

ATTACHMENT G. NON-STORM WATER ACTION LEVELS AND MUNICIPAL ACTION LEVELS

I. LOS ANGELES RIVER WATERSHED MANAGEMENT AREA

Table G-1. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Chloride	mg/L	4	--
Nitrite Nitrogen, Total (as N)	mg/L	1.0 ⁵	--
Sulfate	mg/L	4	--
Total Dissolved Solids	mg/L	4	--
Turbidity	NTU	5 ⁵	--
Aluminum, Total Recoverable	mg/L	1.0 ⁵	--
Cyanide, Total Recoverable	µg/L	4.3	8.5
Copper, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ Within the range of 6.5 to 8.5 at all times.

² *E. coli* density shall not exceed a geometric mean of 126/100 ml.

³ *E. coli* density in a single sample shall not exceed 235/100 ml.

⁴ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.

⁵ Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

⁶ Action levels are hardness dependent. See Section IV of this Attachment for a listing of the applicable action levels.

Table G-2. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Chloride	mg/L	6	--
Nitrite Nitrogen, Total (as N)	mg/L	1.0 ⁷	--
Sulfate	mg/L	6	--
Total Dissolved Solids	mg/L	6	--
Turbidity	NTU	5 ⁷	--
Aluminum, Total Recoverable	mg/L	1.0 ⁷	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	8	8
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ Within the range of 6.5 to 8.5 at all times.

² *E. coli* density shall not exceed a geometric mean of 126/100 ml.

- ³ *E. coli* density in a single sample shall not exceed 235/100 ml.
- ⁴ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ⁵ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a single sample density of 104/100 ml.
- ⁶ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁷ Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
- ⁸ The applicable action level is the most stringent between corresponding Table G-1 and Table G-3 action levels.

Table G-3. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2,3}	10,000 ^{3,4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Chloride	mg/L	5	--
Nitrite Nitrogen, Total (as N)	mg/L	1.0 ⁶	--
Sulfate	mg/L	5	--
Total Dissolved Solids	mg/L	5	--
Turbidity	NTU	5 ⁶	--
Aluminum, Total Recoverable	mg/L	1.0 ⁶	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	2.9	5.8
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	58	117

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ³ In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- ⁵ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁶ Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

Table G-4. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	Standard units	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	--	35 ³	104 ⁴
Turbidity	NTU	75	100	225
Cyanide, Total Recoverable	µg/L	1	4	10

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	3	12	30
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

- ¹ Within the range of 6.0 to 9.0 at all times.
- ² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ³ Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ⁴ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

II. DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA

Table G-5. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Cyanide, Total Recoverable	µg/L	4.3	8.5
Copper, Total Recoverable	µg/L	4	4
Lead, Total Recoverable	µg/L	4	4
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- ³ *E. coli* density in a single sample shall not exceed 235/100 ml.
- ⁴ Action levels are hardness dependent. See Section IV of this Attachment for a listing of the applicable action levels.

Table G-6. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	s.u	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	6	6
Lead, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- ³ *E. coli* density in a single sample shall not exceed 235/100 ml.

- ⁴ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ⁵ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- ⁶ The applicable action level is the most stringent between corresponding Table G-5 and Table G-7 action levels.

Table G-7. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	s.u	6.5-8.5 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2,3}	10,000 ^{3,4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	2.9	5.8
Lead, Total Recoverable	µg/L	7.0	14
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	58	117

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ³ In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

Table G-8. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	s.u	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	--	35 ³	104 ⁴
Cyanide, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30
Lead, Total Recoverable	µg/L	2	8	20
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

- ¹ Within the range of 6.0 to 9.0 at all times.
- ² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ³ Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ⁴ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

III. SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA

Table G-9. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Chloride	mg/L	4	--
Nitrate Nitrogen, Total (as N)	mg/L	4	--
Sulfate	mg/L	4	--
Total Dissolved Solids	mg/L	4	--
Aluminum, Total Recoverable	mg/L	1.0 ⁵	--
Cyanide, Total Recoverable	µg/L	4.3	8.5
Cadmium, Total Recoverable	µg/L	6	6
Copper, Total Recoverable	µg/L	6	6
Lead, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.10
Nickel, Total Recoverable	µg/L	6	6
Selenium, Total Recoverable	µg/L	4.1	8.2
Silver, Total Recoverable	µg/L	6	6
Zinc, Total Recoverable	µg/L	6	6

¹ Within the range of 6.5 to 8.5 at all times.
² *E. coli* density shall not exceed a geometric mean of 126/100 ml.
³ *E. coli* density in a single sample shall not exceed 235/100 ml.
⁴ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
⁵ Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
⁶ Action levels are hardness dependent. See Section IV of this Attachment for a listing of the applicable action levels.

Table G-10. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Chloride	mg/L	6	--
Nitrate Nitrogen, Total (as N)	mg/L	6	--
Sulfate	mg/L	6	--
Total Dissolved Solids	mg/L	6	--
Aluminum, Total Recoverable	mg/L	1.0 ⁷	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Cadmium, Total Recoverable	µg/L	8	8

Parameter	Units	Average Monthly	Daily Maximum
Copper, Total Recoverable	µg/L	8	8
Lead, Total Recoverable	µg/L	8	8
Mercury, Total Recoverable	µg/L	0.051	0.10
Nickel, Total Recoverable	µg/L	8	8
Selenium, Total Recoverable	µg/L	4.1	8.2
Silver, Total Recoverable	µg/L	8	8
Zinc, Total Recoverable	µg/L	8	8

¹ Within the range of 6.5 to 8.5 at all times.

² *E. coli* density shall not exceed a geometric mean of 126/100 ml.

³ *E. coli* density in a single sample shall not exceed 235/100 ml.

⁴ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.

⁵ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

⁶ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.

⁷ Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

⁸ The applicable action level is the most stringent between corresponding Table G-9 and Table G-11 action levels.

Table G-11. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2, 3}	10,000 ^{2, 4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Chloride	mg/L	5	--
Nitrate Nitrogen, Total (as N)	mg/L	5	--
Sulfate	mg/L	5	--
Total Dissolved Solids	mg/L	5	--
Aluminum, Total Recoverable	mg/L	1.0 ⁶	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Cadmium, Total Recoverable	µg/L	7.7	15
Copper, Total Recoverable	µg/L	2.9	5.8
Lead, Total Recoverable	µg/L	7.0	14
Mercury, Total Recoverable	µg/L	0.051	0.10
Nickel, Total Recoverable	µg/L	6.8	14
Silver, Total Recoverable	µg/L	1.1	2.2
Selenium, Total Recoverable	µg/L	58	117
Zinc, Total Recoverable	µg/L	47	95

¹ Within the range of 6.5 to 8.5 at all times.

² Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.

³ In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.

- ⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- ⁵ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁶ Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

Table G-12. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	Standard units	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus	#/100 ml	--	35 ³	104 ⁴
Cyanide, Total Recoverable	µg/L	1	4	10
Cadmium, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30
Lead, Total Recoverable	µg/L	2	8	20
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Nickel, Total Recoverable	µg/L	5	20	50
Silver, Total Recoverable	µg/L	0.7	2.8	7.0
Selenium, Total Recoverable	µg/L	15	60	150
Zinc, Total Recoverable	µg/L	20	80	200

- ¹ Within the range of 6.0 to 9.0 at all times.
- ² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ³ Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ⁴ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

IV. HARDNESS-BASED ACTION LEVELS FOR METALS

Cadmium, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	0.1	0.2	125.0	2.4	4.8	245.0	4.1	8.2
10.0	0.2	0.3	130.0	2.5	5.0	250.0	4.1	8.3
15.0	0.3	0.5	135.0	2.5	5.1	255.0	4.2	8.4
20.0	0.4	0.7	140.0	2.6	5.3	260.0	4.3	8.5
25.0	0.5	0.9	145.0	2.7	5.4	265.0	4.3	8.7
30.0	0.6	1.2	150.0	2.8	5.5	270.0	4.4	8.8
35.0	0.7	1.4	155.0	2.8	5.7	275.0	4.5	8.9

Cadmium, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
40.0	0.8	1.6	160.0	2.9	5.8	280.0	4.5	9.1
45.0	0.9	1.8	165.0	3.0	6.0	285.0	4.6	9.2
50.0	1.0	2.1	170.0	3.1	6.1	290.0	4.6	9.3
55.0	1.1	2.3	175.0	3.1	6.3	295.0	4.7	9.4
60.0	1.3	2.5	180.0	3.2	6.4	300.0	4.8	9.6
65.0	1.4	2.8	185.0	3.3	6.5	310.0	4.9	9.8
70.0	1.5	3.0	190.0	3.3	6.7	320.0	5.0	10.1
75.0	1.6	3.2	195.0	3.4	6.8	330.0	5.1	10.3
80.0	1.7	3.4	200.0	3.5	7.0	340.0	5.3	10.5
85.0	1.8	3.6	205.0	3.5	7.1	350.0	5.4	10.8
90.0	1.9	3.7	210.0	3.6	7.2	360.0	5.5	11.0
95.0	1.9	3.9	215.0	3.7	7.4	370.0	5.6	11.3
100.0	2.0	4.0	220.0	3.7	7.5	380.0	5.7	11.5
105.0	2.1	4.2	225.0	3.8	7.6	390.0	5.9	11.7
110.0	2.2	4.3	230.0	3.9	7.8	400.0	6.0	12.0
115.0	2.2	4.5	235.0	3.9	7.9	>400	6.0	12.0
120.0	2.3	4.7	240.0	4.0	8.0			

Copper, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	0.4	0.8	125.0	8.6	17.2	245.0	16.2	32.5
10.0	0.8	1.6	130.0	8.9	17.9	250.0	16.5	33.1
15.0	1.2	2.3	135.0	9.2	18.5	255.0	16.8	33.8
20.0	1.5	3.1	140.0	9.6	19.2	260.0	17.1	34.4
25.0	1.9	3.8	145.0	9.9	19.8	265.0	17.4	35.0
30.0	2.2	4.5	150.0	10.2	20.5	270.0	17.8	35.6
35.0	2.6	5.2	155.0	10.5	21.1	275.0	18.1	36.2
40.0	2.9	5.9	160.0	10.8	21.8	280.0	18.4	36.9
45.0	3.3	6.6	165.0	11.2	22.4	285.0	18.6	37.4
50.0	3.6	7.3	170.0	11.5	23.0	290.0	18.9	38.0
55.0	4.0	8.0	175.0	11.8	23.7	295.0	19.2	38.5
60.0	4.3	8.6	180.0	12.1	24.3	300.0	19.5	39.1
65.0	4.6	9.3	185.0	12.4	25.0	310.0	20.0	40.2
70.0	5.0	10.0	190.0	12.8	25.6	320.0	20.6	41.3
75.0	5.3	10.7	195.0	13.1	26.2	330.0	21.1	42.4
80.0	5.6	11.3	200.0	13.4	26.9	340.0	21.7	43.5
85.0	6.0	12.0	205.0	13.7	27.5	350.0	22.2	44.6
90.0	6.3	12.7	210.0	14.0	28.1	360.0	22.8	45.7
95.0	6.6	13.3	215.0	14.3	28.7	370.0	23.3	46.8
100.0	7.0	14.0	220.0	14.6	29.4	380.0	23.8	47.8
105.0	7.3	14.6	225.0	15.0	30.0	390.0	24.4	48.9
110.0	7.6	15.3	230.0	15.3	30.6	400.0	24.9	50.0

Copper, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
115.0	7.9	15.9	235.0	15.6	31.3	>400	24.9	50.0
120.0	8.3	16.6	240.0	15.9	31.9			

Lead, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	0.1	0.1	125.0	3.5	6.9	245.0	8.1	16.3
10.0	0.1	0.3	130.0	3.6	7.3	250.0	8.3	16.7
15.0	0.2	0.5	135.0	3.8	7.6	255.0	8.6	17.2
20.0	0.3	0.7	140.0	4.0	8.0	260.0	8.8	17.6
25.0	0.4	0.9	145.0	4.2	8.4	265.0	9.0	18.0
30.0	0.6	1.1	150.0	4.4	8.7	270.0	9.2	18.5
35.0	0.7	1.4	155.0	4.5	9.1	275.0	9.4	18.9
40.0	0.8	1.6	160.0	4.7	9.5	280.0	9.6	19.3
45.0	0.9	1.9	165.0	4.9	9.9	285.0	9.9	19.8
50.0	1.1	2.2	170.0	5.1	10.2	290.0	10.1	20.2
55.0	1.2	2.4	175.0	5.3	10.6	295.0	10.3	20.7
60.0	1.4	2.7	180.0	5.5	11.0	300.0	10.5	21.1
65.0	1.5	3.0	185.0	5.7	11.4	310.0	11.0	22.0
70.0	1.7	3.3	190.0	5.9	11.8	320.0	11.4	22.9
75.0	1.8	3.6	195.0	6.1	12.2	330.0	11.9	23.8
80.0	2.0	3.9	200.0	6.3	12.6	340.0	12.3	24.8
85.0	2.1	4.2	205.0	6.5	13.0	350.0	12.8	25.7
90.0	2.3	4.6	210.0	6.7	13.4	360.0	13.3	26.6
95.0	2.4	4.9	215.0	6.9	13.8	370.0	13.7	27.6
100.0	2.6	5.2	220.0	7.1	14.2	380.0	14.2	28.5
105.0	2.8	5.5	225.0	7.3	14.6	390.0	14.7	29.5
110.0	2.9	5.9	230.0	7.5	15.1	400.0	15.2	30.5
115.0	3.1	6.2	235.0	7.7	15.5	>400	15.2	30.5
120.0	3.3	6.6	240.0	7.9	15.9			

Nickel, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	3.4	6.8	125.0	51.5	103.3	245.0	90.9	182.5
10.0	6.1	12.2	130.0	53.2	106.7	250.0	92.5	185.6
15.0	8.6	17.2	135.0	54.9	110.2	255.0	94.1	188.7
20.0	10.9	21.9	140.0	56.6	113.6	260.0	95.6	191.9
25.0	13.2	26.5	145.0	58.3	117.1	265.0	97.2	195.0
30.0	15.4	30.9	150.0	60.0	120.5	270.0	98.7	198.1
35.0	17.5	35.2	155.0	61.7	123.9	275.0	100.3	201.2

Nickel, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
40.0	19.6	39.4	160.0	63.4	127.2	280.0	101.8	204.3
45.0	21.7	43.5	165.0	65.1	130.6	285.0	103.3	207.4
50.0	23.7	47.6	170.0	66.8	133.9	290.0	104.9	210.4
55.0	25.7	51.6	175.0	68.4	137.3	295.0	106.4	213.5
60.0	27.7	55.5	180.0	70.1	140.6	300.0	107.9	216.6
65.0	29.6	59.4	185.0	71.7	143.9	310.0	111.0	222.7
70.0	31.5	63.2	190.0	73.3	147.1	320.0	114.0	228.7
75.0	33.4	67.0	195.0	75.0	150.4	330.0	117.0	234.7
80.0	35.3	70.8	200.0	76.6	153.7	340.0	120.0	240.7
85.0	37.1	74.5	205.0	78.2	156.9	350.0	123.0	246.7
90.0	39.0	78.2	210.0	79.8	160.2	360.0	125.9	252.7
95.0	40.8	81.9	215.0	81.4	163.4	370.0	128.9	258.6
100.0	42.6	85.5	220.0	83.0	166.6	380.0	131.8	264.5
105.0	44.4	89.1	225.0	84.6	169.8	390.0	134.8	270.4
110.0	46.2	92.7	230.0	86.2	173.0	400.0	137.7	276.2
115.0	48.0	96.2	235.0	87.8	176.1	>400	137.7	276.2
120.0	49.7	99.8	240.0	89.4	179.3			

Zinc, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	4.7	9.4	125.0	72.0	144.5	245.0	127.4	255.6
10.0	8.5	17.0	130.0	74.5	149.4	250.0	129.6	260.0
15.0	11.9	24.0	135.0	76.9	154.2	255.0	131.8	264.4
20.0	15.2	30.6	140.0	79.3	159.1	260.0	134.0	268.8
25.0	18.4	37.0	145.0	81.7	163.9	265.0	136.1	273.1
30.0	21.5	43.1	150.0	84.1	168.6	270.0	138.3	277.5
35.0	24.5	49.1	155.0	86.4	173.4	275.0	140.5	281.9
40.0	27.4	55.0	160.0	88.8	178.1	280.0	142.6	286.2
45.0	30.3	60.8	165.0	91.1	182.8	285.0	144.8	290.5
50.0	33.1	66.5	170.0	93.5	187.5	290.0	146.9	294.8
55.0	35.9	72.1	175.0	95.8	192.2	295.0	149.1	299.1
60.0	38.7	77.6	180.0	98.1	196.8	300.0	151.2	303.4
65.0	41.4	83.0	185.0	100.4	201.4	310.0	155.5	312.0
70.0	44.1	88.4	190.0	102.7	206.0	320.0	159.7	320.5
75.0	46.7	93.7	195.0	105.0	210.6	330.0	163.9	328.9
80.0	49.3	99.0	200.0	107.3	215.2	340.0	168.1	337.4
85.0	51.9	104.2	205.0	109.5	219.8	350.0	172.3	345.8
90.0	54.5	109.4	210.0	111.8	224.3	360.0	176.5	354.1
95.0	57.1	114.5	215.0	114.0	228.8	370.0	180.6	362.4
100.0	59.6	119.6	220.0	116.3	233.3	380.0	184.8	370.7
105.0	62.1	124.7	225.0	118.5	237.8	390.0	188.9	379.0
110.0	64.6	129.7	230.0	120.7	242.3	400.0	193.0	387.2

Zinc, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
115.0	67.1	134.7	235.0	123.0	246.7	>400	193.0	387.2
120.0	69.6	139.6	240.0	125.2	251.2			

V. MUNICIPAL ACTION LEVELS

Conventional Pollutants

Pollutants	pH	TSS mg/L	COD mg/L	Kjedahl Nitrogen (TKN) mg/L	Nitrate & Nitrite-total mg/L	P- total mg/L
Municipal Action Level	6.5-8.5	264.1	247.5	4.59	1.85	0.80

Metals

Pollutants	Cd- total µg/L	Cr-total µg/L	Cu- total µg/L	Pb- total µg/L	Ni- total µg/L	Zn- total µg/L	Hg- total µg/L
Municipal Action Level	2.52	20.20	71.12	102.00	27.43	641.3	0.32

This Order establishes Municipal Action Levels (MALs) to identify subwatersheds requiring additional Best Management Practices (BMPs) to reduce pollutant loads and prioritize implementation of additional BMPs. MALs for selected pollutants are based on nationwide Phase I MS4 monitoring data for pollutants in storm water (<http://unix.eng.ua.edu/~rpitt/Research/Research.shtml>, last visited on May 9, 2012). The MALs were obtained by computing the upper 25th percentile for selected pollutants using the statistical program Minitab. Non-detects were removed from the data set and all data from the database were used.

Under this Order, the Municipal Action Levels (MALs) shall be utilized by the Discharger to identify subwatersheds discharging pollutants at levels in excess of the MALs. Within those subwatersheds where pollutant levels in the discharge are in excess of the MALs, the Discharger shall implement controls and measures necessary to reduce the discharge of pollutants.

In order to determine if MS4 discharges are in excess of the MALs, the Discharger shall conduct outfall monitoring as required in the Monitoring and Reporting Program (MRP) (Attachment E). A MAL Assessment Report shall be submitted to the Regional Water Board Executive Officer as part of the Annual Report. The MAL Assessment Report shall present the monitoring data in comparison to the applicable MALs, and identify those subwatersheds with a running average of twenty percent or greater of exceedances of the MALs listed in this attachment in discharges of storm water from the MS4.

Beginning in Year 3 after the effective date of this Order, the Discharger shall submit a MAL Action Plan with the Annual Report (first MAL Action Plan due with December 15, 2017 Annual Report) to the Regional Water Board Executive Officer, for those subwatersheds with a running average of twenty percent or greater of exceedances of the MALs in any discharge of storm water from the MS4. The plan shall include an assessment of the sources responsible for the MAL exceedances, the existing storm water programs and BMPs that address those sources, an assessment of potential program enhancements, alternative BMPs and actions the Permittee shall implement to reduce discharges to a level that is equivalent to or below the MALs, and an implementation schedule for such actions for Executive Officer approval. The MAL Action Plan shall provide the technical rationale to demonstrate the proposed measures and controls will attain the MALs. If the MAL Action Plan is not approved within 90 days of the due date, the Executive Officer may establish an appropriate plan with at least 90 day notification and consultation with the Permittee.

Within 90 days of the plan approval by the Regional Water Board Executive Officer, the Permittee shall initiate the BMPs and actions proposed in the MAL Action Plan, together with any other practicable BMPs or actions that the Executive Officer determines to be necessary to meet the MALs. The Permittee shall complete the proposed actions in accordance with the approved implementation schedule.

Upon completion of the actions specified in the approved MAL Action Plan, the Permittee shall re-monitor the subject subwatershed in accordance with the MRP, and submit a Post-Project MAL Assessment Report to the Regional Water Board Executive Officer.

Implementation of an approved Watershed Management Program per Part VII.C of the Order fulfills all requirements related to the development and implementation of the MAL Action Plan.

As additional data become available through the MRP or from the Regional Subset of the National Dataset, MALs may be revised annually by the Regional Water Board Executive Officer in accordance with an equivalent statistical method as that used to establish the MALs in this attachment with at least 90 day notification and consultation with the Permittee.