Technical Evaluation of Local Limits 2023

The Local Limits for the Shelton Rd. STP (TN0057461) and Northwest STP (TN0078841) were approved in 2018 and re-evaluated in 2019. The formula used to calculate the 2018 Local Limits and this technical evaluation is as follows:

Protection Criteria, mg/L = Pass Through Limit, mg/L / (1-(% Removal / 100))

Maximum Allowable Headworks Loading, lbs. = Protection Criteria * STP Design Flow * 8.34

Background, lbs. = Concentration, mg/L * Residential Flow, mgd * 8.34 lbs. / gal

Maximum Allowable Industrial Loading, lbs. – (Maximum Allowable Headworks Loading, lbs. – Background, lbs.) * 0.75 Safety Factor

Local Limit, mg/L = Maximum Allowable Industrial Loading, lbs. / 8.34 lbs./gal * Industrial Flow, mgd

Table 1 compares the 2018 approved Local Limits to the calculated 2023 Local Limits for Shelton Rd STP. Seven parameters of twenty-three were calculated to decrease. Of the seven parameters calculated to decrease, only Chromium, VI also had a decrease in Pass Through Limitations since the last evaluation period of 2019. All seven parameters have demonstrated control under current Local Limits. Chromium, VI under current limits continues to result in effluent quantities below Method Quantification Limits (MQL). This information does not indicate a need to change the current Local Limits at this time.

Table 2 compares the 2018 approved Local Limits to the calculated 2023 Local Limits for Northwest STP. Of twenty-three parameters, nine were calculated to decrease from 2018 approved Local Limits. Three of the nine decreased greater than ten percent. Cyanide, Silver (Daily Max), and Phthalates (Total) have had no change in Pass Through Limitations since the last evaluation period of 2019. These three parameters have demonstrated control under current local limits. This information does not indicate a need to change the current Local Limits at this time.

Local Limits Calculation shows the quantitative evaluation data and equations. Local Limits will be recalculated periodically and include most recent industry, background, PTL, and removal rates information.

MAIL (MAHL-Background)*0.75 Safety Factor (lbs.)		Local Limit MAIL/8.34*.02 (mg/L)
6.4640	Copper	38.75
	Chromium, III	Report Only
1.0696	Chromium, VI	6.41
9.4813	Nickel	56.84
0.1242	Cadmium	0.745
0.93496	Lead	5.605
0.029906	Mercury	0.17929
0.0768	Silver, Daily Max	0.00379
6.2477	Zinc	37.46
0.3413	Cyanide	2.05
1.0049	Toluene	6.02
0.3175	Benzene	1.90
4.3676	1,1,1 Trichloroethane	26.18
0.6146	Ethylbenzene	3.68
0.3175	Carbon Tetrachloride	1.90
5.6065	Chloroform	33.61
2.7257	Tetrachloroethylene	16.34
1.9793	Trichloroethylene	11.87
0.0886	1,2 Trans-Dichloroethylene	0.002
2.7718	Methylene Chloride	16.62
3.0016	Phenols, Total	18.00
0.0424	Naphthalene	0.25
1.3440	Phthalates, Total	8.06

Shelton Rd.

Bold numbers are greater than MQL, others are 50% of MQL. Results are mg/L

	12/1/2011	12/13/2011	10/31/2014	10/27/2016	8/29/2017	5/22/2023
Copper	**0.04400**	**0.03800**	**0.02530**	**0.0282**	**0.0324**	**0.04640**
Chromium, III	0.00500	0.00500	**0.00127**	0.0050	0.0050	0.0050
Chromium, VI	0.00500	0.00500	0.00500	0.0050	0.0050	0.0050
Chromium - Total	0.00250	0.00250	**0.00127**	0.0011	0.0025	**0.00161**
Nickel	0.00250	0.00250	**0.00699**	**0.00251**	**0.00159**	**0.00221**
Cadmium	0.00100	0.00100	**0.000284**	0.00005	0.00005	**0.000111**
Lead	0.00300	0.00300	**0.00151**	**0.00107**	**0.000984**	**0.00181**
Mercury	0.00010	0.00010	**0.000020**	**0.00000720**	**0.0000109**	**0.0000104**
Silver, Daily Max	**0.00500**	0.00250	**0.000151**	**0.000194**	**0.000112**	**0.000696**
Zinc	**0.14300**	**0.12500**	**0.09740**	**0.149**	**0.125**	**0.126**
Cyanide	0.00250	0.00250	0.0025	0.0025	0.0025	0.0025
Toluene	0.00250	0.00250	0.00250	0.0025	0.0025	0.0025
Benzene	0.00050	0.00050	0.00050	0.0005	0.0005	0.0005
1,1,1 Trichloroethane	0.00050	0.00050	0.00050	0.0005	0.0005	0.0005
Ethylbenzene	**0.00450**	**0.00319**	0.0005	0.0005	0.0005	0.0005
Carbon Tetrachloride	0.00050	0.00050	0.00050	0.0005	0.0005	0.0005
Chloroform	**0.00292**	**0.00164**	0.0005	0.0005	0.0005	**0.00447**
Tetrachloroethylene	0.00050	0.00050	0.00050	0.0005	0.0005	0.0005
Trichloroethylene	0.00050	0.00050	0.00050	0.0005	0.0005	0.0005
1,2 Trans-Dichloroethylene	0.00050	0.00050	0.00050	0.0005	0.0005	0.0005
Methylene Chloride	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500
Phenols, Total	0.00250	0.00250	**0.02650**	0.0025	**0.0441**	**0.0265**
Naphthalene	0.00125	0.00125	0.00400	0.004	0.00125	0.00125
Phthalates, Total	**0.01610**	**0.01110**	0.00250	0.0025	0.0025	0.005

Shelton Rd.	**Average 2014 - Present**
Copper	**0.0331**
Chromium, III	0.0041
Chromium, VI	0.0050
Chromium, Total	**0.0016**
Nickel	**0.0033**
Cadmium	**0.0001**
Lead	**0.0013**
Mercury	**0.00001223**
Silver, Daily Max	**0.0003**
Zinc	**0.1244**
Cyanide	0.0025
Toluene	0.0025
Benzene	0.0005
1,1,1 Trichloroethane	0.00050
Ethylbenzene	0.0005
Carbon Tetrachloride	0.0005
Chloroform	**0.0015**
Tetrachloroethylene	0.0005
Trichloroethylene	0.0005
1,2 Trans-Dichloroethylene	0.0005
Methylene Chloride	0.0050
Phenols, Total	**0.0249**
Naphthalene	0.0026
Phthalates, Total	0.0031

Northwest

	Sample Date 12/9/2011	Sample Date 12/15/2011	Sample Date 5/22/2023	
Copper	**0.03100**	**0.03600**	**0.05140**	**0.03947**
Chromium, III	0.00500	0.00500	0.00500	0.00500
Chromium, VI	0.00500	0.00500	0.00500	0.00500
Chromium, Total	0.00250	0.00250	**0.00137**	**0.00212**
Nickel	0.00250	0.00250	**0.00239**	**0.00246**
Cadmium	0.00100	0.00100	**0.00011**	**0.00070**
Lead	0.00300	0.00300	**0.00113**	**0.00238**
Mercury	0.00010	0.00010	**0.00004**	**0.00008**
Silver, Daily Max	0.00250	0.00250	***0.012**	**0.00250**
Zinc	**0.10400**	**0.10700**	**0.14500**	**0.11867**
Cyanide	0.00500	0.00500	0.00250	0.00417
Toluene	0.00250	0.00250	0.00250	0.00250
Benzene	0.00050	0.00050	0.00050	0.00050
1,1,1 Trichloroethane	0.00050	0.00050	0.00050	0.00050

Ethylbenzene	0.00050	0.00050	0.00050	0.00050
Carbon Tetrachloride	0.00050	0.00050	0.00050	0.00050
Chloroform	0.00050	0.00050	0.00050	0.00050
Tetrachloroethylene	0.00050	0.00050	0.00050	0.00050
Trichloroethylene	0.00050	0.00050	0.00050	0.00050
1,2 Trans-Dichloroethylene	0.00050	0.00050	0.00050	0.00050
Methylene Chloride	0.00500	0.00500	0.00500	0.00500
Phenols, Total	0.00250	0.00250	**0.02290**	**0.00930**
Naphthalene	0.00250	0.00250	0.00125	0.00208
Phthalates, Total	**0.01600**	0.00500	0.05000	**0.02367**

*Value discarded as outlier

Shelton Rd. TN0057461

Cells without data indicate test results were below detection limit.
Once During Term of Permit, Eff. Only

	1/28/2014			7/17/2014			1/13/2015			########		
	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal
Copper	0.027	0.00364	86.52	0.061	0.00389	93.62	0.0246	0.00389	84.19	0.0432	0.0053	87.73
Chromium, III				0.01	0.00104	89.6						
Chromium, VI												
Chromium, Total				0.005	0.00104	79.2	0.00313	0.00206	34.19	0.00173	0.00131	24.28
Nickel	0.005	0.0019	62	0.006	0.00165	72.5	0.00344	0.0011	68.02	0.00214	0.00114	46.73
Cadmium	0.126	0.0001	99.92	0.000145	0.0001	31.03	0.000143	0.0001	30.07	0.000137	0.0001	27
Lead							0.00167	0.0005	70.06	0.00113	0.0005	55.75
Mercury				0.0000252	0.0000029	88.49	2.12E-05	2.14E-06	89.91	5.47E-06	3.04E-06	44.42
Silver, Daily Max							0.00146	0.0001	93.15	0.000251	0.0001	60.16
Zinc	0.131	0.0518	60.46	0.198	0.0453	77.12	0.121	0.0541	55.29	0.112	0.0701	37.41
Cyanide												
Phenols, Total	0.013	0.0051	60.77	0.0287	0.0064	77.7	0.0337	0.0071	78.93	0.0469	0.0234	50.1
Toluene												
Benzene												
1,1,1 Trichloroethane												
Ethylbenzene												
Carbon Tetrachloride												
Chloroform												
Tetrachloroethylene												
Trichloroethylene												
1,2 Trans-Dichloroethylene												
Methylene Chloride												
Naphthalene												
Phthalates, Total												

	1/13/2016			7/12/2016			1/31/2017			7/18/2017		
	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal
Copper	0.0329	0.00305	90.73	0.0472	0.0077	83.69	0.0363	0.0150	58.68	0.0665	0.01	88.18
Chromium, III												
Chromium, VI												
Chromium, Total	0.00137	0.0001	92.7	0.00153	0.001	34.64	0.00169	0.001	40.83	0.00114	0.001	12.28
Nickel	0.00269	0.000854	68.25	0.00263	0.00127	51.71	0.00272	0.00226	16.91	0.00	0.00	13.18
Cadmium				0.000164	0.0001	39.02	0.000123	0.0001	18.70			
Lead	0.0016	0.0005	68.75	0.00132	0.0005	62.12				0.0017	0.0005	70.59
Mercury	0.00015	1.88E-06	98.75	2.55E-05	1.32E-06	94.82	0.0000108	########	76.30	0.0001889	########	98.99
Silver, Daily Max	0.00152	0.0001	93.42	0.00149	0.0001	93.29	0.000613	0.000111	81.89	0.000546	0.0001	81.68
Zinc	0.103	0.0523	49.22	0.134	0.0673	49.78	0.118	0.0822	30.34	0.119	0.0767	35.55
Cyanide				0.006	0.005	16.67						
Phenols, Total	0.0293	0.005	82.94	0.0431	0.005	88.4	0.04	0.01	87.59305			
Toluene		BDL						BDL				
Benzene		0.00133						BDL				
1,1,1 Trichloroethane		BDL						BDL				
Ethylbenzene		0.00247						BDL				
Carbon Tetrachloride		BDL						BDL				
Chloroform		BDL						BDL				
Tetrachloroethylene		BDL						BDL				
Trichloroethylene		BDL						BDL				
1,2 Trans-Dichloroethylene		BDL						BDL				
Methylene Chloride		BDL						BDL				
Naphthalene		BDL						BDL				
Phthalates, Total		BDL						BDL				

	1/30/2018			8/14/2018			2/4/2019			7/22/2019		
	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal
Copper	0.0325	0.00718	77.91	0.0438	0.00176	95.98	0.027	0.00303	88.78	0.0285	0.00209	92.67
Chromium, III												
Chromium, VI												
Chromium, Total	0.00505	0.001	80.2	0.00612	0.001	83.66	0.00178	0.001	43.82	0.00104	0.001	3.85
Nickel	0.00287	0.00111	61.32	0.00363	0.00134	63.09	0.00269	0.00113	57.99	0.023	0.00105	95.43
Cadmium	0.000118	0.0001	15.25	0.000133	0.0001	24.81	0.000147	0.0001	31.97	0.0001	0.0001	0.00
Lead	0.00125	0.000578	53.76	0.00148	0.0005	66.22	0.00165	0.000503	69.52	0.00118	0.0005	57.63
Mercury	1.17E-05	1.03E-06	91.20	2.61E-05	8.4E-07	96.78	1.79E-05	1.27E-06	92.91	0.000001	7.28E-07	27.20
Silver, Daily Max	0.00034	0.0001	70.59	0.000828	0.0001	87.92	0.000606	0.0001	83.50	0.00092	0.0001	89.13
Zinc	0.1	0.0677	32.30	0.144	0.0577	59.93	0.127	0.0537	57.72	0.0979	0.0444	54.65
Cyanide				0.005	0.005							
Phenols, Total				0.0052	0.005	3.85	0.0262	0.005	80.92	0.0187	0.0067	64.17
Toluene												
Benzene												
1,1,1 Trichloroethane												
Ethylbenzene												
Carbon Tetrachloride												
Chloroform												
Tetrachloroethylene												
Trichloroethylene												
1,2 Trans-Dichloroethylene												
Methylene Chloride												
Naphthalene												
Phthalates, Total												

	2/3/2020			7/13/2020			3/8/2021			7/21/2021		
	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal
Copper	0.0226	0.00301	86.68	0.0364	0.0103	71.7033	0.0313	0.00412	86.837061	0.0465	0.00357	92.32258
Chromium, III												
Chromium, VI												
Chromium, Total	0.00179	0.001	44.13	0.00155	0.001	35.48387	0.00203	0.0013	35.960591	0.00119	0.001	15.96639
Nickel	0.0028	0.00111	60.36	0.0275	0.00196	92.87	0.00303	0.00094	68.98	0.00249	0.00149	40.16
Cadmium	0.0001	0.0001	0.00	0.00012	0.0001	16.67	0.000106	0.0001	5.66	0.0001	0.0001	0.00
Lead	0.00185	0.0005	72.97	0.00137	0.0005	63.50	0.00236	0.0005	78.81	0.00098	0.0005	48.98
Mercury	5.34E-06	1.4E-06	73.78	1.3E-05	7.74E-08	99.40	2.99E-05	1.31E-06	95.62	1.1E-05	7.86E-07	92.85
Silver, Daily Max	0.000506	0.0001	80.24	0.00021	0.0001	52.38	0.000292	0.0001	65.75	0.00059	0.0001	83.05
Zinc	0.139	0.0705	49.28	0.163	0.0625	61.66	0.134	0.0694	48.21	0.195	0.0542	72.21
Cyanide	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00
Phenols, Total	0.0364	0.0142	60.99	0.0286	0.005	82.52	0.0301	0.005	83.39	0.0124	0.005	59.68
Toluene								BDL				
Benzene								0.00133				
1,1,1 Trichloroethane								BDL				
Ethylbenzene								0.00247				
Carbon Tetrachloride								BDL				
Chloroform								BDL				
Tetrachloroethylene								BDL				
Trichloroethylene								BDL				
1,2 Trans-Dichloroethylene								BDL				
Methylene Chloride								BDL				
Naphthalene								BDL				
Phthalates, Total								BDL				

	1/2/2022			7/12/2022			1/9/2023		
	Influent	Effluent	% Removal	Influent	Effluent	% Removal	Influent	Effluent	% Removal
Copper	0.0212	0.00355	83.25472	0.0771	0.00447	94.20233	0.0485	0.00854	82.39175
Chromium, III									
Chromium, VI									
Chromium, Total	0.0011	0.001	9.090909	0.00154	0.001	35.06494	0.00118	0.001	15.25424
Nickel	0.00228	0.00129	43.42	0.0316	0.00152	95.19	0.00281	0.000957	65.94
Cadmium	0.0001	0.0001	0.00	0.0001	0.0001	0.00	0.0001	0.0001	0.00
Lead	0.00128	0.00052	59.38	0.00126	0.0005	60.32	0.00157	0.0005	68.15
Mercury	1.1E-05	1.92E-06	82.55	0.000054	1.21E-05	77.59	9.7E-06	1.45E-06	85.05
Silver, Daily Max	0.0001	0.0001	0.00	0.000203	0.0001	50.74	0.000261	0.0001	61.69
Zinc	0.0755	0.0432	42.78	0.134	0.0765	42.91	0.115	0.0557	51.57
Cyanide	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00
Phenols, Total	0.005	0.005	0.00	0.0277	0.005	81.95	0.0468	0.005	89.32
Toluene		BDL						BDL	
Benzene		BDL						BDL	
1,1,1 Trichloroethane		BDL						BDL	
Ethylbenzene		BDL						BDL	
Carbon Tetrachloride		BDL							
Chloroform		BDL						BDL	
Tetrachloroethylene		BDL						BDL	
Trichloroethylene		BDL						BDL	
1,2 Trans-Dichloroethylene		BDL						BDL	
Methylene Chloride		BDL						BDL	
Naphthalene		BDL						BDL	
Phthalates, Total		BDL						BDL	

	2014 to Present			2014 - 2017			2018 - 2021			2022 - 2023		
	Avg Inf	Avg Eff	Avg % Removal	Avg Inf	Avg Eff	Avg % Removal	Avg Inf	Avg Eff	Avg % Removal	Avg Inf	Avg Eff	Avg % Removal
Copper	0.0397	0.0054	85.5824	0.0423	0.0063	84.1872	0.0372	0.0048	86.7842	0.0489	0.0055	86.6163
Chromium, III	0.0100	0.0010	90.0000	0.0100	0.0010	90.0000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Chromium, VI	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Chromium, Total	0.0022	0.0010	40.0334	0.0022	0.0011	45.4457	0.0024	0.0010	39.4835	0.0013	0.0010	19.8034
Nickel	0.0089	0.0014	60.2137	0.0034	0.0016	49.9127	0.0078	0.0014	61.4871	0.0122	0.0013	68.1847
Cadmium	0.0075	0.0001	20.0059	0.0211	0.0001	40.9585	0.0001	0.0001	11.7952	0.0001	0.0001	0.0000
Lead	0.0015	0.0005	64.1882	0.0015	0.0005	65.4540	0.0015	0.0005	64.6816	0.0014	0.0005	62.6151
Mercury	0.0000	0.0000	83.6615	0.0001	0.0000	84.5252	0.0000	0.0000	85.4291	0.0000	0.0000	81.4528
Silver, Daily Max	0.0006	0.0001	72.3218	0.0010	0.0001	83.9321	0.0005	0.0001	77.2371	0.0002	0.0001	37.4749
Zinc	0.1295	0.0808	50.9869	0.1295	0.0625	49.3961	0.1354	0.0619	52.3884	0.1082	0.0585	45.7524
Cyanide	0.0051	0.0050	2.0838	0.0060	0.0050	16.6700	0.0050	0.0050	0.0000	0.0050	0.0050	0.0000
Phenols, Total	0.0278	0.0069	68.6591	0.0336	0.0081	75.2047	0.0225	0.0068	62.2151	0.0265	0.0050	57.0886
Toluene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Benzene	#DIV/0!	0.0013	#DIV/0!	#DIV/0!	0.0013	#DIV/0!	#DIV/0!	0.0013	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1,1,1 Trichloroethane	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Ethylbenzene	#DIV/0!	0.0025	#DIV/0!	#DIV/0!	0.0025	#DIV/0!	#DIV/0!	0.0025	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Carbon Tetrachloride	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Chloroform	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Tetrachloroethylene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Trichloroethylene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1,2 Trans-Dichloroethylene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Methylene Chloride	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Naphthalene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Phthalates, Total	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Northwest TN0078844

Cells without data indicate test results were below detection limit.

Once During Term of Permit, Eff. Only

	1/26/2014			7/17/2014			1/12/2015			7/19/2015		
	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Removal
Copper	0.024	0.0052	78.33	0.031	0.00668	78.45	0.0175	0.00627	64.17	0.0441	0.00485	89.00
Chromium, III	0.01	0.00016	98.38	0.01	0.00143	85.70	0.01	0.01	0.00			
Chromium, VI												
Chromium, Total	0.005	0.00162	67.60	0.005	0.00143	71.40	0.00569	0.0035	38.49	0.00384	0.001	73.96
Nickel	0.005	0.00134	73.20	0.005	0.00184	63.20	0.00215	0.00117	45.58	0.00204	0.000986	51.67
Cadmium	0.002	0.00012	94.10	0.002	0.0001	95.00	0.00014	0.000122	12.86	0.000243	0.0001	58.85
Lead	0.006	0.0005	91.67	0.006	0.0005	91.67	0.000687	0.0005	27.22	0.00116	0.0005	56.90
Mercury	0.00024	0.0002	16.67	0.000039	1.2E-06	96.92	0.0000483	3.64E-06	92.46	0.0000252	1.54E-06	93.89
Silver, Daily Max	0.0005	0.0001	80.00	0.005	0.0001	98.00	0.000642	0.0001	84.42	0.000355	0.0001	71.83
Zinc	0.122	0.055	54.92	0.096	0.0463	51.77	0.0806	0.053	34.24	0.113	0.0431	61.86
Cyanide										0.005	0.007	-40.00
Phenols, Total	0.005	0.005	0.00	0.2284	0.0052	97.72	0.0237	0.0058	75.53	0.0375	0.005	86.67
Toluene											BDL	
Benzene											BDL	
1,1,1 Trichloroethane											BDL	
Ethylbenzene											BDL	
Carbon Tetrachloride											BDL	
Chloroform											BDL	
Tetrachloroethylene											BDL	
Trichloroethylene											BDL	
1,2 Trans-Dichloroethylene											BDL	
Methylene Chloride											BDL	
Naphthalene											BDL	
Phthalates, Total											BDL	

	1/12/2016			7/12/2016			2/1/2017			7/17/2017		
	Influent	Effluent	% Removal	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Remov
Copper	0.0199	0.0028	85.93	0.0596	0.0054	90.94	0.0228	0.0048	78.86	0.043	0.00531	87.65
Chromium, III										0.02	0.01	50.00
Chromium, VI										0.02	0.01	50.00
Chromium, Total	0.00332	0.001	69.88	0.00353	0.001	71.67	0.00168	0.001	40.83	0.00248	0.001	40.83
Nickel	0.00203	0.000875	56.90	0.00266	0.00126	52.63	0.00218	0.00122	44.04	0.00272	0.00126	53.68
Cadmium				0.0003	0.0001	66.78	0.000100	0.0001	0.00	0.000111	0.0001	9.91
Lead	0.00955	0.005	47.64	0.00077	0.0005	34.98	0.0007650	0.000500	34.64	0.000872	0.0005	42.66
Mercury	0.00015	1.88E-06	98.75	2.1E-05	2.05E-06	90.14	0.0000113	########	80.09	0.0000305	0.00000075	97.54
Silver, Daily Max	5.7E-05	8.53E-06	85.06	0.00058	0.0001	82.79	0.000410	0.000100	75.61	0.000414	0.0001	75.85
Zinc	0.0817	0.035	57.16	0.117	0.0515	55.98	0.106	0.0606	42.83	0.124	0.0519	58.15
Cyanide	0.005	0.007	-40.00	0.005	0.005							
Phenols, Total	0.0358	0.01	71.91	0.0375	0.0158	57.87	0.04800	0.00500	87.59	0.241	0.005	87.59
Toluene		BDL						BDL				
Benzene		0.00133						BDL				
1,1,1 Trichloroethane		BDL						BDL				
Ethylbenzene		0.00247						BDL				
Carbon Tetrachloride		BDL						BDL				
Chloroform		BDL						BDL				
Tetrachloroethylene		BDL						BDL				
Trichloroethylene		BDL						BDL				
1,2 Trans-Dichloroethylene		BDL						BDL				
Methylene Chloride		BDL						BDL				
Naphthalene		BDL						BDL				
Phthalates, Total		BDL						BDL				

	1/30/2018			8/13/2018			2/4/2019			7/22/2019		
	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Remov
Copper	0.021	0.00313	85.10	0.0413	0.00413	90.00	0.0228	0.00326	85.70	0.33	0.00446	98.65
Chromium, III	0.02	0.01	50.00									
Chromium, VI	0.02	0.01	50.00									
Chromium, Total	0.00246	0.001	59.35	0.00355	0.001	71.83	0.00203	0.001	50.74	0.0018	0.001	44.75
Nickel	0.00213	0.000887	58.36	0.00228	0.00165	27.63	0.00237	0.00107	54.85	0.0025	0.000818	67.67
Cadmium	0.0001	0.0001	0.00	0.0001	0.0001	0.00	0.00012	0.0001	13.79	<0.0001	<0.0001	
Lead	0.001	0.0005	50.00	0.00064	0.0005	21.38	0.00081	0.0005	38.20	0.0011	0.0005	55.75
Mercury	1.8E-05	1.49E-06	91.86	1.2E-05	1.21E-06	89.76	3.5E-05	1.93E-06	94.42	1E-05	0.00000167	88.20
Silver, Daily Max	0.00019	0.0001	47.37	0.0003	0.0001	67.11	0.00039	0.0001	74.23	0.0003	0.0001	64.16
Zinc	0.0962	0.0425	55.82	0.118	0.0429	63.64	0.118	0.045	61.86	0.0998	0.0427	57.21
Cyanide				0.005	0.005					0.005	0.005	
Phenols, Total	0.0198	0.005	87.59	0.005	0.005	0.00	0.0283	0.005	82.33	0.0079	0.005	36.71
Toluene												
Benzene												
1,1,1 Trichloroethane												
Ethylbenzene												
Carbon Tetrachloride												
Chloroform												
Tetrachloroethylene												
Trichloroethylene												
1,2 Trans-Dichloroethylene												
Methylene Chloride												
Naphthalene												
Phthalates, Total												

	2/3/2020			7/13/2020			3/8/2021			7/21/2021		
	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Remov
Copper	0.0198	0.00502	74.65	0.0338	0.00554	83.61	0.377	0.006	98.41	0.0393	0.00545	86.13
Chromium, III												
Chromium, VI												
Chromium, Total	0.00285	0.001	64.91	0.00424	0.001	76.42	0.00348	0.00115	66.95	0.00209	0.001	52.15
Nickel	0.00194	0.000852	56.08	0.00201	0.000926	53.93	0.0019	0.00111	41.58	0.00184	0.000915	50.27
Cadmium	0.0001	0.0001	0.00	0.00012	0.0001	19.35	0.0001	0.0001	0.00	0.0001	0.0001	0.00
Lead	0.0006	0.0005	16.25	0.00068	0.0005	26.25	0.0005	0.00005	90.00	0.00055	0.0005	9.42
Mercury	1.8E-05	1.85E-06	89.89	7.5E-05	0.00000116	98.44	2.6E-05	1.49E-06	94.22	2.1E-05	1.12E-06	94.64
Silver, Daily Max	0.00027	0.0001	62.98	0.0002	0.0001	48.98	0.00018	0.0001	43.18	0.00081	0.0001	87.59
Zinc	0.0927	0.0527	43.15	0.116	0.0479	58.71	0.0926	0.0429	53.67	0.0935	0.0445	52.41
Cyanide	0.005	0.007		0.005	0.005		0.005	0.006		0.005	0.005	0.00
Phenols, Total	0.019	0.0064	66.32	0.019	0.005	73.68	0.0229	0.005	78.17	0.034	0.005	85.29
Toluene								BDL				
Benzene								0.00133				
1,1,1 Trichloroethane								BDL				
Ethylbenzene								0.00247				
Carbon Tetrachloride								BDL				
Chloroform								BDL				
Tetrachloroethylene								BDL				
Trichloroethylene								BDL				
1,2 Trans-Dichloroethylene								BDL				
Methylene Chloride								BDL				
Naphthalene								BDL				
Phthalates, Total								BDL				

	1/2/2022			7/12/2022			1/9/2023		
	Influent	Effluent	% Remov	Influent	Effluent	% Remov	Influent	Effluent	% Removal
Copper	0.0166	0.00319	80.78	0.0417	0.0013	96.88	0.0684	0.00302	95.58
Chromium, III									
Chromium, VI									
Chromium, Total	0.00354	0.001	71.75	0.00449	0.00109	75.72	0.00112	0.001	10.71
Nickel	0.00232	0.00163	29.74	0.00213	0.00143	32.86	0.00212	0.000935	55.90
Cadmium	0.0001	0.0001	0.00	0.0001	0.0001	0.00	0.0001	0.0001	0.00
Lead	0.000682	0.0005	26.69	0.000542	0.0005	7.75	0.00058	0.0005	13.64
Mercury	5.99E-06	1.1E-06	81.64	7.45E-06	6.49E-07	91.29	0.00058	1.17E-06	99.80
Silver, Daily Max	0.000159	0.0001	37.11	0.000408	0.0001	75.49	0.00017	0.0001	39.39
Zinc	0.0755	0.0304	59.74	0.0971	0.02	79.40	0.103	0.0416	59.61
Cyanide	0.005	0.005		0.005	0.006		0.005	0.005	
Phenols, Total	0.005	0.005	0.00	0.0151	0.005	66.89	0.042	0.005	88.10
Toluene		BDL						BDL	
Benzene		BDL						BDL	
1,1,1 Trichloroethane		BDL						BDL	
Ethylbenzene		BDL						BDL	
Carbon Tetrachloride		BDL						BDL	
Chloroform		BDL							
Tetrachloroethylene		BDL						BDL	
Trichloroethylene		BDL						BDL	
1,2 Trans-Dichloroethylene		BDL						BDL	
Methylene Chloride		BDL						BDL	
Naphthalene		BDL						BDL	
Phthalates, Total		BDL						BDL	

	2014 to Present			2014 - 2017			2018 -2021			2022 - 2023		
	Avg Inf	Avg Eff	Avg % Removal	Avg Inf	Avg Eff	Avg % Removal	Avg Inf	Avg Eff	Avg % Removal	Avg Inf	Avg Eff	Avg % Removal
Copper	0.0670	0.0045	85.7280	0.0327	0.0052	81.6873	0.1031	0.0047	87.7659	0.0422	0.0025	91.0835
Chromium, III	0.0140	0.0083	58.8180	0.0125	0.0054	58.5200	0.0200	0.0100	50.0000	#DIV/0!	#DIV/0!	#DIV/0!
Chromium, VI	0.0200	0.0100	50.0000	0.0200	0.0100	50.0000	0.0200	0.0100	50.0000	#DIV/0!	#DIV/0!	#DIV/0!
Chromium, Total	0.0033	0.0012	58.9449	0.0038	0.0014	59.3322	0.0028	0.0010	58.6595	0.0031	0.0010	52.7298
Nickel	0.0025	0.0012	51.0402	0.0030	0.0012	55.1112	0.0022	0.0011	51.5810	0.0022	0.0013	39.5005
Cadmium	0.0003	0.0001	21.8024	0.0007	0.0001	48.2132	0.0001	0.0001	5.3822	0.0001	0.0001	0.0000
Lead	0.0018	0.0007	41.1428	0.0032	0.0011	53.4219	0.0008	0.0005	38.7687	0.0006	0.0005	16.0285
Mercury	0.0001	0.0000	87.2952	0.0001	0.0000	80.8078	0.0000	0.0000	92.9961	0.0002	0.0000	90.9075
Silver, Daily Max	0.0006	0.0001	68.4803	0.0010	0.0001	81.6049	0.0003	0.0001	63.4912	0.0002	0.0001	50.6637
Zinc	0.1022	0.0447	55.9020	0.1050	0.0496	52.1138	0.1056	0.0459	56.0894	0.0919	0.0307	66.2498
Cyanide	0.0050	0.0057	-28.6667	0.0050	0.0083	-40.0000	0.0050	0.0055	0.0000	0.0050	0.0053	#DIV/0!
Phenols, Total	0.0459	0.0060	84.7346	0.0818	0.0071	70.8100	0.0441	0.0052	86.4097	0.0207	0.0050	51.6809
Toluene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Benzene	#DIV/0!	0.0013	#DIV/0!	#DIV/0!	0.0013	#DIV/0!	#DIV/0!	0.0013	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1,1,1 Trichloroethane	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Ethylbenzene	#DIV/0!	0.0025	#DIV/0!	#DIV/0!	0.0025	#DIV/0!	#DIV/0!	0.0025	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Carbon Tetrachloride	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Chloroform	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Tetrachloroethylene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Trichloroethylene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1,2 Trans-Dichloroethylene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Methylene Chloride	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Naphthalene	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Phthalates, Total	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Table 1

Local Limits Adopted 2018

Parameter	Monthly Average Local Limit, mg/L
Copper	38.00
Chromium, III	Report Only
Chromium, VI	6.71
Nickel	40.41
Cadmium	0.07
Lead	0.93
Mercury	0.09
Silver, Daily Max	0.0030000
Zinc	38.89
Cyanide	6.470
Toluene	27.80
Benzene	1.90
1,1,1 Trichloroethane	26.18
Ethylbenzene	3.25
Carbon Tetrachloride	1.90
Chloroform	33.51
Tetrachloroethylene	16.34
Trichloroethylene	11.87
1,2 Trans-Dichloroethylene	0.530
Methylene Chloride	16.620
Phenols, Total	20.370
Naphthalene	0.270
Phthalates, Total	6.690
BOD	*
TSS	*

* BOD and TSS limits will be based on the STP capacity and on an individual industry basis.

Calculated Local Limits 2023

Parameter	Monthly Average Local Limit, mg/L	Percent Change
Copper	38.75	-1.943%
Chromium, III	Report Only	
Chromium, VI	6.41	4.636%
Nickel	56.84	-28.908%
Cadmium	0.74	-90.064%
Lead	5.61	-83.391%
Mercury	0.18	-50.360%
Silver, Daily Max	0.00379	-20.910%
Zinc	37.46	3.828%
Cyanide	2.05	216.158%
Toluene	6.02	361.445%
Benzene	1.90	0.000%
1,1,1 Trichloroethane	26.18	0.000%
Ethylbenzene	3.68	-11.799%
Carbon Tetrachloride	1.90	0.000%
Chloroform	33.61	-0.304%
Tetrachloroethylene	16.34	0.000%
Trichloroethylene	11.87	0.000%
1,2 Trans-Dichloroethylene	0.002	35233.333%
Methylene Chloride	16.617	0.017%
Phenols, Total	17.995	13.196%
Naphthalene	0.254	6.287%
Phthalates, Total	8.058	-16.975%
BOD	*	
TSS	*	

* BOD and TSS limits will be based on the STP capacity and on an individual industry basis.

Table 2

Approved Local Limits 2018				Calculated Local Limits 2023					
	Monthly Average Local Limit, mg/L	Monthly Average Local Limit, mg/L			Monthly Average Local Limit, mg/L	Monthly Average Local Limit, mg/L		Percent Change	
Parameter	**Carrier #TOC-005**	**Other Industries**		**Parameter**	**Carrier #TOC-005**	**Other Industries**		**Carrier #TOC-005**	**Other Industries**
Copper	1.11	3.72		Copper	1.39	4.62		-19.93%	-19.50%
Chromium, III	T-Cr Only	Report Only		Chromium, III	T-Cr Only	Report Only			
Chromium, VI	T-Cr Only	0.78		Chromium, VI	T-Cr Only	0.75			4.18%
Nickel	1.39	4.63		Nickel	1.65	5.49		-15.54%	-15.60%
Cadmium	0.011	0.036		Cadmium	0.021	0.068		-46.45%	-47.42%
Lead	0.035	0.116		Lead	0.113	0.376		-68.94%	-69.12%
Mercury	0.00314	0.01045		Mercury	0.00610	0.02033		-48.51%	-48.59%
Silver (Daily Max)	0.008	0.028		Silver (Daily Max)	0.005	0.015		73.62%	82.30%
Zinc	1.60	5.33		Zinc	1.62	5.41		-1.39%	-1.45%
Cyanide	0.23	0.76		Cyanide	0.06	0.20		284.12%	280.78%
Toluene	0.96	3.18		Toluene	0.96	3.18		0.47%	-0.15%
Benzene	0.07	0.22		Benzene	0.07	0.22		6.48%	0.40%
1,1,1 Trichloroethane	0.90	2.99		1,1,1 Trichloroethane	0.90	2.99		0.20%	-0.14%
Ethylbenzene	0.13	0.42		Ethylbenzene	0.13	0.42		2.52%	-0.64%
Carbon Tetrachloride	0.07	0.22		Carbon Tetrachloride	0.07	0.22		6.48%	0.40%
Chloroform	1.16	3.86		Chloroform	1.16	3.86		0.23%	0.06%
Tetrachloroethylene	0.56	1.87		Tetrachloroethylene	0.56	1.87		-0.13%	0.05%
Trichloroethylene	**0.01****	1.36		Trichloroethylene	**0.01****	1.36			0.16%
1,2 Trans-Dichloroethylene	0.02	0.06		1,2 Trans-Dichloroethylene	0.02	0.06		7.00%	-3.70%
Methylene Chloride	0.57	1.91		Methylene Chloride	0.57	1.91		-0.78%	-0.26%
Phenols, Total	0.46	1.54		Phenols, Total	0.61	2.02		-24.00%	-23.67%
Naphthalene	0.01	0.04		Naphthalene	0.01	0.04		-23.73%	-8.47%
Phthalates, Total	0.25	0.84		Phthalates, Total	0.21	0.69		20.88%	21.84%
Chromium, Total	**0.1****	Carrier TOC-005 Only		Chromium, Total	**0.1****	Carrier TOC-005 Only			
CBOD	*	*		CBOD	*	*			
TSS	*	*		TSS	*	*			
*CBOD and TSS limits will be based on STP capacity and on an individual industry basis				*CBOD and TSS limits will be based on STP capacity and on an individual industry basis				>10% decrease	<10% decrease
** Limits set by EPA				** Limits set by EPA					