Attachment A: Livingston WWTP Reasonable Potential Analysis (July 2016)

			Ammonia	N+N	TN	TP		Copper	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(k) fluoranthene	Chrysene	DEHP	Indeno(1,2,3-cd) pyrene
Flow														
	critical stream flow (7Q10 or seasonal 14Q5)	cfs	760	760	1527	1527		760	760	760	760	760	760	760
	% of 7Q10 being provided (as decimal, e.g. - .10 for 10%)	%	0.025	0.25	1	1		0	0.25	0.25	0.25	0.25	0.25	0.25
Qs	**resulting critical stream flow (7Q10 * % dilution granted)**	**cfs**	**19**	**190**	**1527**	**1527**		**0**	**190**	**190**	**190**	**190**	**190**	**190**
Qd	**critical effluent flow (ave daily design flow)**	**cfs**	**3.1**	**3.1**	**3.1**	**3.1**		**3.1**	**3.1**	**3.1**	**3.1**	**3.1**	**3.1**	**3.1**
Qr	downstream flow (Qs + Qd)	cfs	22	193	1530	1530		3	193	193	193	193	193	193
Concentrations														
Cmax	maximum effluent concentration for POR (from application or DMR data)	mg/L	**30.8**	**15.5**	**38**	**7.3**	ug/L	**90**	**0.11**	**0.13**	**0.14**	**0.14**	**47**	**0.21**
n	number of samples in effluent data set		308	287	86	86		12	4	4	4	4	4	4
CV	coefficient of variation for effluent data (if n<10, use 0.6)		0.6	0.51	0.2	0.2		0.5	0.6	0.6	0.6	0.6	0.6	0.6
TSD	calculated TSD multiplier (should be close to Table 3-2 value)		0.68	0.73	0.97	0.97		1.5	2.6	2.6	2.6	2.6	2.6	2.6
Cd	**critical effluent concentration - 95%tile (max. effluent concentration * TSD multiplier)**	**mg/L**	**21.0**	**11.2**	**37**	**7.0**	**ug/L**	**135**	**0.28**	**0.34**	**0.36**	**0.36**	**122**	**0.5**
Cs	**critical instream concentration (75%tile if n<=30, 95% UCL if n>30)**	**mg/L**	**0.025**	**0.07**	**0.18**	**0.017**	**ug/L**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Cr	resulting or downstream pollutant concentration (term to solve for)	mg/L	**3.0**	**0.2**	**0.25**	**0.031**	ug/L	**135**	**0.0046**	**0.0054**	**0.0058**	**0.0058**	**2**	**0.009**
WQS	**water quality standard (from DEQ-7 or rule)**	**mg/L**	**1.77**	**10**	**0.40**	**0.040**	**ug/L**	**5.6**	**0.038**	**0.038**	**0.038**	**0.038**	**6**	**0.038**
	RP?		**yes**	**no**	**no**	**no**		**yes**	**no**	**no**	**no**	**no**	**no**	**no**