User parameters

Location Details

Road Number	Section 1 - A14 & A1		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)		
HA Area/DBFO number								
OS grid reference of assessment point (m)	**Easting**	519757	**Receiving watercourse**			Brampton Drain		
	Northing	270819	**EA receiving water Detailed River Network ID**					
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**					
	Northing		**Date of assessment**					
Outfall number	3 (DF4)		**Version of assessment**					
List of outfalls in cumulative assessment		2		16			3	
Notes								

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0012***		
Baseflow Index	-	0.5	***0.534***		
Impermeable road area drained	ha	1	***9.4776***		
Permeable area draining to outfall	ha	1	***1.3778***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***3.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***50***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***80***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**14.3**	**0.3**
No. of exceedances/worst year		24	1
No. of exceedances/summer		7.5	0.1
No. of exceedances/worst summer		17	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**2.9**	**0.1**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.5	0
No. of exceedances/worst summer		3	0
Annual average concentration (ug/l)		2.02	4.74
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	9.15	22.29
	90%ile	25.15	53.80
	95%ile	32.83	84.38
	99%ile	64.93	197.90

Step 2

Velocity 0.00 m/s

DI 461.02

% settlement needed 79 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**2.90**	**0.10**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.5	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.50**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		1.01	2.37
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	4.58	11.15
	90%ile	12.57	26.90
	95%ile	16.42	42.19
	99%ile	32.46	98.95

DI 92.20

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A14 & A1		**Assessment type**			Cumulative assessment excluding sediments (outfalls between 100m and 1km apart)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	519757	**Receiving watercourse**			Brampton Drain	
	Northing	270819	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	3 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	2		16			3	15
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0012***		
Baseflow Index	-	0.5	***0.534***		
Impermeable road area drained	ha	1	***15.8841***		
Permeable area draining to outfall	ha	1	***3.3184***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***3.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***64***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***79***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**18.4**	**0.4**
No. of exceedances/worst year		30	1
No. of exceedances/summer		8.8	0.1
No. of exceedances/worst summer		19	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**3.8**	**0.1**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.9	0
No. of exceedances/worst summer		4	0
Annual average concentration (ug/l)		2.44	5.67
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	10.91	26.27
	90%ile	28.95	64.18
	95%ile	37.49	95.28
	99%ile	73.94	234.77

Step 2

Velocity _____ m/s

DI _____

% settlement needed _____ %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.00**
No. of exceedances/worst year		3	0
No. of exceedances/summer		1	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.20**	**0.00**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.88	2.04
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.93	9.46
	90%ile	10.42	23.10
	95%ile	13.50	34.30
	99%ile	26.62	84.52

DI _____

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A14		**Assessment type**	Cumulative assessment excluding sediments (outfalls between 100m and 1km apart)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	531083	**Receiving watercourse**	Connington Road Drain	
	Northing	267693	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	11 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	11		13	12	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.001***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***8.8805***		
Permeable area draining to outfall	ha	1	***7.4028***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***3.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***65***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***79***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			

Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**12.1**	**0.3**
No. of exceedances/worst year		22	1
No. of exceedances/summer		6.6	0.1
No. of exceedances/worst summer		16	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**2.3**	**0**
No. of exceedances/worst year		5	0
No. of exceedances/summer		1.1	0
No. of exceedances/worst summer		3	0
Annual average concentration (ug/l)		1.86	4.33
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	8.33	20.05
	90%ile	22.97	49.91
	95%ile	29.74	75.14
	99%ile	60.04	177.43

Step 2

Velocity m/s

DI

% settlement needed %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.10**	**0.00**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.4	0
No. of exceedances/worst summer		1	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.10**	**0.00**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.65	1.52
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	2.92	7.02
	90%ile	8.04	17.47
	95%ile	10.41	26.30
	99%ile	21.01	62.10

DI

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A14		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	531564	**Receiving watercourse**			Connington Road Drain	
	Northing	267468	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	12 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	12				13		
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.001***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***4.6244***		
Permeable area draining to outfall	ha	1	***4.0274***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***0.7***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***65***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***89***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**78.30**	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	480	1825	1	10492	1815	1742	111	491
90%ile	1064	4091	2	28184	4876	4679	299	1319
95%ile	1290	4946	3	56234	9729	9335	596	2632
99%ile	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**8.2**	**0.3**
No. of exceedances/worst year		18	1
No. of exceedances/summer		5	0.1
No. of exceedances/worst summer		12	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.4**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.6	0
No. of exceedances/worst summer		2	0
Annual average concentration (ug/l)		1.39	3.29
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	6.32	15.51
	90%ile	17.48	37.74
	95%ile	24.57	61.48
	99%ile	47.97	132.72

Step 2

Velocity 0.02 m/s

DI 834.87

% settlement needed 89 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0.70**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.2	0
No. of exceedances/worst summer		1	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.49	1.15
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	2.21	5.43
	90%ile	6.12	13.21
	95%ile	8.60	21.52
	99%ile	16.79	46.45

Step 3

DI 91.84

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A1		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	519417	**Receiving watercourse**	Tributary of Ellington Brook	
	Northing	272435	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	18 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	17		19	18	20
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>10,000 and <50,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.001***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***5.4486***		
Permeable area draining to outfall	ha	1	***5.1368***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***2***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***31***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***80***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			

Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**52.60**	**35.00**
No. of exceedances/worst year		66	45
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**18.30**	**11.30**
No. of exceedances/worst year		23	16
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	26.64	58.84
	90%ile	52.02	124.37
	95%ile	70.17	164.88
	99%ile	101.36	295.84

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**69.60**	**87.10**	**1.10**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	83	103	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	402	1298	1	10492	1815	1742	111	491
90%ile	911	3036	1	28184	4876	4679	299	1319
95%ile	1113	3724	2	56234	9729	9335	596	2632
99%ile	1584	6310	3	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**5.6**	**0.2**
No. of exceedances/worst year		12	1
No. of exceedances/summer		3.1	0
No. of exceedances/worst summer		9	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.1**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.4	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		1.23	2.80
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	5.56	13.11
	90%ile	15.38	32.80
	95%ile	21.11	51.65
	99%ile	41.89	114.60

Step 2

Velocity 0.00 m/s

DI 494.69

% settlement needed 80 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.00**
No. of exceedances/worst year		5	0
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		2	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.40**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.85	1.93
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.84	9.05
	90%ile	10.61	22.63
	95%ile	14.56	35.64
	99%ile	28.91	79.08

DI 98.94

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A1		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	519256	**Receiving watercourse**	Cock Brook	
	Northing	274016	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	23 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	22			23	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.0116***	
Baseflow Index	-	0.5	***0.303***	
Impermeable road area drained	ha	1	***2.5655***	
Permeable area draining to outfall	ha	1	***2.3602***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***3.9***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***65***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***0***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

		Soluble - Acute Impact		Sediment - Chronic Impact							
		Copper	Zinc	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Prediction of impact	*Step1*										
	Step2										
	Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**78.30**	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	480	1825	1	10492	1815	1742	111	491
90%ile	1064	4091	2	28184	4876	4679	299	1319
95%ile	1290	4946	3	56234	9729	9335	596	2632
99%ile	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0**	**0**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0**	**0**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.16	0.45
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	0.81	2.64
	90%ile	2.22	4.62
	95%ile	3.87	9.21
	99%ile	8.10	22.06

Step 2

Velocity 0.01 m/s

DI 98.72

% settlement needed 0 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.06	0.16
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	0.28	0.92
	90%ile	0.78	1.62
	95%ile	1.36	3.22
	99%ile	2.84	7.72

DI -

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A1		**Assessment type**			Cumulative assessment excluding sediments (outfalls between 100m and 1km apart)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	519256	**Receiving watercourse**			Cock Brook	
	Northing	274016	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	23 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	22		24			23	25
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0116***		
Baseflow Index	-	0.5	***0.303***		
Impermeable road area drained	ha	1	***5.0197***		
Permeable area draining to outfall	ha	1	***3.3891***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***3.5***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***65***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***83***		

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Prediction of impact		Soluble - Acute Impact		Sediment - Chronic Impact							
		Copper	Zinc	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
	Step1										
	Step2										
	Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
	1	1	1	1	1	1	1	1
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0.3**	**0.2**
No. of exceedances/worst year		1	1
No. of exceedances/summer		0.2	0
No. of exceedances/worst summer		1	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0**	**0**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.29	0.77
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	1.42	4.26
	90%ile	4.00	8.37
	95%ile	6.88	15.94
	99%ile	13.79	39.12

Step 2

Velocity m/s

DI

% settlement needed %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.10	0.27
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	0.50	1.49
	90%ile	1.40	2.93
	95%ile	2.41	5.58
	99%ile	4.83	13.69

DI

Details of the chosen rainfall site	
SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 1 - A1		**Assessment type**		Cumulative assessment including sediments (outfalls within 100m)		
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	519035	**Receiving watercourse**		Cock Brook		
	Northing	274498	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	24		**Version of assessment**				
List of outfalls in cumulative assessment	24				25		
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0113***		
Baseflow Index	-	0.5	***0.303***		
Impermeable road area drained	ha	1	***2.4542***		
Permeable area draining to outfall	ha	1	***1.0289***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***3.5***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***65***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***1***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Prediction of impact		Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
	Step1								
	Step2								
	Step3								

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0**	**0.1**
No. of exceedances/worst year		0	1
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0**	**0**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.16	0.45
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	0.81	2.67
	90%ile	2.21	4.59
	95%ile	3.89	9.13
	99%ile	8.16	21.95

Step 2

Velocity 0.01 m/s

DI 100.66

% settlement needed 1 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.06	0.16
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	0.28	0.93
	90%ile	0.77	1.61
	95%ile	1.36	3.20
	99%ile	2.86	7.68

DI 99.66

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)		
HA Area/DBFO number								
OS grid reference of assessment point (m)	**Easting**	534829	**Receiving watercourse**			Drain to Fen Drayton		
	Northing	266417	**EA receiving water Detailed River Network ID**					
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**					
	Northing		**Date of assessment**					
Outfall number	30 (DF4)		**Version of assessment**					
List of outfalls in cumulative assessment	27		29	31		28	30	32
Notes								

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>10,000 and <50,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.001***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***6.1296***	
Permeable area draining to outfall	ha	1	***5.9147***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***3.1***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***33***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***73***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**52.60**	**35.00**
No. of exceedances/worst year		66	45
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**18.30**	**11.30**
No. of exceedances/worst year		23	16
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	26.64	58.84
	90%ile	52.02	124.37
	95%ile	70.17	164.88
	99%ile	101.36	295.84

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
	1	1	1	1	1	1	1	1
	69.60	**87.10**	**1.10**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	83	103	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	402	1298	1	10492	1815	1742	111	491
	911	3036	1	28184	4876	4679	299	1319
	1113	3724	2	56234	9729	9335	596	2632
	1584	6310	3	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**6.3**	**0.2**
No. of exceedances/worst year		15	1
No. of exceedances/summer		3.5	0
No. of exceedances/worst summer		11	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.2**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.4	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		1.30	2.94
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	5.84	13.71
	90%ile	16.16	34.56
	95%ile	21.75	53.20
	99%ile	44.13	120.24

Step 2

Velocity 0.00 m/s

DI 362.91

% settlement needed 73 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.80**	**0.00**
No. of exceedances/worst year		5	0
No. of exceedances/summer		0.8	0
No. of exceedances/worst summer		2	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.40**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.87	1.97
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.91	9.18
	90%ile	10.83	23.16
	95%ile	14.57	35.64
	99%ile	29.57	80.56

DI 97.99

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)		
HA Area/DBFO number								
OS grid reference of assessment point (m)	**Easting**	535763	**Receiving watercourse**			Swavesy Drain 1		
	Northing	265718	**EA receiving water Detailed River Network ID**					
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**			MU		
	Northing		**Date of assessment**			09/02/2014		
Outfall number	33 (DF4)		**Version of assessment**			1		
List of outfalls in cumulative assessment	33		35	37	34	36	38	39
Notes								

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.001***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***7.2279***	
Permeable area draining to outfall	ha	1	***13.417***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***1.5***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***44***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***74***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**78.30**	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	480	1825	1	10492	1815	1742	111	491
90%ile	1064	4091	2	28184	4876	4679	299	1319
95%ile	1290	4946	3	56234	9729	9335	596	2632
99%ile	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**3.1**	**0.3**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.6	0.1
No. of exceedances/worst summer		4	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.4**	**0**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.82	2.00
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.81	9.84
	90%ile	10.71	23.56
	95%ile	15.96	41.82
	99%ile	33.58	99.80

Step 2

Velocity 0.01 m/s

DI 398.63

% settlement needed 75 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.20**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.30**	**0.00**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.70	1.72
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.28	8.46
	90%ile	9.21	20.27
	95%ile	13.72	35.97
	99%ile	28.88	85.83

Step 3

DI 99.66

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	536675	**Receiving watercourse**			Swavesy Drain 2 (Utton's Drove Drain)	
	Northing	265135	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	42 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	40		42			41	43
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0025***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***4.5385***		
Permeable area draining to outfall	ha	1	***4.4017***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***1.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***14***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***75***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Prediction of impact		Soluble - Acute Impact: Copper	Soluble - Acute Impact: Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact							
Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**8.9**	**0.3**
No. of exceedances/worst year		18	1
No. of exceedances/summer		5	0.1
No. of exceedances/worst summer		12	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.4**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.6	0
No. of exceedances/worst summer		2	0
Annual average concentration (ug/l)		1.56	3.63
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	6.97	16.79
	90%ile	19.28	41.96
	95%ile	25.05	63.64
	99%ile	50.58	149.90

Step 2

Velocity 0.00 m/s

DI 839.46

% settlement needed 89 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.80**	**0.00**
No. of exceedances/worst year		4	0
No. of exceedances/summer		0.8	0
No. of exceedances/worst summer		2	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.30**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.87	2.03
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.90	9.40
	90%ile	10.79	23.50
	95%ile	14.03	35.64
	99%ile	28.33	83.94

DI 218.26

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	537364	**Receiving watercourse**	Swavesey Drain 3 (Ch24+707)	
	Northing	264668	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	44 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	44			45	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.001***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***2.712***	
Permeable area draining to outfall	ha	1	***2.0162***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***1.8***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***27***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***63***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Prediction of impact		Soluble - Acute Impact: Copper	Soluble - Acute Impact: Zinc	Sediment - Chronic Impact: Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
	Step1										
	Step2										
	Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**78.30**	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	480	1825	1	10492	1815	1742	111	491
90%ile	1064	4091	2	28184	4876	4679	299	1319
95%ile	1290	4946	3	56234	9729	9335	596	2632
99%ile	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**4.5**	**0.3**
No. of exceedances/worst year		9	1
No. of exceedances/summer		2.4	0.1
No. of exceedances/worst summer		5	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.1**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.4	0
No. of exceedances/worst summer		2	0
Annual average concentration (ug/l)		1.06	2.55
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	4.88	12.30
	90%ile	14.13	29.10
	95%ile	20.26	51.39
	99%ile	38.33	116.54

Step 2

Velocity 0.00 m/s

DI 268.89

% settlement needed 63 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.20**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.40**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.77	1.86
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.56	8.98
	90%ile	10.32	21.24
	95%ile	14.79	37.51
	99%ile	27.98	85.07

DI 99.49

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**	Cumulative assessment excluding sediments (outfalls between 100m and 1km apart)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	537111	**Receiving watercourse**	Swavesey Drain 3 (Ch24+707)	
	Northing	265205	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	63 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	44		63	45	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.001***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***4.775***		
Permeable area draining to outfall	ha	1	***2.7127***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***1.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***41***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***63***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			

Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
	1	1	1	1	1	1	1	1
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**8.9**	**0.3**
No. of exceedances/worst year		19	1
No. of exceedances/summer		5.3	0.1
No. of exceedances/worst summer		13	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.6**	**0**
No. of exceedances/worst year		4	0
No. of exceedances/summer		0.7	0
No. of exceedances/worst summer		2	0
Annual average concentration (ug/l)		1.45	3.43
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	6.60	16.21
	90%ile	18.21	39.25
	95%ile	25.65	64.02
	99%ile	50.39	138.73

Step 2

Velocity m/s

DI

% settlement needed %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.20**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.50**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.86	2.03
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.89	9.56
	90%ile	10.74	23.16
	95%ile	15.13	37.77
	99%ile	29.73	81.85

DI

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	538115	**Receiving watercourse**			Longstanton Brook	
	Northing	264269	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	46 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	46		48			47	49
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0021***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***3.6017***		
Permeable area draining to outfall	ha	1	***4.8657***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***0.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***9***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***76***		

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Prediction of impact		Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
	Step1								
	Step2								
	Step3								

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
	Toxicity Threshold							
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**2.7**	**0.3**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.2	0.1
No. of exceedances/worst summer		3	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.4**	**0**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.77	1.88
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.59	9.28
	90%ile	10.10	22.18
	95%ile	15.03	39.45
	99%ile	31.60	94.07

Step 2

Velocity 0.03 m/s

DI 403.67

% settlement needed 76 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.20**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.30**	**0.00**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.70	1.71
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.27	8.44
	90%ile	9.19	20.18
	95%ile	13.68	35.90
	99%ile	28.76	85.60

DI 96.88

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	538469	**Receiving watercourse**	Drain to Longstanton Brook	
	Northing	264102	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	51 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	50			51	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>10,000 and <50,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.001***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***1.8744***	
Permeable area draining to outfall	ha	1	***1.2655***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***0.6***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***72***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**52.60**	**35.00**
No. of exceedances/worst year		66	45
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**18.30**	**11.30**
No. of exceedances/worst year		23	16
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	26.64	58.84
	90%ile	52.02	124.37
	95%ile	70.17	164.88
	99%ile	101.36	295.84

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**69.60**	**87.10**	**1.10**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	83	103	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	402	1298	1	10492	1815	1742	111	491
90%ile	911	3036	1	28184	4876	4679	299	1319
95%ile	1113	3724	2	56234	9729	9335	596	2632
99%ile	1584	6310	3	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.8**	**0.2**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.3**	**0**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.70	1.65
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.26	8.15
	90%ile	9.15	19.45
	95%ile	13.70	34.55
	99%ile	28.95	82.67

Step 2

Velocity 0.02 m/s

DI 345.57

% settlement needed 72 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.10**	**0.00**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.4	0
No. of exceedances/worst summer		2	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.49	1.16
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	2.28	5.71
	90%ile	6.40	13.62
	95%ile	9.59	24.18
	99%ile	20.26	57.87

Step 3

DI 96.76

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	538878	**Receiving watercourse**			Oakington Brook	
	Northing	263717	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	52 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	52		54			53	55
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0022***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***3.4753***		
Permeable area draining to outfall	ha	1	***1.5591***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***1.5***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***72***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Prediction of impact	Soluble - Acute Impact		Sediment - Chronic Impact							
	Copper	Zinc	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Step1										
Step2										
Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**89.10**	**84.60**
No. of exceedances/worst year		109	107
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**55.60**	**54.80**
No. of exceedances/worst year		71	68
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	56.08	183.76
	90%ile	109.52	388.45
	95%ile	147.72	514.94
	99%ile	213.39	923.97

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
	Toxicity Threshold							
	1	1	1	1	1	1	1	1
	97.60	**104.80**	**5.00**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	117	121	11	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	866	2935	1	10492	1815	1742	111	491
	1781	6200	3	28184	4876	4679	299	1319
	2111	7360	3	56234	9729	9335	596	2632
	2858	11534	5	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**8.9**	**0.3**
No. of exceedances/worst year		14	1
No. of exceedances/summer		4.9	0.1
No. of exceedances/worst summer		11	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**2.2**	**0.3**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1	0.1
No. of exceedances/worst summer		3	1
Annual average concentration (ug/l)		1.34	4.73
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	6.27	23.66
	90%ile	17.80	55.10
	95%ile	27.13	97.49
	99%ile	59.72	236.05

Step 2

Velocity 0.01 m/s

DI 354.10

% settlement needed 72 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**4.20**	**0.30**
No. of exceedances/worst year		9	1
No. of exceedances/summer		2.2	0.1
No. of exceedances/worst summer		5	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.10**	**0.30**
No. of exceedances/worst year		3	1
No. of exceedances/summer		0.5	0.1
No. of exceedances/worst summer		2	1
Annual average concentration (ug/l)		0.93	3.31
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	4.39	16.56
	90%ile	12.46	38.57
	95%ile	18.99	68.24
	99%ile	41.80	165.24

DI 99.15

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**			Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	539395	**Receiving watercourse**			Swavesey Drain 3 (Ch24+707)	
	Northing	263318	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**				
Outfall number	56 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	56		58			57	59
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.001***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***4.0427***		
Permeable area draining to outfall	ha	1	***2.7477***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***1.8***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***36***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***76***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

		Soluble - Acute Impact		Sediment - Chronic Impact							
		Copper	Zinc	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Prediction of impact	*Step1*										
	Step2										
	Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**7.7**	**0.3**
No. of exceedances/worst year		15	1
No. of exceedances/summer		4.6	0.1
No. of exceedances/worst summer		11	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.3**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.5	0
No. of exceedances/worst summer		2	0
Annual average concentration (ug/l)		1.32	3.14
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	6.03	14.90
	90%ile	16.90	34.99
	95%ile	23.84	59.51
	99%ile	47.89	129.25

Step 2

Velocity 0.00 m/s

DI 400.82

% settlement needed 76 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.20**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.50**	**0.00**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.85	2.01
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.86	9.54
	90%ile	10.81	22.39
	95%ile	15.26	38.08
	99%ile	30.65	82.72

DI 96.20

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	539735	**Receiving watercourse**	Dry Drayton Junction Drain	
	Northing	262989	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**		
Outfall number	64 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	60			64	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.001***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***2.016***	
Permeable area draining to outfall	ha	1	***1.2054***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***0.4***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***21***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***71***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

		Soluble - Acute Impact		Sediment - Chronic Impact							
		Copper	Zinc	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Prediction of impact	*Step1*										
	Step2										
	Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**3.4**	**0.3**
No. of exceedances/worst year		7	1
No. of exceedances/summer		1.8	0.1
No. of exceedances/worst summer		4	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.7**	**0**
No. of exceedances/worst year		3	0
No. of exceedances/summer		0.2	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.89	2.18
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	4.16	10.72
	90%ile	11.76	25.44
	95%ile	17.42	45.85
	99%ile	36.12	108.77

Step 2

Velocity 0.04 m/s

DI 342.99

% settlement needed 71 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.90**	**0.20**
No. of exceedances/worst year		5	1
No. of exceedances/summer		0.9	0
No. of exceedances/worst summer		3	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.30**	**0.00**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.71	1.72
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.29	8.47
	90%ile	9.29	20.10
	95%ile	13.76	36.23
	99%ile	28.54	85.93

DI 99.47

Details of the chosen rainfall site	
SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2 & 3		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	540791	**Receiving watercourse**	Beck Brook	
	Northing	262221	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**	25/08/2014	
Outfall number	68 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	61			68	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.0039***	
Baseflow Index	-	0.5	***0.307***	
Impermeable road area drained	ha	1	***4.3923***	
Permeable area draining to outfall	ha	1	***2.4866***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***3***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***61***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**89.10**	**84.60**
No. of exceedances/worst year		109	107
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**55.60**	**54.80**
No. of exceedances/worst year		71	68
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	56.08	183.76
	90%ile	109.52	388.45
	95%ile	147.72	514.94
	99%ile	213.39	923.97

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**97.60**	**104.80**	**5.00**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	117	121	11	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	866	2935	1	10492	1815	1742	111	491
90%ile	1781	6200	3	28184	4876	4679	299	1319
95%ile	2111	7360	3	56234	9729	9335	596	2632
99%ile	2858	11534	5	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**6**	**0.3**
No. of exceedances/worst year		9	1
No. of exceedances/summer		3.3	0.1
No. of exceedances/worst summer		6	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.3**	**0.3**
No. of exceedances/worst year		4	1
No. of exceedances/summer		0.5	0.1
No. of exceedances/worst summer		2	1
Annual average concentration (ug/l)		1.05	3.78
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	4.99	19.36
	90%ile	14.31	42.42
	95%ile	22.14	78.96
	99%ile	48.38	186.56

Step 2

Velocity 0.01 m/s

DI 250.39

% settlement needed 61 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**3.10**	**0.30**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.6	0.1
No. of exceedances/worst summer		4	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.30**	**0.20**
No. of exceedances/worst year		1	1
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.74	2.65
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.49	13.55
	90%ile	10.02	29.69
	95%ile	15.50	55.27
	99%ile	33.87	130.59

DI 97.65

Details of the chosen rainfall site	
SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2 & 3		**Assessment type**			Cumulative assessment excluding sediments (outfalls between 100m and 1km apart)		
HA Area/DBFO number								
OS grid reference of assessment point (m)	**Easting**	540791	**Receiving watercourse**			Cottenham Lodge		
	Northing	262221	**EA receiving water Detailed River Network ID**					
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**					
	Northing		**Date of assessment**			25/08/2014		
Outfall number	68 (DF4)		**Version of assessment**					
List of outfalls in cumulative assessment	61		66	68		62	67	
Notes								

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.0039***	
Baseflow Index	-	0.5	***0.307***	
Impermeable road area drained	ha	1	***8.4243***	
Permeable area draining to outfall	ha	1	***4.5699***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***0.4***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***71***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**89.10**	**84.60**
No. of exceedances/worst year		109	107
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**55.60**	**54.80**
No. of exceedances/worst year		71	68
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	56.08	183.76
	90%ile	109.52	388.45
	95%ile	147.72	514.94
	99%ile	213.39	923.97

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**11.2**	**0.5**
No. of exceedances/worst year		21	2
No. of exceedances/summer		6.2	0.3
No. of exceedances/worst summer		15	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**2.9**	**0.3**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.4	0.1
No. of exceedances/worst summer		3	1
Annual average concentration (ug/l)		1.62	5.66
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	7.54	27.74
	90%ile	21.58	65.00
	95%ile	31.41	117.53
	99%ile	63.98	281.52

Step 2

Velocity _____ m/s

DI _____

% settlement needed _____ %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**6.70**	**0.30**
No. of exceedances/worst year		11	1
No. of exceedances/summer		3.6	0.1
No. of exceedances/worst summer		8	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.30**	**0.30**
No. of exceedances/worst year		4	1
No. of exceedances/summer		0.5	0.1
No. of exceedances/worst summer		2	1
Annual average concentration (ug/l)		1.14	3.96
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	5.28	19.42
	90%ile	15.11	45.50
	95%ile	21.99	82.27
	99%ile	44.79	197.07

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 2 & 3		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	540480	**Receiving watercourse**	Beck Brook	
	Northing	262159	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**	25/08/2014	
Outfall number	62 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	62			66	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>=100,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.003***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***3.5348***	
Permeable area draining to outfall	ha	1	***1.8745***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***3***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***52***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**89.10**	**84.60**
No. of exceedances/worst year		109	107
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**55.60**	**54.80**
No. of exceedances/worst year		71	68
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	56.08	183.76
	90%ile	109.52	388.45
	95%ile	147.72	514.94
	99%ile	213.39	923.97

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
					Toxicity Threshold			
	1	1	1	1	1	1	1	1
	97.60	**104.80**	**5.00**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	117	121	11	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	866	2935	1	10492	1815	1742	111	491
	1781	6200	3	28184	4876	4679	299	1319
	2111	7360	3	56234	9729	9335	596	2632
	2858	11534	5	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**6.6**	**0.3**
No. of exceedances/worst year		11	1
No. of exceedances/summer		3.6	0.1
No. of exceedances/worst summer		8	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.3**	**0.3**
No. of exceedances/worst year		4	1
No. of exceedances/summer		0.5	0.1
No. of exceedances/worst summer		2	1
Annual average concentration (ug/l)		1.09	3.91
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	5.16	19.93
	90%ile	14.73	44.10
	95%ile	22.95	80.90
	99%ile	49.92	192.96

Step 2

Velocity 0.00 m/s

DI 206.74

% settlement needed 52 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**3.60**	**0.30**
No. of exceedances/worst year		7	1
No. of exceedances/summer		1.9	0.1
No. of exceedances/worst summer		4	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.30**	**0.30**
No. of exceedances/worst year		1	1
No. of exceedances/summer		0.1	0.1
No. of exceedances/worst summer		1	1
Annual average concentration (ug/l)		0.76	2.73
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.61	13.95
	90%ile	10.31	30.87
	95%ile	16.07	56.63
	99%ile	34.95	135.07

DI 99.23

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 3		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	541068	**Receiving watercourse**	Drain to Washpit Brook	
	Northing	261185	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**	25/08/2014	
Outfall number	71 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	69			71	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=50,000 and <100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.001***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***1.6601***		
Permeable area draining to outfall	ha	1	***1.5221***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***1***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***62***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			

Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

		Soluble - Acute Impact		Sediment - Chronic Impact							
		Copper	Zinc	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Prediction of impact	*Step1*										
	Step2										
	Step3										

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**63.00**	**45.70**
No. of exceedances/worst year		75	56
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**26.80**	**16.70**
No. of exceedances/worst year		31	26
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	32.37	73.97
	90%ile	63.22	156.36
	95%ile	85.28	207.28
	99%ile	123.19	371.93

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	78.30	**96.80**	**1.20**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
	90	111	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
	480	1825	1	10492	1815	1742	111	491
	1064	4091	2	28184	4876	4679	299	1319
	1290	4946	3	56234	9729	9335	596	2632
	1814	8101	4	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**3**	**0.3**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.5	0.1
No. of exceedances/worst summer		4	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.4**	**0**
No. of exceedances/worst year		2	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.77	1.90
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	3.62	9.42
	90%ile	10.11	22.39
	95%ile	15.44	39.74
	99%ile	33.15	95.03

Step 2

Velocity 0.01 m/s

DI 259.25

% settlement needed 62 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.30**	**0.20**
No. of exceedances/worst year		4	1
No. of exceedances/summer		0.5	0
No. of exceedances/worst summer		2	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.54	1.33
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	2.54	6.60
	90%ile	7.08	15.67
	95%ile	10.81	27.82
	99%ile	23.20	66.52

DI 98.51

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 3		**Assessment type**			Cumulative assessment excluding sediments (outfalls between 100m and 1km apart)	
HA Area/DBFO number							
OS grid reference of assessment point (m)	**Easting**	541585	**Receiving watercourse**			Washpit Brook	
	Northing	261560	**EA receiving water Detailed River Network ID**				
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**				
	Northing		**Date of assessment**			09/02/2014	
Outfall number	73 (DF4)		**Version of assessment**				
List of outfalls in cumulative assessment	69		71	73	70	72	
Notes							

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)	
Runoff Risk Assessments					
AADT	vpd	>10,000 and <50,000	***>=100,000***		
Climatic Region	-	Warm Dry	***Warm Dry***		
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***		
95%ile River flow	m3/s	0	***0.0022***		
Baseflow Index	-	0.5	***0.331***		
Impermeable road area drained	ha	1	***4.529***		
Permeable area draining to outfall	ha	1	***2.5382***		
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***		
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***		
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***		
Use Tier 1	-	TRUE	***TRUE***		
Use Tier 2	-	FALSE	***FALSE***		
Tier 1 Estimated river width at Q95	0	5	***1***		
Tier2 Bed width	m	3	***3***		
Tier2 Side slope	m/m	0.5	***0.5***		
Tier2 Long slope	m/m	0.0001	***0.0001***		
Tier2 Mannings' n	-	0.07	***0.07***		
Existing treatment for solubles	%	0	***0***	***description for existing measures***	
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Existing settlement of sediments	%	0	***0***		
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***	
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***		
Proposed settlement of sediments	%	0	***0***		
Spillage Risk Assessments					
A MainRoad					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
B					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
C					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			
Location	-	-			
Traffic flow (AADT two way)	-	-			
% HGV	-	-			
Spillage factor	no/109HGVkm/year	-			
Existing measures factor	-	-			
Proposed measures factor	-	-			
D					
Water body type	-	-			
Length of road draining to outfall	m	-			
Road Type (A-road or Motorway)	-	-			
If A road, is site urban or rural?	-	-			
Junction type	-	-			

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**89.10**	**84.60**
No. of exceedances/worst year		109	107
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**55.60**	**54.80**
No. of exceedances/worst year		71	68
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	56.08	183.76
	90%ile	109.52	388.45
	95%ile	147.72	514.94
	99%ile	213.39	923.97

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
	1	1	1	1	1	1	1	1
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**10.8**	**0.4**
No. of exceedances/worst year		20	1
No. of exceedances/summer		6	0.2
No. of exceedances/worst summer		14	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**2.7**	**0.3**
No. of exceedances/worst year		6	1
No. of exceedances/summer		1.2	0.1
No. of exceedances/worst summer		3	1
Annual average concentration (ug/l)		1.57	5.50
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	7.32	27.01
	90%ile	20.74	64.11
	95%ile	30.63	115.39
	99%ile	63.19	274.10

Step 2

Velocity m/s

DI

% settlement needed %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**5.70**	**0.30**
No. of exceedances/worst year		10	1
No. of exceedances/summer		3.2	0.1
No. of exceedances/worst summer		6	1
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**1.20**	**0.30**
No. of exceedances/worst year		3	1
No. of exceedances/summer		0.5	0.1
No. of exceedances/worst summer		2	1
Annual average concentration (ug/l)		1.10	3.85
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	5.13	18.91
	90%ile	14.52	44.88
	95%ile	21.44	80.77
	99%ile	44.23	191.87

DI

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**

User parameters

Location Details

Road Number	Section 3		**Assessment type**	Cumulative assessment including sediments (outfalls within 100m)	
HA Area/DBFO number					
OS grid reference of assessment point (m)	**Easting**	541585	**Receiving watercourse**	Washpit Brook	
	Northing	261560	**EA receiving water Detailed River Network ID**		
OS grid reference of outfall structure (m)	**Easting**		**Assessor and affiliation**		
	Northing		**Date of assessment**	25/08/2014	
Outfall number	73 (DF4)		**Version of assessment**		
List of outfalls in cumulative assessment	72			73	
Notes					

Parameter	Units	Default Value	Value used	Notes (Enter notes in the left-hand cells only)
Runoff Risk Assessments				
AADT	vpd	>10,000 and <50,000	***>10,000 and <50,000***	
Climatic Region	-	Warm Dry	***Warm Dry***	
Rainfall Site	-	Ashford (SAAR 710mm)	***Huntingdon (SAAR 600mm)***	
95%ile River flow	m3/s	0	***0.0022***	
Baseflow Index	-	0.5	***0.331***	
Impermeable road area drained	ha	1	***2.5466***	
Permeable area draining to outfall	ha	1	***0.753***	
Is the discharge in or within 1 km upstream of a protected site for conservation?	-	No	***No***	
Is there a downstream structure, lake, pond or canal that reduces the velocity within 100m of the point of discharge?	-	No	***No***	
Hardness	-	Low = <50mg CaCO3/l	***High = >200mg CaCO3/l***	
Use Tier 1	-	TRUE	***TRUE***	
Use Tier 2	-	FALSE	***FALSE***	
Tier 1 Estimated river width at Q95	0	5	***1***	
Tier2 Bed width	m	3	***3***	
Tier2 Side slope	m/m	0.5	***0.5***	
Tier2 Long slope	m/m	0.0001	***0.0001***	
Tier2 Mannings' n	-	0.07	***0.07***	
Existing treatment for solubles	%	0	***0***	***description for existing measures***
Existing attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Existing settlement of sediments	%	0	***0***	
Proposed treatment for solubles	%	0	***30***	***description for proposed measures***
Proposed attenuation -restricted discharge rate	l/s	Unlimited	***Unlimited***	
Proposed settlement of sediments	%	0	***66***	

Spillage Risk Assessments

A MainRoad				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
B				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
C				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
D				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		

Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
E				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		
F				
Water body type	-	-		
Length of road draining to outfall	m	-		
Road Type (A-road or Motorway)	-	-		
If A road, is site urban or rural?	-	-		
Junction type	-	-		
Location	-	-		
Traffic flow (AADT two way)	-	-		
% HGV	-	-		
Spillage factor	no/109HGVkm/year	-		
Existing measures factor	-	-		
Proposed measures factor	-	-		

Summary of predictions

Soluble - Acute Impact

Prediction of impact		Copper	Zinc
	Step1		
	Step2		
	Step3		

Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

		Copper	Zinc
		RST24	
Allowable Exceedances/year		1	1
No. of exceedances/year		**52.60**	**35.00**
No. of exceedances/worst year		66	45
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**18.30**	**11.30**
No. of exceedances/worst year		23	16
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	26.64	58.84
	90%ile	52.02	124.37
	95%ile	70.17	164.88
	99%ile	101.36	295.84

Step 1

	Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
				Toxicity Threshold				
Allowable Exceedances/year	1	1	1	1	1	1	1	1
No. of exceedances/year	**69.60**	**87.10**	**1.10**	**13.80**	**45.30**	**13.80**	**11.80**	**24.90**
No. of exceedances/worst year	83	103	5	19	55	19	16	32
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*	*(ug/kg)*
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515
Event Statistics Mean	402	1298	1	10492	1815	1742	111	491
90%ile	911	3036	1	28184	4876	4679	299	1319
95%ile	1113	3724	2	56234	9729	9335	596	2632
99%ile	1584	6310	3	112202	19411	18626	1189	5251

In River (no mitigation)

Step 2

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**1.3**	**0.2**
No. of exceedances/worst year		4	1
No. of exceedances/summer		0.5	0
No. of exceedances/worst summer		2	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.1**	**0**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
Annual average concentration (ug/l)		0.52	1.25
		(ug/l)	*(ug/l)*
Thresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	2.45	6.43
	90%ile	7.04	14.02
	95%ile	10.86	26.30
	99%ile	23.81	61.79

Step 2

Velocity 0.02 m/s

DI 290.92

% settlement needed 66 %

Tier 1 is used for the calculation

In River (with mitigation)

Step 3

		Copper	Zinc
		RST24	
Allowable Exceedances/year		2	2
No. of exceedances/year		**0.30**	**0.00**
No. of exceedances/worst year		1	0
No. of exceedances/summer		0.1	0
No. of exceedances/worst summer		1	0
		RST6	
Allowable Exceedances/year		1	1
No. of exceedances/year		**0.00**	**0.00**
No. of exceedances/worst year		0	0
No. of exceedances/summer		0	0
No. of exceedances/worst summer		0	0
Annual average concentration (ug/l)		0.36	0.88
		(ug/l)	*(ug/l)*
Thresholds hresholds	***RST24***	21	385
Thresholds	***RST6***	42	770
Event Statistics	Mean	1.72	4.50
	90%ile	4.93	9.81
	95%ile	7.60	18.41
	99%ile	16.66	43.26

Details of the chosen rainfall site

SAAR (mm)	**600**
Altitude (m)	**15**
Easting	**5237**
Northing	**2716**
Coastal distance (km)	**100**