Contaminant Load Model

Version MAY06

Auckland Regional Council
TE RAUHITANGA TAIAO

SOURCE	SOURCE TYPE		Source Area (m^2)	First management option	Second management option	Third management option	Fraction of area draining to train	Sediment Yield (g $m^{-2}a^{-1}$)	Sediment Initial load (g a^{-1})	Sediment Load reduction efficiency	Sediment Reduced load (g a^{-1})	Zinc Yield (g $m^{-2}a^{-1}$)	Zinc Initial load (g a^{-1})	Zinc Load reduction efficiency	Zinc Reduced load (g a^{-1})	Copper Yield (g $m^{-2}a^{-1}$)	Copper Initial load (g a^{-1})	Copper Load reduction efficiency	Copper Reduced load (g a^{-1})	Total Petroleum Hydrocarbons Yield (g $m^{-2}a^{-1}$)	Total Petroleum Hydrocarbons Initial load (g a^{-1})	Total Petroleum Hydrocarbons Load reduction efficiency	Total Petroleum Hydrocarbons Reduced load (g a^{-1})
	Site area (m^2)		**14994670**	**Source contaminant management train**				**Contaminant yields, loads, and load reduction efficiencies**															
Roofs	Galvanised unpainted		80612					5	403061	0.00	403061	2.200	177347.0	0.00	177346.95	0.0008	64.5	0.00	64.5				
	Galvanised steel poor paint		45242					5	226209	0.00	226209	1.600	72386.8	0.00	72386.80	0.0008	36.2	0.00	36.2				
	Galvanised well painted		17958					5	89788	0.00	89788	0.150	2693.6	0.00	2693.63	0.0008	14.4	0.00	14.4				
	Zinc/aluminium unpainted		7607					5	38033	0.00	38033	0.300	2282.0	0.00	2281.98	0.0008	6.1	0.00	6.1				
	Colorsteel/colorcote		151267					5	756333	0.00	756333	0.040	6050.7	0.00	6050.66	0.0008	121.0	0.00	121.0				
	Concrete							10	0	0.00	0	0.020	0.0	0.00	0.00	0.0013	0.0	0.00	0.0				
	Clay							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Slate							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Copper							5	0	0.00	0	0.000	0.0	0.00	0.00	3.0000	0.0	0.00	0.0				
	Decramastic		71830					5	359150	0.00	359150	0.200	14366.0	0.00	14366.00	0.0017	122.1	0.00	122.1				
	Other materials		508731					5	2543657	0.00	2543657	0.020	10174.6	0.00	10174.63	0.0008	407.0	0.00	407.0				
	Unknown (no galvanised steel/copper)							7	0	0.00	0	0.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
		Length (m)																					
Roads	<1000	35834	609180					4	2436721	0.00	2436721	0.021	13079.5	0.00	13079.46	0.0070	4250.8	0.00	4250.8	0.11	65397.3	0.00	65397.3
	1000-500	3066	52123					30	1566762	0.00	1566762	0.107	5595.6	0.00	5595.58	0.0349	1818.6	0.00	1818.6	0.54	27977.9	0.00	27977.9
Vehicles/day	5000-20000	8681	147584					150	22180973	0.00	22180973	0.537	79217.8	0.00	79217.76	0.1744	25745.8	0.00	25745.8	2.68	396088.8	0.00	396088.8
	20000-50	2410	49399					299	14776407	0.00	14776407	1.068	52772.9	0.00	52772.88	0.3472	17151.2	0.00	17151.2	5.34	263864.4	0.00	263864.4
	50000-100000		0					300	0	0.00	0	2.281	0.0	0.00	0.00	0.7414	0.0	0.00	0.0	11.41	0.0	0.00	0.0
	>100000		0					300	0	0.00	0	3.532	0.0	0.00	0.00	1.1480	0.0	0.00	0.0	17.66	0.0	0.00	0.0
Paved Surfaces other than roads	Residential		1383233					20	27664664	0.00	27664664	0.070	96826.3	0.00	96826.32	0.0100	13832.3	0.00	13832.3				
	Industrial		923255					50	46162764	0.00	46162764	0.100	92325.5	0.00	92325.53	0.1300	120023.2	0.00	120023.2				
	Commercial		536451					100	53645122	0.00	53645122	0.050	26822.6	0.00	26822.56	0.0500	26822.6	0.00	26822.6				
Urban Grass lands		<10	3185738					35	111500823	0.00	111500823				3902.5				780.5				
	Slope	10-20						80	0	0.00	0				0.0				0.0				
		>20						160	0	0.00	0				0.0				0.0				
Urban Stream Channel	*length x width*							6000	0	0.00	0				0.0				0.0				
	Urban area without construction sites		**7770210.083**					**Totals**	**284350467**	**0.00**	**284350467**	**Totals**	**651940.7**	**-0.01**	**655843.3**	**Totals**	**210415.7**	**0.00**	**211196.2**	**Totals**	**753328.4**	**0.00**	**753328.4**
Construction Site (1) open for 2 months/year		<10						400	0	0.00	0				0.0				0.0				
	Slope	10-20						2500	0	0.00	0				0.0				0.0				
		>20						7000	0	0.00	0				0.0				0.0				
Construction Site (2) open for 6 months/year		<10						1300	0	0.00	0				0.0				0.0				
	Slope	10-20						7500	0	0.00	0				0.0				0.0				
		>20						20000	0	0.00	0				0.0				0.0				
Construction Site (3) open for 12 months/year		<10						2500	0	0.00	0				0.0				0.0				
	Slope	10-20						15000	0	0.00	0				0.0				0.0				
		>20						40000	0	0.00	0				0.0				0.0				
	Urban area with construction sites		**7770210**					**Totals**	**284350467**	**0.00**	**284350467**	**Totals**	**651940.7**	**-0.01**	**655843.3**	**Totals**	**210415.7**	**0.00**	**211196.2**	**Totals**	**753328.4**	**0.00**	**753328.4**
Exotic production forest		<10	208688					10	2086884	0.00	2086884				73.0				14.6				
		10-20	388650					60	23318991	0.00	23318991				816.2				163.2				
	Slope	20-30	815119					200	163023842	0.00	163023842				5705.8				1141.2				
		>30	1173654					500	586827195	0.00	586827195				20539.0				4107.8				
Stable bush		<10	353673					5	1768367	0.00	1768367				61.9				12.4				
		10-20	219266					30	6577979	0.00	6577979				230.2				46.0				
	Slope	20-30	381794					100	38179389	0.00	38179389				1336.3				267.3				
		>30	619011					250	154752681	0.00	154752681				5416.3				1083.3				
Farmed pasture		<10	1246141					50	62307050	0.00	62307050				2180.7				436.1				
		10-20	528939					100	52893925	0.00	52893925				1851.3				370.3				
	Slope	20-30	732150					500	366075027	0.00	366075027				12812.6				2562.5				
		>30	557373					1000	557373310	0.00	557373310				19508.1				3901.6				
Retired pasture		<10						20	0	0.00	0				0.0				0.0				
		10-20						100	0	0.00	0				0.0				0.0				
	Slope	20-30						200	0	0.00	0				0.0				0.0				
		>30						500	0	0.00	0				0.0				0.0				
Horticulture		Volcanic						50	0	0.00	0				0.0				0.0				
	Soil type	Sediment						100	0	0.00	0				0.0				0.0				
		Unknown						100	0	0.00	0				0.0				0.0				
	Total area of sources (m^2)		**14994669**					**Site totals**	**2299535109**	**0.00**	**2299535109**	**Site totals**	**651940.7**	**-0.11**	**726374.7**	**Site totals**	**210415.7**	**-0.07**	**225302.5**	**Site totals**	**753328.4**	**0.00**	**753328.4**

ERROR!!! Site and source area's do not agree
Difference = 0

Bottom of Site contaminant management train				Bottom of Site out-fall Loads (kg a^{-1})				Average yields				Average concentrations (mg kg^{-1})			
First management option	Second management option	Third management option	Fraction of area draining to train	TSS	Zn	Cu	TPH	TSS kg ha^{-1} a^{-1}	Zn g ha^{-1} a^{-1}	Cu g ha^{-1} a^{-1}	TPH g ha^{-1} a^{-1}	TSS	Zn	Cu	TPH
				2299535.1	726.4	225.3	753.3	1534	484	150	502		316	98	328

Wharemauku Stream Catchment
- Existing

Contaminant Load Model

Version MAY06

Auckland Regional Council
TE RAUHITANGA TAIAO

SOURCE	SOURCE TYPE		Source Area (m^2)	First management option	Second management option	Third management option	Fraction of area draining to train	Sediment Yield (g $m^{-2}a^{-1}$)	Sediment Initial load (g a^{-1})	Sediment Load reduction efficiency	Sediment Reduced load (g a^{-1})	Zinc Yield (g $m^{-2}a^{-1}$)	Zinc Initial load (g a^{-1})	Zinc Load reduction efficiency	Zinc Reduced load (g a^{-1})	Copper Yield (g $m^{-2}a^{-1}$)	Copper Initial load (g a^{-1})	Copper Load reduction efficiency	Copper Reduced load (g a^{-1})	Total Petroleum Hydrocarbons Yield (g $m^{-2}a^{-1}$)	Total Petroleum Hydrocarbons Initial load (g a^{-1})	Total Petroleum Hydrocarbons Load reduction efficiency	Total Petroleum Hydrocarbons Reduced load (g a^{-1})
	Site area (m^2)		**14994670**	**Source contaminant management train**				**Contaminant yields, loads, and load reduction efficiencies**															
Roofs	Galvanised unpainted		80612					5	403061	0.00	403061	2.200	177347.0	0.00	177346.95	0.0008	64.5	0.00	64.5				
	Galvanised steel poor paint		45242					5	226209	0.00	226209	1.600	72386.8	0.00	72386.80	0.0008	36.2	0.00	36.2				
	Galvanised well painted		17958					5	89788	0.00	89788	0.150	2693.6	0.00	2693.63	0.0008	14.4	0.00	14.4				
	Zinc/aluminium unpainted		7607					5	38033	0.00	38033	0.300	2282.0	0.00	2281.98	0.0008	6.1	0.00	6.1				
	Colorsteel/colorcote		151267					5	756333	0.00	756333	0.040	6050.7	0.00	6050.66	0.0008	121.0	0.00	121.0				
	Concrete							10	0	0.00	0	0.020	0.0	0.00	0.00	0.0013	0.0	0.00	0.0				
	Clay							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Slate							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Copper							5	0	0.00	0	0.000	0.0	0.00	0.00	3.0000	0.0	0.00	0.0				
	Decramastic		71830					5	359150	0.00	359150	0.200	14366.0	0.00	14366.00	0.0017	122.1	0.00	122.1				
	Other materials		508731					5	2543657	0.00	2543657	0.020	10174.6	0.00	10174.63	0.0008	407.0	0.00	407.0				
	Unknown (no galvanised steel/copper)							7	0	0.00	0	0.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
Roads		*Length (m)*																					
	Vehicles/day <1000	35834	609180					4	2436721	0.00	2436721	0.021	13079.5	0.00	13079.46	0.0070	4250.8	0.00	4250.8	0.11	65397.3	0.00	65397.3
	1000-500	4156	70651					30	2123694	0.00	2123694	0.107	7584.6	0.00	7584.62	0.0349	2465.0	0.00	2465.0	0.54	37923.1	0.00	37923.1
	5000-20000	13970	237482					150	35692116	0.00	35692116	0.537	127471.8	0.00	127471.84	0.1744	41428.3	0.00	41428.3	2.68	637359.2	0.00	637359.2
	20000-50	2205	45200					299	13520258	0.00	13520258	1.068	48286.6	0.00	48286.63	0.3472	15693.2	0.00	15693.2	5.34	241433.2	0.00	241433.2
	50000-100000		0					300	0	0.00	0	2.281	0.0	0.00	0.00	0.7414	0.0	0.00	0.0	11.41	0.0	0.00	0.0
	>100000		0					300	0	0.00	0	3.532	0.0	0.00	0.00	1.1480	0.0	0.00	0.0	17.66	0.0	0.00	0.0
Paved Surfaces other than roads	Residential		1337620					20	26752393	0.00	26752393	0.070	93633.4	0.00	93633.38	0.0100	13376.2	0.00	13376.2				
	Industrial		888189					50	44409455	0.00	44409455	0.100	88818.9	0.00	88818.91	0.1300	115464.6	0.00	115464.6				
	Commercial		531390					100	53139007	0.00	53139007	0.050	26569.5	0.00	26569.50	0.0500	26569.5	0.00	26569.5				
Urban Grass lands	Slope <10		3188609					35	111601306	0.00	111601306				3906.0				781.2				
	Slope 10-20							80	0	0.00	0				0.0				0.0				
	Slope >20							160	0	0.00	0				0.0				0.0				
Urban Stream Channel	*length x width*							6000	0	0.00	0				0.0				0.0				
	Urban area without construction sites		**7791566.818**					**Totals**	**294091181**	**0.00**	**294091181**	**Totals**	**690745.0**	**-0.01**	**694651.0**	**Totals**	**220018.9**	**0.00**	**220800.1**	**Totals**	**982112.8**	**0.00**	**982112.8**
Construction Site (1) open for 2 months/year	Slope <10							400	0	0.00	0				0.0				0.0				
	Slope 10-20							2500	0	0.00	0				0.0				0.0				
	Slope >20							7000	0	0.00	0				0.0				0.0				
Construction Site (2) open for 6 months/year	Slope <10							1300	0	0.00	0				0.0				0.0				
	Slope 10-20							7500	0	0.00	0				0.0				0.0				
	Slope >20							20000	0	0.00	0				0.0				0.0				
Construction Site (3) open for 12 months/year	Slope <10							2500	0	0.00	0				0.0				0.0				
	Slope 10-20							15000	0	0.00	0				0.0				0.0				
	Slope >20							40000	0	0.00	0				0.0				0.0				
	Urban area with construction sites		**7791567**					**Totals**	**294091181**	**0.00**	**294091181**	**Totals**	**690745.0**	**-0.01**	**694651.0**	**Totals**	**220018.9**	**0.00**	**220800.1**	**Totals**	**982112.8**	**0.00**	**982112.8**
Exotic production forest	Slope <10		208688					10	2086884	0.00	2086884				73.0				14.6				
	Slope 10-20		388650					60	23318991	0.00	23318991				816.2				163.2				
	Slope 20-30		815119					200	163023842	0.00	163023842				5705.8				1141.2				
	Slope >30		1173654					500	586827195	0.00	586827195				20539.0				4107.8				
Stable bush	Slope <10		353673					5	1768367	0.00	1768367				61.9				12.4				
	Slope 10-20		207292					30	6218757	0.00	6218757				217.7				43.5				
	Slope 20-30		381794					100	38179389	0.00	38179389				1336.3				267.3				
	Slope >30		619011					250	154752681	0.00	154752681				5416.3				1083.3				
Farmed pasture	Slope <10		1246147					50	62307350	0.00	62307350				2180.8				436.2				
	Slope 10-20		519551					100	51955117	0.00	51955117				1818.4				363.7				
	Slope 20-30		732150					500	366075027	0.00	366075027				12812.6				2562.5				
	Slope >30		557373					1000	557373310	0.00	557373310				19508.1				3901.6				
Retired pasture	Slope <10							20	0	0.00	0				0.0				0.0				
	Slope 10-20							100	0	0.00	0				0.0				0.0				
	Slope 20-30							200	0	0.00	0				0.0				0.0				
	Slope >30							500	0	0.00	0				0.0				0.0				
Horticulture	*Soil type* Volcanic							50	0	0.00	0				0.0				0.0				
	Soil type Sediment							100	0	0.00	0				0.0				0.0				
	Soil type Unknown							100	0	0.00	0				0.0				0.0				
	Total area of sources (m^2)		**14994670**					**Site totals**	**2307978093**	**0.00**	**2307978093**	**Site totals**	**690745.0**	**-0.11**	**765137.1**	**Site totals**	**220018.9**	**-0.07**	**234897.3**	**Site totals**	**982112.8**	**0.00**	**982112.8**

ERROR!!! Site and source area's do not agree
Difference = 0

Bottom of Site contaminant management train				Bottom of Site out-fall Loads (kg a^{-1})				Average yields				Average concentrations (mg kg^{-1})			
First management option	Second management option	Third management option	Fraction of area draining to train	TSS	Zn	Cu	TPH	TSS kg ha^{-1} a^{-1}	Zn g ha^{-1} a^{-1}	Cu g ha^{-1} a^{-1}	TPH g ha^{-1} a^{-1}	TSS	Zn	Cu	TPH
				2307978.1	765.1	234.9	982.1	1539	510	157	655		332	102	426

Wharemauku Stream Catchment
- Future (2031) with Expressway
- Unmitigated

Contaminant Load Model

Version MAY06

Auckland Regional Council
TE RAUHITANGA TAIAO

SOURCE	Site area (m^2)		14994670	Source contaminant management train				Contaminant yields, loads, and load reduction efficiencies															
								Sediment				Zinc				Copper				Total Petroleum Hydrocarbons			
	SOURCE TYPE		Source Area (m^2)	First management option	Second management option	Third management option	Fraction of area draining to train	Yield (g $m^{-2}a^{-1}$)	Initial load (g a^{-1})	Load reduction efficiency	Reduced load (g a^{-1})	Yield (g $m^{-2}a^{-1}$)	Initial load (g a^{-1})	Load reduction efficiency	Reduced load (g a^{-1})	Yield (g $m^{-2}a^{-1}$)	Initial load (g a^{-1})	Load reduction efficiency	Reduced load (g a^{-1})	Yield (g $m^{-2}a^{-1}$)	Initial load (g a^{-1})	Load reduction efficiency	Reduced load (g a^{-1})
Roofs	Galvanised unpainted		80612					5	403061	0.00	403061	2.200	177347.0	0.00	177346.95	0.0008	64.5	0.00	64.5				
	Galvanised steel poor paint		45242					5	226209	0.00	226209	1.600	72386.8	0.00	72386.80	0.0008	36.2	0.00	36.2				
	Galvanised well painted		17958					5	89788	0.00	89788	0.150	2693.6	0.00	2693.63	0.0008	14.4	0.00	14.4				
	Zinc/aluminium unpainted		7607					5	38033	0.00	38033	0.300	2282.0	0.00	2281.98	0.0008	6.1	0.00	6.1				
	Colorsteel/colorcote		151267					5	756333	0.00	756333	0.040	6050.7	0.00	6050.66	0.0008	121.0	0.00	121.0				
	Concrete							10	0	0.00	0	0.020	0.0	0.00	0.00	0.0013	0.0	0.00	0.0				
	Clay							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Slate							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Copper							5	0	0.00	0	0.000	0.0	0.00	0.00	3.0000	0.0	0.00	0.0				
	Decramastic		71830					5	359150	0.00	359150	0.200	14366.0	0.00	14366.00	0.0017	122.1	0.00	122.1				
	Other materials		508731					5	2543657	0.00	2543657	0.020	10174.6	0.00	10174.63	0.0008	407.0	0.00	407.0				
	Unknown (no galvanised steel/copper)							7	0	0.00	0	0.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
Roads		*Length (m)*																					
	Vehicles/day	<1000	35834	609180				4	2436721	0.00	2436721	0.021	13079.5	0.00	13079.46	0.0070	4250.8	0.00	4250.8	0.11	65397.3	0.00	65397.3
		1000-500	4156	70651				30	2123694	0.00	2123694	0.107	7584.6	0.00	7584.62	0.0349	2465.0	0.00	2465.0	0.54	37923.1	0.00	37923.1
		5000-20000	13970	237482	Swale		0.26	150	35692116	0.75	28732153	0.537	127471.8	0.47	111894.78	0.1744	41428.3	0.57	35288.7	2.68	637359.2	0.47	559473.9
		20000-50	2205	45200				299	13520258	0.00	13520258	1.068	48286.6	0.00	48286.63	0.3472	15693.2	0.00	15693.2	5.34	241433.2	0.00	241433.2
		50000-100000		0				300	0	0.00	0	2.281	0.0	0.00	0.00	0.7414	0.0	0.00	0.0	11.41	0.0	0.00	0.0
		>100000		0				300	0	0.00	0	3.532	0.0	0.00	0.00	1.1480	0.0	0.00	0.0	17.66	0.0	0.00	0.0
Paved Surfaces other than roads	Residential		1337620					20	26752393	0.00	26752393	0.070	93633.4	0.00	93633.38	0.0100	13376.2	0.00	13376.2				
	Industrial		888189					50	44409455	0.00	44409455	0.100	88818.9	0.00	88818.91	0.1300	115464.6	0.00	115464.6				
	Commercial		531390					100	53139007	0.00	53139007	0.050	26569.5	0.00	26569.50	0.0500	26569.5	0.00	26569.5				
Urban Grass lands		<10	3188609					35	111601306	0.00	111601306				3906.0				781.2				
	Slope	10-20						80	0	0.00	0				0.0				0.0				
		>20						160	0	0.00	0				0.0				0.0				
Urban Stream Channel	*length x width*							6000	0	0.00	0				0.0				0.0				
	Urban area without construction sites		**7791566.818**					**Totals**	**294091181**	**0.02**	**287131219**	**Totals**	**690745.0**	**0.02**	**679074.0**	**Totals**	**220018.9**	**0.02**	**214660.4**	**Totals**	**982112.8**	**0.08**	**904227.5**
Construction Site (1) open for 2 months/year		<10						400	0	0.00	0				0.0				0.0				
	Slope	10-20						2500	0	0.00	0				0.0				0.0				
		>20						7000	0	0.00	0				0.0				0.0				
Construction Site (2) open for 6 months/year		<10						1300	0	0.00	0				0.0				0.0				
	Slope	10-20						7500	0	0.00	0				0.0				0.0				
		>20						20000	0	0.00	0				0.0				0.0				
Construction Site (3) open for 12 months/year		<10						2500	0	0.00	0				0.0				0.0				
	Slope	10-20						15000	0	0.00	0				0.0				0.0				
		>20						40000	0	0.00	0				0.0				0.0				
	Urban area with construction sites		**7791567**					**Totals**	**294091181**	**0.02**	**287131219**	**Totals**	**690745.0**	**0.02**	**679074.0**	**Totals**	**220018.9**	**0.02**	**214660.4**	**Totals**	**982112.8**	**0.08**	**904227.5**
Exotic production forest		<10	208688					10	2086884	0.00	2086884				73.0				14.6				
		10-20	388650					60	23318991	0.00	23318991				816.2				163.2				
	Slope	20-30	815119					200	163023842	0.00	163023842				5705.8				1141.2				
		>30	1173654					500	586827195	0.00	586827195				20539.0				4107.8				
Stable bush		<10	353673					5	1768367	0.00	1768367				61.9				12.4				
		10-20	207292					30	6218757	0.00	6218757				217.7				43.5				
	Slope	20-30	381794					100	38179389	0.00	38179389				1336.3				267.3				
		>30	619011					250	154752681	0.00	154752681				5416.3				1083.3				
Farmed pasture		<10	1246147					50	62307350	0.00	62307350				2180.8				436.2				
		10-20	519551					100	51955117	0.00	51955117				1818.4				363.7				
	Slope	20-30	732150					500	366075027	0.00	366075027				12812.6				2562.5				
		>30	557373					1000	557373310	0.00	557373310				19508.1				3901.6				
Retired pasture		<10						20	0	0.00	0				0.0				0.0				
		10-20						100	0	0.00	0				0.0				0.0				
	Slope	20-30						200	0	0.00	0				0.0				0.0				
		>30						500	0	0.00	0				0.0				0.0				
Horticulture		Volcanic						50	0	0.00	0				0.0				0.0				
	Soil type	Sediment						100	0	0.00	0				0.0				0.0				
		Unknown						100	0	0.00	0				0.0				0.0				
	Total area of sources (m^2)		**14994670**					**Site totals**	**2307978093**	**0.00**	**2301018130**	**Site totals**	**690745.0**	**-0.09**	**749560.0**	**Site totals**	**220018.9**	**-0.04**	**228757.6**	**Site totals**	**982112.8**	**0.08**	**904227.5**

ERROR!!! Site and source area's do not agree
Difference = 0

Bottom of Site contaminant management train				Bottom of Site out-fall Loads (kg a^{-1})				Average yields				Average concentrations (mg kg^{-1})			
First management option	Second management option	Third management option	Fraction of area draining to train	TSS	Zn	Cu	TPH	TSS kg ha^{-1} a^{-1}	Zn g ha^{-1} a^{-1}	Cu g ha^{-1} a^{-1}	TPH g ha^{-1} a^{-1}	TSS	Zn	Cu	TPH
				2301018.1	749.6	228.8	904.2	1535	500	153	603		326	99	393

Wharemauku Stream Catchment
– Future (2031) with Expressway
– Mitigated