 page AI/11

	P_{ACC}	Total P_{ACC}	P_{INC}
1	0.0001146	**0.0001146**	**0.0000344**

The propability of a spillage accident with an associated risk of serious pollution incident occuring is less than 1% so spillage prevention is not required

Checked By: Jason Ball
Date: 30/07/2008