

**Table A-1: WSC - Outfall 001 Critical Effluent Concentrations (Cd) for 2014-2018**

	Units	RRV <sup>(1)</sup>	Maximum Observed		TSD Table 3-2 <sup>(2)</sup>			C <sub>d</sub> <sup>(3)</sup>
			DMR	Highest	#Samples	CV	Multiplier	
<b><u>Nutrients</u></b> <sup>(4)</sup>								
Total Nitrogen (TN)	mg/L	0.25	25	<b>25</b>	4	0.2	1.3	<b>33</b>
Total Phosphorus (TP)	mg/L	0.003	0.44	<b>0.44</b>	4	0.4	2.0	<b>0.89</b>
<b><u>Metals/Toxics</u></b>								
Ammonia	mg/L	0.07	64	<b>64</b>	26	0.3	1.1	<b>73</b>
Nitrate+Nitrite (N+N)	mg/L	0.02	2.0	<b>2.0</b>	27	2.2	1.7	<b>3.3</b>
Chlorine, Total Residual	µg/L	100	12	<b>12</b>	26	2.7	1.8	<b>22</b>
Footnote:								
(1) RRV = Required Reporting Value listed in the 2017 Circular DEQ-7. or Circular DEQ-12A.								
(2) TSD multiplier developed in accordance with TSD Table 3-2. If there are more than 10 samples and the coefficient of variation is known, the baseline "0.6" can be overridden.								
(3) C <sub>d</sub> = Critical Discharge Concentration used in Reasonable Potential (RP) Analysis, based on max observed x TSD Multiplier								
(4) Nutrient data based on Sept. monthly average DMR data (WSC had no discharge for July and August).								

**Table A-2: WSC Outfall 001 - Yegen Drain Reasonable Potential Analysis**

	Units	RRV	C <sub>d</sub> <sup>(1)</sup>	C <sub>s</sub> <sup>(2)</sup>	C <sub>r</sub> <sup>(3)</sup>	Acute Std <sup>(4)</sup>	C <sub>r</sub> > Std?	Chronic/HH C <sub>r</sub> <sup>(3)</sup>	Chronic Std <sup>(4)</sup>	C <sub>r</sub> > Std?	HHS/Nutrient Std	C <sub>r</sub> > Std?	RP Comments
<b>Nutrients</b>													
TN - Yegen Drain	mg/L	0.245	33		<b>33</b>	NA	NO	<b>33</b>	NA	NO	<b>1.3</b>	<b>YES</b>	<b>RP</b>
TP - Yegen Drain	mg/L	0.003	0.9		<b>0.9</b>	NA	NO	<b>0.9</b>	NA	NO	<b>0.15</b>	<b>YES</b>	<b>RP</b>
<b>Metals/Toxics</b>													
Ammonia	mg/L	0.07	73		<b>73</b>	<b>12.1</b>	<b>YES</b>	<b>73</b>	<b>3.2</b>	<b>YES</b>	NA	NO	<b>RP</b>
Nitrate+Nitrite (N+N)	mg/L	0.02	3.3		<b>3.3</b>	NA	NO	3.3	NA	NO	10	NO	No
Chlorine, Total Residual	µg/L	100	22		<b>22</b>	<b>19</b>	<b>YES</b>	<b>22</b>	<b>11</b>	<b>YES</b>	4000	NO	<b>RP<sup>(5)</sup></b>

Footnotes:

(1) C<sub>d</sub> = Critical discharge concentration, based on maximum observed (see Table A-1).

(2) C<sub>s</sub> = Critical upstream receiving water concentration, based on 75th percentile of receiving water data; NA since no mixing zone granted for the Yegen Drain.

(3) C<sub>r</sub> = Critical receiving water concentration after mixing. The following flow assumptions are used to calculate C<sub>r-acute</sub> and C<sub>r-chronic/HH</sub>:

$$C_r = \frac{(Q_d \times C_d) + (Q_s \times C_s)}{Q_d + Q_s}$$

Available Dilution Water Flow (Qs)

Critical Discharge (Qd)

	Low Flow (cfs)		%Dilution		Available Dilution mgd
Metals/Toxics Acute 7Q10 Qs =	0.0	x	0%	=	0.0
Ammonia & TRC Acute 7Q10 Qs =	0.0	x		=	0.0
Chronic 7Q10 Qs =		x		=	0.0
Nutrient Seasonal 14Q5 Qs =	0	x	100%	=	0.0

Q<sub>d</sub> = **2.7** mgd

(4) Std = Water Quality Standards from Circular DEQ-7 (2017) or Circular DEQ-12A (2014).

(5) TRC - unknown if RP due to possible Manganese interference.

**Table A-3: Outfall 001 WQBEL**

Parameters	Standards (C <sub>r</sub> )			C <sub>s</sub> Background Stream Conc	Wasteload Allocations (C <sub>d</sub> ) <sup>(2)</sup>			CV	LTA			n	WQBELs				
	Acute	Chronic	HHS <sup>(1)</sup>		Acute (WLA <sub>a</sub> )	Chronic (WLA <sub>c</sub> )	HHS <sup>(1)</sup> (WLA <sub>h</sub> )		Acute (LTA <sub>a</sub> )	Chronic (LTA <sub>c</sub> )	Minimum (LTA <sub>m</sub> )		Acute MDL	Chronic AML	HHS <sup>(3)</sup> MDL	HHS <sup>(1,3)</sup> AML	
<b>Nutrients</b>																	
TN - Yegen Drain	mg/L	NA	NA	1.3	0	NA	NA	1.3	-	NA	NA	0	4	NA	NA	NA	1.30
TP - Yegen Drain	mg/L	NA	NA	0.15	0	NA	NA	0.15	-	NA	NA	0	4	NA	NA	NA	0.15
<b>Metals/Toxics</b>																	
Ammonia	mg/L	12.1	3.2	NA	0	12.1	3.2	NA	0.3	6.2	2.2	2.2	4	4.4	2.9	NA	NA
Chlorine, Total Residual	µg/L	19	11	4,000	0	19	11	4,000	2.7	1.9	1.7	1.7	4	18	5.5	4,000	4,000

**Footnote:**

- (1) Relevant standard is either Human Health Standards (HHS) or Nutrient Criteria.
- (2) Wasteload Allocation (WLA) = Cr + [Qs/Qd x (Cr-Cs)]. When the ambient condition (Cs) > Standard, the WLA = Standard.
- (3) HHS - No single sample shall exceed (DEQ-7 Footnote 16). Therefore, both the AML and MDL = HHS WLA

	<u>Available Dilution Water Flow (Qs)</u>			<u>Available Dilution</u>			<u>Critical Discharge (Qd)</u>
	<u>Low Flow (cfs)</u>		<u>%Dilution</u>		<u>mgd</u>		
Metals/Toxics Acute 7Q10 Qs =	0.0	x	0%	=	0.0		Q <sub>d</sub> = <span style="border: 1px solid black; padding: 2px;">2.7</span> mgd
Ammonia & TRC Acute 7Q10 Qs =	0.0	x	0%	=	0.0		
Chronic 7Q10 Qs =	0.0	x	0%	=	0.0		
Nutrient Seasonal 14Q5 Qs =	0.0	x	100%	=	0.0		