

FACT SHEET

Appendix D

New River WPCP

NPDES Permit No. GA0048470

Stream Data (upstream of the discharge):

TSS:	10	mg/L
7Q10:	0.040	ft ³ /s
1Q10:	0.036	ft ³ /s
Mean flow:	9.40	ft ³ /s

Effluent Data:

Average Effluent TSS:	6.5	mg/L
Permitted Flow:	8,000,000	gal/day
Flow:	12.37869	ft ³ /s

Stream data (downstream of the discharge):

Receiving Water Type:	Freshwater
Permit Type:	Municipal

Hardness:	17.0	mg/L
TSS (at 7Q10):	6.51	mg/L
Dilution factor (at mean annual flow):	1.8	
Dilution factor (at 7Q10):	1.00	
Dilution factor (at 1Q10):	1.00	

IWC (at mean annual flow):	57
IWC (at 7Q10):	100
IWC (at 1Q10):	100

Acute Water Quality Criteria (WQC_{Acute}) - Metals:

Metal	K _{PO}	α	f _D	Number of samples	Maximum effluent C _T (μg/L)	Instream C _D (μg/L)	WQC _{Acute} (μg/L)	WQC _{Acute} (adjusted) ⁽¹⁾ (μg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	7	0.0	0.0	340	170	no
Cadmium	4.00.E+06	-1.131	0.000	7	0.0	0.0	0.34	0.17	no
Chromium III	3.36.E+06	-0.930	0.00	7	0.0	0.0	133	67	no
Chromium VI	3.36.E+06	-0.930	0.00	7	0.0	0.0	16	8	no
Copper	1.04.E+06	-0.744	0.37	7	16.0	5.9	2.5	1.3	yes
Lead	2.80.E+06	-0.800	0.00	7	0.0	0.0	9	4	no
Mercury	---	---	---	6	0.0037	0.0037	1.4	0.7	no
Nickel	4.90.E+05	-0.572	0.00	7	0.0	0.0	105	52	no
Selenium	---	---	---	7	0.0	0.0	N/A	N/A	no
Zinc	1.25.E+06	-0.704	0.31	7	63.0	19.8	26.1	13.1	yes

NOTES:

⁽¹⁾ The "adjusted" WQC is the WQC applicable to a pollutant based on the number of samples used in the analysis. In accordance with Georgia EPD's *NPDES Reasonable Potential Procedures*, January 2003, when less than 10 samples are used, the effluent concentration shall be compared to 50% of the acute WQC. The chronic WQC is always compared to 50% of the WQC.

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream} (mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$Instream C_D = \frac{Effluent C_T (mg/L) \times f_D}{DF} \quad mg/L$$

$$Dilution Factor = \frac{Q_{Stream} (ft^3/sec) + Q_{Effluent} (ft^3/sec)}{Q_{Effluent} (ft^3/sec)}$$