ATTACHMENT R – TMDLS IN THE SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA

I. SAN GABRIEL RIVER AND IMPAIRED TRIBUTARIES METALS AND SELENIUM TMDL

A. Permittees subject to the provisions below are identified in Attachment J, Tables J-15 and J-16.

B. Permittees shall comply with the following grouped[1] wet weather[2] mass-based water quality-based effluent limitations for discharges to all upstream reaches and tributaries of San Gabriel River Reach 2 and Coyote Creek no later than September 30, 2026, expressed as total recoverable metals:

Water Body	Effluent Limitations Daily Maximum (kg/day)		
	Copper	Lead	Zinc
San Gabriel Reach 2	---	$81.34 \times Daily\ Storm\ Volume\ (L)$	---
Coyote Creek	$24.71 \times Daily\ Storm\ Volume\ (L)$	$96.99 \times Daily\ Storm\ Volume\ (L)$	$144.57 \times Daily\ Storm\ Volume\ (L)$

C. In lieu of calculating loads, Permittees may demonstrate compliance with the following wet weather[3] concentration-based water quality-based effluent limitations for discharges to all upstream reaches and tributaries of San Gabriel River Reach 2 and Coyote Creek no later than September 30, 2026, expressed as total recoverable metals:

Water Body	Effluent Limitations Daily Maximum (µg/L total recoverable metals)		
	Copper	Lead	Zinc
San Gabriel Reach 2	---	81.34	---
Coyote Creek	24.71	96.99	144.57

D. Permittees shall comply with the following grouped[4] dry weather[5] water quality-based effluent limitations for discharges to San Gabriel River Reach 1, Coyote Creek, San Gabriel River Estuary, and San Jose Creek Reach 1 and Reach 2 no later than September 30, 2023, expressed as total recoverable metals:

Water Body	Effluent Limitations Daily Maximum	
	Copper	Selenium
San Gabriel Reach 1	18 µg/L	---

[1] The wet weather effluent limitations are group-based and shared among all MS4 Permittees, which includes Los Angeles County MS4 Permittees, Orange County MS4 Permittees and Caltrans located within the drainage area.

[2] In San Gabriel River Reach 2, wet weather is defined as any day when the maximum daily flow of the river is equal to or greater than 260 cfs measured at USGS station 11085000, located at the bottom of Reach 3 just above the Whittier Narrows Dam. In Coyote Creek, wet weather is defined as any day when the maximum daily flow in the creek is equal to or greater than 156 cfs measured at LACDPW flow gauge station F354-R, located at the bottom of the creek just above the Long Beach WRP.

[3] Ibid.

[4] The dry weather effluent limitation for copper discharged to Coyote Creek is group-based and shared among all MS4 Permittees, which includes Los Angeles County MS4 Permittees, Orange County MS4 Permittees and Caltrans located within the drainage area to Coyote Creek.

[5] In San Gabriel River Reach 2, dry weather is defined as any day when the maximum daily flow of the river is less than 260 cfs measured at USGS station 11085000. In Coyote Creek, dry weather is defined as any day when the maximum daily flow in the creek is less than 156 cfs measured at LACDPW flow gauge station F354-R.

Water Body	Effluent Limitations Daily Maximum	
	Copper	Selenium
Coyote Creek	0.941 kg/day[6]	---
San Gabriel River Estuary	3.7 µg/L	---
San Jose Creek Reach 1 and 2	---	5 µg/L

E. In lieu of calculating the loading of copper discharged to Coyote Creek, Permittees may demonstrate compliance with the dry-weather[7] concentration-based water quality-based effluent limitation of 20 µg/L no later than September 30, 2023, expressed as total recoverable metals.

F. Permittees shall comply with the dry and wet weather water quality-based effluent limitations for discharges of metals to the San Gabriel River and its tributaries, per the schedule below:

Deadline	Percentage of Total Drainage Area Served by the MS4 required to meet the Effluent Limitations	
	Dry weather	Wet weather
Effective Date of the Order	~~3~~70%	3510%
~~September 30, 2020~~	~~70%~~	~~35%~~
September 30, 2023	100%	65%
September 30, 2026	100%	100%

G. Alternatively, Permittees shall attain the following percent reductions in the difference between the current loadings and the dry and wet weather water quality-based effluent limitations at storm drain outfalls, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved monitoring plan:

Deadline	Percent Reduction in the difference between the current loadings and the Effluent Limitations	
	Dry weather	Wet weather
Effective Date of the Order	~~3~~70%	3510%
~~September 30, 2020~~	~~70%~~	~~35%~~
September 30, 2023	100%~~---~~	65%
September 30, 2026	100%	100%

II. SAN GABRIEL RIVER, ESTUARY AND TRIBUTARIES INDICATOR BACTERIA TMDL

A. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

B. Water Quality-Based Effluent Limitations

1. Permittees shall comply with the following water quality-based effluent limitations for MS4 discharges to the San Gabriel River Estuary. Permittees shall comply with daily maximum limitations during dry weather no later than June 14, 2026 and during wet weather no later

[6] Calculated based upon the median flow at LACDPW Station F354-R of 19 cfs multiplied by the numeric target of 20 µg/L, minus direct air deposition of 0.002 kg/d.

[7] In San Gabriel River Reach 2, dry weather is defined as any day when the maximum daily flow of the river is less than 260 cfs measured at USGS station 11085000. In Coyote Creek, dry weather is defined as any day when the maximum daily flow in the creek is less than 156 cfs measured at LACDPW flow gauge station F354-R.

than June 14, 2036. Permittees shall comply with geometric mean limitations no later than June 14, 2036.

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform[8]	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

2. Permittees shall comply with the following water quality-based effluent limitations for MS4 discharges to the San Gabriel River and its tributaries. Permittees shall comply with daily maximum limitations during dry weather no later than June 14, 2026 and during wet weather no later than June 14, 2036. Permittees shall comply with geometric mean limitations no later than June 14, 2036.

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
E. coli	235/100 mL	126/100 mL

C. Receiving Water Limitations

1. Permittees shall comply with the following grouped[9] single sample bacteria receiving water limitations at each monitoring station in the San Gabriel River Estuary during dry weather no later than June 14, 2026 and during wet weather no later than June 14, 2036:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective[10]	
	Daily Sampling	Weekly Sampling
Winter Dry-Weather (November 1 to March 31)	9	2
Summer Dry-Weather (April 1 to October 31)	0	0
Wet Weather[11] (November 1 to October 31)	20	3

2. Permittees shall comply with the following grouped[12] single sample bacteria receiving water limitations at each monitoring station in the San Gabriel River and its tributaries during dry weather no later than June 14, 2026 and during wet weather[13] no later than June 14, 2036:

[8] Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

[9] The receiving water limitations are group-based and shared among all Phase I and Phase II MS4 Permittees, which includes Caltrans, located within the sub-drainage area to each Estuary receiving water monitoring station.

[10] The Single Sample Objectives are equivalent to the daily maximum values listed in subpart B.1 above.

[11] Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

[12] The receiving water limitations are group-based and shared among all Phase I and Phase II MS4 Permittees, which includes Caltrans and California State Polytechnic University at Pomona, located within the sub-drainage area to each receiving water monitoring station.

[13] Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective[14]	
	Daily Sampling	Weekly Sampling
Dry Weather (November 1 to October 31)	5	1
Wet Weather (Non-HFS[15] Waterbodies) (November 1 to October 31)	17	3
Wet Weather (HFS Waterbodies) (November 1 to October 31)	11 (not including HFS days)	2 (not including HFS days)

3. Permittees shall comply with the following geometric mean receiving water limitations for monitoring stations within the San Gabriel River Estuary, calculated weekly as a rolling geometric mean using five or more samples, for six-week periods starting all calculation weeks on Sunday, no later than June 14, 2036:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

4. Permittees shall comply with the following geometric mean receiving water limitations for monitoring stations within the San Gabriel River and its tributaries, calculated weekly as a rolling geometric mean using five or more samples, for six-week periods starting all calculation weeks on Sunday, no later than June 14, 2036:

Constituent	Geometric Mean (MPN or cfu)
E. coli	126/100 mL

III. LOS ANGELES AREA LAKES TMDLS (U.S. EPA ESTABLISHED) – PUDDINGSTONE RESERVOIR[16]

A. Puddingstone Reservoir Nutrient TMDL

1. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

2. Permittees shall comply with the following water quality-based effluent limitations and receiving water limitations per the provisions in Part IV.B.2.c of the Order (U.S. EPA Established TMDLs).

3. Permittees shall comply with the following mass-based water quality-based effluent limitations for discharges to Puddingstone Reservoir:

[14] The Single Sample Objectives are equivalent to the daily maximum values listed in subpart B.2 above.
[15] Certain reaches and tributaries of the San Gabriel River are subject to a high flow suspension (HFS) of the recreational beneficial uses as identified in the Basin Plan, Chapter 2, Table 2-1a. The HFS applies during specific conditions as defined in Attachment A of the Order.
[16] Subwatersheds referenced in this section are defined in Section 10 of the Los Angeles Area Lakes TMDL.

Subwatershed	Permittee	Effluent Limitations[17]	
		Total Phosphorus (lb/yr)	Total Nitrogen[18] (lb/yr)
Northern	Claremont	169	829
Northern	Los Angeles, County of	741	3,390
Northern	La Verne	2,772	11,766
Northern	Pomona	6.30	28.3
Northern	San Dimas	31.1	137

4. In lieu of demonstrating compliance per subpart 3 above, Permittees may elect to demonstrate compliance with concentration-based in-lake receiving water limitations and alternative water quality-based effluent limitations within Puddingstone Reservoir as follows:

a. Permittees shall submit a request to both the Los Angeles Water Board and U.S. EPA that includes a Lake Management Plan describing actions that will be implemented to ensure that concentration-based in-lake receiving water limitations and alternative water quality-based effluent limitations in subparts c-d below are met.

b. The Los Angeles Water Board Executive Officer approves a request by a Permittee to comply with concentration-based in-lake receiving water limitations and alternative water quality-based effluent limitations, and the U.S. EPA does not object to the Executive Officer's decision within 60 days of receiving notice.

c. Upon Los Angeles Water Board Executive Officer approval, Permittees shall comply with the following concentration-based in-lake receiving water limitations:

Constituent	Receiving Water Limitations
Ammonia (NH_3)	Applicable 30-day average (for Early Life Stage Present Condition) receiving water limitation per Table 3-2 of the Basin Plan
Dissolved Oxygen	~~≥~~Greater than or equal to 7 mg/L annual average and ~~≥~~greater than or equal to 6 mg/L instantaneous maximum except when natural conditions cause lesser concentrations
pH	6.5 – 8.5 instantaneous value. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of MS4 discharges.
Chlorophyll *a*	20 µg/L summer average (May – September) and annual average

d. In addition to complying with subpart c above, Permittees shall comply with the following concentration-based in-lake total phosphorus and total nitrogen alternative water quality-based effluent limitations:

Constituent	Alternative Effluent Limitations
Total Phosphorus	0.1 mg/L summer average (May – September) and annual average
Total Nitrogen[19]	1.0 mg/L summer average (May – September) and annual average

[17] Measured at the point of discharge. The mass-based effluent limitations are equivalent to existing concentrations of 0.071 mg/L total phosphorus as a summer average (May-September) and annual average, and 0.71 mg/L total nitrogen as a summer average (May-September) and annual average based on approved flow conditions.
[18] Total Nitrogen shall be calculated as TKN plus Nitrate-N plus Nitrite-N.
[19] Ibid.

B. Puddingstone Reservoir Mercury TMDL

1. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

2. Permittees shall comply with the following water quality-based effluent limitations and receiving water limitations per the provisions in Part IV.B.2.c of the Order (U.S. EPA Established TMDLs).

3. Permittees shall comply with the following mass-based water quality-based effluent limitations for discharges to Puddingstone Reservoir:

Subwatershed	Permittee	Total Mercury Effluent Limitations[20] (g/yr)
Northern	Claremont	0.674
Northern	Los Angeles, County of	2.79
Northern	La Verne	10.6
Northern	Pomona	0.026
Northern	San Dimas	0.109

4. Permittees shall comply with the following in-lake dissolved methylmercury receiving water limitation for Puddingstone Reservoir:

Daily Maximum Dissolved Methylmercury Receiving Water Limitation (ng/L)
0.081

C. Puddingstone Reservoir PCBs TMDL

1. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

2. Permittees shall comply with the following water quality-based effluent limitations per the provisions in Part IV.B.2.c of the Order (U.S. EPA Established TMDLs).

3. Permittees shall comply with the following water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir watershed:

Daily Maximum Effluent Limitations[21]	
Total PCBs in Suspended Sediment (µg/kg dry weight)	Total PCBs in the Water Column (ng/L)
0.59	0.17

4. In lieu of demonstrating compliance per subpart 3 above, Permittees may elect to demonstrate compliance with alternative water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir watershed as follows:

a. Permittees shall submit documentation to the Los Angeles Water Board and U.S. EPA demonstrating that the fish tissue target of 3.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350 mm in length.

[20] Measured at the point of discharge.
[21] Ibid.

b. The Los Angeles Water Board Executive Officer approves a request by a Permittee to comply with alternative water quality-based effluent limitations, and the U.S. EPA does not object to the Executive Officer's decision within 60 days of receiving notice.

c. Upon Los Angeles Water Board Executive Officer approval, Permittees shall comply with the following alternative water quality-based effluent limitations:

Alternative Daily Maximum Effluent Limitations[22]	
Total PCBs in Suspended Sediment (µg/kg dry weight)	**Total PCBs in the Water Column (ng/L)**
59.8	0.17

D. Puddingstone Reservoir Chlordane TMDL

1. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

2. Permittees shall comply with the following water quality-based effluent limitations per the provisions in Part IV.B.2.c of the Order (U.S. EPA Established TMDLs).

3. Permittees shall comply with the following water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir watershed:

Daily Maximum Effluent Limitations[23]	
Total Chlordane in Suspended Sediment (µg/kg dry weight)	**Total Chlordane in the Water Column (ng/L)**
0.75	0.57

4. In lieu of demonstrating compliance per subpart 3 above, Permittees may elect to demonstrate compliance with alternative water quality-based effluent limitations for discharges to the Northern subwatershed within Puddingstone Reservoir as follows:

a. Permittees shall submit documentation to the Los Angeles Water Board and U.S. EPA demonstrating that the fish tissue target of 5.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350 mm in length.

b. The Los Angeles Water Board Executive Officer approves a request by a Permittee to comply with alternative water quality-based effluent limitations, and the U.S. EPA does not object to the Executive Officer's decision within 60 days of receiving notice.

c. Upon Los Angeles Water Board Executive Officer approval, Permittees shall comply with the following alternative water quality-based effluent limitations:

Alternative Daily Maximum Effluent Limitations[24]	
Total Chlordane in Suspended Sediment (µg/kg dry weight)	**Total Chlordane in the Water Column (ng/L)**
3.24	0.57

E. Puddingstone Reservoir Dieldrin TMDL

1. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

[22] Ibid.
[23] Ibid.
[24] Ibid.

2. Permittees shall comply with the following water quality-based effluent limitations per the provisions in Part IV.B.2.c of the Order (U.S. EPA Established TMDLs).

3. Permittees shall comply with the following water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir watershed:

Daily Maximum Effluent Limitations[25]	
Dieldrin in Suspended Sediment (µg/kg dry weight)	**Dieldrin in the Water Column (ng/L)**
0.22	0.14

4. In lieu of demonstrating compliance per subpart 3 above, Permittees may elect to demonstrate compliance with alternative water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir watershed as follows:

a. Permittees shall submit documentation to the Los Angeles Water Board and U.S. EPA demonstrating that the fish tissue target of 0.46 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350 mm in length.

b. The Los Angeles Water Board Executive Officer approves a request by a Permittee to comply with alternative water quality-based effluent limitations, and the U.S. EPA does not object to the Executive Officer's decision within 60 days of receiving notice.

c. Upon Los Angeles Water Board Executive Officer approval, Permittees shall comply with the following alternative water quality-based effluent limitations:

Alternative Daily Maximum Effluent Limitations[26]	
Dieldrin in Suspended Sediment (µg/kg dry weight)	**Dieldrin in the Water Column (ng/L)**
1.90	0.14

F. Puddingstone Reservoir DDTs TMDL

1. Permittees subject to the provisions below are identified in Attachment J, Table J-15.

2. Permittees shall comply with the following water quality-based effluent limitations per the provisions in Part IV.B.2.c of the Order (U.S. EPA Established TMDLs).

3. Permittees shall comply with the following water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir:

Daily Maximum Effluent Limitations[27]	
Total DDTs in Suspended Sediment (µg/kg dry weight)	**Total DDTs in the Water Column[28] (ng/L)**
3.94	0.59

[25] Ibid.
[26] Ibid.
[27] Ibid.
[28] If analytical results ~~that resolve~~for individual DDT compounds are available, then ~~all~~ the CTR criteria should be applied ~~individually. The CTR criteria should be applied~~ as follows in lieu of the total DDT daily maximum effluent limitation: 4-4' DDT and 4-4' DDE ~~is~~ are each assigned a~~n~~ daily maximum effluent limitation of 0.59 ng/L; 4-4' DDD is assigned a~~n~~ daily maximum effluent limitation of 0.83 ng/L.

4. In lieu of demonstrating compliance per subpart 3 above, Permittees may elect to demonstrate compliance with alternative water quality-based effluent limitations for discharges to the Northern subwatershed within the Puddingstone Reservoir watershed as follows:

a. Permittees shall submit documentation to the Los Angeles Water Board and U.S. EPA demonstrating that the fish tissue target of 21 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350 mm in length.

b. The Los Angeles Water Board Executive Officer approves a request by a Permittee to comply with alternative water quality-based effluent limitations, and the U.S. EPA does not object to the Executive Officer's decision within 60 days of receiving notice.

c. Upon Los Angeles Water Board Executive Officer approval, Permittees shall comply with the following alternative water quality-based effluent limitations:

Alternative Daily Maximum Effluent Limitations[29]	
Total DDTs in Suspended Sediment (µg/kg dry weight)	**Total DDTs in the Water Column (ng/L)**
5.28	0.59

[29] Measured at the point of discharge.