

Appendix 2.A

Legal Authority Ordinance Citations

The following tables lists the municipal codes and ordinances cited by each jurisdiction as evidence of legal authority to implement Permit Sections VI.A.2.a and VI.A.2.b.

Table 1 Legal Authority for Permit Section VI.A.2.a.i

<i>Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.02.B; LAMC 64.70.02.C.1.a; LAMC 64.70.02.D; LAMC 64.70.03.A
County of Los Angeles	LACC §12.80.410 [illicit discharge prohibited]; LACC §12.80.450 [construction]; LACC §12.80.460 [industrial and commercial]; LACC §12.80.470 and §12.80.480 [industrial and commercial NPDES requirements]; LACC §12.84.440 [LID standards]; LACC §12.84.445 [hydromodification control]; LACC §12.84.450 [LID Plan Review]; LACC §22.60.330 [general prohibitions]; LACC §22.60.340 [violations]; LACC §12.60.350 [public nuisance]; LACC §12.60.360 [infractions]; LACC §12.60.370 [injunction]; LACC §12.60.380 [enforcement]; LACC §12.60.390 [zoning enforcement order]; LACC §26.103 [violations and penalties]; LACC §26.104 [enforcement]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-504 Prohibited Activities; BHMC §§ 9-4-507 Requirements for Construction Activities
City of Culver City	CCMC 5.05.035; CCMC 5.05.025(D); CCMC 5.05.040
City of Inglewood	IMC §10-207 Requirements for Industrial/Commercial and Construction Activities
City of West Hollywood	WHMC 15.56.060 Prohibited Activities; WHMC 15.56.090 Requirements for Industrial/Commercial and Construction Activities
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 2 Legal Authority for Permit Section VI.A.2.a.ii

<i>Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.03.A
County of Los Angeles	LACC §12.80.410 [illicit discharge prohibited]; LACFCD Code §21.07 Prohibited Discharges
City of Beverly Hills	BHMC §§ 9-4-504F Prohibited Activities
City of Culver City	CCMC 5.05.025(A)(1)
City of Inglewood	IMC §10-204 Prohibited Activities; IMC §10-206 Requirements for Existing Properties
City of West Hollywood	WHMC 15.56.060 Prohibited Activities
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 3 Legal Authority for Permit Section VI.A.2.a.iii

<i>Prohibit and eliminate illicit discharges and illicit connections to the MS4.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.03.A; LAMC 64.70.03.B
County of Los Angeles	LACC §12.80.410 [illicit discharge prohibited]; LACC §12.80.420 [illicit connections prohibited]; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited

	Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-504A Prohibited Activities
City of Culver City	CCMC 5.05.025(A)(1)
City of Inglewood	IMC §10-204 Prohibited Activities
City of West Hollywood	WHMC 15.56.060 Prohibited Activities
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 4 Legal Authority for Permit Section VI.A.2.a.iv

<i>Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.03.A
County of Los Angeles	LACC §12.80.410 [illicit discharge prohibited]; LACC §12.80.440 [littering and other polluting prohibited]; LACFCD Code §19.07 Interference With or Placing Obstructions, Refuse, Contaminating Substances, or Invasive Species in Facilities Prohibited; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-504 Prohibited Activities
City of Culver City	CCMC 5.05.025(A)(1)
City of Inglewood	IMC §10-206 Requirements for Existing Properties; IMC §10-211 Enforcement
City of West Hollywood	WHMC 15.56.060 Prohibited Activities; WHMC 15.56.080 Good Housekeeping Provisions; WHMC 15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC 15.56.095 Standard Urban Storm Water Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 5 Legal Authority for Permit Section VI.A.2.a.v

<i>Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows).</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.03.A; LAMC 64.70.07
County of Los Angeles	LACC §12.80.490 [notification of uncontrolled discharge]; LACC §12.80.570 [obstructing access to facilities]; LACC §12.80.580 [compliance inspection]; LACC §12.80.610 [violation a nuisance]; LACC §12.80.620 [nuisance abatement]; LACC §12.80.635 [violation penalty]; LACC §12.80.640 [penalties not exclusive]; LACC §12.80.440 [LID standards]; LACC §12.80.445 [hydromodification control]; LACC §12.84.450 [LID Plan Review]; LACC §22.60.330 [general prohibitions]; LACC §22.60.340 [violations]; LACC §12.60.350 [public nuisance]; LACC §12.60.360 [infractions]; LACC §12.60.370 [injunction]; LACC §12.60.380 [enforcement]; LACC §12.60.390 [zoning enforcement order]; LACC §26.103 [violations and penalties]; LACC §26.104 [enforcement]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §19.11 Violation a Public Nuisance; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.19 Conflicts With Other Code Sections; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-504G Prohibited Activities; BHMC §§ 9-4-509 Enforcement

City of Culver City	CCMC 5.05.025(F); CCMC 5.05.045
City of Inglewood	IMC §10-211 Enforcement
City of West Hollywood	WHMC 15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC 15.56.100 Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects; WHMC 15.56.100 Enforcement; WHMC 1.08 General Penalty Provisions
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 6 Legal Authority for Permit Section VI.A.2.a.vi

<i>Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.05.A; LAMC 64.70.05.B.6
County of Los Angeles	LACC §12.80.490 [notification of uncontrolled discharge]; LACC §12.80.570 [obstructing access to facilities]; LACC §12.80.580 [compliance inspection]; LACC §12.80.610 [violation a nuisance]; LACC §12.80.620 [nuisance abatement]; LACC §12.80.635 [violation penalty]; LACC §12.80.640 [penalties not exclusive]; LACC §12.80.440 [LID standards]; LACC §12.80.445 [hydromodification control]; LACC §12.84.450 [LID Plan Review]; LACC §22.60.330 [general prohibitions]; LACC §22.60.340 [violations]; LACC §12.60.350 [public nuisance]; LACC §12.60.360 [infractions]; LACC §12.60.370 [injunction]; LACC §12.60.380 [enforcement]; LACC §12.60.390 [zoning enforcement order]; LACC §26.103 [violations and penalties]; LACC §26.104 [enforcement]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §19.11 Violation a Public Nuisance; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.19 Conflicts With Other Code Sections; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-509 Enforcement
City of Culver City	CCMC 5.05.045
City of Inglewood	IMC §10-211 Enforcement
City of West Hollywood	WHMC 15.56.100 Enforcement; WHMC 1.08 General Penalty Provisions
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.430 (Inspections and sampling), 5.20.330 (Monitoring facilities), 5.20.450 (Search warrants), and 5.20.500 (Notice of Violation); SMMC Chapter 7.10 – Sections 7.10.070 (Enforcement and penalties)

Table 7 Legal Authority for Permit Section VI.A.2.a.vii

<i>Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	California Government Code §6502; California Government Code §23004
County of Los Angeles	California Government Code §6502; California Government Code §23004
Los Angeles County Flood Control District	
City of Beverly Hills	BHMC §§ 9-4-504G Prohibited Activities; BHMC §§ 9-4-504H Exempted Discharges, Conditionally Exempted Discharges, or Designated Discharges
City of Culver City	California Government Code §6502; California Government Code §23004
City of Inglewood	IMC §10-204 Prohibited Activities; IMC §10-211 Enforcement
City of West Hollywood	WHMC 15.56; The City, as a municipal corporation, has authority to enter into contracts that enable it to carry out its necessary functions, including the power to enter into interagency

	agreements to control the contribution of pollutants from one portion of the shared MS4 to another.
City of Santa Monica	SMMC Chapter 5.20 and SMMC Chapter 7.10

Table 8 Legal Authority for Permit Section VI.A.2.a.viii

<i>Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	California Government Code §6502; California Government Code §23004
County of Los Angeles	California Government Code §6502; California Government Code §23004
City of Beverly Hills	BHMC §§ 9-4-504G Prohibited Activities; BHMC §§ 9-4-504H Exempted Discharges, Conditionally Exempted Discharges, or Designated Discharges
City of Culver City	California Government Code §6502; California Government Code §23004
City of Inglewood	IMC §10-204 Prohibited Activities; IMC §10-211 Enforcement
City of West Hollywood	WHMC 15.56; The City, as a municipal corporation, has authority to enter into contracts that enable it to carry out its necessary functions, including the power to enter into interagency agreements to control the contribution of pollutants from one portion of the shared MS4 to another.
City of Santa Monica	SMMC Chapter 5.20 and SMMC Chapter 7.10

Table 9 Legal Authority for Permit Section VI.A.2.a.ix

<i>Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.05.A; LAMC 64.70.05.B; LAMC 64.70.04.B
County of Los Angeles	LACC §12.80.490 [notification of uncontrolled discharge]; LACC §12.80.570 [obstructing access to facilities]; LACC §12.80.580 [compliance inspection]; LACC §12.80.610 [violation a nuisance]; LACC §12.80.620 [nuisance abatement]; LACC §12.80.635 [violation penalty]; LACC §20.60.380 [enforcement]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-506 Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; BHMC §§ 1-3-103 Public Nuisances; BHMC §§ 1-3 Code Violations
City of Culver City	CCMC 5.05.045(C)
City of Inglewood	IMC §10-208 Low Impact Development Requirements for New Development and Redevelopment; IMC §10-211 Enforcement
City of West Hollywood	WHMC 15.56.100.H Enforcement
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.430 (Inspections and sampling), 5.20.330 (Monitoring facilities), 5.20.450 (Search warrants), and 5.20.500 (Notice of Violation); SMMC Chapter 7.10 – Sections 7.10.070 (Enforcement and penalties)

Table 12 Legal Authority for Permit Section VI.A.2.a.xii

<i>Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.05.B.3
County of Los Angeles	LACC §12.80.530 [installation of structural BMPs]; LACC §22.60.380 [enforcement]; LACC §22.60.390 [zoning enforcement order]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-506 Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; BHMC §§ 9-4-509 Enforcement
City of Culver City	CCMC 5.05.040(G); CCMC 5.05.040(H)
City of Inglewood	IMC §10-208 Low Impact Development Requirements for New Development and Redevelopment; IMC §10-206 Requirements for Existing Properties; IMC §10-211 Enforcement
City of West Hollywood	California Public Resources Code § 21000 et seq (CEQA); WHMC 15.56.100 Enforcement
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 13 Legal Authority for Permit Section VI.A.2.b.i

<i>These statements must include: (i) Citation of applicable municipal ordinances or other appropriate legal authorities and their relationship to the requirements of 40 CFR § 122.26(d)(2)(i)(A)-(F) and of this Order.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70 General Provisions; LAMC 64.70.01 (Definitions and Abbreviations); LAMC 64.70.02 (Pollutant and Discharge Control); LAMC 64.70.03 (Elimination of Illicit Discharges and Illicit Connections); LAMC 64.70.05 (Authority to Inspect); LAMC 64.70.06 (Authority to Arrest and Issue Citations); LAMC 64.70.07 (Enforcement); LAMC 64.70.09 (Remedies Not Exclusive); LAMC 64.70.10 (Disposition of Money Collected); LAMC 64.70.11 (Stormwater and Urban Runoff Pollution Education); LAMC 64.70.12 (Construction and Application); LAMC 64.70.13 (Severability); LAMC 64.72 (Stormwater Pollution Control Measures for Development Planning and Construction Activities); LAMC 64.72.01 (Authority of the Board of Public Works); LAMC 64.72.02 (Funds Collected from Waiver); LAMC 64.72.03 (Supplemental Provisions); LAMC 64.72.04 (Authority to Inspect and Enforce Stormwater Pollution Control Measures); LAMC 64.72.05 (LID Plan Check Fees); California Government Code §6502; California Government Code §23004
County of Los Angeles	LACC Title 12 Chapter 12.08 including §12.80.010 through §12.80.360 [Definition], §12.80.370 [Short title], §12.80.380 [Purpose and intent], §12.80.390 [Applicability of this chapter], §12.80.400 [Standards, guidelines, and criteria], §12.80.410 [Illicit discharges prohibited], §12.80.420 [Installation or use of illicit connections prohibited], §12.80.430 [Removal of illicit connection from the storm drain system], §12.80.440 [Littering and other discharge of polluting or damaging substances prohibited], §12.80.450 [Stormwater and runoff pollution mitigation for construction activity], §12.80.460 [Prohibited discharges from industrial or commercial activity], §12.80.470 [Industrial/commercial facility sources required to obtain a NPDES permit], §12.80.480 [Public facility sources required to obtain a NPDES permit], §12.80.490 [Notification of uncontrolled discharges required], §12.80.500 [Good housekeeping provisions]; §12.80.510 [Best management practices for construction activity], §12.80.520 [Best management practices for industrial and commercial facilities], §12.80.530 [Installation of structural BMPs], §12.80.540 [BMPs to be consistent with environmental goals], §12.80.550 [Enforcement – Director’s powers and duties], §12.80.560 [Identification for inspectors and maintenance personnel], §12.80.570 [Obstructing access to facilities prohibited], §12.80.580 [Inspection to ascertain compliance – Access required], §12.80.590 [Interference with inspector prohibited], §12.80.600 [Notice to correct violations – Director may take action], §12.80.610 [Violation a public nuisance], §12.80.620 [Nuisance abatement – Director to perform work when – Costs], §12.80.630 [Violation – Penalty], §12.80.635 [Administrative fines], §12.80.640 [Penalties not exclusive], §12.80.650 [Conflicts with other code sections], §12.80.660 [Severability], §12.80.700 [Purpose], §12.80.710 [Applicability], §12.80.720

Table 13 Legal Authority for Permit Section VI.A.2.b.i

<i>These statements must include: (i) Citation of applicable municipal ordinances or other appropriate legal authorities and their relationship to the requirements of 40 CFR § 122.26(d)(2)(i)(A)-(F) and of this Order.</i>	
Agency	Water Quality Ordinance
	[Registration required], §12.80.730 [Exempt facilities], §12.80.740 [Certificate of inspection – Issuance by the director], §12.80.750 [Certificate of inspection – Suspension or revocation], §12.80.760 [Certificate of inspection – Termination], §12.80.770 [Service fees], §12.80.780 [Fee schedule], §12.80.790 [Credit for overlapping inspection programs], §12.80.800 [Annual review of fees]; LACC Title 12, Chapter 12.84 Low Impact Development Standards including §12.84.410 [Purpose], §12.84.420 [Definitions], §12.84.430 [Applicability], §12.84.440 [Low Impact Development Standards], §12.84.445 [Hydromodification Control], §12.84.450 [LID Plan Review], §12.84.460 [Additional Requirements]; LACC Title 22 Planning and Zoning Part 6 Enforcement Procedures including §22.60.330 [General prohibitions], §22.60.340 [Violations], §22.60.350 [Public nuisance], §22.60.360 [Infractions], §22.60.370 [Injunction], §22.60.380 [Enforcement], §22.60.390 [Zoning enforcement order and noncompliance fee]; LACC Title 26 Building Code including §26.103 [Violations and Penalties], §26.104 [Organization and Enforcement], §26.105 [Appeals Boards], §26.106 [Permits], §26.107 [Fees], §26.108 [Inspections]; LACFCD Code Chapter 21 Stormwater and Runoff Pollution Control including §21.01 [Purpose and Intent], §21.03 [Definitions], §21.05 [Standards, Guidelines, and Criteria], §21.07 [Prohibited Discharges], §21.09 [Installation or Use of Illicit Connections Prohibited], §21.11 [Littering Prohibited], §21.13 [Evidence of Compliance with Permit Requirements for Industrial or Commercial Activity], §21.15 [Notification of Uncontrolled Discharges Required], §21.17 [Requirement to Monitor and Analyze], §21.21 [Severability], §21.23 [Violation a Public Nuisance]; California Government Code §6502, §23004, §8100 et seq.
City of Beverly Hills	BHMC §§ 9-4-504G Prohibited Activities; BHMC §§ 9-4-504H Exempted Discharges, Conditionally Exempted Discharges, or Designated Discharges
City of Culver City	CCMC 5.05.005 Title; CCMC 5.05.010 Findings; CCMC 5.05.015 Purpose and Intent; CCMC 5.05.020 Definitions; CCMC 5.05.025 Prohibited Activities; CCMC 5.05.030 Requirements for existing properties, good housekeeping provisions; CCMC 5.05.035 Requirements for Industrial/Commercial and Construction Activities; CCMC 5.05.040 Standard Urban Stormwater Mitigation Plan (SUSMP) requirements for new development and redevelopment projects; CCMC 5.05.045 Enforcement; CCMC 5.05.050 Fees; California Government Code §6502; California Government Code §23004
City of Inglewood	IMC §1-18 Penalty Provisions; IMC §1-3; IMC §10-211 Enforcement; IMC §11-11.1; IMC §1-18.3 Authority of City Attorney to File Misdemeanor Charges
City of West Hollywood	WHMC Chapter 1.08 General Penalty Provisions; WHMC Chapter 15.56 Stormwater and Urban Runoff Pollution Control; 1 – Criminal Citation (judicial); 2 – Administrative Citation (administrative); 3 – Administrative Cease and Desist Order (administrative); 4 – Civil Nuisance Abatement (judicial); 5 – Civil Injunction (judicial); 6 – Permit Revocation/Modification (administrative); 7 – All other criminal and civil remedies available by law
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 14 Legal Authority for Permit Section VI.A.2.b.ii

<i>These statements must include: (ii) Identification of the local administrative and legal procedures available to mandate compliance with applicable municipal ordinances identified in subsection (i) above and therefore with the conditions of this Order, and a statement as to whether enforcement actions can be completed administratively or whether they must be commenced and completed in the judicial system.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.06; LAMC 64.70.07; Previously listed LAMC ordinances
County of Los Angeles	LACC §12.80.550 [Enforcement – Director’s powers and duties]; LACC §12.80.600 [Notice to correct violations – Director may take action]; LACC §12.80.610 [Violation a public nuisance]; LACC §12.80.620 [Nuisance abatement – Director to perform work when – Costs]; LACC §12.80.630 [Violation – Penalty]; LACC §12.80.635 [Administrative fines]; LACC §12.80.640 [Penalties not exclusive]; LACC §12.84.450 [LID Plan Review]; LACC §12.84.460 [Additional Requirements]; Title 26 §103 [Violations and Penalties]; Title 26 §104 [Organization and Enforcement]; Title 26 §105 [Appeals Board]; Title 26 §106 [Permits]; LACC §22.60.330 [General prohibitions]; LACC §22.60.340 [Violations]; LACC §22.60.350 [Public nuisance]; LACC §22.60.360 [Infractions]; LACC §22.60.370 [Injunction]; LACC §22.60.380 [Enforcement]; LACC §22.60.390 [Zoning enforcement order and noncompliance fee]; LACFCD Code §21.05 [Standards, Guidelines, and Criteria]; LACFCD Code §21.07 [Prohibited Discharges]; LACFCD Code §21.09 [Installation or Use of Illicit Connections Prohibited]; LACFCD Code §21.11 [Littering Prohibited]; LACFCD Code §21.13 [Evidence of Compliance with Permit Requirements for Industrial or Commercial Activity]; LACFCD Code §21.15 [Notification of Uncontrolled Discharges Required]; LACFCD Code §21.17 [Requirement to Monitor and Analyze]; LACFCD Code §21.23 [Violation a Public Nuisance]
City of Beverly Hills	BHMC §§ 9-4-504G Prohibited Activities; BHMC §§ 9-4-504H Exempted Discharges, Conditionally Exempted Discharges, or Designated Discharges
City of Culver City	CCMC 5.05.045(E)
City of Inglewood	IMC §1-18 Penalty Provisions; IMC §1-3; IMC §10-211 Enforcement; IMC §11-11.1; IMC §1-18.3 Authority of City Attorney to File Misdemeanor Charges
City of West Hollywood	WHMC 15.56; The City, as a municipal corporation, has authority to enter into contracts that enable it to carry out its necessary functions, including the power to enter into interagency agreements to control the contribution of pollutants from one portion of the shared MS4 to another.
City of Santa Monica	SMMC Chapter 5.20 – Section 5.20.500 (Notice of Violation), 5.20.510 (Consent Orders), 5.20.520 (Show Cause Hearing), 5.20.530 (Compliance Orders), 5.20.540 (Cease and Desist Orders), 5.20.550 (Liability for Costs of Correction Arising From Unlawful Discharge), 5.20.560 (Industrial Wastewater Permit Suspension or Revocation Order), 5.20.570 (Disconnection of Nonpermitted Violators), 5.20.580 (Additional Emergency Remedial Measures), 5.20.590 (Injunctive Relief), 5.20.600 (Civil Liability), 5.20.610 (Criminal Prosecution), and 5.20.620 (Water Supply Severance); SMMC Chapter 7.10 – Sections 7.10.070 (Enforcement and penalties), 7.10.080 (Additional best management practice requirements)

Table 10 Legal Authority for Permit Section VI.A.2.a.x

<i>Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.02.D
County of Los Angeles	LACC §12.80.450 [construction mitigation]; LACC §12.80.500 [good housekeeping practices]; LACC §12.80.510 [construction BMPs]; LACC §12.80.520 [industrial/commercial BMPs]; LACC §12.84.440 [LID standards]; LACC §12.84.450 [LID Plan Review]; LACC §22.60.330 [general prohibitions]; LACC §22.60.380 [enforcement]; LACC §22.60.390 [zoning enforcement order]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-506 Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; BHMC §§ 9-4-509 Enforcement; BHMC §§ 1-3-103 Public Nuisances
City of Culver City	5.05.040
City of Inglewood	IMC §10-208 Low Impact Development Requirements for New Development and Redevelopment; IMC §10-204 Prohibited Activities; IMC §10-206 Requirements for Existing Properties; IMC §10-211 Enforcement
City of West Hollywood	Article 11, §7 of the California Constitution; California Public Resources Code §21000 et seq. (CEQA); WHMC 15.56.080 Good Housekeeping Provisions; WHMC 15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC 15.56.100 Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects; WHMC Title 17 Zoning
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Table 11 Legal Authority for Permit Section VI.A.2.a.xi

<i>Require that structural BMPs are properly operated and maintained.</i>	
Agency	Water Quality Ordinance
City of Los Angeles	LAMC 64.70.02.D
County of Los Angeles	LACC §12.80.530 [installation of structural BMPs]; LACC §22.60.380 [enforcement]; LACC §22.60.390 [zoning enforcement order]; LACC §26.106 [permits]; LACC §26.108 [inspections]; LACFCD Code §21.05 Standards, Guidelines, and Criteria; LACFCD Code §21.07 Prohibited Discharges; LACFCD Code §21.09 Installation or Use of Illicit Connections Prohibited; LACFCD Code §21.11 Littering Prohibited; LACFCD Code §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity; LACFCD Code §21.15 Notification of Uncontrolled Discharges Required; LACFCD Code §21.17 Requirement to Monitor and Analyze; LACFCD Code §21.23 Violation a Public Nuisance
City of Beverly Hills	BHMC §§ 9-4-506 Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; BHMC §§ 9-4-509 Enforcement
City of Culver City	CCMC 5.05.040(G); CCMC 5.05.040(H)
City of Inglewood	IMC §10-208 Low Impact Development Requirements for New Development and Redevelopment; IMC §10-206 Requirements for Existing Properties; IMC §10-207 Requirements for Industrial/Commercial and Construction Activities
City of West Hollywood	Article 11, §7 of the California Constitution; California Public Resources Code §21000 et seq. (CEQA); WHMC 15.56.080 Good Housekeeping Provisions; WHMC 15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC 15.56.100 Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects; WHMC Title 17 Zoning
City of Santa Monica	SMMC Chapter 5.20 – Sections 5.20.010 through 5.20.620; SMMC Chapter 7.10 – Sections 7.10.010 through 7.10.080

Appendix 2.B
Legal Authority Documentation

City of Beverly Hills



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December 1, 2014

VIA ELECTRONIC TRANSMISSION

Mr. Samuel Unger
Executive Officer
Los Angeles Regional Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
sunger@waterboards.ca.gov

Re: Legal Authority of the City of Beverly Hills to Implement and Enforce the Requirements of 40 C.F.R. § 122.26(d)(2)(i)(A-F) and RWQCB Order R4-2012-0175, NPDES Permit CAS004001

Dear Mr. Unger:

The City of Beverly Hills (the “City”), by and through its City Attorney, hereby submits the following certification (“Statement”), pursuant to Section VI.A.2.b of Order R4-2012-0175 (NPDES Permit CAS004001), issued by the California Regional Water Quality Control Board, Los Angeles Region (“RWQCB”) on November 8, 2012 and entitled “Waste Discharge Requirements for Municipal Separate Storm Sewer System (“MS4”) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4” (the “Permit”).

The City is one of the co-permittees under the Permit. Section VI.A.2.b of the Permit requires the City to provide the RWQCB with a statement by its chief legal counsel, certifying that the City has the legal authority to implement and enforce each of the current requirements set forth in 40 C.F.R. § 122.26(d)(2)(i)(A-F) and the Permit. The purpose of this Statement is to describe the City’s compliance with Section VI.A.2.b of the Permit. As discussed in further detail herein, it is our opinion that the City has the necessary legal authority to implement the Permit and to control and prohibit discharges of pollutants into the Municipal Separate Storm Sewer System (“MS4”). However, this Statement is not, nor should it be construed as, a waiver of any rights that the City may have relating to the Permit.

1. Legal Authority Statement

In our opinion, the City has the necessary legal authority to comply with the legal requirements imposed upon it under the Permit, consistent with the requirements set

Mr. Samuel Unger
December 1, 2014
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forth in the U.S. Environmental Protection Agency’s regulations promulgated under the Clean Water Act, and, specifically, 40 C.F.R. § 122.26(d)(2)(i)(A-F), and to the extent permitted by state and federal law and subject to the limitations on municipal action under the California and United States Constitutions.

The City, as a general law city, has broad general police powers under the California Constitution to enact legislation to promote the health and welfare of the community to the extent not preempted by federal or state law. In addition, the City adopted ordinances for the purpose of ensuring that it has adequate legal authority to implement and enforce its storm water control program. The City has the authority under the California Constitution and state statutes to enact and enforce these ordinances, and these ordinances were duly enacted.

2. Ordinances

The City has adopted ordinances related to the regulation of urban runoff to control and prohibit discharges of pollutants into the MS4 and to comply with the requirements of the Permit applicable to it, as well as, to the extent applicable, 40 C.F.R. § 122.26(d)(2)(i)(A)-(F). The City’s Storm Water Ordinance (Article 5 of Chapter 4 of Title 9 of the Beverly Hills Municipal Code (“BHMC”)) is the principal City ordinance addressing the control of urban runoff. In addition, we cite below the BHMC sections that implement and enforce the following requirements of 40 C.F.R. § 122.26(d)(2)(i)(A)-(F) and the Permit:

- i. 40 C.F.R. § 122.26(d)(2)(i)(A); Permit Section VI.A.2.a.i: Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit (BHMC §§ 9-4-504 – Prohibited Activities; and 9-4-507 – Requirements for Construction Activities);
- ii. 40 C.F.R. § 122.26(d)(2)(i)(C); Permit Section VI.A.2.a.ii: Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A (BHMC § 9-4-504.F – Prohibited Activities);
- iii. 40 C.F.R. § 122.26(d)(2)(i)(B); Permit Section VI.A.2.a.iii: Prohibit and eliminate illicit discharges and illicit connections to the MS4 (BHMC § 9-4-504.A – Prohibited Activities);

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December 1, 2014
Page 3

- iv. 40 C.F.R. § 122.26(d)(2)(i)(C); Permit Section VI.A.2.a.iv: Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4 (BHMC § 9-4-504 – Prohibited Activities);
- v. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.v: Require compliance with conditions in its ordinances, permits, contracts or orders (*i.e.*, hold dischargers to its MS4 accountable for their contributions of pollutants and flows) (BHMC §§ 9-4-504.G – Prohibited Activities; and 9-4-509 – Enforcement);
- vi. 40 C.F.R. § 122.26(d)(2)(i)(E)-(F); Permit Section VI.A.2.a.vi: Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders (BHMC § 9-4-509 – Enforcement);
- vii. 40 C.F.R. § 122.26(d)(2)(i)(D); Permit Section VI.A.2.a.vii: Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among copermitees (BHMC §§ 9-4-504.G – Prohibited Activities; and 9-4-504.H – Exempted Discharges, Conditionally Exempted Discharges, or Designated Discharges);
- viii. 40 C.F.R. § 122.26 (d)(2)(i)(D); Permit Section VI.A.2.a.viii: Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation (BHMC §§ 9-4-504.G – Prohibited Activities; and 9-4-504.H – Exempted Discharges, Conditionally Exempted Discharges, or Designated Discharges);
- ix. 40 C.F.R. § 122.26(d)(2)(i)(F); Permit Section VI.A.2.a.ix: Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the City has the authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4 (BHMC §§ 9-4-506 – Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; 9-4-509 – Enforcement; 1-3-103 – Public Nuisances; and Chapter 3 of Title 1 – Code Violations);
- x. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.x: Require the use of control measures to prevent or reduce the discharge of pollutants to achieve

Mr. Samuel Unger
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water quality standards/receiving water limitations (BHMC §§ 9-4-506 – Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; 9-4-509 – Enforcement; and 1-3-103 – Public Nuisances);

- xi. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.xi: Require that structural BMPs are properly operated and maintained (BHMC §§ 9-4-506 – Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; 9-4-509 – Enforcement); and
- xii. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.xii: Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4 (BHMC §§ 9-4-506 – Urban Runoff and Storm Water Mitigation Plans for New Development and Redevelopment Projects; 9-4-509 – Enforcement).

3. Implementation

Some of the City's ordinances are implemented through permit programs and others are implemented as regulatory programs. Under each ordinance, one or more City departments or department directors are authorized and directed in each ordinance to take the actions contemplated by the ordinance (*e.g.*, to consider evidence and make findings, to issue or deny permits, to impose conditions on projects, to inspect, to take enforcement action, etc.).

The City's Storm Water Ordinance (Article 5 of Chapter 4 of Title 9 of the BHMC) is the principal City ordinance addressing the control of urban runoff. This ordinance is regulatory, and applies to specified new and existing residential and business uses and associated facilities and activities, as well as new development and redevelopment, and all other specified new and existing facilities and activities that threaten to discharge pollutants within the boundaries of the City and within its regulatory jurisdiction, whether or not a City permit or approval is required. The City's Storm Water Ordinance also contains discharge prohibitions and requirements for the implementation of BMPs and other requirements necessary to implement the Permit.

Other City departments require compliance with the City's Storm Water Ordinance as a condition of issuance of relevant City permits. City departments may also impose specific conditions of approval consistent with the City's Storm Water Ordinance. All City environmental ordinances are also implemented, in part, through the application of the CEQA process to proposed projects.

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4. Administrative and Judicial/Legal Procedures

In addition to the above authority, the City has in place various legal and administrative procedures to assist in enforcing the various urban runoff related Ordinances, including the following:

A. Administrative Remedies

- General Penalties (Chapter 3 of Title 1 of the BHMC; and BHMC § 9-4-509,)
- Administrative Penalties and Citations (Article 3 of Chapter 3 of Title 1 of the BHMC; and BHMC § 9-4-509)

B. Nuisance Remedies

- Public nuisance under State law
- City nuisance abatement (BHMC §§ 1-3-103 and 9-4-509.A)

C. Criminal Remedies

- Misdemeanor citations/prosecution (Article 1 of Chapter 3 of Title 1 of the BHMC)

D. Equitable Remedies

- Injunctive relief under State law and the Beverly Hills Municipal Code
- Declaratory relief under State law

E. Other Civil Remedies

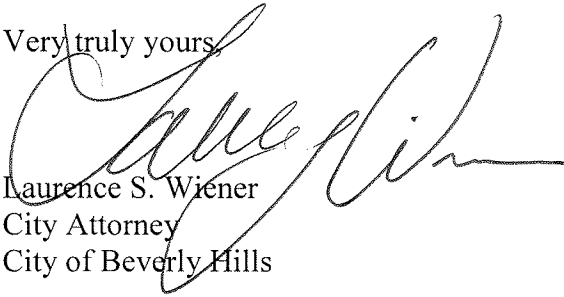
- Federal law claims (*e.g.*, Clean Water Act and Resource Conservation and Recovery Act Citizen Suits)
- Remedies under the California Government Code

Violations of the City's Storm Water Ordinance are deemed a "public nuisance", in which case enforcement actions can be completed administratively, or judicially when necessary.

Please contact me if you have any questions or if you need any additional information regarding the City's legal authority to enforce the Permit.

Mr. Samuel Unger
December 1, 2014
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Very truly yours,


Laurence S. Wiener
City Attorney
City of Beverly Hills

cc: Mahdi Aluzri, Assistant City Manager
George Chavez, Director of Public Works Services
Trish Rhay, Utilities Manager
Josette Descalzo, Water Quality Specialist
Candice K. Lee, Esq.
Norman A. Dupont, Esq.

Culver City



OFFICE OF THE CITY ATTORNEY

CITY OF CULVER CITY

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CAROL A. SCHWAB

City Attorney

Mr. Sam Unger, Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Attention Mr. Ivar Ridgeway

Dear Mr. Unger:

CERTIFICATION BY LEGAL COUNSEL FOR THE CITY OF CULVER CITY CONFIRMING LEGAL AUTHORITY TO IMPLEMENT THE PROVISIONS OF THE MUNICIPAL STORMWATER PERMIT

I write pursuant to Part VI(A)(2)(b) of Order No. R4-2012-0175, otherwise known as the Municipal Separate Stormwater Sewer System (MS4) Permit (the "Order"). Part VI(A)(2)(b) of the Permit provides:

"Each Permittee must submit a statement certified by its chief legal counsel that the Permittee has the legal authority within its jurisdiction to implement and enforce the requirements contained in 40 CFR §122.26(d)(2)(i)(A-F) and this Order."

The Office of the City Attorney of the City of Culver City (City), serving as its legal counsel, certifies that the City has the legal authority within its jurisdiction to implement and enforce the requirements contained in 40 CFR §122.26(d)(2)(i)(A-F) and the Order. This correspondence addresses all legal authority requirements as listed in the Order. Subsequently, annual certification by our office will be included in the Stormwater Annual Report as required by the Order.

Order Part VI (A)(2)(b)(i) – "Citation of applicable municipal ordinances or other appropriate legal authorities and their relationship to the requirements of 40 CFR §122.26(d)(2)(i)(A-F) and this Order"

Below is a list of applicable Culver City Municipal Code (CCMC) provisions that provide the requisite legal authorities:

- 5.05.005 Title
- 5.05.010 Findings
- 5.05.015 Purpose and intent
- 5.05.020 Definitions
- 5.05.025 Prohibited activities
- 5.05.030 Requirements for existing properties; good housekeeping provisions
- 5.05.035 Requirements for industrial/commercial and construction activities
- 5.05.040 Standard Urban Stormwater Mitigation Plan (SUSMP) requirements for new development and redevelopment projects
- 5.05.045 Enforcement
- 5.05.050 Fees

In addition, statewide regulations provide further legal authority with respect to intergovernmental authorities, specifically:

- California Government Code §6502
- California Government Code §23004

Relationship of Applicable Ordinances and Other Legal Authorities to the Requirements of 40 CFR §122.26(d)(2)(i)(A-F) and the Order.

The table below indicates the basic relationship between the “Legal Authority” requirements listed in Section VI(A)(2)(b) of the Order and the existing ordinances and statutes that provide this legal authority.

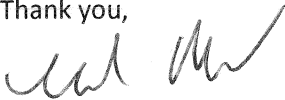
Legal Authority Required by Permit	City/State Legal Provisions
Part VI(A)(2)(i) Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under a NPDES permit, as well as to those sites that do not have coverage under a NPDES permit.	5.05.035 5.05.025(D) 5.05.040
Part VI(A)(2)(ii) Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A.	5.05.025 (A)(1)
Part VI(A)(2)(iii)	5.05.025 (A)(1)

Prohibit and eliminate illicit discharges and illicit connections to the MS4.	
Part VI(A)(2)(iv) Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4.	5.05.025 (A)(1)
Part VI(A)(2)(v) Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows).	5.05.025 (F) 5.05.045
Part VI(A)(2)(vi) Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders.	5.05.045
Part VI(A)(2)(vii) Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees.	CA Government Code §6502 CA Government Code §23004
Part VI(A)(2)(viii) Control of the contribution of pollutants from one portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation.	CA Government Code §6502 CA Government Code §23004
Part VI(A)(2)(ix) Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4.	5.05.045 (C)
Part VI(A)(2)(x) Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations.	5.05.040
Part VI(A)(2)(xi) Require that structural BMPs are properly operated and maintained.	5.05.040 (G) & (H)

<p>Part VI(A)(2)(xii) Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4.</p>	<p>5.05.040 (G) & (H)</p>
<p>Part VI(A)(b)(ii) Identification of the local administrative and legal procedures available to mandate compliance with applicable municipal ordinances identified in subsection (i) above and therefore with the conditions of this Order, and a statement as to whether enforcement actions can be completed administratively or whether they must be commenced and completed in the judicial system.</p>	<p>5.05.045 (E) Enforcement actions can be completed administratively</p>

If needed, please contact Kaden Young at (310) 253-6445 for further information.

Thank you,



Roland Miranda
Deputy City Attorney

Inglewood



CITY OF INGLEWOOD

One W. Manchester Boulevard, Suite 860, Inglewood, CA 90301-1750

Office of the City Attorney

Kenneth R. Campos
City Attorney

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June 24, 2015

VIA ELECTRONIC TRANSMISSION

Mr. Samuel Unger
Executive Officer
Los Angeles Regional Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
sunger@waterboards.ca.gov

Re: Legal Authority of the City of Inglewood to Implement and Enforce the Requirements of 40 C.F.R. § 122.26(d)(2)(i)(A-F) and RWQCB Order R4-2012-0175, NPDES Permit CAS004001

Dear Mr. Unger:

The City of Inglewood (the "City"), by and through its City Attorney, hereby submits the following certification ("Statement"), pursuant to Section VI.A.2.b of Order R4-2012-0175 (NPDES Permit CAS004001), issued by the California Regional Water Quality Control Board, Los Angeles Region ("RWQCB") on November 8, 2012 and entitled "Waste Discharge Requirements for Municipal Separate Storm Sewer System ("MS4") Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4" (the "Permit").

The City is one of the co-permittees under the Permit. Section VI.A.2.b of the Permit requires the City to provide the RWQCB with a statement by its chief legal counsel, certifying that the City has the legal authority to implement and enforce each of the current requirements set forth in 40 C.F.R. § 122.26(d)(2)(i)(A-F) and the Permit. The purpose of this Statement is to describe the City's compliance with Section VI.A.2.b of the Permit. As discussed in further detail herein, it is our opinion that the City has the necessary legal authority to implement the Permit and to control and prohibit discharges of pollutants into the Municipal Separate Storm Sewer System ("MS4"). However, this Statement is not, nor should it be construed as, a waiver of any rights that the City may have relating to the Permit.

1. Legal Authority Statement

In our opinion, the City has the necessary legal authority to comply with the legal requirements imposed upon it under the Permit, consistent with the requirements set forth in the U.S. Environmental Protection Agency's regulations promulgated under the Clean Water Act, and, specifically, 40 C.F.R. § 122.26(d)(2)(i)(A-F), and to the extent permitted by state and federal law and subject to the limitations on municipal action under the California and United States Constitutions, except as noted herein.

The City has broad general police powers under the California Constitution to enact legislation for health and public welfare of the community to the extent not preempted by federal or state law. In addition, the City adopted ordinances for the purpose of ensuring that it has adequate legal authority to implement and enforce its stormwater control program. The City has the authority under the California Constitution and state law to enact and enforce these ordinances, and these ordinances were duly enacted.

2. Ordinances

The City has adopted ordinances related to the regulation of urban runoff to control and prohibit discharges of pollutants into the MS4 and to comply with the requirements of the Permit applicable to it, as well as, to the extent applicable, 40 C.F.R. § 122.26 (d)(2)(i)(A)-(F). The City's Stormwater Ordinance (Article 16 of Chapter 10 of the Inglewood Municipal Code ("IMC")) is the principal City ordinance addressing the control of urban runoff. Under this Stormwater Ordinance, the City has the necessary legal authority to do the following:

i. 40 C.F.R. § 122.26(d)(2)(i)(A); Permit Section VI.A.2.a.i: Control the contribution of pollutants to its MS4 from stormwater discharges associated with industrial and construction activity and control the quality of stormwater discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit (IMC § 10-207 – Requirements for Industrial/Commercial and Construction Activities);

ii. 40 C.F.R. § 122.26(d)(2)(i)(C); Permit Section VI.A.2.a.ii: Prohibit all non-stormwater discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A (IMC § 10-204 – Prohibited Activities; IMC § 10-206 – Requirements for Existing Properties);

iii. 40 C.F.R. § 122.26(d)(2)(i)(B); Permit Section VI.A.2.a.iii: Prohibit and eliminate illicit discharges and illicit connections to the MS4 (IMC § 10-204 – Prohibited Activities);

iv. 40 C.F.R. § 122.26(d)(2)(i)(C); Permit Section VI.A.2.a.iv: Control the discharge of spills, dumping, or disposal of materials other than stormwater to its MS4 (IMC § 10-204 – Prohibited Activities; IMC § 10-206 – Requirements for Existing Properties; IMC § 10-211 – Enforcement);

v. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.v: Require compliance with conditions in Permittee ordinances, permits, contracts or orders (*i.e.*, hold dischargers to its MS4 accountable for their contributions of pollutants and flows) (IMC § 10-211 – Enforcement);

vi. 40 C.F.R. § 122.26(d)(2)(i)(E)-(F); Permit Section VI.A.2.a.vi: Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders (IMC § 10-211 – Enforcement);

vii. 40 C.F.R. § 122.26(d)(2)(i)(D); Permit Section VI.A.2.a.vii: Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees (IMC § 10-204 – Prohibited Activities; IMC § 10-211 – Enforcement);

viii. 40 C.F.R. § 122.26 (d)(2)(i)(D); Permit Section VI.A.2.a.viii: Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation (IMC § 10-204 – Prohibited Activities; IMC § 10-211 – Enforcement);

ix. 40 C.F.R. § 122.26(d)(2)(i)(F); Permit Section VI.A.2.a.ix: Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-stormwater discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4 (IMC § 10-208 – Low Impact Development Requirements for New Development and Redevelopment; IMC § 10-211 – Enforcement);

x. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.x: Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations (IMC § 10-208 – Low Impact Development Requirements for New Development and Redevelopment; IMC § 10-204 – Prohibited Activities; IMC § 10-206 – Requirements for Existing Properties; IMC § 10-211 – Enforcement);

xi. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.xi: Require that structural BMPs are properly operated and maintained (IMC § 10-208 – Low Impact Development Requirements for New Development and Redevelopment; IMC § 10-206 – Requirements for Existing Properties; and IMC § 10-207 – Requirements for Industrial/Commercial and Construction Activities); and

xii. 40 C.F.R. § 122.26(d)(2)(i)(E); Permit Section VI.A.2.a.xii: Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4 (IMC § 10-208 – Low Impact Development Requirements for New Development and Redevelopment; IMC § 10-206 – Requirements for Existing Properties; IMC § 10-211 – Enforcement).

Furthermore, in June 2015, the City updated its Stormwater Ordinance to include regulations specifically addressing low impact development to comply with the Permit's Planning and Land

Development Program requirements. The City's LID provisions of its Stormwater Ordinance are located in IMC § 10-208 – Low Impact Development Requirements for New Development and Redevelopment.

3. Implementation

Some of the City's ordinances are implemented through permit programs and others are implemented as regulatory programs. Under each ordinance, one or more City bodies, departments, or department directors are authorized and directed in each ordinance to take the actions contemplated by the ordinance (*e.g.*, to consider evidence and make findings, to issue or deny permits, to impose conditions on projects, to inspect, to take enforcement action, etc.).

The City's Stormwater Ordinance (IMC Article 16 of Chapter 10) is the principal City ordinance addressing the control of urban runoff. This ordinance is regulatory, and applies to specified new and existing residential and business communities and associated facilities and activities, as well as new development and redevelopment, and all other specified new and existing facilities and activities that threaten to discharge pollutants within the boundaries of the City and within its regulatory jurisdiction, whether or not a City permit or approval is required. The City's Stormwater Ordinance also contains discharge prohibitions and requirements for the implementation of BMPs and other requirements necessary to implement the Permit.

Other City departments require compliance with the City's Stormwater Ordinance as a condition for issuance of relevant City permits. City departments may also impose specific conditions of approval consistent with the City's Stormwater Ordinance. All City environmental ordinances are also implemented, in part, through the application of the CEQA process to proposed projects.

4. Administrative and Judicial/Legal Procedures

In addition to the above authority, the City has in place various legal and administrative procedures to assist in enforcing the various urban run-offs related Ordinances, including the following:

A. Administrative Remedies

- General Penalties (IMC § 1-18 – Penalty Provisions)
- Administrative Penalties and Compliance Orders (IMC Article 3 of Chapter 1; IMC § 10-211 – Enforcement).

B. Nuisance Remedies

- Public nuisance under State law and the Municipal Code (IMC § 10-211 – Enforcement).
- City nuisance abatement procedures (IMC Article 11.1 of Chapter 11)

C. Criminal Remedies

- Misdemeanor citations/prosecution (IMC § 1-18 – Penalty Provisions; IMC § 1-18.3 – Authority of City Attorney to File Misdemeanor Charges; IMC § 10-211 – Enforcement).

D. Equitable Remedies

- Injunctive relief under State law.
- Declaratory relief under State law.

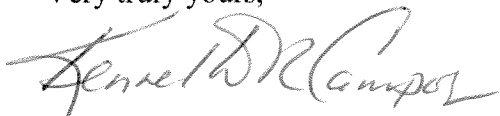
E. Other Civil Remedies

- Federal law claims (*e.g.*, Clean Water Act and Resource Conservation and Recovery Act Citizen Suits).
- Remedies under the California Government Code.

Violations of the City’s Stormwater Ordinance are deemed a “public nuisance,” in which case enforcement actions can be completed administratively, or judicially when necessary.

Please contact me if you have any questions or if you need any additional information regarding the City’s legal authority to enforce the Permit.

Very truly yours,



Kenneth R. Campos
City Attorney

City of Los Angeles

CITY OF LOS ANGELES
CALIFORNIA



ERIC GARCETTI
MAYOR

BOARD OF PUBLIC WORKS
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January 22, 2015

Mr. Sam Unger, Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Attention Mr. Ivar Ridgeway

Dear Mr. Unger:

**CERTIFICATION BY LEGAL COUNSEL FOR THE CITY OF LOS ANGELES
CONFIRMING LEGAL AUTHORITY TO IMPLEMENT THE PROVISIONS OF THE
MUNICIPAL STORMWATER PERMIT**

I write pursuant to Part VI(A)(2)(b) of Order No. R4-2012-0175, otherwise known as the Municipal Separate Stormwater Sewer System (MS4) Permit (the "Order"). Part VI(A)(2)(b) of the Permit provides:

"Each Permittee must submit a statement certified by its chief legal counsel that the Permittee has the legal authority within its jurisdiction to implement and enforce the requirements contained in 40 CFR §122.26(d) (2) (i) (AF) and this Order."

The Office of the City Attorney of the City of Los Angeles (City), serving as its legal counsel, certifies that the City has the legal authority within its jurisdiction to implement and enforce the requirements contained in 40 CFR §122.26(d)(2)(i)(A-F) and of the Order. This correspondence addresses all legal authority requirements as listed in the Order. Subsequently, annual certification by our office will be included in the Stormwater Annual Report as required by the Order.

Order Part VI(A)(2)(b)(i) - "Citation of applicable municipal ordinances or other appropriate legal authorities and their relationship to the requirements of 40 CFR §122.26(d) (2) (i) (A-F) and this Order"

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Below is a list of applicable Los Angeles Municipal Code (LAMC) provisions that provide the requisite legal authorities:

- LAMC 64.70 General Provisions.
- LAMC 64.70.01 Definitions and Abbreviations.
- LAMC 64.70.02 Pollutant Discharge Control.
- LAMC 64.70.03 Elimination of Illicit Discharges and Illicit Connections.
- LAMC 64.70.05 Authority to Inspect.
- LAMC 64.70.06 Authority to Arrest and Issue Citations.
- LAMC 64.70.07 Enforcement.
- LAMC 64.70.08 Remedies Not Exclusive.
- LAMC 64.70.09 Liability for Costs of Correction Arising from Unlawful Discharge.
- LAMC 64.70.10 Disposition of Money Collected.
- LAMC 64.70.11 Stormwater and Urban Runoff Pollution Education.
- LAMC 64.70.12 Construction and Application.
- LAMC 64.70.13 Severability.
- LAMC 64.72 Stormwater Pollution Control Measures for Development Planning and Construction Activities.
- LAMC 64.72.01 Authority of the Board of Public Works.
- LAMC 64.72.02 Funds Collected from Waiver.
- LAMC 64.72.03 Supplemental Provisions.
- LAMC 64.72.04 Authority to Inspect and Enforce Stormwater Pollution Control Measures.
- LAMC 64.72.05 LID Plan Check Fees.

In addition, statewide regulations provide further legal authorities with respect to intergovernmental authorities, specifically:

California Government Code §6502
California Government Code §23004

Relationship of Applicable Ordinances and Other Legal Authorities to the Requirements of 40CFR §122.26(d)(2)(i)(a-F) and the Order

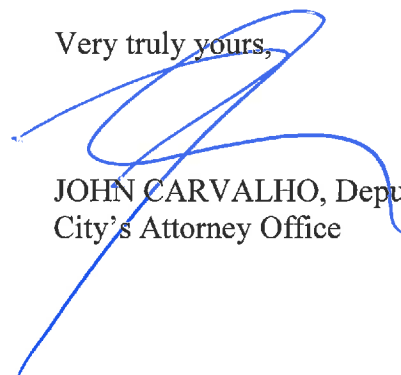
The table below indicates the basic relationship between the “Legal Authority” requirements listed in Section VI(A)(2)(b) of the Order and the existing legal statutes that provide this legal authority.

Legal Authority Required by Permit	City/State Legal Provisions
VI.A.2.i. Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit.	LAMC 64.70.02.B LAMC 64.70.02.C.1.a LAMC 64.70.02.D LAMC 64.70.03.A
ii. Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A	LAMC 64.70.03.A
iii. Prohibit and eliminate illicit discharges and illicit connections to the MS4	LAMC 64.70.03.A LAMC 64.70.03.B
iv. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4	LAMC 64.70.03.A
v. Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows)	LAMC 64.70.03.A LAMC 64.70.07
vi. Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders	LAMC 64.70.05.B.4 LAMC 64.70.05.B.6
vii. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees	California Government Code §6502 California Government Code §23004
viii. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation	California Government Code §6502 California Government Code §23004

<p>ix. Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4</p>	<p>LAMC 64.70.05.A LAMC 64.70.05.B LAMC 64.72.04.B</p>
<p>x. Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations</p>	<p>LAMC 64.70.02.D</p>
<p>xi. Require that structural BMPs are properly operated and maintained</p>	<p>LAMC 64.70.02.D</p>
<p>xii. Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4</p>	<p>LAMC 64.70.05.B.3</p>
<p>VI.A.b.ii. Identification of the local administrative and legal procedures available to mandate compliance with applicable municipal ordinances identified in subsection (i) above and therefore with the conditions of this Order, and a statement as to whether enforcement actions can be completed administratively or whether they must be commenced and completed in the judicial system.</p>	<p>The local administrative and legal procedures available to mandate compliance with the above LAMC provisions are specified in the provisions themselves with key enforcement provisions being LAMC 64.70.06 and LAMC 64.70.07</p>

The City is in the process of updating the LAMC with respect to its stormwater regulations. These changes will be reported with the 2014-2015 annual report.

Very truly yours,



JOHN CARVALHO, Deputy City Attorney
 City's Attorney Office

County of Los Angeles



COUNTY OF LOS ANGELES
OFFICE OF THE COUNTY COUNSEL

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JOHN F. KRATTLI
County Counsel

December 16, 2013

Mr. Samuel Unger, P.E., Executive Officer
California Regional Water Quality Control Board – Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-2343

Attention: Mr. Ivar Ridgeway

**Re: Certification By Legal Counsel For Los Angeles County Flood
Control District's Annual Report**

Dear Mr. Unger:

Pursuant to the requirements of Part VI(A)(2)(b) of Order No. R4-2012-0175 (the "Order"), the Office of the County Counsel of the County of Los Angeles makes the following certification in support of the Annual Report of the Los Angeles County Flood Control District ("LACFCD"):

Certification Pursuant To Order Part VI(A)(2)(b)

"Each Permittee must submit a statement certified by its chief legal counsel that the Permittee has the legal authority within its jurisdiction to implement and enforce the requirements contained in 40 CFR §122.26(d)(2)(i)(A-F) and this Order."

LACFCD has the legal authority within its jurisdiction to implement and enforce each of the requirements contained in 40 CFR §122.26(d)(2)(i)(A-F) and the Order.

Order Part VI(A)(2)(b)(i)

"Citation of applicable municipal ordinances or other appropriate legal authorities and their relationship to the requirements of 40 CFR §122.26(d)(2)(i)(A-F) and this Order"

Citations Of Applicable Ordinances Or Other Legal Authorities

Although many portions of State law, the Charter of the County of Los Angeles, the Los Angeles County Code and LACFCD's Flood Control District Code ("Code") are potentially applicable to the implementation and enforcement of these requirements, the primary applicable laws and ordinances are as follows:

Los Angeles County Code, Title 12, Chapter 12.80 STORMWATER AND RUNOFF POLLUTION CONTROL, including:

§12.80.010 - §12.80.360 Definitions

§12.80.370 Short title.

§12.80.380 Purpose and intent.

§12.80.390 Applicability of this chapter.

§12.80.400 Standards, guidelines and criteria.

§12.80.410 Illicit discharges prohibited.

§12.80.420 Installation or use of illicit connections prohibited.

§12.80.430 Removal of illicit connection from the storm drain system.

§12.80.440 Littering and other discharge of polluting or damaging substances prohibited.

§12.80.450 Stormwater and runoff pollution mitigation for construction activity.

§12.80.460 Prohibited discharges from industrial or commercial activity.

§12.80.470 Industrial/commercial facility sources required to obtain a NPDES permit.

§12.80.480 Public facility sources required to obtain a NPDES permit.

§12.80.490 Notification of uncontrolled discharges required.

§12.80.500 Good housekeeping provisions.

§12.80.510 Best management practices for construction activity.

- §12.80.520 Best management practices for industrial and commercial facilities.
- §12.80.530 Installation of structural BMPs.
- §12.80.540 BMPs to be consistent with environmental goals.
- §12.80.550 Enforcement—Director's powers and duties.
- §12.80.560 Identification for inspectors and maintenance personnel.
- §12.80.570 Obstructing access to facilities prohibited.
- §12.80.580 Inspection to ascertain compliance—Access required.
- §12.80.590 Interference with inspector prohibited.
- §12.80.600 Notice to correct violations—Director may take action.
- §12.80.610 Violation a public nuisance.
- §12.80.620 Nuisance abatement—Director to perform work when—Costs.
- §12.80.630 Violation—Penalty.
- §12.80.635 Administrative fines.
- §12.80.640 Penalties not exclusive.
- §12.80.650 Conflicts with other code sections.
- §12.80.660 Severability.
- §12.80.700 Purpose.
- §12.80.710 Applicability.
- §12.80.720 Registration required.
- §12.80.730 Exempt facilities.
- §12.80.740 Certificate of inspection—Issuance by the director.
- §12.80.750 Certificate of inspection—Suspension or revocation.

§12.80.760 Certificate of inspection—Termination.

§12.80.770 Service fees.

§12.80.780 Fee schedule.

§12.80.790 Credit for overlapping inspection programs.

§12.80.800 Annual review of fees.

Los Angeles County Code, Title 12, Chapter 12.84 LOW IMPACT
DEVELOPMENT STANDARDS, including:

§12.84.410 Purpose.

§12.84.420 Definitions.

§12.84.430 Applicability.

§12.84.440 Low Impact Development Standards.

§12.84.445 Hydromodification Control.

§12.84.450 LID Plan Review.

§12.84.460 Additional Requirements.

Los Angeles County Code, Title 22 PLANNING AND ZONING, Part 6
ENFORCEMENT PROCEDURES, including:

§22.60.330 General prohibitions.

§22.60.340 Violations.

§22.60.350 Public nuisance.

§22.60.360 Infractions.

§22.60.370 Injunction.

§22.60.380 Enforcement.

§22.60.390 Zoning enforcement order and noncompliance fee.

Los Angeles County Code, Title 26 BUILDING CODE, including:

§26.103 Violations And Penalties

§26.104 Organization And Enforcement

§26.105 Appeals Boards

§26.106 Permits

§26.107 Fees

§26.108 Inspections

LACFCD Code Chapter 21 - STORMWATER AND RUNOFF
POLLUTION CONTROL including:

§21.01 Purpose and Intent

§21.03 Definitions

§21.05 Standards, Guidelines, and Criteria

§21.07 Prohibited Discharges

§21.09 Installation or Use of Illicit Connections Prohibited

§21.11 Littering Prohibited

§21.13 Evidence of Compliance With Permit Requirements for Industrial
or Commercial Activity

§21.15 Notification of Uncontrolled Discharges Required

§21.17 Requirement to Monitor and Analyze

§21.19 Conflicts With Other Code Sections

§21.21 Severability

§21.23 Violation a Public Nuisance

California Government Code §6502

California Government Code §23004

California Water Code §8100 *et. seq.*

Relationship Of Applicable Ordinances Or Other Legal Authorities To
 The Requirements of 40 CFR §122.26(d)(2)(i)(A-F) And The Order

Although, depending upon the particular issue, there may be multiple ways in which particular sections of the County of Los Angeles' ordinances, LACFCD's ordinances, and statutes relate to the requirements contained in 40 CFR §122.26(d)(2)(i)(A-F) and the Order, the table below indicates the basic relationship with Part VI(A)(2)(a) of the Order:

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
<p>i. Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit.</p>	<p>Los Angeles County Code: §12.80.410 [illicit discharge prohibited]; §12.80.450 [construction] §12.80.460 [industrial and commercial] §12.80.470 and .480 [industrial and commercial NPDES requirements] §12.84.440 [LID standards] §12.84.445 [hydromodification control] §12.84.450 [LID Plan Review] §22.60.330 [general prohibitions] §22.60.340 [violations] §22.60.350 [public nuisance] §22.60.360 [infractions] §22.60.370 [injunction] §22.60.380 [enforcement.] §22.60.390 [zoning enforcement order] §26.103 [violations and penalties]</p>

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
	§26.104 [enforcement] §26.106 [permits] §26.108 [inspections] LACFCD Code: §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze §21.23 Violation a Public Nuisance
ii. Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A.	Los Angeles County Code: §12.80.410 [illicit discharge prohibited] LACFCD Code: §21.07 Prohibited Discharges
iii. Prohibit and eliminate illicit discharges and illicit connections to the MS4.	Los Angeles County Code: §12.80.410 [illicit discharge prohibited]; §12.80.420 [illicit connections prohibited] LACFCD Code: §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.23 Violation a Public Nuisance

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
<p>iv. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4.</p>	<p>Los Angeles County Code: §12.80.410 [illicit discharge prohibited]; §12.80.440 [littering and other polluting prohibited]</p> <p>LACFCD Code: §19.07 Interference With or Placing Obstructions, Refuse, Contaminating Substances, or Invasive Species in Facilities Prohibited §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.11 Littering Prohibited §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze §21.23 Violation a Public Nuisance</p>
<p>v. Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows).</p>	<p>Los Angeles County Code: §12.80.490 [notification of uncontrolled discharge] §12.80.570 [obstructing access to facilities] §12.80.580 [compliance inspection] §12.80.610 [violation a nuisance] §12.620 [nuisance abatement] §12.80.635 [violation penalty]</p>

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
	§12.80.640 [penalties not exclusive] §12.84.440 [LID standards] §12.84.445 [hydromodification control] §12.84.450 [LID Plan Review] §22.60.330 [general prohibitions] §22.60.340 [violations] §22.60.350 [public nuisance] §22.60.360 [infractions] §22.60.370 [injunction] §22.60.380 [enforcement.] §22.60.390 [zoning enforcement order] §26.103 [violations and penalties] §26.104 [enforcement] §26.106 [permits] §26.108 [inspections] LACFCD Code: §19.11 Violation a Public Nuisance §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.11 Littering Prohibited §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
	§21.19 Conflicts With Other Code Sections §21.23 Violation a Public Nuisance
vi. Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders.	Same as item v., above
vii. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees.	California Government Code §6502 California Government Code §23004
viii. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation.	California Government Code §6502 California Government Code §23004
ix. Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4.	Los Angeles County Code: §12.80.490 [notification of uncontrolled discharge] §12.80.570 [obstructing access to facilities] §12.80.580 [compliance inspection] §12.80.610 [violation a nuisance] §12.80.620 [nuisance abatement] §12.80.635 [violation penalty] §12.80.640 [penalties not exclusive] §22.60.380 [enforcement.] §26.106 [permits] §26.108 [inspections]

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
	LACFCD Code: §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.11 Littering Prohibited §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze §21.23 Violation a Public Nuisance
x. Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations.	Los Angeles County Code: §12.80.450 [construction mitigation] §12.80.500 [good housekeeping practices] §12.80.510 [construction BMPs] §12.80.520 [industrial/commercial BMPs] §12.84.440 [LID standards] §12.84.450 [LID Plan Review] §22.60.330 [general prohibitions] §22.60.380 [enforcement.] §22.60.390 [zoning enforcement order] §26.106 [permits] §26.108 [inspections] LACFCD Code: §21.05 Standards, Guidelines, and Criteria

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
	§21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.11 Littering Prohibited §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze §21.23 Violation a Public Nuisance
xi. Require that structural BMPs are properly operated and maintained.	Los Angeles County Code: §12.80.530 [installation of structural BMPs] §22.60.380 [enforcement.] §22.60.390 [zoning enforcement order] §26.106 [permits] §26.108 [inspections] LACFCD Code: §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.11 Littering Prohibited §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze

Order Part VI(A)(2)(a) Items	Primary Applicable Ordinance/Statute
	§21.23 Violation a Public Nuisance
<p>xii. Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4.</p>	<p>Los Angeles County Code: §12.80.530 [installation of structural BMPs] §22.60.380 [enforcement.] §22.60.390 [zoning enforcement order] §26.106 [permits] §26.108 [inspections]</p> <p>LACFCD Code: §21.05 Standards, Guidelines, and Criteria §21.07 Prohibited Discharges §21.09 Installation or Use of Illicit Connections Prohibited §21.11 Littering Prohibited §21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity §21.15 Notification of Uncontrolled Discharges Required §21.17 Requirement to Monitor and Analyze §21.23 Violation a Public Nuisance</p>

Order Part VI(A)(2)(b)(ii)

"Identification of the local administrative and legal procedures available to mandate compliance with applicable municipal ordinances identified in subsection (i) above and therefore with the conditions of this Order, and a statement as to whether enforcement actions can be completed administratively or whether they must be commenced and completed in the judicial system."

The local administrative and legal procedures available to mandate compliance with the above ordinances are specified in those ordinances, particularly in:

Los Angeles County Code:

§12.80.550 Enforcement—Director's powers and duties.

§12.80.600 Notice to correct violations—Director may take action.

§12.80.610 Violation a public nuisance.

§12.80.620 Nuisance abatement—Director to perform work when—Costs.

§12.80.630 Violation—Penalty.

§12.80.635 Administrative fines.

§12.80.640 Penalties not exclusive.

§12.84.450 LID Plan Review.

§12.84.460 Additional Requirements.

Title 26, §103 Violations And Penalties

Title 26, §104 Organization And Enforcement

Title 26, §105 Appeals Boards

Title 26, §106 Permits

§22.60.330 General prohibitions.

§22.60.340 Violations.

§22.60.350 Public nuisance.

§22.60.360 Infractions.

§22.60.370 Injunction.

§22.60.380 Enforcement.

§22.60.390 Zoning enforcement order and noncompliance fee.

LACFCD Code:

§21.05 Standards, Guidelines, and Criteria

§21.07 Prohibited Discharges

§21.09 Installation or Use of Illicit Connections Prohibited

§21.11 Littering Prohibited

§21.13 Evidence of Compliance With Permit Requirements for Industrial or Commercial Activity

§21.15 Notification of Uncontrolled Discharges Required


§21.17 Requirement to Monitor and Analyze

§21.23 Violation a Public Nuisance

LACFCD attempts to first resolve each enforcement action administratively. However, the above cited ordinances also provide LACFCD with the authority to pursue such actions in the judicial system as necessary.

Very truly yours,

JOHN F. KRATTLI
County Counsel

By 
JUDITH A. FRIES
Principal Deputy County Counsel
Public Works Division

JAF:jjj

Santa Monica



City of
Santa Monica®

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Marsha Jones Moutrie
City Attorney

December 23, 2014

Mr. Sam Unger, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013-1105

Re: *City of Santa Monica's Statement of Legal Authority*

Dear Mr. Unger:

This letter is provided as the City of Santa Monica's Statement of Legal Authority required with its Annual Report pursuant to Part VI.A.2.b of the California Regional Water Quality Control Board, Los Angeles Region, Order Number R4-2012-0175 ("Order") for NPDES Permit Number CA2004001. The City has all of the necessary legal authority to implement and enforce the requirements contained in 40 CFR § 122.26(d)(2)(i)(A-F) and this Order during the reporting period of July 1, 2013 through June 30, 2014, as permitted by law. In accordance with the Order, the citations to the Santa Monica Municipal Code ("SMMC") for each of the requirements of Part VI.A.2.a are as follows:

i. *Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter 7.10, Sections 7.10.010 through 7.10.080.

ii. *Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter 7.10, Sections 7.10.010 through 7.10.080.

iii. *Prohibit and eliminate illicit discharges and illicit connections to the MS4.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter, Chapter 7.10, Sections 7.10.010 through 7.10.080.

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iv. *Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter 7.10, Sections 7.10.010 through 7.10.080.

v. *Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter, Chapter 7.10, Sections 7.10.010 through 7.10.080.

vi. *Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders.*

SMMC Chapter 5.20, including Sections 5.20.430 (Inspections and sampling), 5.20.330 (Monitoring facilities), 5.20.450 (Search warrants), and 5.20.500 (Notice of Violation); and SMMC Chapter 7.10, including 7.10.070 (Enforcement and penalties).

vii. *Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees.*

See generally, SMMC Chapter 5.20 and Chapter 7.10.

viii. *Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation.*

See generally, SMMC Chapter 5.20 and Chapter 7.10.

ix. *Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4.*

SMMC Chapter 5.20, including Sections 5.20.430 (Inspections and sampling), 5.20.330 (Monitoring facilities), 5.20.450 (Search warrants), and 5.20.500 (Notice of Violation); and SMMC Chapter 7.10, including 7.10.070 (Enforcement and penalties).

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x. *Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter 7.10, Sections 7.10.010 through 7.10.080.

xi. *Require that structural BMPs are properly operated and maintained.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter 7.10, Sections 7.10.010 through 7.10.080.


xii. *Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4.*

SMMC Chapter 5.20, Sections 5.20.010 through 5.20.620; and SMMC Chapter 7.10, Sections 7.10.010 through 7.10.080.

In response to Part VI.A.2.b.ii of the Order, the local administrative and legal procedures available to mandate compliance under Chapter 7.10 are set forth in SMMC Section 7.10.070 (Enforcement and penalties) and Section 7.10.080 (Additional best management practice requirements), and under Chapter 5.20 are set forth in Sections 5.20.500 (Notice of Violation), 5.20.510 (Consent Orders), 5.20.520 (Show Cause Hearing), 5.20.530 (Compliance Orders), 5.20.540 (Cease and Desist Orders), 5.20.550 (Liability for Costs of Correction Arising From Unlawful Discharge), 5.20.560 (Industrial Wastewater Permit Suspension or Revocation Order), 5.20.570 (Disconnection of Nonpermitted Violators), 5.20.580 (Additional Emergency Remedial Measures), 5.20.590 (Injunctive Relief), 5.20.600 (Civil Liability), 5.20.610 (Criminal Prosecution), and 5.20.620 (Water Supply Severance). Enforcement actions are possible administratively and through the judicial system.

Please do not hesitate to contact me if you have any questions.

Sincerely,


MARSHA JONES MOUTRIE
City Attorney

MJM/bcm

West Hollywood

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December 08, 2014

Mr. Sam Unger, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013-1105

RE: Legal Authority Certification for the City of West Hollywood to Implement and Enforce
the Requirements of LARWQCB Order R4-2012-0175

Dear Mr. Unger:

The City of West Hollywood submits this statement in its capacity as a co-permittee under LARWQCB Order R4-2012-0175 (NPDES No. CAS004001) (the "MS4 Permit"), in accordance with Part VI.A.2 of the Order.

I am the City Attorney of the City of West Hollywood, California. In that capacity, I state that it is my opinion that the City has adequate legal authority to implement and enforce the requirements in the MS4 Permit, consistent with the requirements set forth in the regulations implementing the Clean Water Act, 40 CFR § 122.26(d)(2)(i)(A-F), and to the extent permitted by state and federal law and subject to the limitations on municipal action under the California and United States Constitutions.

The primary source of the City's authority is Article 11, § 7 of the California Constitution. The City also has authority under § 13002 of the California Water Code to adopt and enforce ordinances conditioning, restricting and limiting activities which might degrade the quality of waters of the State. Pursuant to Article 11, § 7 of the California Constitution and § 13002 of the California Water Code, the City adopted Chapter 15.56 of the West Hollywood Municipal Code ("WHMC"), which contains the City's regulations enabling it to impose the legal requirements of the MS4 Permit (see attached analysis of legal authority). Thus, the City has the legal authority as required under Part VI.A.2 of the MS4 Permit.

Article 11, § 7 also provides the City the authority to require the use of control measures to prevent or reduce the discharge of pollutants and ensure that such control measures are properly

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December 8, 2014

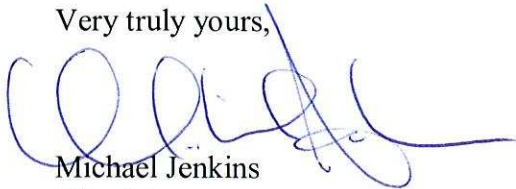
Page 2

operated and maintained. The City's environmental requirements are also implemented in part through the application of the California Environmental Quality Act ("CEQA") process to proposed projects, as enforceable mitigation measures. The City, as a municipal corporation, has authority to enter into contracts that enable it to carry out its necessary functions, including the power to enter into interagency agreements to control the contribution of pollutants from one portion of the shared MS4 to another.

Pursuant to WHMC Chapters 1.08 General Penalty Provisions and Chapter 15.56 Storm Water Management and Urban Runoff Control, the City's regulations may be enforced administratively, civilly and criminally. The WHMC also provides various procedures to modify and/or revoke city-issued permits for unlawful and/or environmentally disruptive activity.

Consequently, it is my opinion that the City has adequate legal authority to implement and enforce the requirements in the MS4 Permit. Please do not hesitate to contact me should you have any questions or need any additional information

Very truly yours,



Michael Jenkins
City Attorney

Enclosure

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December 8, 2014

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West Hollywood Statement of Legal Authority

- A. The following list shows the relationship of the West Hollywood Municipal Code and other legal authorities to the MS4 permit requirements under Part VI.A.2 of the Permit:
- i. Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit, as well as to those sites that do not have coverage under an NPDES permit.

WHMC15.56.060 Prohibited Activities; WHMC15.56.090 Requirements for Industrial/Commercial and Construction Activities
 - ii. Prohibit all non-storm water discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A.

WHMC15.56.060 Prohibited Activities
 - iii. Prohibit and eliminate illicit discharges and illicit connections to the MS4.

WHMC15.56.060 Prohibited Activities
 - iv. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4.

WHMC15.56.060 Prohibited Activities; WHMC15.56.080 Good Housekeeping Provisions; 15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC 15.56.095 Standard Urban Storm Water Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects
 - v. Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows).

WHMC15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC15.56.100 Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects; 15.56.100 Enforcement; WHMC Chapter 1.08

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General Penalty Provisions

- vi. Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders.

WHMC15.56.100 Enforcement; WHMC Chapters 1.08 General Penalty Provisions

- vii. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees.

In addition to the provisions of WHMC Chapter 15.56, which control the contribution of pollutants, the City, as a municipal corporation, has authority to enter into contracts that enable it to carry out its necessary functions, including the power to enter into interagency agreements to control the contribution of pollutants from one portion of the shared MS4 to another.

- viii. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation.

In addition to the provisions of WHMC Chapter 15.56, which control the contribution of pollutants, the City, as a municipal corporation, has authority to enter into contracts that enable it to carry out its necessary functions, including the power to enter into interagency agreements to control the contribution of pollutants from one portion of the shared MS4 to another.

- ix. Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4.

WHMC15.56.100.H Enforcement

- x. Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations.

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Article 11, § 7 of the California Constitution; California Public Resources Code § 21000 et seq. (CEQA); WHMC15.56.080 Good Housekeeping Provisions, WHMC15.56.090 Requirements for Industrial/Commercial and Construction Activities; WHMC 15.56.100 Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects; WHMC Title 17 Zoning

- xi. Require that structural BMPs are properly operated and maintained.

Article 11, § 7 of the California Constitution; California Public Resources Code § 21000 et seq. (CEQA); WHMC15.56.080 Good Housekeeping Provisions, WHMC15.56.090 Requirements for Industrial/Commercial and Construction Activities; 15.56.100 Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects; WHMC Title 17 Zoning

- xii. Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4.

California Public Resources Code § 21000 et seq. (CEQA); WHMC15.56.100 Enforcement

B. Procedures available to mandate compliance with applicable municipal ordinances under WHMC Chapters 1.08 General Penalty Provisions and Chapter 15.56 Stormwater and Urban Runoff Pollution Control

1. Criminal Citation (judicial)
2. Administrative Citation (administrative)
3. Administrative Cease and Desist Order (administrative)
4. Civil Nuisance Abatement (judicial)
5. Civil Injunction (judicial)
6. Permit Revocation/Modification (administrative)
7. All other criminal and civil remedies available by law

Appendix 3.A

Detailed Description of Water Quality Priorities

The identification of water quality priorities is an important first step in the EWMP process. The water quality priorities provide the basis for prioritizing implementation and monitoring activities within the EWMP and CIMP and selection and scheduling of BMPs in the RAA. The identification of water quality priorities is required in Section VI.C.5.a of the Permit as part of the development of an EWMP. The Permit defines three categories of WBPCs to support the development of priorities (Table 1). The Permit establishes a four-step process that leads to prioritization and sequencing of the water quality issues within each watershed, including:

- **Step 1:** Water quality characterization (VI.C.5.a.i, pg. 58) based on available monitoring data, TMDLs, 303(d) lists, stormwater annual reports, *etc.*,
- **Step 2:** Water body-pollutant classification (VI.C.5.a.ii, pg. 59), to identify water body-pollutant combinations that fall into three Permit defined categories,
- **Step 3:** Source assessment (VI.C.5.a.iii, pg. 59) for the water body-pollutant combinations in the three categories, and
- **Step 4:** Prioritization of the water body-pollutant combinations (VI.C.5.a.iv, pg. 60).

Table 1 Water Body-Pollutant Classification Categories (Permit Section IV.C.5.a.ii)

Category	Water Body-Pollutant Combinations (WBPCs) Included
1 Highest Priority	WBPCs for which TMDL Water Quality Based Effluent Limits (WQBELs) and/or Receiving Water Limitations (RWLs) are established in Part VI.E and Attachments L and O of the MS4 Permit.
2 High Priority	WBPCs for which data indicate water quality impairment in the receiving water according to the State's Listing Policy, regardless of whether the pollutant is currently on the 303(d) List and for which the MS4 discharges may be causing or contributing.
3 Medium Priority	WBPCs for which there are insufficient data to indicate impairment in the receiving water according to the State's Listing Policy, but which exceed applicable receiving water limitations contained in the MS4 Permit and for which MS4 discharges may be causing or contributing to the exceedance.

Water Quality Characterization (Step 1)

As noted in Section 1, the first step in developing an EWMP is to develop water quality priorities. These priorities were based on a comprehensive characterization of water quality impairments to develop a strategy that systematically addresses pollutant reduction in accordance with previous commitments, such as those established by TMDL compliance schedules, and implementation plans. To conduct the water quality characterization¹, data were obtained from numerous sources. A data request was submitted to the BCWVG to gather information necessary to meet the water quality characterization and source assessment requirements outlined in the Permit (pages 58 and 59). The data requested to support the water quality characterization included:

- Monitoring programs results, including but not limited to TMDL compliance monitoring and receiving water monitoring,

¹ Appendices 3.A and 3.B provide more detailed descriptions of the results of the characterization.

- Findings from the Permittees' Illicit Connections and Illicit Discharge Eliminations, Industrial/Commercial Facilities, Development Construction, and Public Agency Activities Programs,
- TMDL source investigations, and
- Any other pertinent data, information, or studies related to constituent sources and conditions that could contribute to identification of the highest water quality priorities.

Monitoring data collected within the BCWMA were received from the following sources:

- Los Angeles Department of Public Works (LACDPW) provided long-term monitoring data from the Ballona Creek Mass Emission station S01 and temporary receiving water sites in Centinela Creek (TS-07), Sepulveda Channel (TS-08), Benedict Canyon (TS-09) and the following drains Adams Drain (TS-10), Fairfax Drain (TS-11), and Cochran Drain (TS-12),
- TMDL Coordinated Monitoring Program data funded by the BCWMA and provided by the City of Los Angeles for the Ballona Creek Metals, Toxics, and Bacteria TMDLs, and
- City of Los Angeles Status and Trends program.

Over 55,000 data records were compiled and reviewed as part of the data analysis. Figure 1 presents the site locations for the monitoring data received and used for the water quality characterization process.

Characterization of Receiving Water Quality

Per Part VI.C.5.a.i (pg 58) of the Permit, each EWMP shall include an evaluation of existing water quality conditions, including characterization of receiving water quality. Appendix 3.B presents additional details on the data analysis approach and results. Data were compiled to identify constituents exceeding applicable water quality objectives. Applicable water quality objectives were obtained from the California Toxics Rule (CTR), the Basin Plan, and relevant TMDLs. Applicable water quality objectives from the CTR and Basin Plan were selected based on the beneficial uses identified in the Basin Plan (summarized in Appendix 3.B).

Generally, the water quality objectives utilized included those established for the protection of aquatic life, contact recreation and human health related to the consumption of organisms. Bed and suspended sediment quality data were compared to TMDL targets. Given the significant number of water quality constituents and corresponding water quality objectives the following steps were taken to identify WBPCs:

- The first step in the analysis was to eliminate lower priority constituents that were sampled for but were never detected in any water body within the EWMP area and therefore would not fall into one of the three Permit categories (see Table 1). A list of these constituents is presented in Appendix 3.B - Attachment 1.
- Next, constituents that were detected, but the sample results never exceeded a corresponding water quality objective and therefore would not fall into one of the three Permit categories were identified. A list of these constituents is presented in Appendix 3.B - Attachment 2.

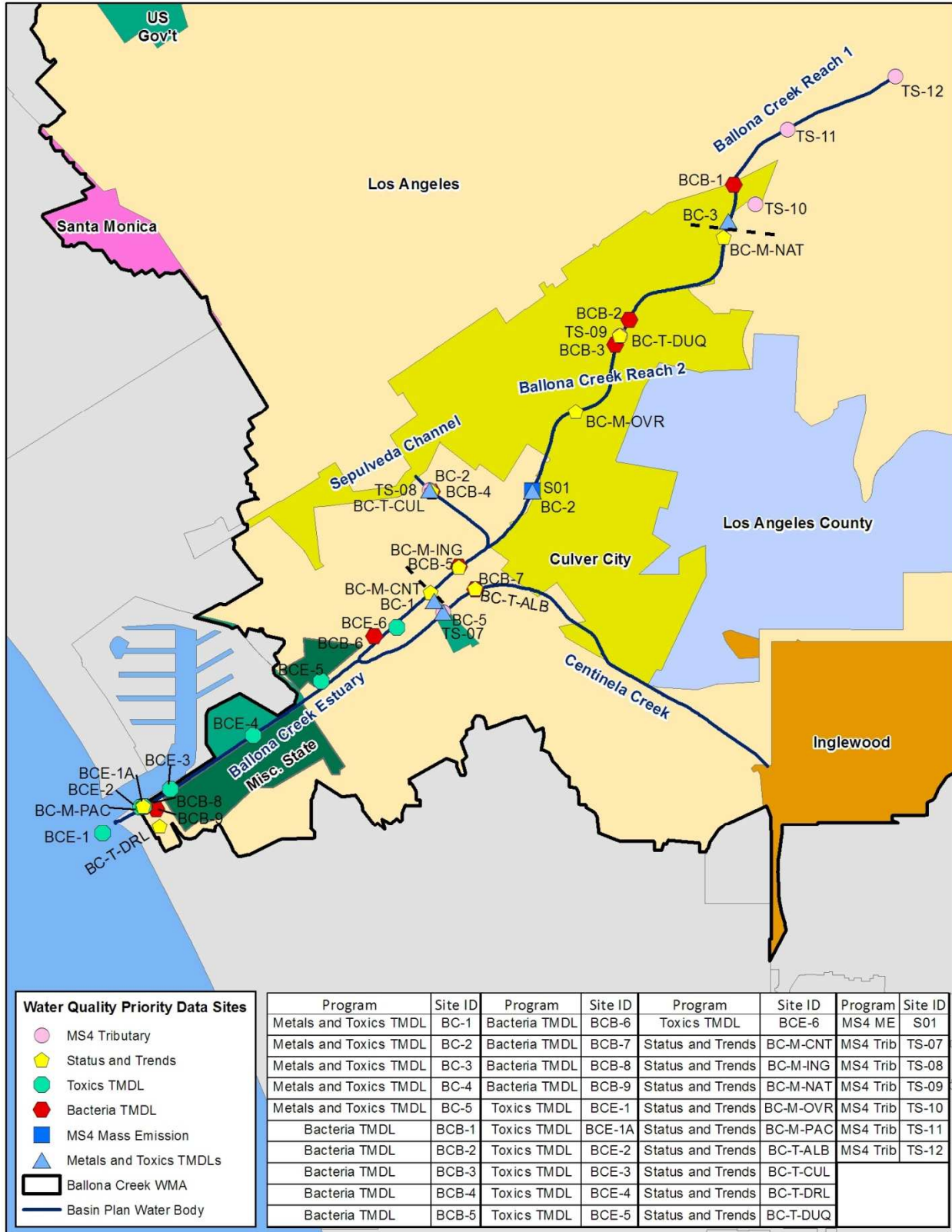


Figure 1. Monitoring Site Locations for Data Utilized in the Water Quality Priorities Process

- All other constituents (*i.e.*, all constituents detected and with sample results that had at least one result greater than an applicable water quality objective) were subject to further analysis. A list of these constituents is presented in Appendix 3.B– Attachment 3.

Characterization of Discharge Quality

Per Part VI.C.5.a.i (pg 58) of the Permit, each EWMP shall include a characterization of stormwater and non-stormwater discharges from the MS4. A characterization was conducted on stormwater and non-stormwater discharges from the MS4 associated with constituents identified in a TMDL, a 303(d) listing, or through the receiving water data analysis described above. The following sources of discharge characterization data were reviewed and are summarized in Appendix 3.C:

- TMDL Staff Reports for TMDLs identified in Appendix 3.C.
- Data collected during a June 2012 bacteria snapshot event conducted along Ballona Creek and Sepulveda Channel to document the locations and bacteriological water quality of dry weather discharges.
- Data collected as part of the 2007 Southern California Coastal Water Research Project (SCCWRP) Technical Report 510 titled “Sources, patterns and mechanisms of stormwater pollutant loading from watersheds and land uses of the greater Los Angeles area, California, USA.”
- Land Use data collected as part of previous MS4 Permit monitoring and presented in the 2000 report titled “Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.”

Water Body Pollutant Classification (Step 2)

Based on available information and data analysis, WBPCs were classified in one of the three Permit categories described in Table 1. To further support development of the EWMP, the three Permit categories were further subdivided into subcategories (described in Table 2) and each WBPC was assigned to an appropriate subcategory. Table 3 presents the BCWMBG WBPCs by subcategory. Summary tables presenting the data analysis to support the placement of WBPCs into the various subcategories are presented in Attachment 3 of Appendix 3.B.

Source Assessment (Step 3)

Following the water body-pollutant classification, the next step in the prioritization process is to conduct a source assessment. The Permit requires that a source assessment be conducted to identify potential sources within the watershed for the WBPCs in Categories 1-3, utilizing existing information.

The intent of the source assessment is to identify potential sources within the watershed for the WBPCs in Categories 1-3 and to support prioritization and sequencing of management actions. Pollutant exceedances may come from point or non-point sources, described below. Often, however, non-point source discharges may flow to the MS4 and thus become associated with the MS4 and subject to the MS4 Permit requirements.

Table 2 Details for Water Body-Pollutant Classification Subcategories

Category	Water Body-Pollutant Combinations (WBPCs)	Description
1	<p>Category 1A: WBPCs with past due or current Permit term TMDL deadlines with exceedances in the past 5 years.</p> <p>Category 1B: WBPCs with TMDL deadlines beyond the Permit term with exceedances in the past 5 years.</p> <p>Category 1C: WBPCs addressed in USEPA TMDL without an LARWQCB adopted Implementation Plan.</p> <p>Category 1D: WBPCs with past due or current Permit term TMDL deadlines but have there have been no exceedances in the past 5 years.</p>	<p>WBPCs with TMDLs with past due or current Permit term interim and/or final limits. These pollutants are the highest priority for the current Permit term.</p> <p>The Permit does not require the prioritization of TMDL interim and/or final deadlines outside of the Permit term or USEPA TMDLs, which do not have implementation schedules. To ensure EWMPs consider long term planning requirements and utilize the available compliance mechanisms, these WBPCs should be considered during BMP planning and scheduling, and during CIMP development.</p> <p>WBPCs where specific actions may end up not being identified because recent exceedances have not been observed and specific actions may not be necessary. The CIMP should address these WBPCs to support future re-prioritization.</p>
2	<p>Category 2A: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements with exceedances in the past 5 years.</p> <p>Category 2B: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements that are not a “pollutant”² (e.g., toxicity).</p> <p>Category 2C: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements but there have been no exceedances in the past 5 years.</p>	<p>WBPCs with confirmed impairment or exceedances of RWLs. WBPCs in a similar class¹ as those with TMDLs are identified. WBPCs currently on the 303(d) List are differentiated from those that are not to support utilization of EWMP compliance mechanisms.</p> <p>WBPCs where specific actions may not be identifiable because the cause of the impairment or exceedances is not resolved. Either routine monitoring or special studies identified in the CIMP should support identification of a “pollutant” linked to the impairment and re-prioritization in the future.</p> <p>WBPCs where specific actions for implementation may end up not being identified because recent exceedances have not been observed (and thus specific BMPs may not be necessary.) Pollutants that are in a similar class¹ as those with TMDLs are identified. Either routine monitoring or special studies identified in the CIMP should ensure these WBPCs are addressed to support re-prioritization in the future.</p>
3	<p>Category 3A: All other WBPCs that have exceeded in the past 5 years.</p> <p>Category 3B: All other WBPCs that are not a “pollutant”² (e.g., toxicity).</p> <p>Category 3C: All other WBPCs that have exceeded in the past 10 years, but not in past 5 years.</p>	<p>Pollutants that are in a similar class¹ as those with TMDLs are identified.</p> <p>WBPCs where specific actions may not be identifiable because the cause of the impairment or exceedances is not resolved. Either routine monitoring or special studies identified in the CIMP should support identification of a “pollutant” linked to the impairment and re-prioritization in the future.</p> <p>Pollutants that are in a similar class¹ as those with TMDLs are identified.</p>

¹ Pollutants are considered in a similar class if they have similar fate and transport mechanisms, can be addressed via the same types of control measures, and within the same timeline already contemplated as part of the EWMP for the TMDL. (Permit pg. 49, footnote 21).

² While pollutants may be contributing to the impairment, it currently is not possible to identify the specific pollutant/stressor

Table 3 Summary of Ballona Creek Water Body-Pollutant Categories

Constituents	Ballona Creek				Centinela Creek	Sepulveda Channel	Benedict Channel ¹	Santa Monica Bay
	Estuary	Wetlands	Reach 1	Reach 2				
Category 1A: WBPCs with past due or current Permit term TMDL deadlines with exceedances in the past 5 years. (I = Interim and F = Final Limits)								
Trash	I/F	I/F	I/F	I/F	I/F	I/F	--	I
Total Coliform, Fecal Coliform, Enterococcus	F (Dry)	--	--	--	--	--	--	F (Dry)
<i>E. coli</i>	--	--	F (Dry)	F (Dry)	F (Dry)	F (Dry)	F (Dry)	--
Copper, Lead, Zinc, Selenium ²	--	--	I (Wet & Dry)/F (Dry)					--
Sediment: Cadmium, Copper, Lead, Zinc, Silver	I	--	--	--	--	--	--	--
Sediment: PAHs ² , Chlordane, DDT, PCBs	I	--	--	--	--	--	--	--
Category 1B: WBPCs with TMDL deadlines beyond the Permit term with exceedances in the past 5 years. (F = Final Limits)								
Trash	--	--	--	--	--	--	--	F
Copper, Lead, Zinc, Selenium ²	--			F (Wet)				--
Sediment: Cadmium, Copper, Lead, Zinc, Silver	F	--	--	--	--	--	--	--
Sediment: PAHs ² , Chlordane, DDT, PCBs	F	--	--	--	--	--	--	--
Total Coliform, Fecal Coliform, Enterococcus	F (Wet)	--	--	--	--	--	--	F (Wet)
<i>E. coli</i>	--	--	F (Wet)	F (Wet)	F (Wet)	F (Wet)	F (Wet)	--
Category 1C: WBPCs addressed in USEPA TMDL without a Regional Board adopted Implementation Plan. (WLA = Wasteload Allocation in USEPA TMDL)								
DDT (sediment)	--	--	--	--	--	--	--	WLA
PCBs (sediment)	--	--	--	--	--	--	--	WLA
Sediment	--	WLA	--	--	--	--	--	--
Category 1D: WBPCs with past due or current Permit term TMDL deadlines but have not exceeded in past 5 years.								
None	--	--	--	--	--	--	--	--
Category 2A: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements with exceedances in the past 5 years.								
Shellfish Harvesting Advisory	303(d)	--	--	--	--	--	--	--
Cyanide	--	--	--	Delist	--	--	--	--
Copper (dissolved and total)	Dry	--	--	--	--	--	--	--
Mercury (total)	--	--	--	Dry	--	--	--	--
4,4'- Dichlorodiphenyldichloroethylene (4,4'-DDE)	--	--	--	--	Wet	--	--	--
Benzo(a)anthracene	--	--	--	Wet	--	--	--	--

Constituents	Ballona Creek			Centinela Creek	Sepulveda Channel	Benedict Channel ¹	Santa Monica Bay
	Estuary	Wetlands	Reach 1				
Dibenzo(a,h)anthracene	Dry	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	Dry	--	--	--	--	--	--
Category 2B: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements that are not a "pollutant"³ (i.e., toxicity).							
pH	--	--	--	--	Dry	--	--
Category 2C: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements but have not exceeded in past 5 years.							
Ammonia	--	--	--	--	Dry (Delist)	--	--
Copper (dissolved and total)	Wet (NS)	--	--	--	--	--	--
Lead (dissolved and total)	Dry	--	--	--	--	--	--
Mercury Total	Wet (NS)/Dry (NS)	--	Wet (NS)/Dry (NS)	--	Wet	--	--
Nickel (dissolved and total)	Dry (NS)	--	--	--	--	--	--
Silver (dissolved and total)	--	--	Wet	--	--	--	--
Zinc (dissolved and total)	Wet (NS)	--	--	--	--	--	--
Category 3A: All other WBPCs with exceedances in the past 5 years.							
Ammonia-N	--	--	--	--	Dry	--	--
Silver (total)	--	--	--	Wet	--	--	--
4,4'-DDE	--	--	--	Wet	--	--	--
4,4'-DDT	--	--	--	Wet	--	--	--
3,4 Benzofluoranthene	--	--	--	Wet	--	--	--
alpha-chlordane	--	--	--	Wet	--	--	--
gamma-chlordane	--	--	--	Wet	--	--	--
Benzo(a)anthracene	--	--	--	Wet	--	--	--
Benzo(a)pyrene	--	--	--	Wet	--	--	--
Benzo(k)fluoranthene	--	--	--	Wet	--	--	--
Bis(2-Ethylhexyl) phthalate	--	--	--	Wet	--	--	--
Chrysene	--	--	--	Wet	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	--	Wet	--	--	--

Constituents	Ballona Creek			Centinela Creek	Sepulveda Channel	Benedict Channel ¹	Santa Monica Bay
	Estuary	Wetlands	Reach 1				
Category 3B: All other WBPCs that are not a “pollutant” ³ (i.e., toxicity).							
Dissolved Oxygen	--	--	--	--	--	--	--
pH	--	--	--	Wet/Dry	--	--	--
Category 3C: All other WBPCs that have exceeded in the past ten years, but not in past five years.							
Bis(2-Ethylhexyl) phthalate	--	--	--	Wet (NS)	Wet (NS)	--	--
Diazinon	--	--	--	--	Wet (NS)	--	--
Cadmium (total)	--	--	Wet	Wet	--	--	--
Cyanide (total)	--	--	--	--	Wet (NS)	--	--
Silver (dissolved and total)	Wet (NS)	--	--	--	--	--	--
Zinc (total)	Dry (NS)	--	--	--	--	--	--

¹ Note that although Benedict Canyon Channel is identified in TMDLs as a tributary to Ballona Creek, it is a closed channel that daylights where the channel meets Ballona Creek and is not identified in the Basin Plan as a waterbody in the watershed. As such, it is not considered a tributary for the purposes other than addressing the bacteria TMDL for the watershed.

² The BC Toxics and Metals TMDLs were amended on December 5, 2013 and WLAs associated with these constituents were removed. Associated WQBELs would be expected to be removed when the Permit is updated to incorporate these two TMDLs once they become effective.

³ While pollutants may be contributing to the impairment, it currently is not possible to identify the specific pollutant/stressor.

Note that unless explicitly stated as sediment, constituents are associated with the water column.

I/F = Denotes where the Permit includes interim (I) and/or final (F) effluent and/or RWLs.

NS = Not sampled

303(d) = WBPC on the 2010 303(d) List where the listing was confirmed during data analysis.

Delist = WBPC on the 2010 303(d) List that could now be delisted.

Permit Requirements

The specific requirements in the Permit for the source assessment are as follows (per section VI.C.5.a.iii, page 59):

“(1) Permittees shall identify known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters and any other stressors related to MS4 discharges causing or contributing to the water quality priorities. The identification of known and suspected sources of the highest water quality priorities shall consider the following:

- (a) Review of available data, including but not limited to:
 - (i) Findings from the Permittees’ Illicit Connections and Illicit Discharge Elimination Programs;
 - (ii) Findings from the Permittees’ Industrial/Commercial Facilities Programs;
 - (iii) Findings from the Permittees’ Development Construction Programs;
 - (iv) Findings from the Permittees’ Public Agency Activities Programs;
 - (v) TMDL source investigations;
 - (vi) Watershed model results;
 - (vii) Findings from the Permittees’ monitoring programs, including but not limited to TMDL compliance monitoring and receiving water monitoring; and
 - (viii) Any other pertinent data, information, or studies related to pollutant sources and conditions that contribute to the highest water quality priorities.
- (b) Locations of the Permittees’ MS4s, including, at a minimum, all MS4 major outfalls and major structural controls for stormwater and non-stormwater that discharge to receiving waters.
- (c) Other known and suspected sources of pollutants in non-stormwater or stormwater discharges from the MS4 to receiving waters within the watershed.”

The findings from items VI.C.5.a.iii (1)(a)(i)-(vii) and item VI.C.5.a.iii (1)(c) that are pertinent to the Category 1, 2 and 3 pollutants identified in Tabel 3 are summarized below.

Item VI.C.5.a.iii (1)(b) is provided in the discussion of the MS4 database requirements of Part VII.A of Attachment E (Monitoring and Reporting Program) of the Permit and addressed in the CIMP.

Point Sources

Point sources are discrete conveyances that can carry pollutants to surface waters. Discharges from point sources are regulated by both federal Clean Water Act NPDES permits and California’s Porter-Cologne Water Quality Control Act Waste Discharge Requirements (WDRs). Combined NPDES/WDR permits are issued by the LARWQCB for discharges to surface waters.

Urban runoff to Ballona Creek and Estuary is regulated as a point source discharge under two stormwater permits that cover MS4 discharges. The first is the MS4 Permit applicable to the Permittees developing the EWMP. The second is a separate statewide stormwater permit issued to the California Department of Transportation (Caltrans) (Order No. 2012-0011-DWQ, NPDES No. CAS000003). The other NPDES permits in the watershed include the general construction stormwater permits, general industrial stormwater permits, minor NPDES permits, and general NPDES permits, as listed in Table 4. A broad assessment of the relative potential for pollutant contribution and runoff condition (wet weather or dry weather) of the discharges typically associated with each of the permit types is also provided in Table 4.

Appendix 3.D contains detailed descriptions of WBPCs and their common sources, which will provide the basis for source assessment activities in the Ballona Creek watershed.

Non-Point Sources

Pollutants from non-point sources are conveyed to surface waters in a diffuse manner, *i.e.*, not directly from point source conveyances. However, when contaminants from such non-point sources reach the MS4 system, they become regulated through the MS4 point source NPDES permits. In the highly urbanized Ballona Creek watershed, there is not necessarily a clear regulatory distinction between point and non-point sources.

Non-point sources in the Ballona Creek watershed include:

- Runoff from the National and State forests outside of the MS4s into the headwaters of tributaries, and
- Sources that occur within the channels of Ballona Creek and tributaries (“in-channel sources”) such as:
 - Urban runoff,
 - Groundwater discharges,
 - Pet Waste,
 - Sanitary sewer leaks/spills,
 - Illicit/illegal discharges,
 - Wildlife and birds, and
 - Suspension and/or regrowth of sediment-associated pollutants.

Targeted special studies and planned stormwater program elements, such as an Illicit Connection and Illicit Discharges (IC/ID) program, to identify these sources of pollution within the MS4 drainage area will also be developed and incorporated in the EWMP.

Table 4 NPDES Permits in the Ballona Creek Watershed

Type of NPDES Permit	Number of Permits	Potential for Pollutant Contribution
Los Angeles County Municipal Stormwater	1	High (wet/dry weather)
Caltrans Stormwater	1	High (wet weather)
General Construction Stormwater	17	High (wet weather)
Industrial Stormwater	68	High (wet weather)
Construction Stormwater	47	Medium (wet weather)
Individual NPDES Permits (Minor)	7	Medium (wet/dry weather)
Total	141	

(LACDPW, 2012a)

Prioritization (Step 4)

The Permit outlines a prioritization process that defines how pollutants in the various categories will be considered in scheduling. The factors to consider in the scheduling include the following based on the compliance pathways outlined in the Permit:

- Regional Board adopted TMDLs with past due interim and/or final limits and those with interim and/or final limits within the Permit term (schedule according to TMDL schedule),
- Regional Board adopted TMDLs with interim and/or final limits outside the Permit term (schedule according to TMDL schedule), and
- Other receiving water exceedances.

USEPA TMDLs, 303(d) listings without a TMDL adopted, and other exceedances of RWLs do not contain milestones or an implementation schedule. As such, these water quality priorities do not have a defined schedule for implementation. To address this issue for USEPA TMDLs, Part VI.E.3.c of the Permit (page 145) allows MS4 Permittees to propose a schedule in the EWMP. To address this issue for exceedances of RWLs associated with WBPCs not addressed through a TMDL (i.e., 303(d) listings and other exceedances of RWLs), Part VI.C.2.a of the Permit (page 49) specifies how interim numeric milestones and compliance schedules must be set for each WBPC based on its placement in one of the following groups that were developed as part of the EWMP:

- **Group 1:** Pollutants that are in the same class² as those addressed in a TMDL in the watershed and for which the water body is identified as impaired on the 303(d) List as of December 28, 2012;

² As defined in Part VI.C.2.a.i of the Permit (page 49), "Pollutants are considered in a similar class if they have similar fate and transport mechanisms, can be addressed via the same types of control measures, and within the same timeline already contemplated as part of the Watershed Management Program for the TMDL." Due to the need to define the control measures and timelines for addressing the various pollutants per the permit requirements, "classes" are preliminary in nature and may be refined as part of EWMP development.

- **Group 2:** Pollutants that are not in the same class as those addressed in a TMDL for the watershed, but for which the water body is identified as impaired on the 303(d) List as of December 28, 2012; or
- **Group 3:** Pollutants for which there are exceedances of RWLs, but for which the water body is not identified as impaired on the 303(d) List as of December 28, 2012.
- **USEPA TMDL:** Pollutants addressed by USEPA TMDL without an implementation plan/schedule.

As such, the process for setting numeric milestones and compliance schedules for the remaining water quality priorities is dependent upon whether or not the water body is identified as impaired on the 303(d) list as of December 28, 2012 and if the pollutants are considered to be in the same class as those pollutants addressed in a TMDL for the watershed. Based on the Permit Group 1 definition, two findings must be made to determine whether or not a pollutant is in the same class as a TMDL pollutant:

- The pollutant must have similar fate and transport mechanisms (e.g., sediment particle associated), and thus, can be addressed via the same types of control measures. These pollutants are in the same “BMP class” as other TMDL pollutants.
- The pollutant is in the same “scheduling class”, that is, it can be addressed within the same timeline already established in an existing TMDL. To be considered in the same scheduling class, the water quality priority must be present in a water body already being addressed by the TMDL or upstream of a water body already being addressed by the TMDL and can be addressed on the same time frame as the TMDL pollutant.

To define whether or not a pollutant can be addressed within the same time frame as a TMDL pollutant, it is necessary to consider whether the reductions that will be achieved by the control measures implemented for the TMDL pollutant are expected to be sufficient to achieve the needed reductions for the other pollutants. The “limiting pollutant” analysis of the RAA (Section 6 of the EWMP) was used to evaluate whether control measures implemented for the Regional Board adopted TMDLs will be sufficient to meet the RWLs for WBPCs that have both the same BMP and scheduling class as the pollutants addressed by each respective Regional Board adopted TMDL. If the limiting pollutant is a TMDL pollutant, then other pollutants in the same class would be expected to be achieved by the final compliance date of the TMDL for the limiting pollutant. If the limiting pollutant is *not* a TMDL pollutant, then the limiting pollutant, and all other pollutants that are more limiting than the TMDL pollutant, do not have the ability to be considered on the same timeframe as those addressed in a TMDL.

In order to be in the same class as a TMDL pollutant, the WBPC must be in both the same “BMP class” and the same “scheduling class” as the TMDL pollutant. An evaluation of whether or not the WBPCs are in the same class as pollutants addressed in an existing TMDL is presented in Table 5. All WBPCs classified as Category 1C, 2, and 3 are captured in Table 5; except for WBPCs for which the MS4 has been determined to not be a source that may be causing or contributing to observed exceedances or WBPCs are reflective of a condition of pollution (not necessarily a result of MS4 discharge). Additionally, given that Part VI.E.3.c of the Permit (page 145) specifies how interim numeric milestones and compliance schedules must be set for USEPA TMDL WBPCs, USEPA TMDL WBPCs are separately classified.

Table 5 Initial Classification for 303(d) Listings and Other Exceedances of RWLs Applicable to the BCWMG (RB = Regional Board)

Constituent	Water Body	Category	Relevant RB TMDL	RB TMDL in Watershed with Same BMP Class?*	RB TMDL in Watershed with Same Scheduling Class?*	Classification
Cyanide	Reach 2	2A	Amended BC Metals TMDL	Yes	Yes	Group 1
Ammonia	Sepulveda Channel	2C	None	No	No	Group 2
	Estuary	2C				
Mercury (total)	Reach 2	2A (Dry)/ 2C (Wet)	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Reach 1	2C				
Nickel	Estuary	2C	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Reach 2	3C				
Silver	Reach 1	2C	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Centinela Creek	3A				
	Reach 2	3C				
Cadmium (total)	Reach 1	3C	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Centinela Creek	3C				
	Reach 2	3A				
4,4'-DDE	Centinela Creek	2A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Reach 2	3A				
Benzo(a)anthracene	Centinela Creek	2A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Reach 2	3A				
Dibenzo(a,h) anthracene	Estuary	2A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
Indeno(1,2,3-cd)pyrene	Estuary	2A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3

Constituent	Water Body	Category	Relevant RB TMDL	RB TMDL in Watershed with Same BMP Class?*	RB TMDL in Watershed with Same Scheduling Class?	Classification
	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			
	Centinela Creek	3A				
4,4'-DDT	Centinela Creek	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
3,4 Benzofluoranthene	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
alpha-chlordane	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
gamma-chlordane	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
Benzo(a)pyrene	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
Benzo(k) fluoranthene	Centinela Creek	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
Bis(2-Ethylhexyl) phthalate	Reach 2	3C (Dry)/ 3A (Wet)	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Centinela Creek	3C				
	Sepulveda Channel	3C				
Chrysene	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Centinela Creek	3A				
Diazinon	Reach 2	3C	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Sepulveda Channel	3C				
Cyanide	Sepulveda Channel	3C	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
	Reach 2	3A				
Ammonia	Reach 2	3A	Exceedances of RWLs have been observed, but the water body is not identified as impaired on the 303(d) List as of December 28, 2012			Group 3
DDT (sediment)	Santa Monica Bay	1C	Addressed in USEPA TMDL without a Regional Board Adopted Implementation Plan			USEPA TMDL

Constituent	Water Body	Category	Relevant RB TMDL	RB TMDL in Watershed with Same BMP Class?*	RB TMDL in Watershed with Same Scheduling Class?	Classification
PCBs (sediment)	Santa Monica Bay	1C	Addressed in USEPA TMDL without a Regional Board Adopted Implementation Plan			USEPA TMDL
Sediment	Wetlands	1C	Addressed in USEPA TMDL without a Regional Board Adopted Implementation Plan			USEPA TMDL
Copper	Estuary	2A (Dry)/ 2C (Wet)	Being addressed by Regional Board adopted TMDL with Implementation Plan			
Lead	Estuary	2C	Being addressed by Regional Board adopted TMDL with Implementation Plan			
Silver	Estuary	3C	Being addressed by Regional Board adopted TMDL with Implementation Plan			
Zinc	Estuary	3C (Dry)/ 2C (Wet)	Being addressed by Regional Board adopted TMDL with Implementation Plan			
Dissolved Oxygen	Reach 2	3B	Reflective of a condition of pollution, not necessarily a result of MS4 discharge			
pH	Reach 2	2B	Reflective of a condition of pollution, not necessarily a result of MS4 discharge			
	Sepulveda Channel	2B	Reflective of a condition of pollution, not necessarily a result of MS4 discharge			

*. Based on fate and transport mechanisms during wet weather.

Approach to Identifying Milestones and Schedules

Based on the information presented in the previous section, the following approach to identifying milestones and schedules for USEPA TMDLs, 303(d) listings without a TMDL, and RWL exceedances was utilized.

1. For USEPA TMDLs, the milestones and schedules are consistent with Regional Board adopted TMDLs for similar pollutants within the Ballona Creek watershed.
2. For Group 1 pollutants, the milestones and schedules are consistent with the TMDL milestones and schedules for the Regional Board adopted TMDL which shares the same class as the Group 1 pollutant.
3. For Group 2 pollutants, the schedule contains annual specific actions or milestones. Milestones are consistent with the TMDL milestones and schedules for the relevant TMDL. Specific actions are based on information generated from the RAA analysis, as presented in Section 7.
4. For Group 3 pollutants, the schedule contains specific actions and/or milestones. Milestones are consistent with the TMDL milestones and schedules for the relevant TMDL. Specific actions are based on the information generated from the RAA analysis and assessment of monitoring data, as presented in Section 7.

In many instances, the water quality priority analysis has indicated that either (1) a WBPC on the 2010 303(d) List meets the delisting requirements, (2) a WBPC does not meet criteria to be placed on the 2010 303(d) List, (3) MS4 discharges are not considered to be a source, or (4) the WBPC is a condition rather than a “pollutant” with the potential to be discharged from the MS4. As a result, the aforementioned approach may not have been applied to all WBPCs. Additionally, development of milestones is more complex and requires consideration of the Permit compliance mechanisms. This section describes a general approach to setting milestones for all groups and provides details specific to the milestones and scheduling for each group.

General Approach to Setting Milestones

The Permit provides four options for complying with TMDL requirements and RWLs:

1. Monitoring data demonstrating water quality objectives are being met in the receiving waters at the compliance monitoring locations outlined in the CIMP.
2. Monitoring data demonstrates water quality objectives are being met at the outfall monitoring locations specified in the CIMP.
3. Monitoring and screening data demonstrates that no discharges are occurring from MS4 outfalls.
4. For interim TMDL requirements and RWL exceedances, implementing an approved EWMP.

Based on these compliance mechanisms, four different types of milestones were considered as appropriate for the WBPCs. To avoid a situation where other sources could impact the ability of the MS4 to demonstrate compliance (such as in the receiving water) or where water quality outcomes progress either faster or slower than projected by the modeling, demonstration of any of the four different types

of milestones will result in compliance. Examples of types of milestones that were considered are shown in Table 6.

Table 6 Examples of Milestone Types Considered

Compliance Path	Interim Milestone Options	Final Milestone Options
RWL	% reduction in concentrations	Meeting water quality objectives
	% reduction in loads	Demonstration that MS4s not causing or contributing to exceedance
WQBEL	% reduction in concentrations or loads	Meeting required percent reductions from outfalls
	Increased number of outfalls meeting WQBELs	Meeting WQBELs at all monitored outfalls
No discharge	Specified reduction in number of outfalls with discharge	No discharge from screened outfalls
	Reduced amount of flow from outfalls with discharge	
EWMP (BMP-based)	% MS4 area treated	Implementation of EWMP program
	Implementation of specified # of BMPs by certain date	

Detailed Approach to Setting Milestones

Details on the approach and justification for the milestones and schedules developed for USEPA TMDL pollutants and Group 1, 2 and 3 pollutants is provided in the following subsections.

USEPA TMDLs

The implementation actions which will be taken to address the WBPCs included in the Amended BC Toxics TMDL will also address the WBPCs that are addressed by USEPA TMDLs. As a result, the schedule developed for these constituents is consistent with the Amended BC Toxics TMDL with annual milestones based on the RAA analysis and control measure implementation schedule for the Amended BC Toxics TMDL, which already includes interim requirements and numeric milestones and the date(s) for their achievement. The interim and final compliance dates are presented in the following section; however, given that the annual milestones are based on the RAA analysis and control measure implementation schedule for the Regional Board adopted TMDL, the annual milestones are presented elsewhere.

The USEPA TMDLs are based on existing conditions/loads. As a result, whether or not the loads calculated at the time of TMDL development are consistent with current conditions may be verified in the future. If the loads calculated at the time of TMDL development underestimate current loads, the RAA analysis will be revised to evaluate whether control measures implemented for the Amended BC Toxics TMDL will be sufficient to meet the grouped WLAs. If control measures implemented for the Amended BC Toxics TMDL will not be sufficient to meet the grouped WLAs, the implementation schedule will be revised to extend beyond the Amended BC Toxics TMDL schedule, and will be developed based on the revised RAA analysis to reflect the additional reductions necessary to meet the grouped WLAs.

Group 1: 303(d) Listed WBPCs in the Same Class as a Regional Board TMDL

For the BCWMA, the Group 1 WBPCs are cyanide in Reach 2 and the shellfish harvesting advisory in the Estuary. The water quality priority analysis indicated that cyanide in Reach 2 could be delisted and is rarely exceeding in the receiving water. Therefore, a schedule has been established to support continual

attainment of the RWLs. The interim and final schedule milestones are based on the schedule for the BC Toxics TMDL.

Regarding the shellfish harvesting advisory in the Estuary, this WBPC is in the same class as the BC Bacteria TMDL; therefore, the BC Bacteria TMDL compliance schedule forms the basis for the shellfish harvesting advisory in the Estuary compliance schedule. However, given that the water quality objective which applies to water bodies designated with the SHELL beneficial use³ is much more stringent than the numeric targets established for the Estuary in the BC Bacteria TMDL⁴, and it is unknown whether the SHELL use is applicable. As such, the control of bacteria for the EWMP will be focused on achieving REC-1 objectives in the Estuary. The RAA indicates that the water quality objective which applies to water bodies designated with the SHELL beneficial use will not be achieved during dry and wet weather until the control measures aimed at achieving the BC Bacteria TMDL wet weather milestones are implemented. As a result, the BC Bacteria TMDL wet weather compliance schedule is used as the dry weather and wet weather compliance schedule for the shellfish harvesting advisory in the Estuary WBPC. The WBPCs in Group 1 are summarized in Table 7.

Table 7 303(d) Listed WBPCs in the Same Class as those Addressed in a Regional Board Adopted TMDL

Constituent	Water Body	Regional Board TMDL in Same Class
Cyanide	Reach 2	Amended BC Metals TMDL (Schedule based on BC Toxics TMDL because meets criteria to de-list)
Shellfish Harvesting Advisory	Estuary	BC Bacteria TMDL and EWMP is focused on REC-1 WQOs

Group 2: 303(d) Listed WBPCs Not in the Same Class as a Regional Board TMDL

The only constituent identified in the initial classification in Group 2 is the ammonia listing in Sepulveda Channel. For this constituent, the water quality priority analysis indicated that this WBPC could be delisted and is rarely exceeding in the receiving water. However, a schedule has been established to support continual attainment of the RWLs. The interim and final schedule milestones are based on the schedule for the BC Toxics TMDL.

³ The water quality objective which applies to water bodies designated with the SHELL beneficial use states “the median total coliform concentration through the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.”

⁴ The BC Bacteria TMDL states “The Basin Plan objectives that serve as the numeric targets for this TMDL are:
In Marine Waters Designated for Water Contact Recreation (REC-1)

1. Geometric Mean Limits

- a. Total coliform density shall not exceed 1,000/100 ml.
- b. Fecal coliform density shall not exceed 200/100 ml.
- c. *Enterococcus* density shall not exceed 35/100 ml.

2. Single Sample Limits

- a. Total coliform density shall not exceed 10,000/100 ml.
- b. Fecal coliform density shall not exceed 400/100 ml.
- c. *Enterococcus* density shall not exceed 104/100 ml.
- d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.”

Group 3: Other Receiving Water Limitation Exceedances

The majority of the WBPCs in the BCWMA fall into Group 3. For the WBPCs that are in the same class as a Regional Board adopted TMDL, the limiting pollutant analysis indicates that all WBPCs will be addressed through control measures to implement the Regional Board adopted TMDLs. As a result, a schedule has been developed for these constituents consistent with the Regional Board adopted TMDLs, and the scheduling for the RAA (Section 6) and EWMP Implementation Strategy (Section 7) are consistent.

Category 2 WBPCs that meet the requirements to be removed from the 303(d) List and Category 3 WBPCs are the lowest priority given their relatively low exceedance frequency. However, for these WBPCs, where MS4 discharges may have caused or contributed to the exceedances, a schedule has been established to support continual attainment of the RWLs. The interim and final schedule milestones are based on the schedule for the BC Toxics TMDL. For Category 2 and 3 WBPCs where the WBPC is a condition rather than a “pollutant” with the potential to be discharged from the MS4, a schedule was not created because specific implementation actions (beyond those already being implemented to achieve compliance with RWLs) are not required.

Proposed Interim Numeric Milestones and Compliance Schedule

Part VI.C.5.c of the Permit discusses the compliance schedule requirements associated with the EWMP. The EWMP implementation schedule was developed based on TMDL milestones (e.g., interim and final numeric limits). Interim and final compliance dates in the Regional Board adopted TMDLs are the primary drivers for the BCWMA RAA and EWMP implementation schedule. Table 8 presents the compliance schedule for USEPA TMDLs, 303(d) listings, and other RWL exceedances which fall under Category 1, 2 and 3. For simplicity, only the year of each milestone is shown; however, the exact date remains consistent with the milestone dates included in the relevant Regional Board adopted TMDL. The EWMP, including its implementation schedule will be periodically reviewed and updated as part of the adaptive management process; therefore, the schedule identified in Table 8 may be revised in the future. For those pollutants for which no compliance schedule was included,

The final dry and wet weather milestone for Category 2 WBPCs that meet the requirements to be removed from the 303(d) List and Category 3 WBPCs presented in Table 9 is January 11, 2021. Table 10 presents the list of the remaining Category 2 and 3 WBPCs where the WBPC is a condition rather than a “pollutant” with the potential to be discharged from the MS4. Available data will be assessed and, if the MS4 discharges are identified as causing or contributing to exceedances for WBPCs identified in Table 10, the EWMP will be revised consistent with Part VI.c.2.a.iii (page 51) of the Permit.

Table 8 Compliance Schedule for Category 1, 2, and 3 Water Quality Priorities that are not Included in a Regional Board Adopted TMDL

Constituent	WQP Category and Water Body	Compliance Schedule Source	Weather Condition	Compliance Dates and Compliance Milestones ¹											
				(Bolded numbers indicated milestone deadlines within the current Permit term)											
				2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2025	
Mercury (total)	C2: Estuary C2: Reach 2 C2: Reach 1	Amended BC Metals	Dry	50%		75%		100%							
			Wet	25%			50%						100%		
Nickel ²	C2: Estuary	Amended BC Metals	Dry	50%		75%		100%							
Silver	C3: Reach 2 C2: Reach 1 C3: Centinela	Amended BC Metals	Wet	25%				50%						100%	
DDT (sediment)	C1 (EPA TMDL): Santa Monica Bay	Amended BC Toxics	All	25%				50%	75%				100%		
PCBs (sediment)	C1 (EPA TMDL): Santa Monica Bay	Amended BC Toxics	All	25%				25%					50%	100%	
Sediment	C1 (EPA TMDL): Wetlands	Amended BC Toxics	All	25%				50%	75%				100%		
4,4'-DDE	C3: Reach 2 C2: Centinela	Amended BC Toxics	Wet	25%				50%	75%				100%		
Benzo(a)anthracene	C2: Reach 2 C3: Centinela	Amended BC Toxics	Wet	25%				50%	75%				100%		
Dibenzo(a,h)anthracene	C2: Estuary	Amended BC Toxics	Dry	25%				50%	75%				100%		
Indeno(1,2,3-cd)pyrene	C2: Estuary C3: Reach 2 C3: Centinela	Amended BC Toxics	All	25%				50%	75%				100%		
Shellfish Harvesting Advisory	C2: Estuary	BC Bacteria	Dry										100%		
			Wet											100%	

¹ The Permit term is assumed to be five years from the Permit effective date or December 27, 2017.

² Note that if additional control measures will need to be implemented to provide reasonable assurance that RWLs will be met in the Ballona Creek Estuary, the schedule will extend beyond the Amended BC Metals TMDL schedule and will be developed based on the RAA analysis to reflect the additional reductions necessary to meet the RWL.

Table 9 Compliance Schedule based on the BC Toxics TMDL for Category 2 and 3 Water Quality Priorities that Do Not Meet the 303(d) Listing Requirements¹

Constituent	WQP Category and Water Body	Compliance Schedule Source	Weather Condition	Schedule	Notes
Cadmium (total)	C3: Reach 2 C3: Reach 1 C3: Centinela	None	Wet	January 11, 2021	Only 2 of 103 exceedances in last 10 years in Reach 2, 1 of 20 exceedances in last 10 years in Reach 1, and 2 of 38 exceedances in last 10 years in Centinela Creek ¹
4,4'-DDT	C3: Centinela	None	Wet		Only 1 of 27 exceedances in last 10 years in Centinela Creek ¹
3,4 Benzofluoranthene	C3: Reach 2	None	Wet		Only 1 of 59 exceedances in last 10 years in Reach 2 ¹
alpha-chlordane	C3: Reach 2	None	Wet		Only 1 of 57 exceedances in last 10 years in Reach 2 ¹
gamma-chlordane	C3: Reach 2	None	Wet		Only 1 of 57 exceedances in last 10 years in Reach 2 ¹
Benzo(a)pyrene	C3: Reach 2	None	Wet		Only 1 of 66 exceedances in last 10 years in Reach 2 ¹
Benzo(k)fluoranthene	C3: Centinela	None	Wet		Only 1 of 27 exceedances in last 10 years in Centinela Creek ¹
Bis(2-Ethylhexyl) phthalate	C3: Reach 2 C3: Centinela C3: Sepulveda	None	All		Only 5 of 72 exceedances in last 10 years in Reach 2, 1 of 14 exceedances in last 10 years in Centinela Creek, and 1 of 14 exceedances in last 10 years in Sepulveda Channel ¹
Chrysene	C3: Reach 2 C3: Centinela	None	Wet		Only 1 of 66 exceedances in last 10 years in Reach 2 and 1 of 27 exceedances in last 10 years in Centinela Creek ¹
Diazinon	C3: Reach 2 C3: Sepulveda	None	Wet		Only 2 of 61 exceedances in last 10 years in Reach 2 and 1 of 11 exceedances in last 10 years in Sepulveda Channel ¹
Cyanide	C2: Reach 2 C3: Sepulveda	None	All		Meets criteria to de-list for waterbodies on 303(d) list and does not meet criteria to be placed on 303(d) list for waterbodies not on 303(d) list
Ammonia	C3: Reach 2 C2: Sepulveda	None	Dry		Meets criteria to de-list for waterbodies on 303(d) list and does not meet criteria to be placed on 303(d) list for waterbodies not on 303(d) list
Dissolved Oxygen	C3: Reach 2	None	All		Reflective of a condition of pollution, not necessarily a result of MS4 discharge
pH	C2: Reach 2 C2: Sepulveda	None	All		Reflective of a condition of pollution, not necessarily a result of MS4 discharge

¹ Attainment of the percentages may be demonstrated either as a reduction in exceedance frequency at time of EWMP approval or percent area meeting the RWL.

Table 10. Water Quality Priorities where either MS4 discharges are not considered to be a Source or the Water Body Pollutant Combination is a Condition Rather than a “pollutant” with the Potential to be Discharged from the MS4

Constituent	WQP Category and Water Body	Weather Condition	Notes
Dissolved Oxygen	C3: Reach 2	All	Reflective of a condition of pollution, not necessarily a result of MS4 discharge
pH	C2: Reach 2 C2: Sepulveda	All	Reflective of a condition of pollution, not necessarily a result of MS4 discharge

Appendix 3.B

Supporting Information for the Receiving Water Analysis

Per Part VI.C.5.a.i (pg 58) of the Permit, each EWMP shall include an evaluation of existing water quality conditions, including characterization of receiving water quality. Data were compiled to identify constituents exceeding applicable water quality objectives. Applicable water quality objectives were obtained from the California Toxics Rule (CTR), Basin Plan, and relevant TMDLs. Applicable water quality objectives from the CTR and Basin Plan were selected based on the beneficial uses identified in the Basin Plan (summarized in Table 11). Generally, the water quality objectives utilized included those established for the protection of aquatic life, contact recreation and human health related to the consumption of organisms. Bed and suspended sediment quality data were compared to TMDL targets. Given the significant number of water quality constituents and corresponding water quality objectives the following steps were taken:

- The first step in the analysis was to develop a list of constituents that were sampled for but were never detected in any water body within the EWMP area and therefore would not fall into one of the three Permit categories (Appendix 3.A). A list of these constituents is presented in Attachment 1.
- Next, constituents that were detected but the sample results never exceeded a corresponding water quality objective and therefore would not fall into one of the three Permit categories were identified. A list of these constituents is presented in Attachment 2.
- All other constituents (*i.e.*, all constituents detected and with sample results that had at least one result greater than an applicable water quality objective) were subject to further analysis. Summary tables are presented in Attachment 3. These tables generally include the following attributes:
 - Applicable water body segments (*i.e.*, tributaries, reaches, etc.)
 - TMDL target or applicable water quality objective (*e.g.*, CTR and/or Basin Plan)
 - Applicable wet or dry weather conditions
 - Date range of data
 - Total number of samples, number of samples exceeding the water quality objectives, percent exceedance frequency, and number of exceedances in the past five years of available data
 - Whether or not the number of exceedances suggested an impairment per the State's 303(d) Listing Policy⁵
 - Average, median, maximum, and minimum of sample results

⁵ 2004 Water Quality Control Policy for Developing California's Clean Water Act Section 303 (d) List.

Table 11 Ballona Creek Watershed Designated Beneficial Uses as Presented in the Los Angeles Region Basin Plan

Water Body	REC1	LRREC-1	REC2	HFS	MUN	NAV	COMM	WARM	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET ^b
Ballona Creek Estuary (ends at Centinela Creek) ^{c,w}	E		E			E	E		E	E	E	Ee	Ef	Ef	E	
Ballona Lagoon ^c	E		E			E	E		E	E	E	Ee	Ef	Ef	E	
Ballona Wetlands ^c	E		E						E		E	Ee	Ef	Ef		E
Del Rey Lagoon ^c	E		E			E	E		E	E	E	Ee	Ef	Ef		E
Ballona Creek Reach 2 (Estuary to National Blvd.)	Ps,au	E	E	Yav	P*			P			P					
Ballona Creek Reach 1 (above National Blvd.)	Ps,au		E	Yav	P*			P			E					

E: Existing beneficial use

P: Potential beneficial use

b: Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

c: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands Table (2-4) of the Basin Plan.

e: One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

s: Access prohibited by Los Angeles County Department of Public Works.

w: These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries

* Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemption at a later date (See pages 2-3, 4 for more details).

au: The REC-1 use designation does not apply to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use in the Basin Plan, or the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC-1 uses associated with the fishable goal as expressed in the Federal Clean Water Act section 1010(a)(2) shall remain in effect for waters where the (au) footnote appears.

av: The High Flow Suspension only applies to water contact recreational activities associated with the swimmable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use, noncontact water recreation involving incidental water contact regulated under the REC-2 use, and the associated bacteriological objectives set to protect those activities. Water quality objectives set to protect (1) other recreational uses associated with the fishable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use and (2) other REC-2 uses (e.g., uses involving the aesthetic aspects of water) shall remain in effect at all times for waters where the (av) footnote appears.

For the analysis presented in Attachment 3, the determination of weather condition was based on the designation provided by the sampling program. If no information was provided by the sampling program, flow records were reviewed. If flow on the sample date exceeded the definition of wet weather of 64 cubic feet per second (cfs) identified in the 2013 Ballona Creek Metals TMDL, it was identified as a wet weather sample.

A large proportion of the data included non-detect values. Using these data to calculate summary statistics requires methods for dealing with the inherent uncertainty in characterizing the true range of water quality conditions. The method used to consider non-detect data results is typically known as regression on order statistics (ROS). Use of the ROS method, when statistical criteria are met, more appropriately estimates actual values than the commonly employed practice of assuming one half the detection limit for non-detect values. Criteria for sufficient data to use the ROS method are: 1) at least 20% and preferably 50% detected data and 2) at least three unique detected values. Instances of insufficient detected data results are noted in the summary tables as <20% detect Attachment 3.

In addition to the results for water data presented in Attachment 3, sediment data for samples collected from bed sediments in the Ballona Creek Estuary and suspended sediments collected in Ballona Creek and Centinela Creek are compared to TMDL targets and summarized in tables presented in Attachment 4.

Summary of Key Findings of Receiving Water Data Analysis

The following provides a summary of key findings from the receiving water data analysis. It is not intended to be a detailed discussion of all the results of the data analysis. Instead, the summary highlights outcomes of the data analysis that may affect the constituents addressed by the EWMP and/or the way the EWMP will approach addressing the constituent. For example, some constituents addressed by the Metals TMDL appear to exceed less frequently than in the past and as such, are discussed in this subsection. Conversely, indicator bacteria continue to exceed on a frequent basis and nothing “new” was learned from the data analysis. As such, indicator bacteria are not discussed in this subsection. The key findings are organized as follows:

- Summary of findings related to the Metals TMDL.
- Identification of constituents that are not currently on the 303(d) List, but appear to meet the listing requirements.
- Identification of constituents that exhibited exceedances of relevant water quality objectives, but do not meet the 303(d) listing requirements.
- Identification of current 303(d) listed constituents not addressed by a TMDL that appear to meet the delisting requirements.

Key Findings Related to the Metals TMDL

Wet weather is the primary condition where exceedances of metals criteria and TMDL targets persist. Over the past five years, copper, lead and zinc exceedances during dry weather are infrequent. As noted in the 2013 Metals TMDL Amendment, selenium does not appear to be an issue during wet or dry weather. The following provides a generalized summary of the key findings from data collected over the past five years (note that percentages are rounded) (see Attachment 3 for detailed summary):

- Dissolved Copper: Consistently exceeds in wet weather (40%-90%) but rarely in dry weather (0%-4%).
- Total Copper: Consistently exceeds in wet weather (>90%), but rarely in dry weather (0%-4%).
- Dissolved Lead: Rarely exceeds during wet or dry weather (0%-2%).
- Total Lead: Consistently exceeds in wet weather (>90%), but rare in dry weather (0%-2%).
- Dissolved Zinc: Consistently exceeds CTR criteria in wet weather (0%-20%), but does not exceed in dry weather.
- Total Zinc: Consistently exceeds in wet weather (>75%), but rare in dry weather (<1%).
- Total Selenium: Only one sample out of 200 exceeded during wet or dry weather.

Constituents Not on the 303(d) List, But Appear to Meet Listing Requirements

The data analysis identified a number of constituents exceeding relevant water quality objectives, at a frequency that appears to meet the 303(d) listing criteria. The following identifies the constituents by waterbody and discusses the frequency of exceedances during relevant conditions (*e.g.*, wet and/or dry weather). Table 12 presents a summary of the information. A more detailed summary of the analysis can be found in the tables presented in Attachment 3.

Table 12 Summary of Key Findings – Constituents Not Currently on the 303(d) List, but Appear to Meet Listing Criteria

Waterbody	Constituent	W/D	% Exceed	% Exceed in Past 5 Years	Source of Water Quality Objective (WQO)
Ballona Creek Estuary	Zinc Dissolved	Wet	13%	NS	CTR Saltwater Acute
	Zinc Total	Wet	19%	NS	CTR Saltwater Acute
	Copper Dissolved	Wet	60%	NS	CTR Saltwater Acute
	Copper Total	Wet	69%	NS	CTR Saltwater Acute
	Copper Dissolved	Dry	48%	6%	CTR Saltwater Chronic
	Copper Total	Dry	52%	6%	CTR Saltwater Chronic
	Lead Dissolved	Dry	18%	0%	CTR Saltwater Chronic
	Lead Total	Dry	21%	0%	CTR Saltwater Chronic
	Nickel Dissolved	Dry	22%	NS	CTR Saltwater Chronic
	Nickel Total	Dry	26%	NS	CTR Saltwater Chronic
	Mercury Total	Wet	29%	NS	CTR HH Organism
	Mercury Total	Dry	23%	NS	CTR HH Organism
	Dibenzo(a,h)anthracene	Dry	13%	13%	CTR HH Organism
	Indeno(1,2,3-cd)pyrene	Dry	13%	13%	CTR HH Organism
Ballona Creek Reach 1	Silver Dissolved	Wet	10%	0%	CTR Freshwater Acute
	Silver Total	Wet	10%	0%	CTR Freshwater Acute
	Mercury Total	Wet	30%	NS	CTR HH Organism
	Mercury Total	Dry	27%	NS	CTR HH Organism
	Benzo(a)anthracene	Wet	8%	10%	CTR HH Organism

Waterbody	Constituent	W/D	% Exceed	% Exceed in Past 5 Years	Source of Water Quality Objective (WQO)
Ballona Creek Reach 2	Mercury Total	Wet	10%	0%	CTR HH Organism
	Mercury Total	Dry	22%	13%	CTR HH Organism
	pH	Dry	24%	29%	BP Minimum/Maximum
Centinela Creek	4,4'-DDE	Wet	11%	19%	CTR HH Organism
Sepulveda Channel	pH	Dry	80%	0%	BP Minimum/Maximum

BP = Basin Plan

CTR = California Toxics Rule

NS = Not Sampled

HH Organism = Human Health Organisms only criteria

Constituents Exceeding Objectives, But Do Not Meet the Listing Requirements

The data analysis identified a number of constituents as exceeding relevant water quality objectives, but not at a frequency that meets the 303(d) listing criteria. Table 13 identifies the constituents by waterbody and includes the frequency of exceedances during relevant conditions (*e.g.*, wet and/or dry weather). A more detailed summary of the analysis can be found in the tables presented in Attachment 3.

Table 13 Summary of Key Findings – Constituents Exceeding Objectives, But That Do Not Appear to Meet Listing Criteria

Waterbody	Constituent	W/D	% Exceed	% Exceed in Past 5 Years	Source of Water Quality Objective (WQO)
Ballona Creek Estuary	Silver Dissolved	Wet	6%	NS	CTR Saltwater Acute
	Silver Total	Wet	6%	NS	CTR Saltwater Acute
	Zinc Total	Dry	2%	0%	CTR Saltwater Chronic
Ballona Creek Reach 1	Cadmium Total	Wet	5%	0%	CTR Freshwater Acute
Ballona Creek Reach 2	3,4 Benzofluoranthene	Wet	1.7%	2.6%	CTR HH Organism
	4,4'-DDE	Wet	1.8%	2.6%	CTR HH Organism
	Ammonia-N	Dry	3.7%	6.7%	BP 30-day Acute early life stage fish present
	Benzo(a)pyrene	Wet	1.5%	2.6%	CTR HH Organism
	Bis(2-Ethylhexyl) phthalate	Wet	6.5%	5.3%	CTR HH Organism
	Bis(2-Ethylhexyl) phthalate	Dry	7.7%	0%	CTR HH Organism
	Cadmium Total	Wet	1.9%	0%	CTR Freshwater Acute
	Chrysene	Wet	1.5%	2.6%	CTR HH Organism
	Indeno(1,2,3-cd)pyrene	Wet	1.5%	2.6%	CTR HH Organism
	Silver Dissolved	Wet	1%	0%	CTR Freshwater Acute
	Silver Total	Wet	1.9%	0%	CTR Freshwater Acute
	alpha-chlordane	Wet	1.8%	2.6%	CTR HH Organism
	gamma-chlordane	Wet	1.8%	2.6%	CTR HH Organism
	Diazinon	Wet	3.3%	0%	USEPA Freshwater Acute
	Oxygen Dissolved	Wet	4.7%	0%	BP Single Sample Minimum

Waterbody	Constituent	W/D	% Exceed	% Exceed in Past 5 Years	Source of Water Quality Objective (WQO)
	Cyanide Total	Wet	7.1%	5.3%	CTR Freshwater Acute
		Dry	3.8%	0%	CTR Freshwater Chronic
	pH	Wet	9.5%	15%	BP Minimum/Maximum
Centinela Creek	4,4'-DDT	Wet	3.7%	6%	CTR HH Organism
	Benzo(a)anthracene	Wet	4.5%	6%	CTR HH Organism
	Benzo(k)fluoranthene	Wet	3.7%	6%	CTR HH Organism
	Bis(2-Ethylhexyl) phthalate	Wet	9.1%	9.1%	CTR HH Organism
	Cadmium Total	Wet	5.3%	0%	CTR Freshwater Acute
	Chrysene	Wet	3.7%	6%	CTR HH Organism
	Silver Total	Wet	5.3%	13%	CTR Freshwater Acute
	pH	Wet	18.2%	NS	BP Minimum/Maximum
		Dry	33.3%	NS	BP Minimum/Maximum
Benedict Canyon Channel	Bis(2-Ethylhexyl) phthalate	Wet	9.1%	NS	CTR HH Organism
	Diazinon	Wet	9.1%	NS	USEPA Freshwater Acute
	Mercury Total	Wet	6.7%	NS	CTR HH Organism
Sepulveda Channel	Bis(2-Ethylhexyl) phthalate	Wet	9.1%	NS	CTR HH Organism
	Diazinon	Wet	9.1%	NS	USEPA Freshwater Acute
	Cyanide Total	Wet	9.1%	NS	CTR Freshwater Acute

BP = Basin Plan

CTR = California Toxics Rule

NS = Not Sampled

HH Organism = Human Health Organisms only criteria

Identification of Current 303(d) Listed Constituents Not Addressed by a TMDL that Meet the Delisting Requirements

Two of the three 303(d) listings not addressed by an existing TMDL were identified as potentially meeting delisting requirements: ammonia and cyanide.

Cyanide in Ballona Creek was listed based on three of 18 samples exceeding at the LA County mass emission station between October 2000 and April 2003. A review of the past 10 years of data indicates that only five of 82 samples exceed the applicable CTR criteria. For toxicants, the maximum number of exceedances allowed for delisting is shown in Table 4.1 (Page 14) of the Listing Policy and indicates that if the sample size is between 72 and 82 a constituent can be delisted if the number of exceedances is equal to or less than six. A more detailed summary of the analysis can be found in the tables presented in Attachment 3.

Data for ammonia and pH were collected by the Los Angeles Department of Public Works in Sepulveda Channel (Culver Blvd and at Ballona Creek locations) from May 1988 to July 1994. Additional ammonia, pH, and temperature data were collected by the City of Los Angeles in Sepulveda Channel at Culver Blvd. from May 2009 to October 2009 and by the Regional Board at six stations in Sepulveda Channel in January 2009.

Table 14 presents a summary of the data.

Table 14 Summary of Ammonia Data used for the Delisting Analysis for Sepulveda Canyon Channel

Sampled by	Time Period	# of Samples	# of Exceedances	Delist if the # of exceedances \leq ¹
Historical Data				
Los Angeles County Department of Public Works	05/1988-07/1994	69	7	5
Recent Data				
City of Los Angeles	05/2009-10/2009	22	0	2
Los Angeles Regional Board	01/2009	6	0	
Total (recent data)		28	0	
Total (historical & recent)		97	7	8

¹For toxicants, the maximum number of exceedances allowed for delisting is shown in Table 4.1 (Page 14) of the 303 (d) Listing Policy.

To calculate the number of exceedances presented Table 13, for each ammonia concentration, each sample result was compared to the applicable 30-day chronic criterion for ammonia (based on Basin Plan ammonia water quality objectives). The chronic-criterion value is calculated for each dataset using applicable pH and temperature data. For the historical data, temperature data were not available. Therefore, temperature was estimated on a monthly basis using recent data and historical temperatures⁶.

The calculated criterion was compared to the corresponding ammonia concentration of the sample. The number of exceedances was then compared to the requirements for delisting presented in Section 4 of the Listing Policy. For toxicants, the maximum number of exceedances allowed for delisting is shown in Table 4.1 (Page 14) of the Listing Policy.

As shown in Table 14 above, the total number of exceedances is below the maximum number of exceedances allowed to delist per the Listing Policy. As a result, the available data demonstrates that Sepulveda Channel meets the water quality objectives for ammonia.

⁶ <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2214>

Appendix 3.B Attachment 1

List of Constituents that have not been Detected in Water

Constituents in this attachment were not detected in any available data reviewed.

Ballona Creek Estuary – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limits		Units
				Min DL	Max DL	
2,4'-DDD	2/5/2009	5/17/2010	16	0.001	0.003	µg/L
2,4'-DDE	2/5/2009	5/17/2010	16	0.001	0.003	µg/L
2,4'-DDT	2/5/2009	5/17/2010	16	0.003	0.004	µg/L
3,4 Benzofluoranthene	2/5/2009	5/17/2010	16	0.14	0.14	µg/L
4,4'-DDD	2/5/2009	5/17/2010	16	0.001	0.004	µg/L
4,4'-DDE	2/5/2009	5/17/2010	16	0.002	0.004	µg/L
4,4'-DDT	2/5/2009	5/17/2010	16	0.002	0.003	µg/L
Acenaphthene	2/5/2009	5/17/2010	16	0.13	0.13	µg/L
Acenaphthylene	2/5/2009	5/17/2010	16	0.13	0.13	µg/L
alpha-chlordane	2/5/2009	5/17/2010	14	0.001	0.07	µg/L
Anthracene	2/5/2009	5/17/2010	16	0.11	0.11	µg/L
Aroclor 1016	2/5/2009	5/17/2010	6	0.03	0.081	µg/L
Aroclor 1221	2/5/2009	5/17/2010	6	0.02	0.49	µg/L
Aroclor 1232	2/5/2009	5/17/2010	6	0.06	0.1	µg/L
Aroclor 1242	2/5/2009	5/17/2010	6	0.04	0.23	µg/L
Aroclor 1248	2/5/2009	5/17/2010	6	0.04	0.1	µg/L
Aroclor 1254	2/5/2009	5/17/2010	6	0.02	0.04	µg/L
Aroclor 1260	2/5/2009	5/17/2010	6	0.03	0.07	µg/L
Benzo(a)anthracene	2/5/2009	5/17/2010	16	0.14	0.14	µg/L
Benzo(a)pyrene	2/5/2009	5/17/2010	16	0.13	0.13	µg/L
Benzo(k)fluoranthene	2/5/2009	5/17/2010	16	0.11	0.11	µg/L
Chrysene	2/5/2009	5/17/2010	16	0.12	0.12	µg/L
Dieldrin	2/5/2009	5/17/2010	15	0.001	0.005	µg/L
Fluoranthene	2/5/2009	5/17/2010	16	0.02	0.02	µg/L
Fluorene	2/5/2009	5/17/2010	16	0.02	0.02	µg/L
gamma-chlordane	2/5/2009	5/17/2010	14	0.001	0.07	µg/L
Naphthalene	2/5/2009	5/17/2010	16	0.13	0.13	µg/L
Nonachlor, cis-	2/5/2009	5/17/2010	14	0.001	0.09	µg/L
Nonachlor, trans-	2/5/2009	5/17/2010	14	0.001	0.09	µg/L
Oxychlordane	2/5/2009	5/17/2010	14	0.002	0.08	µg/L
PCB 018	2/5/2009	3/9/2010	13	0.002	0.002	µg/L
PCB 028	2/5/2009	3/9/2010	13	0.002	0.002	µg/L
PCB 037	2/5/2009	3/9/2010	13	0.0036	0.0036	µg/L

Ballona Creek Estuary – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limits		Units
				Min DL	Max DL	
PCB 044	2/5/2009	3/9/2010	13	0.0019	0.0019	µg/L
PCB 049	2/5/2009	3/9/2010	13	0.002	0.002	µg/L
PCB 052	2/5/2009	3/9/2010	13	0.0062	0.0062	µg/L
PCB 066	2/5/2009	3/9/2010	13	0.0014	0.0014	µg/L
PCB 070	2/5/2009	3/9/2010	13	0.0013	0.0013	µg/L
PCB 074	2/5/2009	3/9/2010	13	0.00024	0.0024	µg/L
PCB 077	2/5/2009	3/9/2010	13	0.0018	0.0018	µg/L
PCB 081	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 087	2/5/2009	3/9/2010	13	0.0018	0.0018	µg/L
PCB 099	2/5/2009	3/9/2010	13	0.0023	0.0023	µg/L
PCB 101	2/5/2009	3/9/2010	13	0.0014	0.0014	µg/L
PCB 105	2/5/2009	3/9/2010	13	0.0015	0.0015	µg/L
PCB 110	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 114	2/5/2009	3/9/2010	13	0.0014	0.0014	µg/L
PCB 118	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 119	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 123	2/5/2009	3/9/2010	13	0.0015	0.0015	µg/L
PCB 126	2/5/2009	3/9/2010	13	0.0015	0.0015	µg/L
PCB 128	2/5/2009	3/9/2010	13	0.0017	0.0017	µg/L
PCB 138	2/5/2009	3/9/2010	13	0.0012	0.0012	µg/L
PCB 149	2/5/2009	3/9/2010	13	0.0017	0.0017	µg/L
PCB 151	2/5/2009	3/9/2010	13	0.0014	0.0014	µg/L
PCB 153/168	2/5/2009	3/9/2010	13	0.0016	0.0031	µg/L
PCB 156	2/5/2009	3/9/2010	13	0.0015	0.0015	µg/L
PCB 157	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 158	2/5/2009	3/9/2010	13	0.0021	0.0021	µg/L
PCB 167	2/5/2009	3/9/2010	13	0.0018	0.0018	µg/L
PCB 169	2/5/2009	3/9/2010	13	0.0014	0.0014	µg/L
PCB 170	2/5/2009	3/9/2010	13	0.0014	0.0014	µg/L
PCB 177	2/5/2009	3/9/2010	13	0.0016	0.0018	µg/L
PCB 180	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 183	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 187	2/5/2009	3/9/2010	13	0.0015	0.0015	µg/L
PCB 189	2/5/2009	3/9/2010	13	0.001	0.001	µg/L
PCB 194	2/5/2009	3/9/2010	13	0.0017	0.0017	µg/L
PCB 201	2/5/2009	3/9/2010	13	0.0016	0.0016	µg/L
PCB 206	2/5/2009	3/9/2010	13	0.0012	0.0012	µg/L
Pyrene	2/5/2009	5/17/2010	16	0.02	0.02	µg/L
Vanadium Dissolved	4/26/2001	5/31/2001	2	5	5	µg/L
Vanadium Total	4/26/2001	5/31/2001	2	5	5	µg/L

Ballona Creek Reach 2 – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
1,2 Benzantracene	10/10/2002	6/12/2013	65	0.03	1.67	µg/L
1,2,4,5-Tetrachlorobenzene	10/17/2004	3/9/2005	6	1	1	µg/L
1,2,4-Trichlorobenzene	10/10/2002	6/12/2013	71	0.33	1	µg/L
1,2-Dichlorobenzene	10/10/2002	6/12/2013	71	0.05	1	µg/L
1,2-Diphenylhydrazine	10/10/2002	6/12/2013	71	0.33	3	µg/L
1,3-Dichlorobenzene	10/10/2002	6/12/2013	71	0.05	1	µg/L
1,4-Dichlorobenzene	10/10/2002	6/12/2013	71	0.05	1	µg/L
1-Chloronaphthalene	10/17/2004	3/9/2005	6	0.1	0.1	µg/L
1-Naphthylamine	10/17/2004	3/9/2005	6	3	3	µg/L
2- Chlorophenol	10/17/2005	6/12/2013	54	0.67	2	µg/L
2,3,4,6-Tetrachlorophenol	10/17/2004	3/9/2005	6	1	1	µg/L
2,4,5-TP	10/10/2002	6/12/2013	71	0.067	10	µg/L
2,4,5-Trichlophenol	10/17/2004	3/9/2005	6	1	1	µg/L
2,4,6-Trichlophenol	10/10/2002	6/12/2013	40	1	1	µg/L
2,4-D	10/10/2002	6/12/2013	71	0.015	10	µg/L
2,4'-DDD	10/31/2006	10/9/2013	37	0.003	0.05	µg/L
2,4'-DDE	10/31/2006	10/9/2013	37	0.002	0.05	µg/L
2,4'-DDT	10/31/2006	10/9/2013	37	0.002	0.01	µg/L
2,4-Dichlorophenol	10/10/2002	6/12/2013	73	0.33	2	µg/L
2,4-Dimethylphenol	10/10/2002	6/12/2013	73	0.67	2	µg/L
2,4-Dinitrophenol	10/10/2002	6/12/2013	73	1	3	µg/L
2,4-Dinitrotoluene	10/10/2002	6/12/2013	71	0.05	5	µg/L
2,6-Dichlorophenol	10/17/2004	3/9/2005	6	2	2	µg/L
2,6-Dinitrotoluene	10/10/2002	6/12/2013	71	0.05	5	µg/L
2-Chloroethyl Vinyl Ether	10/17/2005	4/9/2013	67	0.33	400	µg/L
2-Chloronaphthalene	10/10/2002	6/12/2013	71	0.1	10	µg/L
2-Chlorophenol	10/10/2002	3/9/2005	17	2	2	µg/L
2-Methylphenol	10/17/2004	3/9/2005	6	3	3	µg/L
2-Naphthylamine	10/17/2004	3/9/2005	6	3	3	µg/L
2-Nitroaniline	10/17/2004	3/9/2005	6	3	3	µg/L
2-Nitrophenol	10/10/2002	6/12/2013	73	1	3	µg/L
2-Picoline	10/17/2004	3/9/2005	6	3	3	µg/L
3,3-Dichlorobenzidine	10/10/2002	6/12/2013	71	1.67	5	µg/L
3-Nitroaniline	10/17/2004	3/9/2005	6	3	3	µg/L
4,4'-DDD	10/10/2002	10/9/2013	75	0.002	0.1	µg/L
4,4'-DDT	10/10/2002	10/9/2013	75	0.001	0.1	µg/L
4,6 Dinitro-2-methylphenol	10/10/2002	6/12/2013	71	1	5	µg/L
4-Bromophenyl phenyl ether	10/10/2002	6/12/2013	71	0.4	1.67	µg/L
4-chloro-3-methylphenol	10/10/2002	6/12/2013	73	1	3	µg/L
4-Chlorophenyl phenyl ether	10/10/2002	6/12/2013	71	0.04	1.67	µg/L
4-Methylphenol	10/17/2004	3/9/2005	6	3	3	µg/L

Ballona Creek Reach 2 – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
4-Nitroaniline	10/17/2004	3/9/2005	6	3	3	µg/L
4-Nitrophenol	10/10/2002	6/12/2013	73	1	3	µg/L
7,12-Dimethylbenz(a)anthracene	10/17/2004	3/9/2005	6	0.1	0.1	µg/L
Acenaphthene	10/10/2002	10/9/2013	91	0.05	1	µg/L
Acenaphthylene	10/10/2002	10/9/2013	91	0.05	2	µg/L
Acetophenone	10/17/2004	3/9/2005	6	0.3	0.3	µg/L
Aldrin	10/10/2002	6/12/2013	70	0.004	0.05	µg/L
alpha,alpha-Dimethylphenethylamine	10/17/2004	3/9/2005	6	3	3	µg/L
alpha-BHC	10/10/2002	6/12/2013	70	0.003	0.05	µg/L
Aminobiphenyl	10/17/2004	3/9/2005	6	3	3	µg/L
Aniline	10/17/2004	3/9/2005	6	3	3	µg/L
Anthracene	10/10/2002	10/9/2013	91	0.05	2	µg/L
Aroclor 1016	10/10/2002	10/9/2013	90	0.01	0.5	µg/L
Aroclor 1221	10/10/2002	10/9/2013	94	0.01	0.5	µg/L
Aroclor 1232	10/10/2002	10/9/2013	90	0.01	0.5	µg/L
Aroclor 1242	10/10/2002	10/9/2013	90	0.01	0.5	µg/L
Aroclor 1248	10/10/2002	10/9/2013	90	0.01	0.5	µg/L
Aroclor 1254	10/10/2002	10/9/2013	90	0.01	0.5	µg/L
Aroclor 1260	10/10/2002	10/9/2013	90	0.01	0.5	µg/L
Atrazine	10/10/2002	6/12/2013	71	0.667	2	µg/L
Bentazon	10/17/2004	3/9/2005	6	2	2	µg/L
Benzidine	10/10/2002	6/12/2013	71	1.67	5	µg/L
Benzo(k)fluoranthene	10/10/2002	10/9/2013	91	0.1	2	µg/L
beta-BHC	10/10/2002	6/12/2013	70	0.005	0.05	µg/L
Bis(2-Chloroethoxy) methane	10/10/2002	6/12/2013	77	0.1	5	µg/L
Bis(2-Chloroethyl) ether	10/10/2002	6/12/2013	65	0.1	1	µg/L
Bis(2-Chloroisopropyl) ether	10/10/2002	6/12/2013	71	0.67	2	µg/L
Carbofuran	10/17/2004	4/9/2008	13	5	5	µg/L
Chlordane	10/17/2004	6/12/2013	59	0.01	0.1	µg/L
Chloroaniline	10/17/2004	3/9/2005	6	1	1	µg/L
Chlorpyrifos	11/12/2001	6/12/2013	77	0.02	0.05	µg/L
Cyanazine	10/10/2002	6/12/2013	71	0.667	2	µg/L
delta-BHC	10/10/2002	6/12/2013	70	0.005	0.05	µg/L
Dibenz(a,j)acridine	10/17/2004	3/9/2005	6	0.3	0.3	µg/L
Dieldrin	10/10/2002	10/9/2013	90	0.002	0.1	µg/L
Dimethyl phthalate	10/10/2002	6/12/2013	71	0.5	2	µg/L
di-n-Octyl phthalate	10/10/2002	6/12/2013	64	1	10	µg/L
Diphenyl amine	10/17/2004	3/9/2005	6	1	1	µg/L
Diuron	10/17/2004	3/9/2005	6	1	1	µg/L
Endosulfan I	10/10/2002	6/12/2013	70	0.01	0.1	µg/L
Endosulfan II	10/10/2002	6/12/2013	70	0.004	0.1	µg/L

Ballona Creek Reach 2 – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
Endosulfan sulfate	10/10/2002	6/12/2013	70	0.05	0.1	µg/L
Endrin	10/10/2002	6/12/2013	70	0.006	0.1	µg/L
Endrin aldehyde	10/10/2002	6/12/2013	70	0.01	0.1	µg/L
Endrin ketone	10/17/2004	7/30/2009	24	0.1	1	µg/L
Ethyl methanesulfonate	10/17/2004	3/9/2005	6	0.3	0.3	µg/L
Fluorene	10/10/2002	10/9/2013	91	0.02	0.1	µg/L
gamma-BHC (lindane)	10/10/2002	6/12/2013	70	0.004	0.05	µg/L
Glyphosate	10/10/2002	6/12/2013	71	5	25	µg/L
Heptachlor	10/10/2002	6/12/2013	70	0.003	0.05	µg/L
Heptachlor Epoxide	10/10/2002	6/12/2013	70	0.01	0.05	µg/L
Hexachlorobenzene	10/10/2002	6/12/2013	71	0.33	1	µg/L
Hexachlorobutadiene	10/10/2002	6/12/2013	71	0.33	1	µg/L
Hexachloro-cyclopentadiene	10/10/2002	6/12/2013	71	1.67	5	µg/L
Hexachloroethane	10/10/2002	6/12/2013	71	0.33	1	µg/L
Malathion	10/10/2002	6/12/2013	70	0.33	2	µg/L
Methoxychlor	10/17/2004	6/12/2013	54	0.5	0.5	µg/L
Methylcholanthrene	10/17/2004	3/9/2005	6	0.3	0.3	µg/L
Methylmethanesulfonate	10/17/2004	3/9/2005	6	0.3	0.3	µg/L
Molinate	10/17/2004	3/9/2005	6	2	2	µg/L
Naphthalene	10/10/2002	10/9/2013	91	0.05	0.2	µg/L
Nitrobenzene	10/10/2002	6/12/2013	71	0.05	1	µg/L
N-Nitroso-butyl amine	10/17/2004	3/9/2005	6	0.3	0.3	µg/L
N-Nitroso-di-n-propyl amine	10/10/2002	6/12/2013	71	0.3	5	µg/L
N-Nitrosopiperidine	10/17/2004	3/9/2005	6	1	1	µg/L
Nonachlor, cis-	10/6/2010	10/9/2013	20	0.001	0.005	µg/L
Oxychlorane	10/6/2010	10/9/2013	20	0.001	0.003	µg/L
Pentachlorophenol	10/10/2002	6/12/2013	71	0.67	2	µg/L
Phenacitin	10/17/2004	3/9/2005	6	3	3	µg/L
Phenols	10/10/2002	6/12/2013	70	0.33	1.5	µg/L
Pronamide	10/17/2004	3/9/2005	6	5	5	µg/L
Simazine	10/10/2002	6/12/2013	71	0.67	2	µg/L
Thiobencarb	11/12/2001	3/9/2005	6	1	1	µg/L
Toxaphene	10/10/2002	6/12/2013	70	0.24	1	µg/L

Centinela Creek – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
1,2 Benzantracene	10/17/2005	4/25/2006	7	0.1	0.1	µg/L
1,2,4,5-Tetrachlorobenzene	10/17/2004	3/17/2005	7	1	1	µg/L
1,2,4-Trichlorobenzene	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
1,2-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1,2-Diphenylhydrazine	10/17/2004	4/25/2006	14	3	3	µg/L
1,3-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1,4-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1-Chloronaphthalene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
1-Naphthylamine	10/17/2004	3/17/2005	7	3	3	µg/L
2-Chlorophenol	10/17/2005	4/25/2006	7	2	2	µg/L
2,3,4,6-Tetrachlorophenol	10/17/2004	3/17/2005	7	1	1	µg/L
2,4,5-TP	10/17/2004	4/25/2006	14	1	1	µg/L
2,4,5-Trichlorophenol	10/17/2004	3/17/2005	7	1	1	µg/L
2,4,6-Trichlorophenol	10/17/2004	4/25/2006	14	1	1	µg/L
2,4-D	10/17/2004	4/25/2006	14	10	10	µg/L
2,4'-DDD	10/6/2010	10/9/2013	16	0.003	0.004	µg/L
2,4'-DDT	10/6/2010	10/9/2013	16	0.002	0.005	µg/L
2,4-Dichlorophenol	10/17/2004	4/25/2006	14	2	2	µg/L
2,4-Dimethylphenol	10/17/2004	4/25/2006	14	2	2	µg/L
2,4-Dinitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
2,4-Dinitrotoluene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
2,6-Dichlorophenol	10/17/2004	3/17/2005	7	2	2	µg/L
2,6-Dinitrotoluene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
2-Chloroethyl Vinyl Ether	10/17/2005	4/25/2006	7	2.5	2.5	µg/L
2-Chloronaphthalene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
2-Chlorophenol	10/17/2004	3/17/2005	7	2	2	µg/L
2-Methylphenol	10/17/2004	3/17/2005	7	3	3	µg/L
2-Naphthylamine	10/17/2004	3/17/2005	7	3	3	µg/L
2-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L
2-Nitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
2-Picoline	10/17/2004	3/17/2005	7	3	3	µg/L
3,3-Dichlorobenzidine	10/17/2004	4/25/2006	14	3	3	µg/L
3,4 Benzofluoranthene	10/17/2004	10/9/2013	30	0.1	2	µg/L
3-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L
4,4'-DDD	10/17/2004	10/9/2013	30	0.002	0.1	µg/L
4,6 Dinitro-2-methylphenol	10/17/2004	4/25/2006	14	3	3	µg/L
4-Bromophenyl phenyl ether	10/17/2004	4/25/2006	14	1	1	µg/L
4-chloro-3-methylphenol	10/17/2004	4/25/2006	14	3	3	µg/L
4-Chlorophenyl phenyl ether	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4-Methylphenol	10/17/2004	3/17/2005	7	3	3	µg/L
4-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L

Centinela Creek – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
4-Nitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
7,12-Dimethylbenz(a)anthracene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Acenaphthene	10/17/2004	10/9/2013	30	0.05	0.13	µg/L
Acenaphthylene	10/17/2004	10/9/2013	30	0.05	0.13	µg/L
Acetophenone	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Aldrin	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
alpha,alpha-Dimethylphenethylamine	10/17/2004	3/17/2005	7	3	3	µg/L
alpha-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
alpha-chlordane	10/6/2010	10/9/2013	16	0.001	0.009	µg/L
Aminobiphenyl	10/17/2004	3/17/2005	7	3	3	µg/L
Aniline	10/17/2004	3/17/2005	7	3	3	µg/L
Anthracene	10/17/2004	10/9/2013	30	0.05	0.5	µg/L
Aroclor 1016	10/17/2004	10/9/2013	30	0.022	0.5	µg/L
Aroclor 1221	10/17/2004	10/9/2013	30	0.02	0.5	µg/L
Aroclor 1232	10/17/2004	10/9/2013	30	0.028	0.5	µg/L
Aroclor 1242	10/17/2004	10/9/2013	30	0.024	0.5	µg/L
Aroclor 1248	10/17/2004	10/9/2013	30	0.019	0.5	µg/L
Aroclor 1254	10/17/2004	10/9/2013	30	0.026	0.5	µg/L
Aroclor 1260	10/17/2004	10/9/2013	30	0.029	0.5	µg/L
Atrazine	10/17/2004	4/25/2006	14	2	2	µg/L
Bentazon	10/17/2004	3/17/2005	7	2	2	µg/L
Benzidine	10/17/2004	4/25/2006	14	3	3	µg/L
Benzo(a)pyrene	10/17/2004	10/9/2013	30	0.1	0.13	µg/L
Beryllium Dissolved	10/17/2004	4/25/2006	28	0.4	1	µg/L
beta-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Bis(2-Chloroethoxy) methane	10/17/2004	4/25/2006	21	0.1	0.1	µg/L
Bis(2-Chloroethyl) ether	10/17/2005	4/25/2006	7	0.1	0.1	µg/L
Bis(2-Chloroisopropyl) ether	10/17/2004	4/25/2006	14	1	1	µg/L
Butyl benzyl phthalate	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
Carbofuran	10/17/2004	3/17/2005	7	5	5	µg/L
Chlordane	10/17/2004	4/25/2006	14	0.05	0.1	µg/L
Chloroaniline	10/17/2004	3/17/2005	7	1	1	µg/L
Chlorpyrifos	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Chromium (6+) Dissolved	10/17/2004	4/25/2006	14	10	10	µg/L
Chromium (6+) Total	10/17/2004	4/25/2006	14	10	10	µg/L
Cyanazine	10/17/2004	4/25/2006	14	2	2	µg/L
delta-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Dibenz(a,j)acridine	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Dieldrin	10/17/2004	10/9/2013	30	0.002	0.1	µg/L
Diethyl phthalate	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Dimethyl phthalate	10/17/2004	4/25/2006	14	0.5	0.5	µg/L

Centinela Creek – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
di-n-Butyl phthalate	10/17/2004	4/25/2006	14	1	1	µg/L
di-n-Octyl phthalate	10/17/2004	4/25/2006	14	1	1	µg/L
Diphenyl amine	10/17/2004	3/17/2005	7	1	1	µg/L
Diuron	10/17/2004	3/17/2005	7	1	1	µg/L
Endosulfan I	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endosulfan II	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endosulfan sulfate	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin aldehyde	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin ketone	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Ethyl methanesulfonate	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Fluorene	10/17/2004	10/9/2013	30	0.02	0.1	µg/L
gamma-BHC (lindane)	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
gamma-chlordane	10/6/2010	10/9/2013	16	0.001	0.004	µg/L
Glyphosate	10/17/2004	4/25/2006	14	25	25	µg/L
Heptachlor	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Heptachlor Epoxide	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Hexachlorobenzene	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Hexachlorobutadiene	10/17/2004	4/25/2006	14	1	1	µg/L
Hexachloro-cyclopentadiene	10/17/2004	4/25/2006	14	3	3	µg/L
Hexachloroethane	10/17/2004	4/25/2006	14	1	1	µg/L
Manganese Dissolved	10/17/2004	3/17/2005	7	30	30	µg/L
Methoxychlor	10/17/2004	3/17/2005	7	0.5	0.5	µg/L
Methylcholanthrene	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Methylmethanesulfonate	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Molinate	10/17/2004	3/17/2005	7	2	2	µg/L
MTBE	10/17/2005	4/25/2006	7	1	1	µg/L
Nitrobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
N-Nitroso-butyl amine	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
N-Nitroso-dimethyl amine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitroso-di-n-propyl amine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitrosodiphenylamine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitrosopiperidine	10/17/2004	3/17/2005	7	1	1	µg/L
Nonachlor, cis-	10/6/2010	10/9/2013	16	0.001	0.005	µg/L
Nonachlor, trans-	10/6/2010	10/9/2013	16	0.002	0.005	µg/L
Oxychlordane	10/6/2010	10/9/2013	16	0.001	0.003	µg/L
Pentachlorophenol	10/17/2004	4/25/2006	14	2	2	µg/L
Phenacitin	10/17/2004	3/17/2005	7	3	3	µg/L
Phenols	10/17/2004	4/25/2006	14	1	1	µg/L
Prometryn	10/17/2004	4/25/2006	14	2	2	µg/L
Pronamide	10/17/2004	3/17/2005	7	5	5	µg/L

Centinela Creek – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
Simazine	10/17/2004	4/25/2006	14	2	2	µg/L
Thallium Dissolved	10/17/2004	4/25/2006	14	5	5	µg/L
Thallium Total	10/17/2004	4/25/2006	14	5	5	µg/L
Thiobencarb	10/17/2004	3/17/2005	7	1	1	µg/L
Thorium Total	1/25/2005	2/21/2006	14	1	1	µg/L
Toxaphene	10/17/2004	4/25/2006	14	1	1	µg/L

Sepulveda Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
1,2 Benzanthracene	10/17/2005	4/25/2006	7	0.1	0.1	µg/L
1,2,4,5-Tetrachlorobenzene	10/17/2004	3/17/2005	7	1	1	µg/L
1,2,4-Trichlorobenzene	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
1,2-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1,2-Diphenylhydrazine	10/17/2004	4/25/2006	14	3	3	µg/L
1,3-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1,4-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1-Chloronaphthalene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
1-Naphthylamine	10/17/2004	3/17/2005	7	3	3	µg/L
2-Chlorophenol	10/17/2005	4/25/2006	7	2	2	µg/L
2,3,4,6-Tetrachlorophenol	10/17/2004	3/17/2005	7	1	1	µg/L
2,4,5-TP	10/17/2004	4/25/2006	14	1	1	µg/L
2,4,5-trichlorophenol	10/17/2004	3/17/2005	7	1	1	µg/L
2,4,6-trichlorophenol	10/17/2004	4/25/2006	14	1	1	µg/L
2,4-D	10/17/2004	4/25/2006	14	10	10	µg/L
2,4-Dichlorophenol	10/17/2004	4/25/2006	14	2	2	µg/L
2,4-dimethylphenol	10/17/2004	4/25/2006	14	2	2	µg/L
2,4-Dinitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
2,4-Dinitrotoluene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
2,6-Dichlorophenol	10/17/2004	3/17/2005	7	2	2	µg/L
2,6-Dinitrotoluene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
2-Chloroethyl Vinyl Ether	10/17/2005	4/25/2006	7	2.5	2.5	µg/L
2-Chloronaphthalene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
2-Chlorophenol	10/17/2004	3/17/2005	7	2	2	µg/L
2-Methylphenol	10/17/2004	3/17/2005	7	3	3	µg/L
2-Naphthylamine	10/17/2004	3/17/2005	7	3	3	µg/L
2-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L
2-Nitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
2-Picoline	10/17/2004	3/17/2005	7	3	3	µg/L
3,3-Dichlorobenzidine	10/17/2004	4/25/2006	14	3	3	µg/L
3,4 Benzofluoranthene	10/17/2004	4/25/2006	14	0.1	2	µg/L
3-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L
4,4'-DDD	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4,4'-DDE	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4,4'-DDT	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4,6 Dinitro-2-methylphenol	10/17/2004	4/25/2006	14	3	3	µg/L
4-Bromophenyl phenyl ether	10/17/2004	4/25/2006	14	1	1	µg/L
4-chloro-3-methylphenol	10/17/2004	4/25/2006	14	3	3	µg/L
4-Chlorophenyl phenyl ether	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4-Methylphenol	10/17/2004	3/17/2005	7	3	3	µg/L
4-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L

Sepulveda Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
4-Nitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
7,12-Dimethylbenz(a)anthracene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Acenaphthene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Acenaphthylene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Acetophenone	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Aldrin	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
alpha,alpha-Dimethylphenethylamine	10/17/2004	3/17/2005	7	3	3	µg/L
alpha-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Aminobiphenyl	10/17/2004	3/17/2005	7	3	3	µg/L
Aniline	10/17/2004	3/17/2005	7	3	3	µg/L
Anthracene	10/17/2004	4/25/2006	14	0.05	0.5	µg/L
Aroclor 1016	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1221	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1232	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1242	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1248	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1254	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1260	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Atrazine	10/17/2004	4/25/2006	14	2	2	µg/L
Bentazon	10/17/2004	3/17/2005	7	2	2	µg/L
Benzidine	10/17/2004	4/25/2006	14	3	3	µg/L
Benzo(a)anthracene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Benzo(a)pyrene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Benzo(g,h,i)perylene	10/17/2005	4/25/2006	7	1	1	µg/L
Benzo(k)fluoranthene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Beryllium Dissolved	10/17/2004	4/25/2006	28	0.4	1	µg/L
Beryllium Total	10/17/2004	4/25/2006	28	0.4	1	µg/L
beta-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Bis(2-Chloroethoxy) methane	10/17/2004	4/25/2006	21	0.1	0.1	µg/L
Bis(2-Chloroethyl) ether	10/17/2005	4/25/2006	7	0.1	0.1	µg/L
Bis(2-Chloroisopropyl) ether	10/17/2004	4/25/2006	14	1	1	µg/L
Butyl benzyl phthalate	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
Carbofuran	10/17/2004	3/17/2005	7	5	5	µg/L
Chlordane	10/17/2004	4/25/2006	14	0.05	0.1	µg/L
Chloroaniline	10/17/2004	3/17/2005	7	1	1	µg/L
Chromium (6+) Dissolved	10/17/2004	4/25/2006	14	10	10	µg/L
Chromium (6+) Total	10/17/2004	4/25/2006	14	10	10	µg/L
Chrysene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Cyanazine	10/17/2004	4/25/2006	14	2	2	µg/L
delta-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Dibenz(a,j)acridine	10/17/2004	3/17/2005	7	0.3	0.3	µg/L

Sepulveda Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
Dibenzo(a,h)anthracene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Dieldrin	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Diethyl phthalate	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Dimethyl phthalate	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
di-n-Butyl phthalate	10/17/2004	4/25/2006	14	1	1	µg/L
di-n-Octyl phthalate	10/17/2004	4/25/2006	14	1	1	µg/L
Diphenyl amine	10/17/2004	3/17/2005	7	1	1	µg/L
Diuron	10/17/2004	3/17/2005	7	1	1	µg/L
Endosulfan I	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endosulfan II	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endosulfan sulfate	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin aldehyde	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin ketone	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Ethyl methanesulfonate	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Fluoranthene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Fluorene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
gamma-BHC (lindane)	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Glyphosate	10/17/2004	4/25/2006	14	25	25	µg/L
Heptachlor	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Heptachlor Epoxide	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Hexachlorobenzene	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Hexachlorobutadiene	10/17/2004	4/25/2006	14	1	1	µg/L
Hexachloro-cyclopentadiene	10/17/2004	4/25/2006	14	3	3	µg/L
Hexachloroethane	10/17/2004	4/25/2006	14	1	1	µg/L
Indeno(1,2,3-cd)pyrene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Isophorone	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Malathion	10/17/2004	4/25/2006	14	2	2	µg/L
Methoxychlor	10/17/2004	3/17/2005	7	0.5	0.5	µg/L
Methylcholanthrene	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Methylmethanesulfonate	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Molinate	10/17/2004	3/17/2005	7	2	2	µg/L
MTBE	10/17/2005	4/25/2006	7	1	1	µg/L
Naphthalene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Nitrobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
N-Nitroso-butyl amine	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
N-Nitroso-dimethyl amine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitroso-di-n-propyl amine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitrosodiphenylamine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitrosopiperidine	10/17/2004	3/17/2005	7	1	1	µg/L
Pentachlorophenol	10/17/2004	4/25/2006	14	2	2	µg/L

Sepulveda Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
Phenacitin	10/17/2004	3/17/2005	7	3	3	µg/L
Phenanthrene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Phenols	10/17/2004	4/25/2006	14	1	1	µg/L
Prometryn	10/17/2004	4/25/2006	14	2	2	µg/L
Pronamide	10/17/2004	3/17/2005	7	5	5	µg/L
Simazine	10/17/2004	4/25/2006	14	2	2	µg/L
Thallium Dissolved	10/17/2004	4/25/2006	14	5	5	µg/L
Thallium Total	10/17/2004	4/25/2006	14	5	5	µg/L
Thiobencarb	10/17/2004	3/17/2005	7	1	1	µg/L
Toxaphene	10/17/2004	4/25/2006	14	1	1	µg/L
TPH	10/17/2004	3/17/2005	7	1	1	mg/L

Benedict Canyon Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
1-Chloronaphthalene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
1,2 Benzanthracene	11/9/2005	4/25/2006	7	0.1	0.1	µg/L
1,2,4,5-Tetrachlorobenzene	10/17/2004	3/17/2005	7	1	1	µg/L
1,2,4-Trichlorobenzene	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
1,2-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1,2-Diphenylhydrazine	10/17/2004	4/25/2006	14	3	3	µg/L
1,3-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1,4-Dichlorobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
1-Naphthylamine	10/17/2004	3/17/2005	7	3	3	µg/L
2- Chlorophenol	11/9/2005	4/25/2006	7	2	2	µg/L
2,3,4,6-Tetrachlorophenol	10/17/2004	3/17/2005	7	1	1	µg/L
2,4,5-TP	10/17/2004	4/25/2006	13	1	1	µg/L
2,4,5-trichlorophenol	10/17/2004	3/17/2005	7	1	1	µg/L
2,4,6-trichlorophenol	10/17/2004	4/25/2006	14	1	1	µg/L
2,4-D	10/17/2004	4/25/2006	13	10	10	µg/L
2,4-Dichlorophenol	10/17/2004	4/25/2006	14	2	2	µg/L
2,4-dimethylphenol	10/17/2004	4/25/2006	14	2	2	µg/L
2,4-Dinitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
2,4-Dinitrotoluene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
2,6-Dichlorophenol	10/17/2004	3/17/2005	7	2	2	µg/L
2,6-Dinitrotoluene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
2-Chloroethyl Vinyl Ether	10/17/2005	4/25/2006	8	2.5	2.5	µg/L
2-Chloronaphthalene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
2-Chlorophenol	10/17/2004	3/17/2005	7	2	2	µg/L
2-Methylphenol	10/17/2004	3/17/2005	7	3	3	µg/L
2-Naphthylamine	10/17/2004	3/17/2005	7	3	3	µg/L
2-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L
2-Nitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
2-Picoline	10/17/2004	3/17/2005	7	3	3	µg/L
3,3-Dichlorobenzidine	10/17/2004	4/25/2006	14	3	3	µg/L
3,4 Benzofluoranthene	10/17/2004	4/25/2006	14	0.1	2	µg/L
3-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L
4,4'-DDD	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4,4'-DDE	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4,4'-DDT	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4,6 Dinitro-2-methylphenol	10/17/2004	4/25/2006	14	3	3	µg/L
4-Bromophenyl phenyl ether	10/17/2004	4/25/2006	14	1	1	µg/L
4-chloro-3-methylphenol	10/17/2004	4/25/2006	14	3	3	µg/L
4-Chlorophenyl phenyl ether	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
4-Methylphenol	10/17/2004	3/17/2005	7	3	3	µg/L
4-Nitroaniline	10/17/2004	3/17/2005	7	3	3	µg/L

Benedict Canyon Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
4-Nitrophenol	10/17/2004	4/25/2006	14	3	3	µg/L
7,12-Dimethylbenz(a)anthracene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Acenaphthene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Acenaphthylene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Acetophenone	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Aldrin	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
alpha,alpha-Dimethylphenethylamine	10/17/2004	3/17/2005	7	3	3	µg/L
alpha-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Aluminum Dissolved	10/17/2004	4/25/2006	14	100	100	µg/L
Aminobiphenyl	10/17/2004	3/17/2005	7	3	3	µg/L
Aniline	10/17/2004	3/17/2005	7	3	3	µg/L
Anthracene	10/17/2004	4/25/2006	14	0.05	0.5	µg/L
Aroclor 1016	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1221	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1232	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1242	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1248	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1254	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Aroclor 1260	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Atrazine	10/17/2004	4/25/2006	14	2	2	µg/L
Bentazon	10/17/2004	3/17/2005	7	2	2	µg/L
Benzidine	10/17/2004	4/25/2006	14	3	3	µg/L
Benzo(a)anthracene	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Benzo(a)pyrene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Benzo(g,h,i)perylene	11/9/2005	4/25/2006	7	1	1	µg/L
Benzo(k)fluoranthene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Beryllium Dissolved	10/17/2004	4/25/2006	28	0.4	1	µg/L
Beryllium Total	10/17/2004	4/25/2006	28	0.4	1	µg/L
beta-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Bis(2-Chloroethoxy) methane	10/17/2004	4/25/2006	21	0.1	0.1	µg/L
Bis(2-Chloroethyl) ether	11/9/2005	4/25/2006	7	0.1	0.1	µg/L
Bis(2-Chloroisopropyl) ether	10/17/2004	4/25/2006	14	1	1	µg/L
Butyl benzyl phthalate	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
Carbofuran	10/17/2004	3/17/2005	7	5	5	µg/L
Carbonate	10/17/2004	3/17/2005	7	2000	2000	µg/L
Chlordane	10/17/2004	4/25/2006	14	0.05	0.1	µg/L
Chloroaniline	10/17/2004	3/17/2005	7	1	1	µg/L
Chlorpyrifos	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Chromium (6+) Dissolved	10/17/2004	4/25/2006	14	10	10	µg/L
Chromium (6+) Total	10/17/2004	4/25/2006	14	10	10	µg/L
Chrysene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L

Benedict Canyon Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
Cyanazine	10/17/2004	4/25/2006	14	2	2	µg/L
delta-BHC	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Dibenz(a,j)acridine	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Dibenzo(a,h)anthracene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Dieldrin	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Diethyl phthalate	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Dimethyl phthalate	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
di-n-Butyl phthalate	10/17/2004	4/25/2006	14	1	1	µg/L
di-n-Octyl phthalate	10/17/2004	4/25/2006	14	1	1	µg/L
Diphenyl amine	10/17/2004	3/17/2005	7	1	1	µg/L
Diuron	10/17/2004	3/17/2005	7	1	1	µg/L
Endosulfan I	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endosulfan II	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endosulfan sulfate	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin aldehyde	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Endrin ketone	10/17/2004	3/17/2005	7	0.1	0.1	µg/L
Ethyl methanesulfonate	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Fluoranthene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Fluorene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
gamma-BHC (lindane)	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Glyphosate	10/17/2004	4/25/2006	14	25	25	µg/L
Heptachlor	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Heptachlor Epoxide	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Hexachlorobenzene	10/17/2004	4/25/2006	14	0.5	0.5	µg/L
Hexachlorobutadiene	10/17/2004	4/25/2006	14	1	1	µg/L
Hexachloro-cyclopentadiene	10/17/2004	4/25/2006	14	3	3	µg/L
Hexachloroethane	10/17/2004	4/25/2006	14	1	1	µg/L
Indeno(1,2,3-cd)pyrene	10/17/2004	4/25/2006	14	0.1	0.1	µg/L
Isophorone	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Malathion	10/17/2004	4/25/2006	14	2	2	µg/L
Methoxychlor	10/17/2004	3/17/2005	7	0.5	0.5	µg/L
Methylcholanthrene	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Methylmethanesulfonate	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
Molinate	10/17/2004	3/17/2005	7	2	2	µg/L
MTBE	10/17/2005	4/25/2006	8	1	1	µg/L
Naphthalene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Nitrobenzene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
N-Nitroso-butyl amine	10/17/2004	3/17/2005	7	0.3	0.3	µg/L
N-Nitroso-dimethyl amine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitroso-di-n-propyl amine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L

Benedict Canyon Channel – Constituents that have not been detected in water						
Constituent	Date Range of Available Data		N	Detection Limit		Units
				Min DL	Max DL	
N-Nitrosodiphenylamine	10/17/2004	4/25/2006	14	0.3	0.3	µg/L
N-Nitrosopiperidine	10/17/2004	3/17/2005	7	1	1	µg/L
Pentachlorophenol	10/17/2004	4/25/2006	14	2	2	µg/L
Phenacitin	10/17/2004	3/17/2005	7	3	3	µg/L
Phenols	10/17/2004	4/25/2006	14	1	1	µg/L
Prometryn	10/17/2004	4/25/2006	14	2	2	µg/L
Pronamide	10/17/2004	3/17/2005	7	5	5	µg/L
Pyrene	10/17/2004	4/25/2006	14	0.05	0.05	µg/L
Simazine	10/17/2004	4/25/2006	14	2	2	µg/L
Thallium Dissolved	10/17/2004	4/25/2006	14	5	5	µg/L
Thallium Total	10/17/2004	4/25/2006	14	5	5	µg/L
Thiobencarb	10/17/2004	3/17/2005	7	1	1	µg/L
Toxaphene	10/17/2004	4/25/2006	14	1	1	µg/L
TPH	10/17/2004	3/17/2005	7	1	1	mg/L

Appendix 3.B Attachment 2

List of Constituents that have been Detected in Water and do not Exceed Water Quality Objectives

Constituents in this appendix either did not exceed a water quality objective or there is no applicable water quality objective for the constituent.

Ballona Creek Estuary - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Antimony Dissolved	4/26/2001	2/21/2006	57	6	µg/L	1.1	18	NA	NA	NA
Antimony Total	4/26/2001	2/21/2006	58	10	µg/L	1.1	18	4300	CTR HH Organism	NA
Arsenic Dissolved	4/26/2001	8/19/2008	86	81	µg/L	1	10	36	CTR Saltwater Chronic	NA
Arsenic Total	4/26/2001	8/19/2008	86	81	µg/L	1	10	36	CTR Saltwater Chronic	NA
Barium Dissolved	4/26/2001	8/19/2008	87	83	µg/L	5	0.4	NA	NA	NA
Barium Total	4/26/2001	8/19/2008	87	84	µg/L	2	0.4	NA	NA	NA
Benzo(g,h,i)perylene	2/5/2009	5/17/2010	16	2	µg/L	0.03	0.03	NA	NA	NA
Beryllium Dissolved	4/26/2001	2/21/2006	58	10	µg/L	0.006	1	NA	NA	NA
Beryllium Total	4/26/2001	2/21/2006	58	10	µg/L	0.006	1	NA	NA	NA
Cadmium Dissolved	4/26/2001	5/17/2010	102	59	µg/L	0.08	1	9.3	CTR Saltwater Chronic	NA
Cadmium Total	4/26/2001	5/17/2010	16	15	µg/L	0.08	1	9.4	CTR Saltwater Chronic	NA
Chromium Dissolved	4/26/2001	8/19/2008	86	40	µg/L	0.1	10	NA	NA	NA
Chromium Total	4/26/2001	8/19/2008	86	55	µg/L	0.1	10	NA	NA	NA
Cobalt Dissolved	4/26/2001	2/21/2006	56	26	µg/L	0.2	20	NA	NA	NA
Cobalt Total	4/26/2001	2/21/2006	56	33	µg/L	0.2	20	NA	NA	NA
<i>E. coli</i>	4/3/2001	8/29/2013	900	692	MPN/100ml	67	1000	NA	NA	NA
Hardness	1/27/2004	5/17/2010	70	70	mg/L	AD	AD	NA	NA	NA
Mercury Dissolved	4/26/2001	2/21/2006	58	23	µg/L	0.02	0.3	NA	NA	NA
Phenanthrene	2/5/2009	5/17/2010	16	1	µg/L	0.01	0.01	NA	NA	NA
Selenium Dissolved	5/31/2001	8/19/2008	83	67	µg/L	0.1	30	71	CTR Saltwater Chronic	NA
Selenium Total	5/31/2001	8/19/2008	83	71	µg/L	0.1	30	71.1	CTR Saltwater Chronic	NA
Thorium Dissolved	4/26/2001	2/21/2006	57	14	µg/L	25	0.5	NA	NA	NA
Thorium Total	4/26/2001	2/21/2006	58	15	µg/L	0.5	25	NA	NA	NA

NA - No Available adopted water quality objective

AD - All values reported detected, no detection limit provided

Ballona Creek Reach 2 - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data	N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value		
					Min	Max				
2,4,6-trichlorophenol	10/10/2002	33	1	µg/L	0.4	3.33	6.5	CTR HH Organism		
Alkalinity	10/12/2000	92	89	mg/L	2	2	NA	NA		
Alkalinity as Bicarbonate	9/21/2010	10	8	mg/L	2	2	NA	NA		
Aluminum Dissolved	10/12/2000	88	28	µg/L	50	1000	NA	NA		
Aluminum Total	10/12/2000	90	70	µg/L	50	1000	NA	NA		
Antimony Dissolved	10/12/2000	207	97	µg/L	0.2	18	NA	NA		
Antimony Total	10/12/2000	208	107	µg/L	0.2	18	4300	CTR HH Organism		
Arsenic Dissolved	10/12/2000	276	243	µg/L	0.2	10	150	CTR Freshwater Chronic		
Arsenic Total	10/12/2000	276	252	µg/L	0.2	10	150	CTR Freshwater Chronic		
Barium Dissolved	10/12/2000	265	257	µg/L	1	1	NA	NA		
Barium Total	10/12/2000	265	259	µg/L	1	1	NA	NA		
Benzo(g,h,i)perylene	10/17/2005	74	8	µg/L	0.03	1.67	NA	NA		
Beryllium Dissolved	10/12/2000	203	13	µg/L	0.006	1	NA	NA		
Beryllium Total	10/12/2000	205	18	µg/L	0.006	1	NA	NA		
Bicarbonate	10/12/2000	20	20	µg/L	AD	AD	NA	NA		
BOD	10/12/2000	93	88	mg/L	2	1	NA	NA		
Boron Dissolved	10/12/2000	22	16	mg/L	0.1	0.1	NA	NA		
Boron Total	10/12/2000	22	18	mg/L	0.1	0.1	NA	NA		
Butyl benzyl phthalate	10/10/2002	71	1	µg/L	0.1	3.33	5200	CTR HH Organism		
Cadmium Dissolved	10/12/2000	274	208	µg/L	0.5	10	HBC	CTR Freshwater Acute/Chronic		
Calcium	10/12/2000	22	22	µg/L	AD	AD	NA	NA		
Carbonate	10/12/2000	22	1	µg/L	2000	2000	NA	NA		
Chloride Total	10/12/2000	92	89	mg/L	1	1	NA	NA		
Chromium Dissolved	10/12/2000	274	208	µg/L	0.5	10	HBC	CTR Freshwater Acute/Chronic		
Chromium Total	10/12/2000	274	235	µg/L	0.5	10	HBC	CTR Freshwater Acute/Chronic		
Chromium (6+) Dissolved	10/12/2000	107	27	µg/L	0.25	10	11	CTR Freshwater Chronic		
Chromium (6+) Total	10/10/2002	77	34	µg/L	0.25	10	11.434	CTR Freshwater Chronic		
Cobalt Dissolved	4/26/2001	112	36	µg/L	0.2	20	NA	NA		
Cobalt Total	4/26/2001	112	51	µg/L	0.2	20	NA	NA		
COD	10/12/2000	92	87	mg/L	10	10	NA	NA		
Dibenzo(a,h)anthracene	10/10/2002	91	3	µg/L	0.02	0.1	0.049	CTR HH Organism		
Diethyl phthalate	10/10/2002	71	3	µg/L	0.5	2	120000	CTR HH Organism		
di-n-Butyl phthalate	10/10/2002	64	1	µg/L	1	10	12000	CTR HH Organism		
Enterococcus	10/12/2000	641	591	MPN/100ml	10	100	NA	NA		
Fecal Coliform	10/12/2000	425	420	MPN/100ml	20	20	NA	NA		
Fluoranthene	10/10/2002	91	17	µg/L	0.017	0.1	370	CTR HH Organism		
Fluoride	10/12/2000	91	83	mg/L	0.1	0.1	NA	NA		
Hardness	10/12/2000	347	347	mg/L	AD	AD	NA	NA		

Ballona Creek Reach 2 - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Iron Dissolved	10/12/2000	6/12/2013	92	54	µg/L	50	100	NA	NA	NA
Iron Total	10/12/2000	6/12/2013	92	84	µg/L	50	100	NA	NA	NA
Isophorone	10/10/2002	6/12/2013	71	1	µg/L	0.05	1	600	CTR HH Organism	
Kjeldahl-N	10/12/2000	6/12/2013	91	90	mg/L	0.1	0.1	NA	NA	NA
Magnesium Total	10/12/2000	3/9/2005	22	22	µg/L	AD	AD	NA	NA	NA
Manganese Dissolved	10/12/2000	3/9/2005	22	3	µg/L	30	100	NA	NA	NA
Manganese Total	10/12/2000	3/9/2005	22	8	µg/L	30	100	NA	NA	NA
MBAS	10/12/2000	6/12/2013	92	75	µg/L	10	50	NA	NA	NA
Mercury Dissolved	10/12/2000	6/12/2013	203	30	µg/L	0.02	1	NA	NA	NA
MTBE	10/17/2005	4/9/2013	54	1	µg/L	0.33	1	NA	NA	NA
Nickel Dissolved	10/12/2000	6/12/2013	273	221	µg/L	0.5	20	HBC	CTR Freshwater Acute/Chronic	
Nickel Total	10/12/2000	6/12/2013	274	234	µg/L	0.5	20	HBC	CTR Freshwater Acute/Chronic	
Nitrate	10/12/2000	6/12/2013	92	87	mg/L	0.1	0.1	NA	NA	NA
Nitrate-N	10/12/2000	6/12/2013	92	85	mg/L	0.03	0.5	NA	NA	NA
Nitrite-N	10/12/2000	6/12/2013	87	47	mg/L	0.01	0.1	NA	NA	NA
N-Nitroso-dimethyl amine	10/10/2002	6/12/2013	73	1	µg/L	0.3	5	8.1	CTR HH Organism	
N-Nitrosodiphenylamine	10/10/2002	6/12/2013	73	1	µg/L	0.3	1	16	CTR HH Organism	
Nonachlor, trans-	10/6/2010	10/9/2013	20	1	µg/L	0.002	0.005	NA	NA	NA
Oil and Grease	10/12/2000	4/9/2013	82	49	mg/L	1.44	0.4	NA	NA	NA
Petroleum Hydrocarbons Total	10/17/2005	4/9/2013	54	18	mg/L	1.5	0.4	NA	NA	NA
Phenanthrene	10/10/2002	10/9/2013	91	10	µg/L	0.01	0.05	NA	NA	NA
Phenolics Total	11/1/2006	4/9/2013	48	6	mg/L	0.03	0.1	4600000	CTR HH Organism	
Phosphorus Total	10/12/2000	4/25/2006	39	38	mg/L	0.05	0.05	NA	NA	NA
Phosphorus- Total (as P)	10/31/2006	6/12/2013	53	48	mg/L	0.05	0.05	NA	NA	NA
Phosphorus-Dissolved	10/12/2000	6/12/2013	92	82	mg/L	0.05	0.05	NA	NA	NA
Potassium	10/12/2000	3/9/2005	22	22	µg/L	AD	AD	NA	NA	NA
Prometryn	10/10/2002	6/12/2013	71	2	µg/L	0.67	2	NA	NA	NA
Pyrene	10/10/2002	10/9/2013	91	12	µg/L	0.017	0.05	11000	CTR HH Organism	
Selenium Dissolved	10/12/2000	6/12/2013	268	203	µg/L	0.2	30	NA	NA	NA
Sodium	10/12/2000	3/9/2005	22	22	µg/L	AD	AD	NA	NA	NA
Specific Conductance	10/12/2000	6/12/2013	92	92	µmhos/cm	AD	AD	NA	NA	NA
Streptococcus Fecal	10/12/2000	4/9/2013	82	80	MPN/100ml	20	20	NA	NA	NA
Sulphate	10/12/2000	6/12/2013	92	90	mg/L	0.1	0.1	NA	NA	NA
Thallium Dissolved	10/12/2000	6/12/2013	87	4	µg/L	0.1	5	NA	NA	NA
Thallium Total	10/12/2000	6/12/2013	88	6	µg/L	0.1	5	6.3	CTR HH Organism	
Thorium Dissolved	4/26/2001	2/21/2006	116	20	µg/L	25	0.5	NA	NA	NA
Thorium Total	4/26/2001	2/21/2006	116	20	µg/L	0.5	25	NA	NA	NA
Total Coliform	10/12/2000	4/9/2013	641	637	MPN/100ml	1000	20	NA	NA	NA

Ballona Creek Reach 2 - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Total Dissolved Solids	10/12/2000	10/9/2013	96	94	mg/L	1	1	NA	NA	NA
Total Organic Carbon	10/12/2000	6/12/2013	92	89	mg/L	0.5	0.4	NA	NA	NA
Total Phenols	10/12/2000	4/25/2006	34	1	µg/L	100	100	4600000	CTR HH Organism	
Total Settleable Solids	1/24/2013	11/21/2013	4	4	ml/l	AD	AD	NA	NA	NA
Total Suspended Solids	10/12/2000	10/9/2013	140	137	mg/L	1	1	NA	NA	NA
TPH	10/12/2000	3/9/2005	28	17	mg/L	1	1	NA	NA	NA
Turbidity	10/12/2000	6/12/2013	93	93	NTU	AD	AD	NA	NA	NA
Vanadium Dissolved	4/26/2001	5/31/2001	4	2	µg/L	5	5	NA	NA	NA
Vanadium Total	4/26/2001	5/31/2001	4	2	µg/L	5	5	NA	NA	NA
Volatile Suspended Solids	10/12/2000	6/12/2013	93	91	mg/L	1	1	NA	NA	NA
NA - No Available adopted water quality objective										
HBC - Hardness Based Criteria, as defined by CTR										
AD - All values reported detected, no detection limit provided										

Ballona Creek Reach 1 - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Antimony Dissolved	4/26/2001	2/21/2006	57	14	µg/L	1.1	18	NA	NA	NA
Antimony Total	4/26/2001	2/21/2006	58	17	µg/L	1.1	18	4300	CTR HH Organism	NA
Arsenic Dissolved	4/26/2001	1/8/2009	92	88	µg/L	10	10	150	CTR Freshwater Chronic	NA
Arsenic Total	4/26/2001	1/8/2009	92	89	µg/L	10	10	150	CTR Freshwater Chronic	NA
Barium Dissolved	4/26/2001	2/21/2006	92	92	µg/L	AD	AD	NA	NA	NA
Barium Total	4/26/2001	1/8/2009	92	92	µg/L	AD	AD	NA	NA	NA
Beryllium Dissolved	4/26/2001	2/21/2006	58	4	µg/L	0.006	1	NA	NA	NA
Beryllium Total	4/26/2001	2/21/2006	58	5	µg/L	0.006	1	NA	NA	NA
Cadmium Dissolved	4/26/2001	12/5/2010	99	42	µg/L	0.01	1	HBC	CTR Freshwater Acute/Chronic	NA
Chromium Dissolved	4/26/2001	1/8/2009	91	83	µg/L	0.7	10	HBC	CTR Freshwater Acute/Chronic	NA
Chromium Total	4/26/2001	1/8/2009	91	83	µg/L	0.7	10	HBC	CTR Freshwater Acute/Chronic	NA
Cobalt Dissolved	4/26/2001	2/21/2006	56	17	µg/L	0.2	20	NA	NA	NA
Cobalt Total	4/26/2001	2/21/2006	56	26	µg/L	0.2	20	NA	NA	NA
Enterococcus	4/3/2001	1/8/2009	279	242	MPN/100ml	10	100	NA	NA	NA
Fecal Coliform	6/25/2009	8/29/2013	210	210	MPN/100ml	AD	AD	NA	NA	NA
Hardness	1/27/2004	10/9/2013	116	116	mg/L	AD	AD	NA	NA	NA
Mercury Dissolved	4/26/2001	2/21/2006	58	15	µg/L	0.02	0.3	NA	NA	NA
Nickel Dissolved	4/26/2001	1/8/2009	90	70	µg/L	0.5	20	HBC	CTR Freshwater Acute/Chronic	NA
Nickel Total	4/26/2001	1/8/2009	91	75	µg/L	0.5	20	HBC	CTR Freshwater Acute/Chronic	NA
Selenium Dissolved	5/31/2001	1/8/2009	90	84	µg/L	0.2	30	NA	NA	NA
Thorium Dissolved	4/26/2001	2/21/2006	56	25	µg/L	25	0.5	NA	NA	NA
Thorium Total	4/26/2001	2/21/2006	58	24	µg/L	0.5	25	NA	NA	NA
Total Coliform	4/3/2001	1/8/2009	279	248	MPN/100ml	1000	1000	NA	NA	NA
Vanadium Dissolved	4/26/2001	5/31/2001	2	1	µg/L	5	5	NA	NA	NA
Vanadium Total	4/26/2001	5/31/2001	2	1	µg/L	5	5	NA	NA	NA

NA - No Available adopted water quality objective

HBC - Hardness Based Criteria, as defined by CTR

AD - All values reported detected, no detection limit provided

Centinela Creek - Constituents that have been detected but do not exceed relevant water quality objective												
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value			
						Min	Max					
2,4-DDE	10/6/2010	10/9/2013	16	1	µg/L	0.002	0.003	NA	NA	NA	NA	NA
Alkalinity	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA	NA	NA
Aluminum Dissolved	10/17/2004	4/25/2006	14	4	µg/L	100	100	NA	NA	NA	NA	NA
Aluminum Total	10/17/2004	4/25/2006	14	12	µg/L	100	100	NA	NA	NA	NA	NA
Ammonia-N	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	HBC	BP 30-day Chronic early life stages fish present	NA	NA	NA
Antimony Dissolved	10/17/2004	4/25/2006	28	22	µg/L	2	2	NA	NA	NA	NA	NA
Antimony Total	10/17/2004	4/25/2006	28	28	µg/L	2	2	4300	CTR HH Organism	NA	NA	NA
Arsenic Dissolved	10/17/2004	1/8/2009	62	61	µg/L	5	5	150	CTR Freshwater Chronic	NA	NA	NA
Arsenic Total	10/17/2004	1/8/2009	62	62	µg/L	AD	AD	150	CTR Freshwater Chronic	NA	NA	NA
Barium Dissolved	10/17/2004	1/8/2009	62	62	µg/L	AD	AD	NA	NA	NA	NA	NA
Barium Total	10/17/2004	1/8/2009	62	62	µg/L	AD	AD	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	10/17/2005	10/9/2013	23	6	µg/L	0.03	1	NA	NA	NA	NA	NA
Beryllium Total	10/17/2004	4/25/2006	28	1	µg/L	0.4	1	NA	NA	NA	NA	NA
Bicarbonate	10/17/2004	12/5/2004	4	4	µg/L	AD	AD	NA	NA	NA	NA	NA
BOD	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA	NA	NA
Boron Dissolved	10/17/2004	3/17/2005	7	6	mg/L	0.1	0.1	NA	NA	NA	NA	NA
Boron Total	10/17/2004	3/17/2005	7	6	mg/L	0.1	0.1	NA	NA	NA	NA	NA
Cadmium Dissolved	10/17/2004	5/6/2013	78	61	µg/L	0.03	1	HBC	CTR Freshwater Acute/Chronic	NA	NA	NA
Calcium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	NA	NA	NA
Carbonate	10/17/2004	3/17/2005	7	1	µg/L	2000	2000	NA	NA	NA	NA	NA
Chloride Total	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA	NA	NA
Chromium Dissolved	10/17/2004	1/8/2009	60	58	µg/L	0.21	5	HBC	CTR Freshwater Acute/Chronic	NA	NA	NA
Chromium Total	10/17/2004	1/8/2009	61	60	µg/L	0.21	0.21	HBC	CTR Freshwater Acute/Chronic	NA	NA	NA
Cobalt Dissolved	1/25/2005	2/21/2006	14	9	µg/L	0.2	0.2	NA	NA	NA	NA	NA
Cobalt Total	1/25/2005	2/21/2006	14	12	µg/L	0.2	0.2	NA	NA	NA	NA	NA
COD	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA	NA	NA
Cyanide Total	10/17/2004	4/25/2006	14	4	mg/L	10	10	5.2 - 22	CTR Freshwater Chronic and Acute	NA	NA	NA
Diazinon	10/17/2004	4/25/2006	14	7	µg/L	0.01	0.01	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	10/17/2004	10/9/2013	30	3	µg/L	0.1	0.1	0.049	CTR HH Organism	NA	NA	NA
Enterococcus	1/17/2002	1/8/2009	99	98	MPN/100ml	10	10	NA	NA	NA	NA	NA
Fecal Coliform	10/17/2004	4/25/2006	14	14	MPN/100ml	AD	AD	NA	NA	NA	NA	NA
Fluoranthene	10/17/2004	10/9/2013	30	12	µg/L	0.02	0.1	370	CTR HH Organism	NA	NA	NA
Fluoride	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA	NA	NA
Hardness	10/17/2004	12/17/2010	64	64	mg/L	AD	AD	NA	NA	NA	NA	NA
Iron Dissolved	10/17/2004	4/25/2006	14	7	µg/L	100	100	NA	NA	NA	NA	NA
Iron Total	10/17/2004	4/25/2006	14	13	µg/L	100	100	NA	NA	NA	NA	NA
Isophorone	10/17/2004	4/25/2006	14	2	µg/L	0.05	0.05	600	CTR HH Organism	NA	NA	NA
Kjeldahl-N	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA	NA	NA

Centinela Creek - Constituents that have been detected but do not exceed relevant water quality objective											
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value		
						Min	Max				
Lead Dissolved	10/17/2004	5/6/2013	78	61	µg/L	1	5	HBC	CTR Freshwater Acute/Chronic		
Magnesium Total	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA		
Manganese Total	10/17/2004	3/17/2005	7	5	µg/L	30	30	NA	NA		
Malathion	10/17/2004	4/25/2006	14	1	µg/L	2	2	NA	NA		
MBAS	10/17/2004	4/25/2006	14	13	µg/L	50	50	NA	NA		
Mercury Dissolved	10/17/2004	4/25/2006	28	2	µg/L	0.022	1	NA	NA		
Mercury Total	10/17/2004	4/25/2006	28	4	µg/L	0.022	1	0.051	CTR HH Organism		
Naphthalene	10/17/2004	10/9/2013	30	1	µg/L	0.05	0.13	NA	NA		
Nickel Dissolved	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic		
Nickel Total	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic		
Nitrate	10/17/2004	4/25/2006	14	13	mg/L	0.1	0.1	NA	NA		
Nitrate-N	10/17/2004	4/25/2006	14	12	mg/L	0.5	0.5	NA	NA		
Nitrite-N	10/17/2004	4/25/2006	14	6	mg/L	0.03	0.03	NA	NA		
Oil and Grease	10/17/2004	4/25/2006	14	2	mg/L	1	1	NA	NA		
Oxygen Dissolved	10/17/2004	4/25/2006	13	13	mg/L	AD	AD	5	BP Single sample minimum		
Petroleum Hydrocarbons Total	10/17/2005	4/25/2006	7	4	mg/L	1	1	NA	NA		
Phenanthrene	10/17/2004	10/9/2013	30	10	µg/L	0.01	0.05	NA	NA		
Phosphorus Total	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA		
Phosphorus-Dissolved	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA		
Potassium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA		
Pyrene	10/17/2004	10/9/2013	30	9	µg/L	0.02	0.05	11000	CTR HH Organism		
Selenium Dissolved	10/17/2004	1/8/2009	60	48	µg/L	0.1	5	NA	NA		
Silver Dissolved	10/17/2004	12/17/2010	64	27	µg/L	0.02	1	HBC	CTR Freshwater Acute		
Sodium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA		
Specific Conductance	10/17/2004	4/25/2006	14	14	µmhos/cm	AD	AD	NA	NA		
Streptococcus Fecal	10/17/2004	4/25/2006	14	14	MPN/100ml	AD	AD	NA	NA		
Sulphate	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA		
Thorium Dissolved	1/25/2005	2/21/2006	14	4	µg/L	1	1	NA	NA		
Total Coliform	1/25/2005	2/21/2006	99	99	MPN/100ml	AD	AD	NA	NA		
Total Dissolved Solids	10/17/2004	10/9/2013	18	18	mg/L	AD	AD	NA	NA		
Total Organic Carbon	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA		
Total Phenols	10/17/2004	4/25/2006	14	1	µg/L	100	100	4600000	CTR HH Organism		
Total Settleable Solids	1/25/2013	11/20/2013	5	5	ml/l	AD	AD	NA	NA		
Total Suspended Solids	10/17/2004	10/9/2013	18	18	mg/L	AD	AD	NA	NA		
TPH	10/17/2004	3/17/2005	7	1	mg/L	1	1	NA	NA		
Turbidity	10/17/2004	4/25/2006	14	14	NTU	AD	AD	NA	NA		
Volatile Suspended Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA		

NA – No Available adopted water quality objective HBC - Hardness Based Criteria, as defined by CTR AD - All values reported detected, no detection limit provided

Sepulveda Channel - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Alkalinity	10/17/2004	4/25/2006	14	14	mg/L	NA	NA	NA	NA	NA
Aluminum Dissolved	10/17/2004	4/25/2006	14	2	µg/L	100	100	NA	NA	NA
Aluminum Total	10/17/2004	4/25/2006	14	13	µg/L	100	100	NA	NA	NA
Ammonia-N	10/17/2004	10/15/2009	35	35	mg/L	AD	AD	HBC	BP 30-day Chronic early life stage fish present	NA
Antimony Dissolved	10/17/2004	4/25/2006	28	17	µg/L	2	5	NA	NA	NA
Antimony Total	10/17/2004	4/25/2006	28	20	µg/L	2	2	4300	CTR HH Organism	NA
Arsenic Dissolved	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	150	CTR Freshwater Chronic	NA
Arsenic Total	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	150	CTR Freshwater Chronic	NA
Barium Dissolved	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	NA	NA	NA
Barium Total	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	NA	NA	NA
Bicarbonate	10/17/2004	12/5/2004	4	4	µg/L	AD	AD	NA	NA	NA
BOD	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA
Boron Dissolved	10/17/2004	3/17/2005	7	5	mg/L	0.1	0.1	NA	NA	NA
Boron Total	10/17/2004	3/17/2005	7	6	mg/L	0.1	0.1	NA	NA	NA
Cadmium Dissolved	10/17/2004	12/5/2010	74	40	µg/L	0.01	1	HBC	CTR Freshwater Acute/Chronic	NA
Cadmium Total	10/17/2004	12/5/2010	74	50	µg/L	0.01	1	HBC	CTR Freshwater Acute/Chronic	NA
Calcium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	NA
Chloride Total	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA
Chlorpyrifos	10/17/2004	4/25/2006	14	1	µg/L	0.05	0.05	0.041	USEPA Freshwater Chronic	NA
Chromium Dissolved	10/17/2004	1/8/2009	60	58	µg/L	0.21	5	HBC	CTR Freshwater Acute/Chronic	NA
Chromium Total	10/17/2004	1/8/2009	60	60	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic	NA
Cobalt Dissolved	1/25/2005	2/21/2006	14	14	µg/L	AD	AD	NA	NA	NA
Cobalt Total	1/25/2005	2/21/2006	14	14	µg/L	AD	AD	NA	NA	NA
COD	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA
Enterococcus	1/17/2002	1/8/2009	99	98	MPN/100ml	10	10	NA	NA	NA
Fecal Coliform	10/17/2004	10/25/2012	188	187	MPN/100ml	20	20	NA	NA	NA
Fluoride	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	NA
Hardness	10/17/2004	10/9/2013	132	132	mg/L	AD	AD	NA	NA	NA
Iron Dissolved	10/17/2004	4/25/2006	14	8	µg/L	100	100	NA	NA	NA
Iron Total	10/17/2004	4/25/2006	14	14	µg/L	AD	AD	NA	NA	NA
Kjeldahl-N	10/17/2004	4/25/2006	14	14	mg/L	NA	NA	NA	NA	NA
Lead Dissolved	10/17/2004	9/17/2013	126	100	µg/L	0.01	5	HBC	CTR Freshwater Acute/Chronic	NA
Magnesium Total	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	NA
Manganese Dissolved	10/17/2004	3/17/2005	7	4	µg/L	30	30	NA	NA	NA
Manganese Total	10/17/2004	3/17/2005	7	6	µg/L	30	30	NA	NA	NA
MBAS	10/17/2004	4/25/2006	14	10	µg/L	50	50	NA	NA	NA
Mercury Dissolved	10/17/2004	4/25/2006	28	1	µg/L	0.022	1	NA	NA	NA
Mercury Total	10/17/2004	4/25/2006	28	4	µg/L	0.022	1	0.051	CTR HH Organism	NA

Sepulveda Channel - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Nickel Dissolved	10/17/2004	1/8/2009	60	60	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic	
Nickel Total	10/17/2004	1/8/2009	60	60	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic	
Nitrate	10/17/2004	4/25/2006	14	13	mg/L	0.1	0.1	NA	NA	
Nitrate-N	10/17/2004	4/25/2006	14	13	mg/L	0.5	0.5	NA	NA	
Nitrite-N	10/17/2004	4/25/2006	14	5	mg/L	0.03	0.03	NA	NA	
Oil and Grease	10/17/2004	4/25/2006	14	1	mg/L	1	1	NA	NA	
Oxygen Dissolved	10/17/2004	4/25/2006	13	13	mg/L	AD	AD	5	BP Single sample minimum	
Petroleum Hydrocarbons Total	10/17/2005	4/25/2006	7	3	mg/L	1	1	NA	NA	
Phosphorus Total	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Phosphorus-Dissolved	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Potassium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	
Pyrene	10/17/2004	4/25/2006	14	1	µg/L	0.05	0.05	11000	CTR HH Organism	
Selenium Dissolved	10/17/2004	1/8/2009	61	55	µg/L	5	5	NA	NA	
Silver Dissolved	10/17/2004	12/5/2010	74	31	µg/L	0.02	1	HBC	CTR Freshwater Acute	
Silver Total	10/17/2004	12/5/2010	74	37	µg/L	0.02	1	HBC	CTR Freshwater Acute	
Sodium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	
Specific Conductance	10/17/2004	4/25/2006	14	14	µmhos/cm	AD	AD	NA	NA	
Streptococcus Fecal	10/17/2004	4/25/2006	14	14	MPN/100ml	AD	AD	NA	NA	
Sulphate	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Temperature	5/14/2009	10/15/2009	22	22	°C	AD	AD	26.7	BP WARM Above 27 °C (80 °F)	
Thorium Dissolved	1/25/2005	2/21/2006	14	4	µg/L	1	1	NA	NA	
Thorium Total	1/25/2005	2/21/2006	14	2	µg/L	1	1	NA	NA	
Total Coliform	1/17/2002	1/8/2009	99	99	MPN/100ml	AD	AD	NA	NA	
Total Dissolved Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Total Organic Carbon	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Total Phenols	10/17/2004	4/25/2006	14	1	µg/L	100	100	4600000	CTR HH Organism	
Total Suspended Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Turbidity	10/17/2004	4/25/2006	14	14	NTU	AD	AD	NA	NA	
Volatile Suspended Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
NA - No Available adopted water quality objective										
HBC - Hardness Based Criteria, as defined by CTR										
AD - All values reported detected, no detection limit provided										

Benedict Canyon Channel - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value		
					Min	Max				
Alkalinity	10/17/2004	4/25/2006	14	mg/L	AD	AD	NA	NA		
Aluminum Total	10/17/2004	4/25/2006	14	µg/L	AD	AD	NA	NA		
Ammonia-N	10/17/2004	4/25/2006	14	mg/L	AD	AD	HBC	BP 30-day Chronic early life stage fish present		
Antimony Dissolved	10/17/2004	4/25/2006	28	µg/L	2	5	NA	NA		
Antimony Total	10/17/2004	4/25/2006	28	µg/L	2	5	4300	CTR HH Organism		
Arsenic Dissolved	10/17/2004	1/8/2009	62	µg/L	AD	AD	150	CTR Freshwater Chronic		
Arsenic Total	10/17/2004	1/8/2009	62	µg/L	AD	AD	150	CTR Freshwater Chronic		
Barium Dissolved	10/17/2004	1/8/2009	62	µg/L	AD	AD	NA	NA		
Barium Total	10/17/2004	1/8/2009	62	µg/L	AD	AD	NA	NA		
Bicarbonate	10/17/2004	12/5/2004	4	µg/L	AD	AD	NA	NA		
BOD	10/17/2004	4/25/2006	14	mg/L	AD	AD	NA	NA		
Boron Dissolved	10/17/2004	3/17/2005	7	mg/L	0.1	0.1	NA	NA		
Boron Total	10/17/2004	3/17/2005	7	mg/L	0.1	0.1	NA	NA		
Cadmium Dissolved	10/17/2004	1/8/2009	62	µg/L	0.3	1	HBC	CTR Freshwater Acute/Chronic		
Cadmium Total	10/17/2004	1/8/2009	62	µg/L	0.3	1	HBC	CTR Freshwater Acute/Chronic		
Calcium	10/17/2004	3/17/2005	7	µg/L	AD	AD	NA	NA		
Chloride Total	10/17/2004	4/25/2006	14	mg/L	AD	AD	NA	NA		
Chromium Dissolved	10/17/2004	1/8/2009	60	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic		
Chromium Total	10/17/2004	1/8/2009	61	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic		
Cobalt Dissolved	1/25/2005	2/2/2006	14	µg/L	0.2	0.2	NA	NA		
Cobalt Total	1/25/2005	2/2/2006	14	µg/L	0.2	0.2	NA	NA		
COD	10/17/2004	4/25/2006	14	mg/L	AD	AD	NA	NA		
Cyanide Total	10/17/2004	4/25/2006	15	mg/L	10	10	5.2 – 22	CTR Freshwater Chronic/ Acute		
Enterococcus	1/17/2002	1/8/2009	100	MPN/100ml	AD	AD	NA	NA		
Fecal Coliform	10/17/2004	10/25/2012	189	MPN/100ml	20	20	NA	NA		
Fluoride	10/17/2004	4/25/2006	14	mg/L	AD	AD	NA	NA		
Hardness	10/17/2004	1/8/2009	62	mg/L	AD	AD	NA	NA		
Iron Dissolved	10/17/2004	4/25/2006	14	µg/L	100	100	NA	NA		
Iron Total	10/17/2004	4/25/2006	14	µg/L	100	100	NA	NA		
Kjeldahl-N	10/17/2004	4/25/2006	14	mg/L	AD	AD	NA	NA		
Lead Dissolved	10/17/2004	1/8/2009	62	µg/L	1	5	HBC	CTR Freshwater Acute/Chronic		
Lead Total	10/17/2004	1/8/2009	62	µg/L	1	1.1	HBC	CTR Freshwater Acute/Chronic		
Magnesium Total	10/17/2004	3/17/2005	7	µg/L	AD	AD	NA	NA		
Manganese Dissolved	10/17/2004	3/17/2005	7	µg/L	30	30	NA	NA		
Manganese Total	10/17/2004	3/17/2005	7	µg/L	30	30	NA	NA		
MBAS	10/17/2004	4/25/2006	14	µg/L	50	50	NA	NA		
Mercury Dissolved	10/17/2004	4/25/2006	28	µg/L	0.022	1	NA	NA		
Nickel Dissolved	10/17/2004	1/8/2009	60	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic		

Benedict Canyon Channel - Constituents that have been detected but do not exceed relevant water quality objective										
Constituent	Date Range of Available Data		N	N detects	Units	Detection Limits		WQO	Source of Lowest Water Quality Objective (WQO) Value	
						Min	Max			
Nickel Total	10/17/2004	1/8/2009	61	61	µg/L	AD	AD	HBC	CTR Freshwater Acute/Chronic	
Nitrate	10/17/2004	4/25/2006	14	13	mg/L	0.1	0.1	NA	NA	
Nitrate-N	10/17/2004	4/25/2006	14	13	mg/L	0.5	0.5	NA	NA	
Nitrite-N	10/17/2004	4/25/2006	14	5	mg/L	0.03	0.03	NA	NA	
Oil and Grease	10/17/2004	4/25/2006	15	3	mg/L	1	1	NA	NA	
Oxygen Dissolved	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	5	BP Single sample minimum	
Petroleum Hydrocarbons Total	10/17/2005	4/25/2006	8	2	mg/L	1	1	NA	NA	
pH	10/17/2004	4/25/2006	14	14	pH Units	AD	AD	6.5-8.5	BP Minimum/Maximum	
Phenanthrene	10/17/2004	4/25/2006	14	1	µg/L	0.05	0.05	NA	NA	
Phosphorus Total	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Phosphorus-Dissolved	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Potassium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	
Selenium Dissolved	10/17/2004	1/8/2009	62	57	µg/L	5	5	NA	NA	
Silver Dissolved	10/17/2004	1/8/2009	61	27	µg/L	0.06	1	HBC	CTR Freshwater Acute	
Silver Total	10/17/2004	1/8/2009	62	32	µg/L	0.06	1	HBC	CTR Freshwater Acute	
Sodium	10/17/2004	3/17/2005	7	7	µg/L	AD	AD	NA	NA	
Specific Conductance	10/17/2004	4/25/2006	14	14	µmhos/cm	AD	AD	NA	NA	
Streptococcus Fecal	10/17/2004	4/25/2006	15	15	MPN/100ml	AD	AD	NA	NA	
Sulphate	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Thorium Dissolved	1/25/2005	2/21/2006	14	5	µg/L	1	1	NA	NA	
Thorium Total	1/25/2005	2/21/2006	14	5	µg/L	1	1	NA	NA	
Total Coliform	1/17/2002	1/8/2009	100	100	MPN/100ml	AD	AD	NA	NA	
Total Dissolved Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Total Organic Carbon	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Total Phenols	10/17/2004	4/25/2006	15	1	µg/L	100	100	4600000	CTR HH Organism	
Total Suspended Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
Turbidity	10/17/2004	4/25/2006	14	14	NTU	AD	AD	NA	NA	
Volatile Suspended Solids	10/17/2004	4/25/2006	14	14	mg/L	AD	AD	NA	NA	
NA - No Available adopted water quality objective										
HBC - Hardness Based Criteria, as defined by CTR										
AD - All values reported detected, no detection limit provided										

Appendix 3.B Attachment 3

Water Quality Data Analysis Summary Tables for Constituents that have Exceeded Water Quality Objectives

Ballona Creek Estuary – Constituents that have been detected and have exceeded relevant water quality objective																				
Constituent	W/D	Date Range of Available Data	N	N Detects	Units	Detection Limits		Detected Values			Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
						Min	Max	Min	Max	Min						Max	N Sampled	N Exceed		
Silver Dissolved	Wet	8/01	4/08	16	6	µg/L	0.2	5	0.03	2	0.22	0.06	1	6%	No	NS	NS	NS	1.9	CTR Saltwater Acute
	Dry	4/01	5/10	87	16	µg/L	0.018	5	0.03	0.138	<20% Detect		0	0%	No	16	0	0%	1.9	CTR Saltwater Acute
Silver Total	Wet	8/01	4/08	16	6	µg/L	0.2	5	0.03	18	1.23	0.09	1	6%	No	NS	NS	2.24	CTR Saltwater Acute	
	Dry	4/01	5/10	87	17	µg/L	0.018	5	0.026	0.823	<20% Detect		0	0%	No	16	0	0%	2.24	CTR Saltwater Acute
Zinc Dissolved	Wet	8/01	4/08	16	15	µg/L	10	0.2	110	32.7	21.2	2	13%	Yes	NS	NS	NS	90	CTR Saltwater Acute	
	Dry	4/01	5/10	86	69	µg/L	2	17.2	0.2	62	11.7	8.5	0	0%	No	16	0	0%	81	CTR Saltwater Chronic
Zinc Total	Wet	8/01	4/08	16	16	µg/L	AD	6.27	245	59.0	42.3	3	19%	Yes	NS	NS	NS	95.1	CTR Saltwater Acute	
	Dry	4/01	5/10	87	75	µg/L	2	17.2	0.2	113	18.6	13.6	2	2%	No	16	0	0%	85.6	CTR Saltwater Chronic
Enterococcus	Wet	8/01	3/13	72	70	MPN/100ml	10	10	10	24000	6069	2000	63	88%	Yes	37	36	97%	35	BP REC1 30 Day 5 sample average
	Dry	4/01	8/13	828	645	MPN/100ml	10	100	10	14000	562	66	497	60%	Yes	579	413	71%	35	
Total Coliform	Wet	8/01	3/13	72	72	MPN/100ml	AD	AD	410	240000	134845	155000	72	100%	Yes	29	29	100%	70	BP SHELL 30-Day Median
	Dry	4/01	8/13	828	814	MPN/100ml	67	100	100	240000	54971	13356	814	98%	Yes	515	502	99%	70	BP SHELL 30-Day Median
Dibenzo(a,h)-anthracene	Wet	NS	NS	NS	NS	µg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	CTR HH Organism
	Dry	2/09	5/10	16	2	µg/L	0.02	0.02	0.15	0.36	<20% Detect		2	13%	Yes	16	2	13%	0.05	CTR HH Organism
Indeno(1,2,3-cd)pyrene	Wet	NS	NS	NS	NS	µg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	CTR HH Organism
	Dry	2/09	5/10	16	3	µg/L	0.02	0.02	0.02	0.45	<20% Detect		2	13%	Yes	16	2	13%	0.05	CTR HH Organism
Mercury Total	Wet	8/01	2/06	10	5	µg/L	0.022	0.3	0.028	0.09	0.04	0.03	2	20%	Yes	NS	NS	NS	0.05	CTR HH Organism
	Dry	4/01	1/06	48	25	µg/L	0.02	0.3	0.023	2.67	0.11	0.03	11	23%	Yes	NS	NS	NS	0.05	CTR HH Organism
Copper Dissolved	Wet	11/01	4/08	15	11	µg/L	1.5	10	0.04	29	9.67	3.73	9	60%	Yes	NS	NS	NS	4.8	CTR Saltwater Acute
	Dry	4/01	5/10	84	59	µg/L	1	20	0.44	159	8.18	3.51	40	48%	Yes	16	1	7%	3.1	CTR Saltwater Chronic
Copper Total	Wet	11/01	4/08	16	12	µg/L	1.5	10	0.04	47	15.22	5.36	11	69%	Yes	NS	NS	NS	5.8	CTR Saltwater Acute
	Dry	4/01	5/10	86	68	µg/L	1.5	10	0.3	168	8.40	3.52	45	52%	Yes	16	1	6%	3.7	CTR Saltwater Chronic
Lead Dissolved	Wet	8/01	4/08	16	11	µg/L	1	10	0.055	11	2.23	0.73	0	0%	No	NS	NS	NS	210	CTR Saltwater Acute
	Dry	4/01	5/10	85	58	µg/L	1	26	0.053	41.6	4.66	0.90	15	18%	Yes	16	0	0%	8.1	CTR Saltwater Chronic
Lead Total	Wet	8/01	4/08	16	13	µg/L	1	5	0.055	100	15.7	2.47	0	0%	No	NS	NS	NS	220.8	CTR Saltwater Acute
	Dry	4/01	5/10	87	63	µg/L	1	26	0.055	52.6	5.76	1.49	18	21%	Yes	16	0	0%	8.5	CTR Saltwater Chronic
Nickel Dissolved	Wet	8/01	4/08	16	13	µg/L	0.24	20	0.26	35.7	6.76	4.84	15	22%	Yes	NS	NS	NS	74	CTR Saltwater Acute
	Dry	4/01	8/08	68	52	µg/L	10	20	0.1	15.7	7.55	5.14	0	0%	No	NS	NS	NS	8.2	CTR Saltwater Chronic
Nickel Total	Wet	8/01	4/08	16	14	µg/L	10	20	0.1	15.7	7.55	5.14	0	0%	No	NS	NS	NS	74.8	CTR Saltwater Acute
	Dry	4/01	8/08	70	58	µg/L	0.5	20	0.1	39	7.49	5.16	18	26%	Yes	NS	NS	NS	8.3	CTR Saltwater Chronic

Ballona Creek Reach 1 – Constituents that have been detected and have exceeded relevant water quality objective																				
Constituent	W/D	Date Range of Available Data	N	N Detects	Units	Detection Limits		Detected Values			Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
						Min	Max	Min	Max	Min						Max	N Sampled	N Exceed		
	Wet	8/01	12/10	20	13	µg/L	0.01	1	0.01	7.1	1.98	0.17	1	5%	No	3	0	0%	HBC	CTR Freshwater Acute

Ballona Creek Reach 1 – Constituents that have been detected and have exceeded relevant water quality objective																				
Constituent	W/D	Date Range of Available Data		N Detects	Units	Detection Limits		Detected Values			Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
		Min	Max			Min	Max	Max	N Sampled	N Exceed						% Exceed				
Cadmium Total	Dry	4/01	9/10	79	µg/L	0.01	1	0.01	3.92	0.25	0.06	0	0%	No	5	0	0%	HBC	CTR Freshwater Chronic	
	Wet	8/01	5/13	40	µg/L	10	10	3.84	61	12.4	ND	16	40%	Yes	23	10	43%	HBC	2013 TMDL Amendment	
Copper Dissolved	Dry	4/01	9/13	105	µg/L	1.5	20	2.83	45	7.41	6.44	1	1%	No	33	0	0%	HBC	CTR Freshwater Chronic	
	Wet	8/01	5/13	40	µg/L	10	10	4.29	356	68.2	44.6	29	73%	Yes	23	22	96%	HBC	2013 TMDL Amendment	
Copper Total	Dry	4/01	9/13	106	µg/L	10	10	3.67	182	15.6	ND	9	8%	Yes	32	0	0%	HBC	CTR Freshwater Chronic	
	Wet	8/01	5/13	39	µg/L	1	10	0.055	69	2.90	0.925	1	3%	No	23	0	0%	HBC	2013 TMDL Amendment	
Lead Dissolved	Dry	4/01	9/13	107	µg/L	0.06	26	0.055	6	0.775	0.294	0	0%	No	33	0	0%	HBC	CTR Freshwater Chronic	
	Wet	8/01	5/13	40	µg/L	10	10	0.055	175	33.4	23.7	12	30%	Yes	23	10	43%	HBC	2013 TMDL Amendment	
Lead Total	Dry	4/01	9/13	106	µg/L	1	26	0.11	158	5.05	1.48	3	8%	No	32	0	0%	HBC	2013 TMDL Amendment	
	Wet	8/01	12/10	40	µg/L	0.11	1	0.2	3.2	0.92	0.63	0	0%	No	23	0	0%	NA	NA	
Selenium Total	Dry	5/01	9/13	104	µg/L	0.2	30	0.6	5.7	1.97	1.82	1	1%	No	33	0	0%	HBC	CTR Freshwater Chronic	
	Wet	8/01	12/10	20	µg/L	0.2	5	0.02	6	0.52	0.11	2	10%	Yes	3	0	0%	HBC	CTR Freshwater Acute	
Silver Dissolved	Dry	4/01	9/10	79	µg/L	0.02	5	0.03	3.7	0.20	0.05	0	0%	No	5	0	0%	HBC	CTR Freshwater Acute	
	Wet	8/01	12/10	20	µg/L	0.2	5	0.03	17	1.40	0.21	2	10%	Yes	3	0	0%	HBC	CTR Freshwater Acute	
Silver Total	Dry	4/01	9/10	79	µg/L	0.06	5	0.02	5.8	0.34	0.09	0	0%	No	5	0	0%	HBC	CTR Freshwater Acute	
	Wet	8/01	5/13	40	µg/L	AD	AD	13.5	1760	293	205	27	68%	Yes	23	21	91%	HBC	2013 TMDL Amendment	
Zinc Total	Dry	4/01	9/13	106	µg/L	2	17.2	6.22	1420	52.5	26.2	2	2%	No	32	0	0%	HBC	CTR Freshwater Chronic	
	Wet	8/01	11/08	31	MPN/100ml	100	100	200	34000	5457	1200	26	84%	Yes	NS	NS	NS	126	BP REC1 30-Day Average	
E. coli	Dry	4/01	1/09	248	MPN/100ml	100	1000	100	36000	1340	479	184	74%	Yes	1	0	0%	126	BP REC1 30-Day Average	
	Wet	8/01	2/06	10	µg/L	0.022	0.3	0.023	0.09	0.045	0.035	3	30%	Yes	NS	NS	NS	0.05	CTR HH Organism	
Mercury Total	Dry	4/01	1/06	48	µg/L	0.02	0.3	0.025	2.35	0.101	0.030	13	27%	Yes	NS	NS	NS	0.05	CTR HH Organism	

NA – No Available adopted water quality objective
HBC – Hardness Based Criteria, as defined by CTR
NS – Not Sampled

Ballona Creek Reach 2 – Constituents that have been detected and have exceeded relevant water quality objective

Constituent	WID	Date Range of Available Data	N	N Defects	Units	Detection Limits		Detected Values		Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
						Min	Max	Min	Max						Sampled	N Exceed	% Exceed		
3,4-Benzofluoranthene	Wet	10/04	10/13	59	1	µg/L	0.1	3.33	0.26	0.26	<20% Detect	1	2%	No	39	1	100%	0.049	CTR HH Organism
	Dry	11/04	6/13	21	0	µg/L	0.1	3.33	NA	NA	<20% Detect	0	0%	No	14	0	0%	0.049	CTR HH Organism
4,4'-DDE	Wet	11/02	10/13	55	1	µg/L	0.001	0.1	0.004	0.004	<20% Detect	1	2%	No	39	1	100%	0.00069	CTR HH Organism
	Dry	10/02	6/13	20	0	µg/L	0.004	0.1	NA	NA	<20% Detect	0	0%	No	13	0	0%	0.00069	CTR HH Organism
Ammonia-N	Wet	10/00	6/13	62	62	mg/L	AD	AD	0.1	2.64	0.388	0%	0%	No	20	0	0%	HBC	BP 1-hour Acute where salmonid fish are not present
	Dry	10/00	6/13	27	27	mg/L	AD	AD	0.0833	0.78	0.206	4%	4%	No	15	1	7%	HBC	BP 30-day Chronic early life stage fish present
Benzo(a)-anthracene	Wet	10/04	10/13	25	2	µg/L	0.1	0.14	0.14	<20% Detect	2	8%	Yes	20	2	100%	0.049	CTR HH Organism	
	Dry	11/04	11/04	1	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	No	NS	NS	NS	0.049	CTR HH Organism
Benzo(a)pyrene	Wet	11/02	10/13	66	1	µg/L	0.1	2	0.18	0.18	<20% Detect	1	2%	No	39	1	100%	0.049	CTR HH Organism
	Dry	10/02	6/13	25	0	µg/L	0.1	2	NA	NA	<20% Detect	0	0%	No	14	0	0%	0.049	CTR HH Organism
Bis(2-Ethylhexyl)phthalate	Wet	11/02	1/13	46	3	µg/L	1	5	8.27	28.5	<20% Detect	3	7%	No	19	1	5%	5.9	CTR HH Organism
	Dry	10/02	6/13	26	2	µg/L	1	5	13.7	29.9	<20% Detect	2	8%	No	14	0	0%	5.9	CTR HH Organism
Cadmium Total	Wet	10/00	1/13	103	59	µg/L	0.08	1	0.01	6.4	0.567	2%	3%	No	26	0	0%	HBC	CTR Freshwater Acute
	Dry	10/00	6/13	196	88	µg/L	0.01	1	0.01	7.33	0.291	0%	0%	No	36	0	0%	HBC	CTR Freshwater Chronic
Chrysene	Wet	11/02	10/13	66	1	µg/L	0.1	5	0.32	0.32	<20% Detect	1	2%	No	39	1	100%	0.049	CTR HH Organism
	Dry	10/02	6/13	25	0	µg/L	0.1	5	NA	NA	<20% Detect	0	0%	No	14	0	0%	0.049	CTR HH Organism
Copper Dissolved	Wet	10/00	5/13	97	82	µg/L	0.5	10	0.045	59.3	13.3	67	69%	Yes	64	48	75%	HBC	CTR Freshwater Acute
	Dry	10/00	9/13	177	153	µg/L	0.5	10	0.6	55.1	7.65	53	55%	Yes	64	32	50%	HBC	2013 TMDL Amendment
Copper Total	Wet	10/00	5/13	141	137	µg/L	0.5	10	5.19	504	57.5	100	71%	Yes	109	1	2%	HBC	CTR Freshwater Chronic
	Dry	10/00	9/13	267	257	µg/L	0.5	10	2.04	358	16.1	3	2%	No	109	1	2%	HBC	2013 TMDL Amendment
Lead Dissolved	Wet	10/00	5/13	141	106	µg/L	0.2	10	0.055	61	4.18	67	69%	Yes	64	48	75%	HBC	CTR Freshwater Acute
	Dry	10/00	9/13	266	148	µg/L	0.06	26	0.055	77	1.03	2	1%	No	108	1	1%	HBC	2013 TMDL Amendment
Lead Total	Wet	10/00	5/13	141	127	µg/L	0.2	10	0.055	871	34.2	15	11%	Yes	64	7	11%	HBC	CTR Freshwater Acute
	Dry	10/00	9/13	267	199	µg/L	0.11	26	0.06	195	4.15	9	6%	No	64	5	8%	HBC	2013 TMDL Amendment
Indeno(1,2,3-cd)pyrene	Wet	11/02	10/13	66	10	µg/L	0.017	0.1	0.02	0.15	<20% Detect	1	2%	No	39	1	3%	0.049	CTR HH Organism
	Dry	10/02	6/13	25	0	µg/L	0.017	0.1	NA	NA	<20% Detect	0	0%	No	14	0	0%	0.049	CTR HH Organism
Selenium Total	Wet	10/00	5/13	139	97	µg/L	0.11	5	0.2	15.2	1.26	4	3%	No	63	0	0%	5	BC Metals TMDL
	Dry	10/00	9/13	263	250	µg/L	0.2	30	0.3	8.11	2.11	3	1%	No	108	1	1%	5	CTR Freshwater Chronic
Silver Dissolved	Wet	10/00	1/13	101	21	µg/L	0.1	5	0.03	34.9	0.430	1	1%	No	25	0	0%	HBC	CTR Freshwater Acute
	Dry	10/00	6/13	193	51	µg/L	0.02	5	0.03	1	0.077	0	0%	No	34	0	0%	HBC	CTR Freshwater Acute
Silver Total	Wet	10/00	1/13	103	46	µg/L	0.1	5	0.04	35.4	0.160	2	2%	No	26	0	0%	HBC	CTR Freshwater Acute
	Dry	10/00	6/13	195	62	µg/L	0.06	5	0.02	4.65	0.144	0	0%	No	35	0	0%	HBC	CTR Freshwater Acute
Zinc Dissolved	Wet	10/00	5/13	140	132	µg/L	1	50	2.39	770	66.0	27	19%	Yes	64	19	14%	HBC	CTR Freshwater Acute
	Dry	10/00	9/13	266	148	µg/L	1	50	2.39	770	66.0	19	14%	Yes	64	15	23%	HBC	2013 TMDL Amendment

Ballona Creek Reach 2 – Constituents that have been detected and have exceeded relevant water quality objective

Constituent	WID	Date Range of Available Data	N	N Detects	Units	Detection Limits		Detected Values		Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
						Min	Max	Min	Max						N Sampled	N Exceed	% Exceed		
Zinc Total	Dry	10/00	9/13	268	µg/L	1	50	1.91	196	13.8	10.8	0	0%	No	108	0	0%	HBC	CTR Freshwater Chronic
	Wet	10/00	5/13	141	µg/L	1	50	7.56	2200	266	144	88	62%	Yes	64	61	95%	HBC	2013 TMDL Amendment
alpha-chlordane	Dry	10/00	9/13	267	µg/L	2	50	4.37	2010	44.9	25.9	2	1%	No	107	1	1%	HBC	CTR Freshwater Chronic
	Wet	10/02	6/13	57	µg/L	0.001	0.05	0.004	0.004	<20% Detect	<20% Detect	1	2%	No	39	1	100%	0.00059	2013 TMDL Amendment
gamma-chlordane	Wet	11/02	10/13	57	µg/L	0.001	0.05	0.003	0.003	<20% Detect	<20% Detect	1	2%	No	39	1	100%	0.00059	CTR HH Organism
	Dry	10/02	6/13	22	µg/L	0.033	0.1	NA	NA	<20% Detect	<20% Detect	0	0%	No	14	0	0%	0.00059	CTR HH Organism
Diazinon	Wet	10/00	1/13	61	µg/L	0.003	0.01	0.023	0.217	<20% Detect	<20% Detect	2	3%	No	19	0	0%	0.17	USEPA Freshwater Acute
	Dry	10/00	6/13	26	µg/L	0.003	0.01	0.07	0.078	<20% Detect	<20% Detect	0	0%	No	14	0	0%	0.17	USEPA Freshwater Chronic
Oxygen Dissolved	Wet	11/02	1/13	43	mg/L	AD	AD	1.3	21.7	9.89	9.79	2	5%	No	19	0	0%	5	BP Single sample
	Dry	10/02	4/13	26	mg/L	AD	AD	9.16	22.3	14.6	14.0	0	0%	No	15	0	0%	5	BP Single sample
Cyanide Total	Wet	10/00	1/13	56	mg/L	5	10	5	362	12.7	1.69	4	7%	No	19	1	5%	22	CTR Freshwater Acute
	Dry	10/02	4/13	26	mg/L	5	10	5	7	<20% Detect	<20% Detect	1	4%	No	15	0	0%	5.2	CTR Freshwater Chronic
E. coli	Wet	8/01	3/13	96	MPN/100ml	100	1000	100	36000	7901	3150	71	74%	Yes	34	34	100%	126	BP REC1 30-Day Average
	Dry	4/01	8/13	889	MPN/100ml	67	1000	67	44000	1131	458	689	79%	Yes	394	318	81%	126	BP REC1 30-Day Average
Mercury Total	Wet	10/00	1/13	82	µg/L	0.022	1	0.054	0.498	<20% Detect	<20% Detect	8	10%	Yes	19	0	0%	0.051	CTR HH Organism
	Dry	10/00	6/13	124	µg/L	0.02	1	0.02	3.59	0.091	0.018	27	22%	Yes	16	2	100%	0.051	CTR HH Organism
pH	Wet	10/00	1/13	63	pH Units	AD	AD	6.07	8.84	7.3	7.21	6	10%	No	20	3	15%	6.5-8.5	BP Minimum/Maximum
	Dry	10/00	6/13	29	pH Units	AD	AD	6.58	9.04	8.09	8.23	7	24%	Yes	17	5	29%	6.5-8.5	BP Maximum

HBC – Hardest Based Criteria, as defined by CTR

NS – Not Sampled

AD - All values reported detected, no detection limit provided

Centinea Creek – Constituents that have been detected and have exceeded relevant water quality objective																					
Constituent	W/D	Date Range of Available Data	N	N Detects	Units	Detection Limits			Detected Values			Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
						Min	Max	AD	Min	Max	AD						Sampled	N Exceed	% Exceed		
4,4'-DDT	Wet	10/04	10/13	27	1	µg/L	0.001	0.1	0.139	0.139	<20% Detect	1	4%	No	16	1	100%	0.0006	CTR HH Organism		
	Dry	11/04	4/06	3	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	No	NS	NS	NS	0.0006	CTR HH Organism		
Benz(a)anthracene	Wet	10/04	10/13	22	1	µg/L	0.1	0.14	0.14	<20% Detect	0	5%	No	16	1	100%	0.049	CTR HH Organism			
	Dry	11/04	11/04	1	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	No	NS	NS	NS	0.049	CTR HH Organism		
Benz(k)fluoranthene	Wet	10/04	10/13	27	1	µg/L	0.1	0.11	0.11	<20% Detect	1	4%	No	16	1	100%	0.049	CTR HH Organism			
	Dry	11/04	4/06	3	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	No	NS	NS	NS	0.049	CTR HH Organism		
Bis(2-Ethylhexyl)phthalate	Wet	10/04	2/06	11	1	µg/L	1	31.3	31.3	<20% Detect	1	9%	No	NS	NS	NS	5.9	CTR HH Organism			
	Dry	11/04	4/06	3	0	µg/L	1	1	NA	NA	<20% Detect	0	0%	No	NS	NS	NS	5.9	CTR HH Organism		
Cadmium Total	Wet	10/04	5/13	38	33	µg/L	0.3	1	0.01	4.04	0.696	5%	6%	No	16	0	0%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	28	µg/L	0.3	1	0.01	1.4	0.269	0%	0%	No	1	0	0%	HBC	CTR Freshwater Chronic		
Chrysene	Wet	10/04	10/13	27	1	µg/L	0.1	0.12	0.3	0.3	<20% Detect	1	4%	No	16	1	100%	0.049	CTR HH Organism		
	Dry	11/04	4/06	3	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	No	NS	NS	NS	0.049	CTR HH Organism		
Copper Dissolved	Wet	10/04	5/13	39	39	µg/L	AD	AD	3.82	43.6	13.3	24	62%	Yes	17	17	100%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	40	µg/L	AD	AD	3.17	105	18.6	2	5%	No	1	0	0%	HBC	CTR Freshwater Chronic		
Copper Total	Wet	10/04	5/13	39	39	µg/L	AD	AD	5.7	449	69.6	24	74%	Yes	17	17	100%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	40	µg/L	AD	AD	5	57	23.427	8	20%	Yes	1	0	0%	HBC	CTR Freshwater Chronic		
Silver Total	Wet	10/04	5/13	38	25	µg/L	0.2	1	0.01	1.32	0.188	2	5%	No	16	2	13%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	20	µg/L	0.06	1	0.03	3.25	0.172	0	0%	No	1	0	0%	HBC	CTR Freshwater Acute		
Lead Total	Wet	10/04	5/13	39	39	µg/L	AD	AD	0.055	198	26.5	15	38%	Yes	17	9	53%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	36	µg/L	1	1.1	0.5	33.4	5.29	3	8%	Yes	1	1	100%	HBC	CTR Freshwater Chronic		
Zinc Dissolved	Wet	10/04	5/13	39	39	µg/L	AD	AD	4.33	264	48.7	18	46%	Yes	17	14	82%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	40	µg/L	AD	AD	5.39	44	20.6	0	0%	No	1	0	0%	HBC	CTR Freshwater Chronic		
Zinc Total	Wet	10/04	5/13	37	37	µg/L	AD	AD	18.4	1890	265	25	65%	Yes	16	12	75%	HBC	CTR Freshwater Acute		
	Dry	11/04	1/09	40	40	µg/L	AD	AD	15	201	60.3	0	0%	No	1	0	0%	HBC	CTR Freshwater Chronic		
Indeno(1,2,3-cd)pyrene	Wet	10/04	10/13	27	7	µg/L	0.02	0.1	0.02	0.09	0.022	1	4%	No	16	1	6%	0.049	CTR HH Organism		
	Dry	11/04	4/06	3	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	0%	NS	NS	NS	0.049	CTR HH Organism		
Selenium Total	Wet	10/04	12/10	23	16	µg/L	0.2	5	0.24	3.6	0.919	0	3%	No	2	0	0%	5	BC Metals TMDL		
	Dry	11/04	1/09	40	38	µg/L	0.1	0.2	0.2	10.7	1	0.648	1	3%	No	1	0	0%	5	CTR Freshwater Chronic	
E. coli	Wet	2/03	11/06	14	14	MPN/100ml	AD	AD	1200	30000	7607	14	100%	Yes	NS	NS	NS	126	BP REC1 30-Day Average		
	Dry	1/02	1/09	71	71	MPN/100ml	AD	AD	200	100000	4314	71	100%	Yes	1	1	100%	126	BP REC1 30-Day Average		
4,4'-DDE	Wet	10/04	10/13	27	3	µg/L	0.001	0.1	0.002	0.003	<20% Detect	3	11%	11%	16	3	100%	0.0006	CTR HH Organism		
	Dry	11/04	4/06	3	0	µg/L	0.1	0.1	NA	NA	<20% Detect	0	0%	0%	NS	NS	NS	0.0006	CTR HH Organism		
pH	Wet	10/04	2/06	11	11	pH Units	AD	AD	6.45	8.24	7.27	2	18%	No	NS	NS	NS	6.5-8.5	BP Minimum/Maximum		
	Dry	11/04	4/06	3	3	pH Units	AD	AD	7.85	8.84	8.32	1	33%	No	NS	NS	NS	6.5-8.5	BP Maximum		

NA - No Available adopted water quality objective

HBC - Hardness Based Criteria, as defined by CTR
 NS - Not Sampled
 AD - All values reported detected, no detection limit provided

Constituent	W/D	Date Range of Available Data	N	N Detects	Units	Detection Limits		Detected Values		Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
						Min	Max	Min	Max					Sampled	N Exceed	N		
Bis(2-Ethylhexyl) phthalate	Wet	10/04	2/06	11	1	1	1	19.9	19.9	<20% Detects	1	9%	No	NS	NS	NS	5.9	CTR HH Organism
	Dry	11/04	4/06	3	0	1	1	NA	NA	<20% Detects	0	0%	No	NS	NS	NS	5.9	CTR HH Organism
Copper Dissolved	Wet	10/04	11/08	22	22	4	4	4.8	20	10.2	9	41%	Yes	NS	NS	NS	HBC	CTR Freshwater Acute
	Dry	11/04	1/09	39	39	AD	AD	3.73	48	8.93	7	18%	Yes	NS	NS	NS	HBC	2013 TMDL Amendment
Copper Total	Wet	10/04	11/08	22	22	AD	AD	9.11	137	40.2	16	73%	Yes	NS	NS	NS	HBC	2013 TMDL Amendment
	Dry	11/04	1/09	40	40	AD	AD	4.68	64	22.4	7	18%	Yes	NS	NS	NS	HBC	2013 TMDL Amendment
Zinc Dissolved	Wet	10/04	11/08	21	21	AD	AD	6.16	124	25.7	0	0%	No	NS	NS	NS	HBC	CTR Freshwater Acute
	Dry	11/04	1/09	40	40	AD	AD	1.3	37	9.12	0	0%	No	NS	NS	NS	HBC	2013 TMDL Amendment
Zinc Total	Wet	10/04	11/08	21	21	AD	AD	11	648	132	6	29%	Yes	NS	NS	NS	HBC	CTR Freshwater Acute
	Dry	11/04	1/09	40	40	AD	AD	10	2080	101	1	3%	No	NS	NS	NS	HBC	2013 TMDL Amendment
Diazinon	Wet	10/04	2/06	11	5	0.01	0.01	0.03	0.61	0.084	1	9%	No	NS	NS	NS	0.17	USEPA Freshwater Acute
	Dry	11/04	4/06	3	0	0.01	0.01	NA	NA	<20% Detects	0	0%	0%	NS	NS	NS	0.17	USEPA Freshwater Chronic
Mercury Total	Wet	10/04	2/06	15	2	0.022	1	0.037	0.077	<20% Detects	1	25%	7%	NS	NS	NS	0.051	CTR HH Organism
	Dry	11/04	4/06	13	1	0.022	1	0.039	0.039	<20% Detects	0	0%	0%	NS	NS	NS	0.051	CTR HH Organism
Selenium Total	Wet	10/04	11/08	22	17	0.022	5	0.8	19	3.71	3	14%	No	NS	NS	NS	5	BC Metals TMDL
	Dry	11/04	1/09	40	40	AD	AD	1.5	6.27	2.59	1	3%	No	NS	NS	NS	5	CTR Freshwater Chronic
E. coli	Wet	2/03	3/13	28	27	MPN/100ml	100	100	49000	6426	26	93%	Yes	14	14	100%	126	BP REC1 30-Day Average
	Dry	1/02	8/13	266	260	MPN/100ml	67	100	20000	1199	241	91%	Yes	196	178	91%	126	BP REC1 30-Day Average

HBC - Hardness Based Criteria, as defined by CTR
 NS - Not Sampled
 AD - All values reported detected, no detection limit provided

Sepulveda Channel - Constituents that have been detected and have exceeded relevant water quality objective																				
Constituent	W/D	Date Range of Available Data	N Detects	Units	Detection Limits			Detected Values			Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
					Min	Max	AD	Min	Max	NA						Sampled	N Exceed	% Exceed		
Bis(2-Ethylhexyl) phthalate	Wet	10/04	2/06	11	1	1	25.6	25.6	25.6	<20% Detect	1	9.1%	No	NS	NS	NS	5.9	CTR HH Organism		
	Dry	11/04	4/06	3	0	1	NA	NA	<20% Detect		0	0.0%	No	NS	NS	NS	5.9	CTR HH Organism		
Copper Dissolved	Wet	10/04	5/13	47	47	AD	2.04	54.3	14.1	11.4	24	51.1%	Yes	25	88%	HBC	CTR Freshwater Acute			
	Dry	11/04	9/13	84	84	AD	2.24	40.3	10.2	8.10	4	4.8%	No	2	4%	HBC	CTR Freshwater Chronic			
Copper Total	Wet	10/04	5/13	47	47	AD	7.69	324	70.6	34.3	33	70.2%	Yes	25	100%	HBC	CTR Freshwater Acute			
	Dry	11/04	9/13	83	83	AD	2.44	189	19.2	12.2	8	9.6%	Yes	45	7%	HBC	CTR Freshwater Chronic			
Lead Total	Wet	10/04	5/13	47	47	AD	0.055	116	26.8	14.6	9	19.1%	Yes	25	8%	HBC	CTR Freshwater Acute			
	Dry	11/04	9/13	83	78	AD	0.11	53.5	2.68	1.2	1	1.3%	No	0	0%	HBC	CTR Freshwater Chronic			
Zinc Dissolved	Wet	10/04	5/13	47	47	AD	6	439	63.2	42	14	29.8%	Yes	25	52%	HBC	CTR Freshwater Acute			
	Dry	11/04	9/13	84	84	AD	2.63	30	10.9	10	0	0.0%	No	0	0%	HBC	CTR Freshwater Chronic			
Zinc Total	Wet	10/04	5/13	47	47	AD	13	2610	357	185	31	66.0%	Yes	25	100%	HBC	CTR Freshwater Acute			
	Dry	11/04	9/13	83	83	AD	3.72	712	51.6	29	1	1.2%	No	0	0%	HBC	CTR Freshwater Chronic			
Diazinon	Wet	10/04	2/06	11	4	AD	0.01	0.03	0.029	0.007	1	9.1%	No	NS	NS	0.17	USEPA Freshwater Acute			
	Dry	11/04	4/06	3	0	AD	0.01	0.01	NA	<20% Detect	0	0%	No	NS	NS	0.17	USEPA Freshwater Chronic			
Selenium Total	Wet	10/04	5/13	47	42	AD	5	8.7	1.33	0.6	3	7.1%	No	25	0%	5	BC Metals TMDL			
	Dry	11/04	9/13	84	84	AD	0.44	5.81	1.55	1.26	1	1.2%	No	46	0%	5	CTR Freshwater Chronic			
Cyanide Total	Wet	10/04	2/06	11	5	AD	10	5	10.3	7.34	1	9.1%	No	NS	NS	22	CTR Freshwater Acute			
	Dry	11/04	4/06	3	0	AD	10	NA	<20% Detect	0	0%	0.0%	Yes	NS	NS	5.2-23	CTR Freshwater Chronic			
E. coli	Wet	2/03	3/13	28	28	AD	410	44000	6910	3400	28	100.0%	Yes	14	14	100%	126	BP REC1 30-Day Average		
	Dry	10/04	2/06	11	11	AD	100	98000	2318	1100	253	95.1%	Yes	196	187	95%	128	BP REC1 30-Day Average		
pH	Wet	10/04	2/06	11	11	AD	6.79	8.26	7.47	7.66	0	0.0%	No	NS	NS	6.5-8.5	BP Minimum/Maximum			
	Dry	11/04	10/09	25	25	AD	6.81	9.38	8.77	8.95	20	80.0%	Yes	22	0	0%	6.5-8.5	BP Maximum		

HBC - Hardness Based Criteria, as defined by CTR
 NS - Not Sampled
 AD - All values reported detected, no detection limit provided

Del Rey Lagoon - Constituents that have been detected and have exceeded relevant water quality objective																				
Constituent	W/D	Date Range of Available Data	N Detects	Units	Detection Limits			Detected Values			Average	Median	N Exceed	% Exceed	Meets Listing Criteria	In Past 5 Years			WQO	Source of Lowest Water Quality Objective (WQO) Utilized
					Min	Max	AD	Min	Max	NA						Sampled	N Exceed	% Exceed		
Enterococcus	Wet	2/03	10/12	25	24	10	10	10000	1602	190	19	76%	Yes	12	10	83%	35			
	Dry	1/02	8/13	232	179	10	10	24000	327	20	92	40%	Yes	170	69	41%	35	BP REC1 Marine 30-Day Minimum 5 samples		
Total Coliform	Wet	2/03	10/12	25	23	100	100	500	44000	13000	21	84%	Yes	12	12	83%	1000			
	Dry	1/02	8/13	232	216	67	100	67	240000	9463	138	60%	Yes	170	86	51%	1000			

Appendix 3.B Attachment 4

Sediment Quality Data Analysis Summary Tables

Ballona Creek Sediment Data Summary

Constituent	Date Range of Available Data	N	N detect	% Detect	Min DL	Max DL	Min Detect	Max Detect	Mean	Median	Units	N > WQO	% Exceed	Target	Target Source
Cadmium Total	9/07	42	42	100%	0.009	0.132	0.132	2.03	0.67	0.55	ug/g	4	10%	1.2	TMDL Target - Direct Effect
Copper Total	9/07	42	42	100%	0.0038	0.18	5.21	164	22.4	12.8	ug/g	6	14%	34	TMDL Target - Direct Effect
Lead Total	9/07	42	42	100%	0.1	0.19	1.47	162	22.4	15.8	ug/g	5	12%	46.7	TMDL Target - Direct Effect
Silver Total	9/07	42	23	55%	0.016	0.05	0.037	1.74	0.25	0.063	ug/g	4	10%	1	TMDL Target - Direct Effect
Zinc Total	9/07	42	42	100%	0.21	1	23	513	101	69.8	ug/g	5	12%	150	TMDL Target - Direct Effect
Summed Chloridanes	9/07	42	3	7%	0.005	0.0083	0.0064	10.5	NA	NA	ug/g	3	7%	0.0013	TMDL Target - Indirect Effect
Summed DDT	9/07	42	26	62%	0.001	0.0086	0.0011	0.0835	0.01	0.003	ug/g	24	57%	0.0019	TMDL Target - Indirect Effect
Summed PCBs - Aroclors	9/07	42	1	2%	0.005	0.0083	0.1948	0.1948	NA	NA	ug/g	1	2%	0.0032	TMDL Target - Indirect Effect
Summed PCBs - Cogeners	9/07	22	0	0%	0.005	0.001					ug/g	0	0%	0.0032	TMDL Target - Indirect Effect
Total PAHs	9/07	42	0	0%	0.0017	0.0017					ug/g	0	0%	4.022	TMDL Target - Direct Effect

Ballona Creek Suspended Sediment Data Summary

Constituent	Date Range of Available Data	N	N detect	% Detect	Min DL	Max DL	Min Detect	Max Detect	Mean	Median	Units	N > WQO	% Exceed	Target	Target Source
Cadmium Total	2011 2013	4	4	100%	1	0.03	0.03	2.89	1.97	2.06	ug/g	3	75%	1.2	TMDL Target - Direct Effect
Copper Total	2011 2013	4	4	100%	1	0.04	0.04	193	119	108	ug/g	4	100%	34	TMDL Target - Direct Effect
Lead Total	2011 2013	4	4	100%	0.5	0.19	0.19	102	51.0	40.3	ug/g	1	25%	46.7	TMDL Target - Direct Effect
Silver Total	2011 2013	4	2	50%	1	0.05	0.05	0.63	NA	NA	ug/g	0	0%	1	TMDL Target - Direct Effect
Zinc Total	2011 2013	4	4	100%	2	0.61	0.61	844	505	424	ug/g	4	100%	150	TMDL Target - Direct Effect
Summed Chloridanes	2011 2013	3	3	100%	5	0.011	0.011	0.034	0.026	0.033	ug/g	3	100%	0.0013	TMDL Target - Indirect Effect
Summed DDT	2011 2013	4	4	100%	1	0.016	0.016	0.069	0.036	0.029	ug/g	4	100%	0.0019	TMDL Target - Indirect Effect
Summed PCBs - Cogeners	2011 2013	1	1	100%	0.005	0.017	0.017	0.017	NA	NA	ug/g	1	100%	0.0032	TMDL Target - Indirect Effect
Total PAHs	2011 2013	3	2	67%	0.0017	0.0017	0.003	0.153	NA	NA	ug/g	0	0%	4.022	TMDL Target - Direct Effect

Centinela Creek Suspended Sediment Data Summary													
Constituent	Date Range of Available Data	N	N detect	% Detect	Min DL	Max DL	Min Detect	Max Detect	Units	N > WQO	% Exceed	Target	Target Source
Cadmium Total	2012-13 Storm Year	1	1	100%	1	1	1.28	1.28	ug/g	1	100%	1.2	TMDL Target - Direct Effect
Copper Total		1	1	100%	1	1	69.2	69.2	ug/g	1	100%	34	TMDL Target - Direct Effect
Lead Total		1	1	100%	0.5	0.5	26.2	26.2	ug/g	0	0%	46.7	TMDL Target - Direct Effect
Silver Total		1	1	100%	1	1	0.38	0.38	ug/g	0	0%	1	TMDL Target - Direct Effect
Zinc Total		1	1	100%	2	2	289	289	ug/g	1	100%	150	TMDL Target - Direct Effect
Summed Chlordanes		1	1	100%	5	5	0.017	0.017	ug/g	1	100%	0.0013	TMDL Target - Indirect Effect
Summed DDT		1	1	100%	1	1	0.024	0.024	ug/g	1	100%	0.0019	TMDL Target - Indirect Effect
Summed PCBs - Cogeners		1	1	100%	0.005	0.005	0.022	0.022	ug/g	1	100%	0.0032	TMDL Target - Indirect Effect
Total PAHs		1	0	0%	0.0017	0.0017			ug/g	0	0%	4.022	TMDL Target - Direct Effect

Appendix 3.C

Supporting Information for the Discharge Analysis

Per Part VI.C.5.a.i (pg 58) of the Permit, each EWMP shall include a characterization of stormwater and non-stormwater discharges from the MS4. A characterization was conducted on stormwater and non-stormwater discharges from the MS4 associated with constituents identified in a TMDL, a 303(d) listing, or through the receiving water data analysis described above. The following sources of discharge characterization data were reviewed:

- TMDL Staff Reports for TMDLs identified in Table 1.
- Data collected during a June 2012 bacteria snap shot event conducted along Ballona Creek and Sepulveda Channel to document the locations and bacteriological water quality of dry weather discharges.
- Data collected as part of the 2007 Southern California Coastal Water Research Project (SCCWRP) Technical Report 510 titled “Sources, patterns and mechanisms of storm water pollutant loading from watersheds and land uses of the greater Los Angeles area, California, USA.”
- Land Use data collected as part of previous MS4 Permit monitoring and presented in the 2000 report titled “Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.”

Utilizing the sources above, several tables of summary information were generated. *E. coli* concentration and loading summary statistics for dry weather discharge data collected in the Ballona Creek watershed are presented in Table 2. Tables 3 and 4 present the available average concentration of TMDL, 303(d) listed, and other constituents of interest in stormwater runoff from various land uses collected as part of County of Los Angeles stormwater program between 1996 and 2000 and SCCWRP Technical Report 510 collected between 2000 and 2005, respectively. Note that the land use data are not specific to the watershed per se; however, they are considered generally representative. Complete summary statistics for these two sources, including all measured constituents, are presented in Attachment 1.

Table 1 TMDLs Applicable to the Ballona Creek Watershed

TMDL	Regional Board Resolution Number(s)	Effective Date and/or EPA Approval Date
Ballona Creek Trash (BC Trash)	2004-023	08/11/2005
Ballona Creek Estuary Toxic Pollutants (BC Toxics TMDL)	2005-008	01/11/2006
	2013-010	Not Yet Effective
Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria (BC Bacteria TMDL)	2006-011	04/27/2007
	2012-008	07/02/2014
Ballona Creek Metals (BC Metals TMDL)	2007-015	10/29/2008
	2013-010	Not Yet Effective
Santa Monica Bay Nearshore and Offshore Debris (Santa Monica Bay [SMB] Trash TMDL)	2010-010	03/20/2012
Santa Monica Bay DDTs and PCBs (SMB Toxics)	NA	03/26/2012
Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation (Wetlands TMDL)	(USEPA TMDL)	03/26/2012

Table 2 *E. coli* Characteristics in Dry Weather Storm Drain Discharges in Ballona Creek

Statistic	Flow Rate (cfs)	<i>E. coli</i> Concentration (MPN/100mL)	<i>E. coli</i> Loading Rate (10 ⁹ MPN/day)
Count	34	34	34
Median	0.0086	310	0.13
Minimum	0.0002	10	0.0002
Maximum	5.89	14,000	162

Table 3 Summary of Mean Concentrations of Constituents in Stormwater Runoff for Relevant Constituents by Land Use Categories Sampled by Los Angeles County Department of Public Works and Presented in the 2000 report titled "Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report"

Constituents	Units	Comm	Vacant	High Density Single Family Residential	Transportation	Light Industrial	Educational	Multifamily Residential	Mixed Residential	
Ammonia	mg/L	1.26	0.13	0.41	0.29	0.59	0.33	0.47	0.67	
Cyanide		SID	SID	SID	SID	SID	SID	SID	SID	
Total Suspended Solids	µg/L	66	186	95	78	240	95	46	63	
Dissolved Cadmium		SID	SID	SID	SID	SID	SID	SID	SID	
Total Cadmium		0.73	SID	SID	1.1	SID	SID	SID	SID	
Dissolved Copper		14	SID	8.5	33	20	13	13	6.9	
Total Copper		39	15	15	56	32	24	24	12	
Dissolved Lead		SID	SID	SID	SID	SID	SID	SID	SID	
Total Lead		18	SID	10	10	17	4.9	4.9	5.8	
Dissolved Mercury		SID	SID	SID	SID	SID	SID	SID	SID	
Total Mercury		SID	SID	SID	SID	SID	SID	SID	SID	
Dissolved Nickel		SID	SID	SID	3.9	5	SID	SID	SID	
Total Nickel	15	SID	SID	6	9.8	4.7	4.7	SID		
Dissolved Silver	SID	SID	SID	SID	SID	SID	SID	SID		
Total Silver	SID	SID	SID	SID	SID	SID	SID	SID		
Dissolved Zinc	152	SID	44	192	407	66	66	83		
Total Zinc	241	46	79	291	639	138	138	146		
Total Selenium	SID	SID	SID	SID	SID	SID	SID	SID		
Bis(2-ethylhexyl) phthalate		SID	SID	SID	SID	SID	SID	SID	SID	
Benzo(a)pyrene		SID	SID	SID	SID	SID	SID	SID	SID	
Chrysene		SID	SID	SID	SID	SID	SID	SID	SID	
Diazinon		SID	SID	SID	SID	SID	SID	SID	SID	
Dibenz(a,h)anthracene		SID	SID	SID	SID	SID	SID	SID	SID	
Indeno (1,2,3-cd)pyrene		SID	SID	SID	SID	SID	SID	SID	SID	
OC Pesticides & PCBs		SID	SID	SID	SID	SID	SID	SID	SID	
Fecal Coliform		MPN/ 100mL	528750	1397	933333	328750	338220	SID	SID	SID
Fecal Enterococcus			86250	679	610000	32000	98200	SID	SID	SID
Total Coliform			1140000	9187	1366667	692500	454000	SID	SID	SID

SID = Statistically Invalid Data, not enough data above detection limit collected.

Table 4 Summary of Mean Concentrations of Constituents in Stormwater Runoff for Relevant Constituents by Land Use Categories Sampled by the Southern California Coastal Water Research Project (SCWRP) as Part of Technical Report 510 titled “Sources, patterns and mechanisms of stormwater pollutant loading from watersheds and land uses of the greater Los Angeles area, California, USA.”

Constituents	Units	High Density Residential	Low Density Residential	Commercial	Industrial	Recreation	Transportation
Ammonia as N	mg/L	0.56	0.33	1.07	0.76	1.07	0.69
Total Suspended Solids		46.56	95.16	56.87	89.60	361.29	25.29
Benzo(a)pyrene	µg/L	0.160	0.051	0.141	0.063	0.031	0.028
Benzo(b)fluoranthene		0.233	0.042	0.115	0.070	0.064	0.036
Benzo(k)fluoranthene		0.143	0.042	0.135	0.045	0.020	0.027
Cadmium		0.68	0.61	1.15	1.80	0.63	0.55
Copper		24.43	32.34	41.70	72.41	32.85	20.03
Chrysene		0.206	0.060	0.141	0.135	0.066	0.054
Diazinon		0.136	0.153	SID	SID	SID	SID
Dibenz(a,h)anthracene		0.061	0.036	0.069	0.106	0.019	S.I.D
Indeno(1,2,3-c,d)pyrene		0.146	0.102	0.164	0.132	0.032	0.025
Lead		17.16	7.38	23.32	24.48	13.29	4.56
Mercury		1.01	SID	SID	SID	SID	SID
Nickel		5.68	5.75	12.29	14.92	16.19	6.31
Selenium		0.55	SID	SID	SID	SID	SID
Silver		3.08	1.63	1.30	1.04	2.27	0.20
Zinc	173	88.3	372	597	128	162	
Chlordane, alpha-	0.05	SID	SID	SID	SID	SID	
Chlordane, gamma-	0.04	SID	SID	SID	SID	SID	
DDD(o,p')	SID	SID	SID	SID	SID	SID	
DDD(p,p')	SID	SID	SID	SID	SID	SID	
DDE(o,p')	SID	SID	SID	SID	SID	SID	
DDE(p,p')	0.15	0.07	SID	SID	SID	SID	
DDT(o,p')	SID	SID	SID	SID	SID	SID	
DDT(p,p')	SID	0.00	SID	SID	SID	SID	
PCB AROCLOR 1016	SID	SID	SID	SID	SID	SID	
PCB AROCLOR 1221	SID	SID	SID	SID	SID	SID	
PCB AROCLOR 1232	SID	SID	SID	SID	SID	SID	
PCB AROCLOR 1242	SID	SID	SID	SID	SID	SID	
PCB AROCLOR 1248	SID	SID	SID	SID	SID	SID	

Constituents	Units	High Density Residential	Low Density Residential	Commercial	Industrial	Recreation	Transportation
PCB AROCLOR 1254		SID	SID	SID	SID	SID	SID
PCB AROCLOR 1260		SID	SID	SID	SID	SID	SID
<i>E. coli</i>		5615	SID	SID	SID	SID	SID
Enterococcus	MPN/ 100mL	24086	11963	115880	26074	110115	9022
Fecal Coliforms		12651	16968	17704	4214	387629	3091
Total Coliforms		329379	115960	528034	185664	1206826	157852

SID = Statistically Invalid Data, not enough data above detection limit collected

Appendix 3.C Attachment 1

Summary Statistics for Land Use Runoff Water Quality Data

Summary of Stormwater Runoff by Land Use Categories Sampled by the Southern California Coastal Water Research Project (SCCWRP) as Part of Technical Report 510 titled “Sources, patterns and mechanisms of storm water pollutant loading from watersheds and land uses of the greater Los Angeles area, California, USA.”

Parameter Code	Result Units	No. of Samples	No. of Detects	High Density Residential				Low Density Residential				Lower 95th Percentile	Upper 95th Percentile	Lower 95th Percentile	
				Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile				
Acenaphthene	ug/L	42	8	19%	0.04	0.03	0.09	0.02	27	6	22%	0.02	0.01	0.04	0.01
Acenaphthylene	ug/L	42	11	26%	0.02	0.02	0.04	0.01	27	4	15%	0.01	0.01	0.03	0.01
Adirrin	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Aluminum	ug/L	21	21	100%	720.04	237.00	2940.00	108.00	NA	NA	NA	NA	NA	NA	NA
Ammonia as N	mg/L	62	57	92%	0.56	0.49	1.34	0.09	37	29	78%	0.33	0.34	0.57	0.07
Anthracene	ug/L	42	22	52%	0.06	0.03	0.20	0.01	27	10	37%	0.02	0.02	0.05	0.00
Antimony	ug/L	21	12	57%	0.94	0.83	1.48	0.63	NA	NA	NA	NA	NA	NA	NA
Arsenic	ug/L	66	62	94%	1.79	1.40	3.27	0.93	37	30	81%	2.75	2.25	3.82	1.55
Barium	ug/L	21	21	100%	64.61	11.50	140.00	7.35	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	ug/L	42	30	71%	0.15	0.06	0.57	0.01	27	15	56%	0.03	0.01	0.12	0.00
Benz(a)pyrene	ug/L	42	30	71%	0.16	0.08	0.56	0.01	27	13	48%	0.05	0.02	0.19	0.01
Benz(b)fluoranthene	ug/L	42	32	76%	0.23	0.13	0.72	0.02	27	18	67%	0.04	0.02	0.14	0.01
Benz(e)pyrene	ug/L	42	31	74%	0.18	0.11	0.65	0.02	27	16	59%	0.06	0.02	0.27	0.01
Benz(g,h,i)perylene	ug/L	42	22	52%	0.27	0.22	0.70	0.03	27	15	56%	0.07	0.02	0.28	0.01
Benz(k)fluoranthene	ug/L	42	30	71%	0.14	0.08	0.53	0.02	27	17	63%	0.04	0.01	0.15	0.00
Beryllium	ug/L	21	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	ug/L	42	20	48%	0.03	0.02	0.05	0.01	27	8	30%	0.03	0.01	0.12	0.01
Bolstar	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	ug/L	66	27	41%	0.68	0.50	1.51	0.20	37	14	38%	0.61	0.40	1.49	0.20
Chlorane, alpha-	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Chlorane, gamma-	ug/L	33	2	6%	0.04	0.04	NA	NA	16	0	0%	NA	NA	NA	NA
Chlorpyrifos	ug/L	26	0	0%	NA	NA	NA	NA	7	0	0%	NA	NA	NA	NA
Chromium	ug/L	66	56	85%	5.17	3.51	14.55	1.40	37	24	65%	8.27	5.00	19.48	2.31
Chrysene	ug/L	42	39	93%	0.21	0.06	0.78	0.01	27	21	78%	0.06	0.03	0.15	0.01
Cobalt	ug/L	21	8	38%	1.90	1.58	4.12	0.54	NA	NA	NA	NA	NA	NA	NA
Copper	ug/L	66	66	100%	24.43	15.85	60.07	5.35	37	37	100%	32.34	20.00	77.26	8.82
DDD(o,p')	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
DDD(p,p')	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
DDE(o,p')	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
DDE(p,p')	ug/L	33	4	12%	0.15	0.16	0.18	0.10	16	1	6%	0.07	0.07	NA	NA
DDT(o,p')	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
DDT(p,p')	ug/L	33	0	0%	NA	NA	NA	NA	16	1	6%	0.00	0.00	NA	NA
Demeton-S	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	ug/L	26	7	27%	0.14	0.14	0.17	0.10	7	4	57%	0.15	0.16	0.24	0.06
Dibenz(a,h)anthracene	ug/L	42	16	38%	0.06	0.06	0.13	0.01	27	5	19%	0.04	0.01	0.09	0.01
Dibenzothophene	ug/L	19	10	53%	0.02	0.01	0.06	0.01	NA	NA	NA	NA	NA	NA	NA
Dichlorvos	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Dimethoate	ug/L	26	0	0%	NA	NA	NA	NA	6	1	17%	0.05	0.05	NA	NA
Dimethylnaphthalene, 2,6-	ug/L	42	13	31%	0.03	0.02	0.06	0.01	27	5	19%	0.02	0.02	0.05	0.01
Disulfoton	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E Coli	mpn/100mL	24	24	100%	5614.58	3210.00	23744.00	698.50	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Endosulfan II	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA

Parameter Code	Result Units	High Density Residential					Low Density Residential								
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Endosulfan Sulfate	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Endrin	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Endrin Aldehyde	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Endrin Ketone	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Enterococcus	mpn/100mL	72	72	100%	24086.48	8527.00	43019.00	1107.30	42	42	100%	11962.52	6994.00	33414.60	3597.00
Ethoprop	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fecal Coliforms	mpn/100mL	47	47	100%	12650.56	3654.00	33017.51	158.20	42	42	100%	16967.71	2120.00	29433.50	558.70
Fenchlorphos	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fensulfothion	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fenthion	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/L	42	42	100%	0.34	0.09	1.04	0.02	27	26	96%	0.09	0.04	0.28	0.02
Fluorene	ug/L	42	11	26%	0.03	0.03	0.08	0.01	27	8	30%	0.02	0.02	0.03	0.01
HCH, alpha	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
HCH, beta	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
HCH, delta	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
HCH, gamma	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Heptachlor	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Heptachlor Epoxide	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Hexachlorobenzene	ug/L	7	0	0%	NA	NA	NA	NA	10	2	20%	0.03	0.03	NA	NA
Indeno(1,2,3-c)pyrene	ug/L	42	24	57%	0.15	0.10	0.50	0.01	27	8	30%	0.10	0.04	0.40	0.01
Iron	ug/L	66	64	97%	1271.94	430.00	5269.00	120.00	37	37	100%	1996.38	1060.00	4562.00	332.00
Lead	ug/L	66	66	100%	17.16	6.85	64.63	1.60	37	37	100%	7.38	3.40	15.44	1.46
Malathion	ug/L	26	3	12%	0.12	0.11	0.15	0.10	7	4	57%	0.09	0.08	0.14	0.06
Manganese	ug/L	21	20	95%	49.85	17.05	166.15	5.01	NA	NA	NA	NA	NA	NA	NA
Mercury	ug/L	21	1	5%	1.01	1.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
Merphos	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Methylnaphthalene, 1-	ug/L	42	19	45%	0.04	0.02	0.10	0.01	27	14	52%	0.01	0.01	0.03	0.00
Methylnaphthalene, 2-	ug/L	42	24	57%	0.04	0.03	0.11	0.01	27	14	52%	0.02	0.01	0.06	0.00
Methylphenanthrene, 1-	ug/L	42	19	45%	0.03	0.02	0.10	0.01	27	8	30%	0.03	0.01	0.08	0.01
Mevinphos	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Molybdenum	ug/L	21	21	100%	1.25	1.13	2.30	0.72	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ug/L	42	19	45%	0.04	0.04	0.10	0.01	27	18	67%	0.02	0.01	0.06	0.01
Nickel	ug/L	66	51	77%	5.68	5.40	12.95	1.13	37	18	49%	5.75	5.65	8.58	3.03
Nitrate + Nitrite as N	mg/L	29	29	100%	0.52	0.45	1.12	0.07	22	22	100%	0.25	0.24	0.33	0.19
Nitrate as N	mg/L	38	35	92%	0.32	0.27	0.68	0.07	17	16	94%	0.13	0.11	0.24	0.07
Nitrite as N	mg/L	26	7	27%	0.36	0.06	1.38	0.04	7	2	29%	0.04	0.04	NA	NA
Nitrogen, Total Kjeldahl	mg/L	62	62	100%	2.36	1.70	6.00	0.70	37	37	100%	1.86	1.00	4.56	0.30
Nonachlor, trans-	ug/L	33	4	12%	0.05	0.05	0.06	0.03	16	0	0%	NA	NA	NA	NA
Oxychlorane	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Parathion, methyl	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 018	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 028	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 031	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 033	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 037	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA

Parameter Code	Result Units	High Density Residential					Low Density Residential								
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
PCB 044	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 049	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 052	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 066	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 070	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 074	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 077	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 081	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 087	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 095	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 097	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 099	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 101	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 105	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 110	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 114	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 118	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 119	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 123	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 126	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 128	ug/L	7	0	0%	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB 128/167	ug/L	26	0	0%	NA	NA	NA	NA	4	0	0%	NA	NA	NA	NA
PCB 132/168	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 138	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 141	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 149	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 151	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 153	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 156	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 157	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 158	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 167	ug/L	7	0	0%	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB 169	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 170	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 177	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 180	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 183	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 187	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 189	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 194	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 200	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 201	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB 206	ug/L	33	0	0%	NA	NA	NA	NA	14	0	0%	NA	NA	NA	NA
PCB AROCIOR 1016	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCIOR 1221	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCIOR 1232	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCIOR 1242	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter Code	Result Units	High Density Residential					Low Density Residential								
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
PCB AROCLOR 1248	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1254	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1260	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perylene	ug/L	42	17	40%	0.08	0.04	0.25	0.01	27	6	22%	0.02	0.02	0.04	0.01
Phenanthrene	ug/L	42	40	95%	0.27	0.08	0.57	0.02	27	27	100%	0.07	0.04	0.17	0.02
Phorate	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate as P	MG/L	40	32	80%	0.19	0.13	0.43	0.06	22	21	95%	0.09	0.09	0.11	0.06
Phosphorus as P	mg/l	35	17	49%	0.78	0.55	2.22	0.30	17	10	59%	0.71	0.64	0.99	0.57
Pyrene	ug/L	42	41	98%	0.33	0.08	0.98	0.02	27	27	100%	0.09	0.04	0.27	0.01
Selenium	ug/L	21	4	19%	0.55	0.54	0.62	0.50	NA	NA	NA	NA	NA	NA	NA
Silver	ug/L	66	16	24%	3.08	0.70	11.25	0.24	37	7	19%	1.63	1.20	3.75	0.25
Strontium	ug/L	21	21	100%	43.62	30.00	81.60	24.70	NA	NA	NA	NA	NA	NA	NA
Tetrachlorvinphos	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	ug/L	21	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	ug/L	21	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Titanium	ug/L	21	21	100%	33.61	11.50	141.00	5.39	NA	NA	NA	NA	NA	NA	NA
Tokubion	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Coliforms	mpn/100mL	72	72	100%	329379	79305	1299700	10860	42	42	100%	115960	50660	594240	15815
Total Suspended Solids	mg/L	62	60	97%	46.56	18.00	162.05	3.96	38	38	100%	95.16	36.00	220.65	7.51
Toxaphene	ug/L	33	0	0%	NA	NA	NA	NA	16	0	0%	NA	NA	NA	NA
Trichloronate	ug/L	19	0	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trimethylnaphthalene, 1,6,7-	ug/L	19	11	58%	0.04	0.03	0.06	0.01	NA	NA	NA	NA	NA	NA	NA
Trimethylnaphthalene, 2,3,5-	ug/L	23	3	13%	0.04	0.03	0.06	0.03	27	12	44%	0.04	0.03	0.08	0.01
Vanadium	ug/L	21	21	100%	4.56	2.65	11.60	2.05	NA	NA	NA	NA	NA	NA	NA
Zinc	ug/L	66	66	100%	173.22	149.50	580.00	23.77	37	37	100%	88.27	66.00	155.40	31.20

Parameter Code	Result Units	Commercial					Industrial								
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Acenaphthene	ug/L	38	2	5%	0.03	0.03	NA	NA	39	4	10%	0.06	0.06	0.09	0.02
Acenaphthylene	ug/L	38	2	5%	0.03	0.03	NA	NA	39	14	36%	0.04	0.03	0.09	0.01
Aldrin	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Aluminum	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia as N	mg/L	47	44	94%	1.07	0.58	4.72	0.25	55	55	100%	0.76	0.45	2.15	0.23
Anthracene	ug/L	39	14	36%	0.03	0.02	0.07	0.01	39	20	51%	0.03	0.02	0.11	0.00
Antimony	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	ug/L	47	34	72%	2.14	1.80	5.18	1.00	55	50	91%	2.91	2.05	4.80	1.05
Barium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	ug/L	39	23	59%	0.06	0.01	0.25	0.00	39	28	72%	0.05	0.01	0.26	0.01
Benz(a)pyrene	ug/L	38	14	37%	0.14	0.10	0.46	0.01	39	16	41%	0.06	0.03	0.21	0.01
Benz(b)fluoranthene	ug/L	38	19	50%	0.11	0.06	0.40	0.01	39	18	46%	0.07	0.02	0.26	0.01
Benz(e)pyrene	ug/L	39	21	54%	0.14	0.04	0.52	0.01	39	18	46%	0.08	0.03	0.28	0.01
Benz(g,h,i)perylene	ug/L	38	21	55%	0.19	0.08	0.78	0.02	39	21	54%	0.11	0.05	0.29	0.02
Benz(k)fluoranthene	ug/L	38	16	42%	0.14	0.11	0.43	0.01	39	18	46%	0.04	0.02	0.21	0.01
Beryllium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter Code	Result Units	Commercial						Industrial							
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Biphenyl	ug/L	38	15	39%	0.06	0.04	0.15	0.02	39	16	41%	0.04	0.04	0.08	0.00
Boislar	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	ug/L	47	29	62%	1.15	0.90	3.92	0.24	55	49	89%	1.80	2.10	4.50	0.30
Chlordane, alpha-	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Chlordane, gamma-	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Chlorpyrifos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	ug/L	47	26	55%	6.40	3.50	26.00	1.92	55	55	100%	6.54	5.15	14.30	2.27
Chrysene	ug/L	39	28	72%	0.14	0.05	0.51	0.01	39	33	85%	0.13	0.07	0.57	0.02
Cobalt	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	ug/L	47	47	100%	41.70	18.00	165.20	7.46	55	55	100%	72.41	40.50	243.00	7.90
DDD(o,p')	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
DDD(p,p')	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
DDE(o,p')	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
DDT(o,p')	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
DDT(p,p')	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Demeton-S	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ug/L	38	5	13%	0.07	0.04	0.15	0.02	39	4	10%	0.11	0.11	0.18	0.03
Dibenzothioophene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorvos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Dimethoate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylnaphthalene, 2,6-	ug/L	38	10	26%	0.20	0.05	0.70	0.03	39	9	23%	0.05	0.04	0.12	0.02
Disulfoton	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E Coli	mpn/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Endosulfan II	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Endosulfan Sulfate	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Endrin	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Endrin Aldehyde	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Endrin Ketone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Enterococcus	mpn/100mL	51	51	100%	115880.26	8600.00	479150.00	59.80	66	65	98%	26073.52	5200.00	74420.00	736.00
Ethopropr	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fecal Coliforms	mpn/100mL	51	44	86%	17703.84	5298.50	94920.00	12.35	66	65	98%	4213.98	1733.00	15500.00	321.60
Fenchlorphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fensulfothion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fenthion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/L	45	40	89%	0.13	0.03	0.50	0.01	39	34	87%	0.17	0.07	0.62	0.02
Fluorene	ug/L	38	7	18%	0.09	0.06	0.18	0.03	39	9	23%	0.04	0.03	0.12	0.01
HCH, alpha	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
HCH, beta	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
HCH, delta	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
HCH, gamma	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Heptachlor	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Heptachlor Epoxide	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Hexachlorobenzene	ug/L	6	0	0%	NA	NA	NA	NA	9	0	0%	NA	NA	NA	NA

ParameterCode	ResultUnits	Commercial						Industrial							
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Indeno(1,2,3-c,d)pyrene	ug/L	38	12	32%	0.16	0.11	0.54	0.02	39	3	8%	0.13	0.16	0.17	0.08
Iron	ug/L	47	47	100%	1316.38	390.00	7682.00	70.00	55	55	100%	2586.55	1320.00	8044.00	401.00
Lead	ug/L	47	47	100%	23.32	4.20	158.90	0.90	55	55	100%	24.48	19.00	62.43	6.91
Malachion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Merphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Methylnaphthalene, 1-	ug/L	38	11	29%	0.10	0.03	0.33	0.01	39	19	49%	0.04	0.03	0.08	0.01
Methylnaphthalene, 2-	ug/L	38	14	37%	0.13	0.05	0.53	0.01	39	19	49%	0.06	0.05	0.14	0.02
Methylphenanthrene, 1-	ug/L	38	11	29%	0.04	0.04	0.07	0.01	39	28	72%	0.06	0.04	0.16	0.01
Meviphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Molybdenum	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ug/L	38	6	16%	0.07	0.04	0.18	0.01	39	19	49%	0.07	0.05	0.15	0.03
Nickel	ug/L	47	29	62%	12.29	9.50	39.00	3.22	55	52	95%	14.92	16.00	31.35	3.44
Nitrate + Nitrite as N	mg/L	33	32	97%	0.35	0.24	0.80	0.05	50	49	98%	0.32	0.29	0.84	0.04
Nitrate as N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite as N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total Kjeldahl	mg/L	46	46	100%	2.88	1.71	7.92	0.53	55	55	100%	4.32	1.95	13.49	0.51
Nonachlor, trans-	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
Oxychlorane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Parathion, methyl	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 018	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 028	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.07	0.07	NA	NA
PCB 031	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.09	0.09	NA	NA
PCB 033	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.06	0.06	NA	NA
PCB 037	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.03	0.03	NA	NA
PCB 044	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.09	0.09	NA	NA
PCB 049	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.08	0.08	NA	NA
PCB 052	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.08	0.08	NA	NA
PCB 066	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.05	0.05	NA	NA
PCB 070	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.07	0.07	NA	NA
PCB 074	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.03	0.03	NA	NA
PCB 077	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 081	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 087	ug/L	6	0	0%	NA	NA	NA	NA	19	1	5%	0.03	0.03	NA	NA
PCB 095	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.04	0.04	NA	NA
PCB 097	ug/L	6	0	0%	NA	NA	NA	NA	19	1	5%	0.07	0.07	NA	NA
PCB 099	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.02	0.02	NA	NA
PCB 101	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.06	0.06	NA	NA
PCB 105	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 110	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.08	0.08	NA	NA
PCB 114	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 118	ug/L	6	0	0%	NA	NA	NA	NA	19	2	11%	0.07	0.07	NA	NA
PCB 119	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 123	ug/L	6	0	0%	NA	NA	NA	NA	19	0	0%	NA	NA	NA	NA

Parameter Code	Result Units	Commercial						Industrial						
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile
PCB 126	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 128	ug/L	6	0	0%	NA	NA	NA	9	0	0%	NA	NA	NA	NA
PCB 128/167	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB 132/168	ug/L	6	0	0%	NA	NA	NA	19	1	5%	0.01	0.01	NA	NA
PCB 138	ug/L	6	0	0%	NA	NA	NA	19	2	11%	0.08	0.08	NA	NA
PCB 141	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 149	ug/L	6	0	0%	NA	NA	NA	19	1	5%	0.05	0.05	NA	NA
PCB 151	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 153	ug/L	6	0	0%	NA	NA	NA	19	2	11%	0.03	0.03	NA	NA
PCB 156	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 157	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 158	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 167	ug/L	6	0	0%	NA	NA	NA	9	0	0%	NA	NA	NA	NA
PCB 169	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 170	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 177	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 180	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 183	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 187	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 189	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 194	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 200	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 201	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB 206	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA
PCB AROCLOR 1016	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB AROCLOR 1221	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB AROCLOR 1232	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB AROCLOR 1242	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB AROCLOR 1248	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB AROCLOR 1254	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
PCB AROCLOR 1260	ug/L	NA	NA	NA	NA	NA	NA	10	0	0%	NA	NA	NA	NA
Perylene	ug/L	39	13	33%	0.06	0.03	0.20	39	11	28%	0.04	0.03	0.08	0.01
Phenanthrene	ug/L	41	32	78%	0.14	0.04	0.57	39	29	74%	0.21	0.10	0.75	0.02
Phorate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate as P	MG/L	20	20	100%	0.08	0.08	0.14	27	27	100%	0.12	0.09	0.21	0.06
Phosphorus as P	mg/l	27	27	100%	0.99	0.50	2.77	28	28	100%	3.36	0.77	11.57	0.24
Pyrene	ug/L	42	37	88%	0.18	0.04	0.68	39	35	90%	0.20	0.10	0.68	0.02
Selenium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	ug/L	47	15	32%	1.30	1.00	3.21	55	7	13%	1.04	0.70	2.99	0.20
Strontium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorvinphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Titanium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tokuhion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Coliforms	mpn/100mL	51	51	100%	528034	88932	2419200	66	65	98%	185664	88200	876540	4021
Total Suspended Solids	mg/L	47	46	98%	56.87	26.50	275.75	57	57	100%	89.60	43.00	248.60	12.80

Parameter Code	Result Units	Commercial						Industrial							
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Toxaphene	ug/L	6	0	0%	NA	NA	NA	19	0	0%	NA	NA	NA	NA	NA
Trichloronate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trimethylnaphthalene, 1,6,7-	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trimethylnaphthalene, 2,3,5-	ug/L	38	3	8%	0.22	0.20	0.32	39	7	18%	0.05	0.03	0.12	0.02	
Vanadium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	ug/L	47	47	100%	371.98	188.00	1268.00	55	55	100%	597.47	493.50	1279.00	204.40	

Parameter Code	Result Units	Recreation						Transportation						
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile
Acenaphthene	ug/L	11	1	9%	0.01	0.01	NA	20	1	5%	0.08	0.08	NA	NA
Acenaphthylene	ug/L	11	2	18%	0.01	0.01	NA	20	0	0%	NA	NA	NA	NA
Aldrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aluminum	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia as N	mg/L	20	20	100%	1.07	1.06	1.47	20	20	100%	0.69	0.49	1.02	0.32
Anthracene	ug/L	11	8	73%	0.01	0.01	0.03	19	7	37%	0.02	0.01	0.05	0.00
Antimony	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	ug/L	20	20	100%	4.44	4.65	5.61	20	3	15%	3.03	1.20	6.33	1.02
Barium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/L	11	2	18%	0.09	0.09	NA	20	12	60%	0.02	0.02	0.04	0.01
Benzo(a)pyrene	ug/L	11	11	100%	0.03	0.02	0.10	20	11	55%	0.03	0.02	0.07	0.01
Benzo(b)fluoranthene	ug/L	11	11	100%	0.06	0.04	0.19	20	11	55%	0.04	0.02	0.09	0.01
Benzo(e)pyrene	ug/L	11	11	100%	0.04	0.02	0.10	20	12	60%	0.03	0.02	0.05	0.01
Benzo(g,h,i)perylene	ug/L	11	6	55%	0.03	0.02	0.05	20	12	60%	0.05	0.04	0.10	0.02
Benzo(k)fluoranthene	ug/L	11	11	100%	0.02	0.01	0.06	20	10	50%	0.03	0.02	0.05	0.01
Beryllium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	ug/L	11	1	9%	0.01	0.01	NA	20	3	15%	0.02	0.02	0.03	0.01
Bolstar	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	ug/L	20	3	15%	0.63	0.60	0.78	20	10	50%	0.55	0.25	1.76	0.20
Chlordane, alpha-	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane, gamma-	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	ug/L	20	20	100%	15.60	13.50	27.25	20	13	65%	6.42	2.40	24.60	1.18
Chrysene	ug/L	11	11	100%	0.07	0.04	0.18	20	16	80%	0.05	0.04	0.15	0.01
Cobalt	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	ug/L	20	20	100%	32.85	32.00	43.75	20	20	100%	20.03	10.50	37.00	5.96
DDD(o,p')	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDD(p,p')	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDE(o,p')	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDE(p,p')	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDT(o,p')	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DDT(p,p')	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Demeton-S	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ug/L	11	1	9%	0.02	0.02	NA	20	0	0%	NA	NA	NA	NA

ParameterCode	ResultUnits	Recreation						Transportation							
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Dibenzothiophene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorvos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylnaphthalene, 2,6-	ug/L	11	0	0%	NA	NA	NA	NA	NA	20	1	5%	0.05	NA	NA
Disulfoton	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E Coli	mpn/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Enterococcus	mpn/100mL	24	24	100%	110114.50	54850.00	511055.00	15360.60	23	22	96%	9022.32	6107.00	23975.55	2051.45
Ethoprop	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fecal Coliforms	mpn/100mL	24	24	100%	387629.33	448150.00	920250.00	813.30	23	23	100%	3091.17	1000.00	14525.40	21.00
Fenchlorphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fensulfthion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fenthion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/L	11	11	100%	0.11	0.08	0.25	0.06	20	20	100%	0.06	0.05	0.13	0.02
Fluorene	ug/L	11	5	45%	0.01	0.01	0.01	0.01	20	5	25%	0.03	0.03	0.04	0.02
HCH, alpha	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HCH, beta	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HCH, delta	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HCH, gamma	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)pyrene	ug/L	11	7	64%	0.03	0.02	0.08	0.01	20	4	20%	0.02	0.02	0.04	0.01
Iron	ug/L	20	20	100%	12866.00	11200.00	20580.00	6651.50	20	17	85%	377.65	310.00	980.00	38.00
Lead	ug/L	20	20	100%	13.29	11.65	21.95	7.81	20	20	100%	4.56	3.25	8.23	1.59
Malathion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Merpfos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylnaphthalene, 1-	ug/L	11	0	0%	NA	NA	NA	NA	20	1	5%	0.18	0.18	NA	NA
Methylnaphthalene, 2-	ug/L	11	2	18%	0.01	0.01	0.01	0.01	20	1	5%	0.31	0.31	NA	NA
Methylphenanthrene, 1-	ug/L	11	6	55%	0.01	0.01	0.02	0.01	20	8	40%	0.03	0.02	0.07	0.01
Meviphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ug/L	11	0	0%	NA	NA	NA	NA	20	2	10%	0.29	0.29	NA	NA
Nickel	ug/L	20	20	100%	16.19	15.00	25.15	10.94	20	10	50%	6.31	3.25	19.71	2.23
Nitrate + Nitrite as N	mg/L	20	20	100%	1.05	1.00	2.09	0.06	21	18	86%	0.25	0.12	0.64	0.02
Nitrate as N	MG/L	23	23	100%	0.99	0.98	1.74	0.02	NA	NA	NA	NA	NA	NA	NA
Nitrite as N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ParameterCode	ResultUnits	Recreation						Transportation							
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
Nitrogen, Total Kjeldahl	mg/L	20	20	100%	7.11	7.30	9.98	2.37	20	20	100%	2.27	1.20	3.48	0.58
Nonachlor, trans-	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychloridane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Parathion, methyl	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 018	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 028	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 031	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 033	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 037	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 044	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 049	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 052	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 066	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 070	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 074	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 077	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 081	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 087	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 095	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 097	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 099	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 101	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 105	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 110	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 114	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 118	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 119	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 123	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 126	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 128	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 128/167	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 132/168	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 138	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 141	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 149	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 151	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 153	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 156	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 157	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 158	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 167	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 169	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 170	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 177	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 180	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 183	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 187	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter Code	Result Units	Recreation						Transportation							
		No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile	No. of Samples	No. of Detects	Percent Detects	Mean of Detects	Median of Detects	Upper 95th Percentile	Lower 95th Percentile
PCB 189	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 194	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 201	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB 206	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1016	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1221	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1232	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1242	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1248	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1254	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB AROCLOR 1260	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perylene	ug/L	11	6	55%	0.02	0.01	0.03	0.10	0.02	20	4	20%	0.02	0.02	0.04
Phenanthrene	ug/L	11	11	100%	0.05	0.03	0.10	0.02	20	19	95%	0.07	0.05	0.18	0.01
Phorate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate as P	MG/L	44	44	100%	2.45	0.66	6.84	0.02	10	10	100%	0.03	0.03	0.05	0.02
Phosphorus as P	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	10	10	100%	0.71	0.53	1.78
Pyrene	ug/L	11	11	100%	0.09	0.06	0.22	0.05	20	20	100%	0.07	0.07	0.20	0.02
Selenium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	ug/L	20	6	30%	2.27	1.80	4.52	0.83	20	2	10%	0.20	0.20	NA	NA
Strontium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorvinphos	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Titanium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tokuthion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Coliforms	mpn/100mL	24	24	100%	1206826	701550	1705900	11188	23	23	100%	157852	25000	685060	4377
Total Suspended Solids	mg/L	17	17	100%	361.29	300.00	1078.80	131.20	20	17	85%	25.29	18.00	69.60	8.40
Toxaphene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloronate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trimethylnaphthalene, 1,6,7-	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trimethylphthalene, 2,3,5-	ug/L	11	0	0%	NA	NA	NA	NA	20	2	10%	0.03	0.03	NA	NA
Vanadium	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	ug/L	20	20	100%	128.45	125.00	181.55	77.60	20	20	100%	162.30	93.50	311.50	57.45

Notes
 NA = Not enough data above detection limit collected to develop summary statistics.

Summary of Stormwater Runoff by Land Use Categories Sampled by Los Angeles County Department of Public Works and Presented in the 2000 report titled "Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report"

Constituents	Data Included Since	DL	Units	Commercial			Vacant		
				No. of Samples	No. of Non-detects	Percent Detects	No. of Samples	No. of Non-detects	Percent Detects
				Mean	Median	CV	Mean	Median	CV
Cyanide	96	0.01	mg/l	0	S.I.D.	S.I.D.	15	S.I.D.	0
TPH	94	1	mg/l	8	3.1	0.63	21	2.9	0.63
Oil and Grease	94	1	mg/l	8	3.3	0.51	21	2.9	0.51
Total Phenols	94	0.1	mg/l	8	S.I.D.	S.I.D.	21	S.I.D.	S.I.D.
Total Coliform	94	20	MPN/100ml	8	1,140,000	0.71	21	1,250,000	0.71
Fecal Coliform	94	20	MPN/100ml	8	528,750	1.35	21	90,000	1.35
Ratio Fecal Coliform/Total Coliform	94			0	S.I.D.	S.I.D.	7	S.I.D.	S.I.D.
Fecal Streptococcus	94	20	MPN/100ml	8	212,875	1.37	21	150,000	1.37
Fecal Enterococcus	94	0.1	mg/l	33	1.26	2.11	41	0.3	2.11
Ammonia	96	1	mg/l	30	19	11	39	11	0.86
Calcium	96	1	mg/l	30	6.8	0.92	39	3.9	0.92
Magnesium	94	1	mg/l	36	4	2.8	45	2.8	0.81
Potassium	96	1	mg/l	33	37	19	45	19	1.03
Sodium	94	2	mg/l	33	48	21	42	21	0.93
Bicarbonate	94	2	mg/l	33	S.I.D.	S.I.D.	42	S.I.D.	S.I.D.
Carbonate	94	2	mg/l	33	50	15.8	43	15.8	1.28
Chloride	94	0.1	mg/l	33	0.13	0.05	43	0.05	0.81
Fluoride	94	0.1	mg/l	33	2.6	2	43	2	0.63
Nitrate	94	0.1	mg/l	33	1	0	43	0	0.100
Sulfate	94	0.1	mg/l	33	35	11	43	11	1.18
Alkalinity	94	4	mg/l	33	48	21	42	21	0.93
Hardness	96	2	mg/l	30	76	42	39	42	0.87
COD	97	5	mg/l	24	98	89	34	89	0.8
pH	94	0-14		33	7	6.8	42	6.8	0.07
Specific Conductance	94	1	umhos/cm	31	356	167	38	167	0.99
Total Dissolved Solids	96	2	mg/l	29	226	106	36	106	0.93
Turbidity	94	0.1	NTU	33	31	24	41	24	0.67
Total Suspended Solids	96	2	mg/l	29	66	53	39	53	0.65
Volatile Suspended Solids	94	1	mg/l/hr	31	32	29	41	29	0.54
MBAS	97	0.05	mg/l	22	0.18	0.04	30	0.04	1.52
Total Organic Carbon	94	1	mg/l	35	10	7.3	43	7.3	0.74
BOD	94	2	mg/l	26	27	24	39	24	0.58
Dissolved Phosphorus	94	0.05	mg/l	33	0.3	0.19	37	0.19	0.86
Total Phosphorus	94	0.05	mg/l	32	0.39	0.28	39	0.28	0.77
NH3-N	94	0.1	mg/l	33	76	104	41	76	2.11
Nitrate-N	96	0.1	mg/l	31	77	0.43	40	0.43	0.82
Nitrite-N	94	0.1	mg/l	34	79	0.16	43	0.16	1.74
TKN	96	0.1	mg/l	32	3.4	2.2	40	2.2	0.94

Constituents	Data Included Since*	DL	Units	Commercial				Vacant							
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
Dissolved Aluminum	96	100	ug/L	33	24	27	241	50	3.19	42	29	31	190	50	2.39
Total Aluminum	96	100	ug/L	33	8	76	4055	295	4.87	42	13	69	1681	234	5.25
Dissolved Antimony	97	5	ug/L	24	24	0	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Antimony	97	5	ug/L	24	24	0	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Arsenic	97	5	ug/L	24	23	4	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Arsenic	97	5	ug/L	24	22	8	S.I.D.	S.I.D.	S.I.D.	34	32	6	S.I.D.	S.I.D.	S.I.D.
Dissolved Barium	97	10	ug/L	24	2	92	39	33	0.81	34	2	94	57	58	0.41
Total Barium	97	10	ug/L	24	2	92	114	41	2.64	34	2	94	83	62	1.59
Dissolved Beryllium	97	1	ug/L	17	17	0	S.I.D.	S.I.D.	S.I.D.	22	22	0	S.I.D.	S.I.D.	S.I.D.
Total Beryllium	97	1	ug/L	24	23	4	S.I.D.	S.I.D.	S.I.D.	34	33	3	S.I.D.	S.I.D.	S.I.D.
Dissolved Boron	97	100	ug/L	24	3	88	198	188	0.49	32	14	56	121	116	0.65
Total Boron	97	100	ug/L	24	1	96	261	254	0.41	32	8	75	178	170	0.59
Dissolved Cadmium	97	1	ug/L	24	21	13	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Cadmium	97	1	ug/L	24	19	21	0.73	0.5	0.71	34	34	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Chromium	97	5	ug/L	24	24	0	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Chromium	97	5	ug/L	24	18	25	27	2.5	4.18	34	33	3	S.I.D.	S.I.D.	S.I.D.
Dissolved Chromium +6	94	10	ug/L	33	33	0	S.I.D.	S.I.D.	S.I.D.	41	41	0	S.I.D.	S.I.D.	S.I.D.
Total Chromium +6	94	10	ug/L	33	33	0	S.I.D.	S.I.D.	S.I.D.	41	41	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Copper	97	5	ug/L	24	3	88	14	11	0.84	34	31	9	S.I.D.	S.I.D.	S.I.D.
Total Copper	97	5	ug/L	24	0	100	39	22	1.57	34	15	56	15	5.5	3.14
Dissolved Iron	94	100	ug/L	39	17	56	382	106	2.81	45	35	22	202	50	3.27
Total Iron	94	100	ug/L	40	2	95	5319	587	5.24	45	14	69	3003	233	5.23
Dissolved Lead	97	5	ug/L	24	20	17	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Lead	97	5	ug/L	24	15	38	18	2.5	2.8	34	31	9	S.I.D.	S.I.D.	S.I.D.
Dissolved Manganese	98	100	ug/L	14	14	0	S.I.D.	S.I.D.	S.I.D.	18	18	0	S.I.D.	S.I.D.	S.I.D.
Total Manganese	98	100	ug/L	14	13	7	S.I.D.	S.I.D.	S.I.D.	18	14	22	67	50	0.48
Dissolved Mercury	94	1	ug/L	37	35	5	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Total Mercury	94	1	ug/L	37	35	5	S.I.D.	S.I.D.	S.I.D.	43	42	2	S.I.D.	S.I.D.	S.I.D.
Dissolved Nickel	97	5	ug/L	24	21	13	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Nickel	97	5	ug/L	24	16	33	15	2.5	3.69	34	29	15	S.I.D.	S.I.D.	S.I.D.
Dissolved Selenium	94	5	ug/L	40	40	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Total Selenium	94	5	ug/L	40	35	13	S.I.D.	S.I.D.	S.I.D.	45	44	2	S.I.D.	S.I.D.	S.I.D.
Dissolved Silver	97	1	ug/L	24	23	4	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Silver	97	1	ug/L	24	22	8	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Thallium	97	5	ug/L	24	24	0	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Thallium	97	5	ug/L	24	24	0	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Zinc	94	50	ug/L	40	4	90	152	130	0.66	45	43	4	S.I.D.	S.I.D.	S.I.D.
Total Zinc	94	50	ug/L	40	0	100	241	192	0.71	45	33	27	46	25	1.67
Bis(2-ethylhexyl)phthalate	99	1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Acenaphthene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since*	DL	Units	Commercial			Vacant							
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median
Acenaphthylene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.	S.I.D.
Antracene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Benzo(a)anthracene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Benzo(e)pyrene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Benzo(b)fluoranthene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Benzo(k)fluoranthene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Chrysene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Dibenz(a,h)anthracene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Fluoranthene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.	S.I.D.
Fluorene	99	0.1	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Indeno(1,2,3-cd)pyrene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.	S.I.D.
Naphthalene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.	S.I.D.
Phenanthrene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.	S.I.D.
Pyrene	99	0.05	ug/L	0	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.	S.I.D.
All other SVOCs	94	0.05-5.0	ug/L	23	23	0	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Organochlorine Pesticides & PCBs	94	0.05-1.0	ug/L	19	19	0	S.I.D.	S.I.D.	38	38	0	S.I.D.	S.I.D.	S.I.D.
Carbofuran	96	5	ug/L	28	28	0	S.I.D.	S.I.D.	38	38	0	S.I.D.	S.I.D.	S.I.D.
Glyphosate	98	25	ug/L	14	14	0	S.I.D.	S.I.D.	18	18	0	S.I.D.	S.I.D.	S.I.D.
Diazinon	96	0.01	ug/L	24	21	13	S.I.D.	S.I.D.	36	36	0	S.I.D.	S.I.D.	S.I.D.
Chlorpyrifos	96	0.05	ug/L	24	24	0	S.I.D.	S.I.D.	36	36	0	S.I.D.	S.I.D.	S.I.D.
Thiobencarb	96	1	ug/L	24	24	0	S.I.D.	S.I.D.	36	36	0	S.I.D.	S.I.D.	S.I.D.
All other N- and P- Pesticides	94	1.0-2.0	ug/L	28	28	0	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.	S.I.D.
2,4-D	96	10	ug/L	17	17	0	S.I.D.	S.I.D.	35	35	0	S.I.D.	S.I.D.	S.I.D.
2,4,5-TP	96	1	ug/L	17	17	0	S.I.D.	S.I.D.	35	35	0	S.I.D.	S.I.D.	S.I.D.
Bentazon	96	2	ug/L	17	17	0	S.I.D.	S.I.D.	35	35	0	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since*	DL	Units	Transportation			Light Industrial								
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
Cyanide	96	0.01	mg/l	0	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	
TPH	94	1	mg/l	4	0	100	3.1	2.8	0.47	5	1	80	1.7	1.4	0.68
Oil and Grease	94	1	mg/l	4	0	100	3.1	2.8	0.47	5	1	80	1.7	1.4	0.68
Total Phenols	94	0.1	mg/l	4	4	0	S.I.D.	S.I.D.	S.I.D.	5	5	0	S.I.D.	S.I.D.	S.I.D.
Total Coliform	94	20	MPN/100ml	4	0	100	692,500	600,000	0.82	5	0	100	454,000	160,000	1.42
Fecal Coliform	94	20	MPN/100ml	4	0	100	328,750	205,000	1.22	5	0	100	338,220	30,000	2.09
Ratio Fecal Coliform/Total Coliform	94			0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Streptococcus	94	20	MPN/100ml	4	0	100	176,000	195,000	0.68	5	0	100	253,000	160,000	1.46
Fecal Enterococcus	94	20	MPN/100ml	4	0	100	32,000	32,000	0.65	5	0	100	98,200	130,000	0.73
Ammonia	94	0.1	mg/l	62	16	74	0.29	0.16	1.52	47	7	85	0.59	0.32	1.35
Calcium	96	1	mg/l	61	0	100	8.4	7.7	0.46	40	0	100	12	8.8	1.01
Magnesium	96	1	mg/l	61	4	93	1.6	1.5	0.48	40	0	100	2.3	1.9	1.13

Constituents	Data Included Since ^a	DL	Units	Transportation			Light Industrial			CV	Mean	Median	CV		
				No. of Samples	No. of Non-detects	Percent Detects	No. of Samples	No. of Non-detects	Percent Detects						
Potassium	94	1	mg/l	63	2	97	2.1	1.7	0.56	50	1	98	2.7	2.2	0.59
Sodium	96	1	mg/l	62	0	100	8.3	6.4	0.81	47	0	100	14	12	0.69
Bicarbonate	94	2	mg/l	63	0	100	20	18	0.57	47	0	100	26	20	0.92
Carbonate	94	2	mg/l	63	63	0	S.I.D.	S.I.D.	S.I.D.	47	47	0	S.I.D.	S.I.D.	S.I.D.
Chloride	94	2	mg/l	64	3	95	5.6	4.4	0.82	47	0	100	12	8.6	0.8
Fluoride	94	0.1	mg/l	64	41	36	0.1	0.05	0.97	47	22	53	0.13	0.11	0.94
Nitrate	94	0.1	mg/l	64	2	97	2.9	1.8	1.27	47	0	100	4.1	2.4	1.09
Sulfate	94	0.1	mg/l	64	0	100	9.5	6.4	1.07	47	0	100	12.6	9.2	1.02
Alkalinity	94	4	mg/l	63	0	100	20	16	0.55	47	0	100	25	19	0.94
Hardness	96	2	mg/l	61	0	100	27	24	0.46	40	0	100	39	30	1.02
COD	97	5	mg/l	52	7	87	50	33	0.99	36	4	89	80	51	0.92
pH	94	0-14		63	0	100	6.7	6.6	0.05	47	0	100	6.8	6.8	0.06
Specific Conductance	94	1	umhos/cm	63	0	100	99	84	0.66	43	0	100	147	119	0.77
Total Dissolved Solids	96	2	mg/l	61	0	100	62	54	0.69	40	0	100	95	77	0.8
Turbidity	94	0.1	NTU	64	0	100	31	22	1.25	47	0	100	76	55	1.59
Total Suspended Solids	96	2	mg/l	61	0	100	78	50	1.3	41	0	100	240	129	1.36
Volatile Suspended Solids	94	1	mg/l/hr	63	1	98	31	20	1.22	43	0	100	57	46	0.79
MBAS	97	0.05	mg/l	51	30	41	2.6	0.025	6.95	32	10	69	0.13	0.11	0.9
Total Organic Carbon	94	1	mg/l	63	0	100	8.7	6.8	0.71	47	0	100	11.9	9.8	0.77
BOD	94	2	mg/l	54	0	100	21	19	0.8	37	0	100	20	17	0.67
Dissolved Phosphorus	94	0.05	mg/l	59	3	95	0.34	0.28	0.79	46	4	91	0.27	0.2	1.01
Total Phosphorus	94	0.05	mg/l	59	1	98	0.44	0.32	0.84	45	2	96	0.41	0.3	0.92
NH3-N	94	0.1	mg/l	62	19	69	0.24	0.14	1.51	48	9	81	0.48	0.26	1.36
Nitrate-N	96	0.1	mg/l	61	15	75	0.7	0.4	1.68	43	2	95	0.87	0.52	1.32
Nitrite-N	94	0.1	mg/l	64	10	84	0.09	0.06	0.72	47	9	81	0.09	0.06	0.73
TKN	96	0.1	mg/l	61	0	100	1.9	1.3	0.93	45	0	100	3	2.3	0.72
Dissolved Aluminum	96	100	ug/L	62	29	53	159	107	1.18	47	23	51	460	117	1.96
Total Aluminum	96	100	ug/L	63	10	84	672	354	1.65	47	7	85	1824	470	2.37
Dissolved Antimony	97	5	ug/L	54	53	2	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Total Antimony	97	5	ug/L	54	53	2	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Arsenic	97	5	ug/L	54	54	0	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Total Arsenic	97	5	ug/L	54	52	4	S.I.D.	S.I.D.	S.I.D.	37	34	8	S.I.D.	S.I.D.	S.I.D.
Dissolved Barium	97	10	ug/L	54	15	72	19	17	0.75	37	6	84	34	26	0.81
Total Barium	97	10	ug/L	54	9	83	34	27	0.88	37	4	89	68	36	1.38
Dissolved Beryllium	97	1	ug/L	40	40	0	S.I.D.	S.I.D.	S.I.D.	34	34	0	S.I.D.	S.I.D.	S.I.D.
Total Beryllium	97	1	ug/L	54	54	0	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Boron	97	100	ug/L	54	16	70	146	132	0.55	37	18	51	122	102	0.71
Total Boron	97	100	ug/L	54	5	91	219	214	0.5	36	10	72	187	181	0.63
Dissolved Cadmium	97	1	ug/L	54	50	7	S.I.D.	S.I.D.	S.I.D.	37	34	8	S.I.D.	S.I.D.	S.I.D.
Total Cadmium	97	1	ug/L	54	32	41	1.1	0.5	1.04	37	30	19	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since ^a	DL	Units	Transportation				Light Industrial							
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
Dissolved Chromium	97	5	ug/L	54	51	6	S.I.D.	S.I.D.	S.I.D.	37	33	11	S.I.D.	S.I.D.	S.I.D.
Total Chromium	97	5	ug/L	54	40	26	4.8	2.5	1.15	37	25	32	6.8	2.5	1.6
Dissolved Chromium +6	94	10	ug/L	63	63	0	S.I.D.	S.I.D.	S.I.D.	47	47	0	S.I.D.	S.I.D.	S.I.D.
Total Chromium +6	94	10	ug/L	63	63	0	S.I.D.	S.I.D.	S.I.D.	47	47	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Copper	97	5	ug/L	54	0	100	33	27	0.63	37	5	86	20	14	1.07
Total Copper	97	5	ug/L	54	0	100	56	39	1.15	37	0	100	32	21	1.03
Dissolved Iron	94	100	ug/L	65	34	48	200	50	1.9	51	25	51	698	104	2.99
Total Iron	94	100	ug/L	65	2	97	1188	512	1.74	51	5	90	6504	600	4.26
Dissolved Lead	97	5	ug/L	54	48	11	S.I.D.	S.I.D.	S.I.D.	37	32	14	S.I.D.	S.I.D.	S.I.D.
Total Lead	97	5	ug/L	54	29	46	10	2.5	1.57	37	18	51	17	5.1	1.88
Dissolved Manganese	98	100	ug/L	27	25	7	S.I.D.	S.I.D.	S.I.D.	26	23	12	S.I.D.	S.I.D.	S.I.D.
Total Manganese	98	100	ug/L	27	25	7	S.I.D.	S.I.D.	S.I.D.	26	23	12	S.I.D.	S.I.D.	S.I.D.
Dissolved Mercury	94	1	ug/L	63	63	0	S.I.D.	S.I.D.	S.I.D.	48	48	0	S.I.D.	S.I.D.	S.I.D.
Total Mercury	94	1	ug/L	63	62	2	S.I.D.	S.I.D.	S.I.D.	48	45	6	S.I.D.	S.I.D.	S.I.D.
Dissolved Nickel	97	5	ug/L	54	41	24	3.9	2.5	0.93	37	23	38	5	2.5	0.9
Total Nickel	97	5	ug/L	54	29	46	6	2.5	1.07	37	15	59	9.8	6	1.47
Dissolved Selenium	94	5	ug/L	65	65	0	S.I.D.	S.I.D.	S.I.D.	51	51	0	S.I.D.	S.I.D.	S.I.D.
Total Selenium	94	5	ug/L	65	61	6	S.I.D.	S.I.D.	S.I.D.	51	48	6	S.I.D.	S.I.D.	S.I.D.
Dissolved Silver	97	1	ug/L	54	54	0	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Total Silver	97	1	ug/L	54	54	0	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Thallium	97	5	ug/L	54	54	0	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Total Thallium	97	5	ug/L	54	54	0	S.I.D.	S.I.D.	S.I.D.	37	37	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Zinc	94	50	ug/L	65	5	92	192	152	0.74	51	3	94	407	303	1.18
Total Zinc	94	50	ug/L	65	0	100	291	218	0.99	51	0	100	639	366	1.53
Bis(2-ethylhexyl)phthalate	99	1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Acenaphthene	99	0.05	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Acenaphthylene	99	0.05	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Anthracene	99	0.05	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Benzo(a)anthracene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Benzo(a)pyrene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Benzo(b)fluoranthene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Benzo(k)fluoranthene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Chrysene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Dibenz(a,h)anthracene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Fluoranthene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Fluorene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Indeno(1,2,3-cd)pyrene	99	0.1	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Naphthalene	99	0.05	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Phenanthrene	99	0.05	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.
Pyrene	99	0.05	ug/L	1	1	0	S.I.D.	S.I.D.	S.I.D.	1	1	0	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since*	DL	Units	Transportation			Light Industrial								
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
All other SVOCs	94	0.05-5.0	ug/L	40	40	0	S.I.D.	S.I.D.	S.I.D.	24	24	0	S.I.D.	S.I.D.	S.I.D.
Organochlorine Pesticides & PCBs	94	0.05-1.0	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	20	20	0	S.I.D.	S.I.D.	S.I.D.
Carbofuran	96	5	ug/L	60	60	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Glyphosate	98	25	ug/L	27	25	7	S.I.D.	S.I.D.	S.I.D.	26	26	0	S.I.D.	S.I.D.	S.I.D.
Diazinon	96	0.01	ug/L	57	56	2	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
Chlorpyrifos	96	0.05	ug/L	57	57	0	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
Thiobencarb	96	1	ug/L	57	57	0	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
All other N- and P- Pesticides	94	1.0-2.0	ug/L	58	58	0	S.I.D.	S.I.D.	S.I.D.	43	43	0	S.I.D.	S.I.D.	S.I.D.
2,4-D	96	10	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	22	22	0	S.I.D.	S.I.D.	S.I.D.
2,4,5-TP	96	1	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	22	22	0	S.I.D.	S.I.D.	S.I.D.
Bentazon	96	2	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	22	22	0	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since*	DL	Units	Multifamily Residential			Mixed Residential								
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
Cyanide	96	0.01	mg/l	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
TPH	94	1	mg/l	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Oil and Grease	94	1	mg/l	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Total Phenols	94	0.1	mg/l	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Total Coliform	94	20	MPN/100ml	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Coliform	94	20	MPN/100ml	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Ratio Fecal Coliform/Total Coliform	94			0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Streptococcus	94	20	MPN/100ml	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Enterococcus	94	20	MPN/100ml	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Ammonia	94	0.1	mg/l	38	9	76	0.47	0.29	1.44	42	4	90	0.67	0.39	1.13
Calcium	96	1	mg/l	35	0	100	19.3	8	1.2	39	1	97	7.5	6.4	0.7
Magnesium	96	1	mg/l	35	9	74	3.3	1.9	1.24	39	7	82	1.7	1.5	0.82
Potassium	94	1	mg/l	44	4	91	2.3	2.1	0.65	45	6	87	2.2	2.1	0.89
Sodium	96	1	mg/l	44	1	98	10	5.4	1.2	45	2	96	6.5	4.8	1.31
Bicarbonate	94	2	mg/l	39	0	100	39	17	1.19	40	0	100	17	14	0.82
Carbonate	94	2	mg/l	39	39	0	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
Chloride	94	2	mg/l	37	8	78	13	3	1.49	38	10	74	3.5	2.7	0.93
Fluoride	94	0.1	mg/l	37	20	46	0.16	0.05	1.07	38	25	34	0.11	0.05	0.98
Nitrate	94	0.1	mg/l	37	1	97	5.3	3.6	0.87	38	3	92	6.8	2.3	3.74
Sulfate	94	0.1	mg/l	37	0	100	15	4.1	1.52	38	0	100	7.4	5	0.94
Alkalinity	94	4	mg/l	39	0	100	37	17	1.18	40	0	100	16	14	0.73
Hardness	96	2	mg/l	35	0	100	55	26	1.11	39	1	97	25	20	0.75
COD	97	5	mg/l	43	6	86	60	26	2.02	45	8	82	64	34	1.27
pH	94	0-14		39	0	100	6.9	6.6	0.1	40	0	100	6.5	6.4	0.05
Specific Conductance	94	1	umhos/cm	33	0	100	169	61	1.18	40	1	98	85	58	0.85
Total Dissolved Solids	96	2	mg/l	33	0	100	105	42	1.19	40	1	98	53	37	0.88

Constituents	Data Included Since*	DL	Units	Multifamily Residential			Mixed Residential								
				No. of Samples	No. of Non-detects	Percent Detects	No. of Samples	No. of Non-detects	Percent Detects						
			Mean	Median	CV	Mean	Median	CV							
Turbidity	94	0.1	NTU	39	0	100	23	10	1.55	40	0	100	21	15	1.06
Total Suspended Solids	96	2	mg/l	36	1	97	46	24	1.41	38	0	100	63	40	1.19
Volatile Suspended Solids	94	1	mg/l/hr	36	2	94	19	13	1.01	37	2	95	35	25	1.33
MBAS	97	0.05	mg/l	36	26	28	0.049	0.025	1.13	39	25	36	0.068	0.025	1.86
Total Organic Carbon	94	1	mg/l	37	0	100	6.9	6	0.85	43	0	100	8.8	6.8	0.74
BOD	94	2	mg/l	31	2	94	11	9	0.91	34	0	100	18	14	0.9
Dissolved Phosphorus	94	0.05	mg/l	30	1	97	0.16	0.1	1.04	39	2	95	0.2	0.14	0.87
Total Phosphorus	94	0.05	mg/l	30	1	97	0.19	0.14	1	39	1	97	0.26	0.18	0.99
NH3-N	94	0.1	mg/l	38	9	76	0.39	0.24	1.43	42	5	88	0.56	0.33	1.13
Nitrate-N	96	0.1	mg/l	37	12	68	1.1	0.8	1.01	38	13	66	0.55	0.44	0.91
Nitrite-N	94	0.1	mg/l	37	10	73	0.1	0.05	1.65	38	7	82	0.12	0.06	1.47
TKN	96	0.1	mg/l	41	0	100	2	1.5	1.11	43	1	98	2.5	1.7	0.95
Dissolved Aluminum	96	100	ug/L	45	33	27	115	50	1.58	44	33	158	182	50	2.72
Total Aluminum	96	100	ug/L	45	5	89	387	300	0.91	45	6	87	513	271	1.89
Dissolved Antimony	97	5	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Total Antimony	97	5	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	44	2	S.I.D.	S.I.D.	S.I.D.
Dissolved Arsenic	97	5	ug/L	45	44	2	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Total Arsenic	97	5	ug/L	45	44	2	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Barium	97	10	ug/L	45	18	60	20	14	0.92	45	19	58	18	14	1.11
Total Barium	97	10	ug/L	45	13	71	25	20	0.81	45	12	73	29	22	1.45
Dissolved Beryllium	97	1	ug/L	31	31	0	S.I.D.	S.I.D.	S.I.D.	31	31	0	S.I.D.	S.I.D.	S.I.D.
Total Beryllium	97	1	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Boron	97	100	ug/L	42	12	71	148	128	0.65	44	21	52	114	111	0.66
Total Boron	97	100	ug/L	43	7	84	202	168	0.58	44	11	75	164	161	0.58
Dissolved Cadmium	97	1	ug/L	45	44	2	S.I.D.	S.I.D.	S.I.D.	45	43	4	S.I.D.	S.I.D.	S.I.D.
Total Cadmium	97	1	ug/L	45	44	2	S.I.D.	S.I.D.	S.I.D.	45	43	4	S.I.D.	S.I.D.	S.I.D.
Dissolved Chromium	97	5	ug/L	45	43	4	S.I.D.	S.I.D.	S.I.D.	45	44	2	S.I.D.	S.I.D.	S.I.D.
Total Chromium	97	5	ug/L	45	39	13	S.I.D.	S.I.D.	S.I.D.	45	42	7	S.I.D.	S.I.D.	S.I.D.
Dissolved Chromium +6	94	10	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Total Chromium +6	94	10	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Copper	97	5	ug/L	45	20	56	6.9	5	0.91	45	17	62	12	8	1.42
Total Copper	97	5	ug/L	45	4	91	12	12	0.54	45	1	98	19	13	1.29
Dissolved Iron	94	100	ug/L	45	33	27	194	50	2.4	45	33	27	353	50	3.45
Total Iron	94	100	ug/L	45	9	80	791	350	2.14	45	10	78	1475	400	2.67
Dissolved Lead	97	5	ug/L	45	41	9	S.I.D.	S.I.D.	S.I.D.	45	40	11	S.I.D.	S.I.D.	S.I.D.
Total Lead	97	5	ug/L	45	31	31	5.8	2.5	1.48	45	23	49	11	2.5	2.6
Dissolved Manganese	98	100	ug/L	21	21	0	S.I.D.	S.I.D.	S.I.D.	20	18	10	S.I.D.	S.I.D.	S.I.D.
Total Manganese	98	100	ug/L	21	20	5	S.I.D.	S.I.D.	S.I.D.	20	18	10	S.I.D.	S.I.D.	S.I.D.
Dissolved Mercury	94	1	ug/L	40	40	0	S.I.D.	S.I.D.	S.I.D.	44	44	0	S.I.D.	S.I.D.	S.I.D.
Total Mercury	94	1	ug/L	40	40	0	S.I.D.	S.I.D.	S.I.D.	44	44	0	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since ^a	DL	Units	Multifamily Residential			Mixed Residential			CV	Mean	Median	CV	
				No. of Samples	No. of Non-detects	Percent Detects	No. of Samples	No. of Non-detects	Percent Detects					
Dissolved Nickel	97	5	ug/L	45	44	2	S.I.D.	S.I.D.	S.I.D.	45	42	7	S.I.D.	S.I.D.
Total Nickel	97	5	ug/L	45	39	13	S.I.D.	S.I.D.	S.I.D.	45	42	7	S.I.D.	S.I.D.
Dissolved Selenium	94	5	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.
Total Selenium	94	5	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	44	2	S.I.D.	S.I.D.
Dissolved Silver	97	1	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.
Total Silver	97	1	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.
Dissolved Thallium	97	5	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.
Total Thallium	97	5	ug/L	45	45	0	S.I.D.	S.I.D.	S.I.D.	45	45	0	S.I.D.	S.I.D.
Dissolved Zinc	94	50	ug/L	45	21	53	83	53	1.53	45	9	80	133	89
Total Zinc	94	50	ug/L	45	5	89	146	89	1.37	45	1	98	203	125
Bis(2-ethylhexyl)phthalate	99	1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Acenaphthene	99	0.05	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.
Acenaphthylene	99	0.05	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Anthracene	99	0.05	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Benzo(a)anthracene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	4	43	0.38	0.05
Benzo(a)pyrene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Benzo(b)fluoranthene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.
Benzo(k)fluoranthene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	6	14	S.I.D.	S.I.D.
Chrysene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	2	71	0.62	0.3
Dibenz(a,h)anthracene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Fluoranthene	99	0.1	ug/L	6	4	33	0.17	0.05	1.54	7	2	71	0.29	0.27
Fluorene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Indeno(1,2,3-cd)pyrene	99	0.1	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Naphthalene	99	0.05	ug/L	6	6	0	S.I.D.	S.I.D.	S.I.D.	7	7	0	S.I.D.	S.I.D.
Phenanthrene	99	0.05	ug/L	6	4	33	0.21	0.025	2.08	7	2	71	0.5	0.24
Pyrene	99	0.05	ug/L	6	4	33	0.2	0.025	1.95	7	2	71	0.35	0.3
All other SVOCs	94	0.05-5.0	ug/L	30	30	0	S.I.D.	S.I.D.	S.I.D.	33	33	0	S.I.D.	S.I.D.
Organochlorine Pesticides & PCBs	94	0.05-1.0	ug/L	36	36	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
Carbolfuran	96	5	ug/L	43	43	0	S.I.D.	S.I.D.	S.I.D.	44	44	0	S.I.D.	S.I.D.
Glyphosate	98	25	ug/L	21	20	5	S.I.D.	S.I.D.	S.I.D.	20	20	0	S.I.D.	S.I.D.
Diazinon	96	0.01	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	39	33	15	S.I.D.	S.I.D.
Chlorpyrifos	96	0.05	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
Thiobencarb	96	1	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
All other N- and P- Pesticides	94	1.0-2.0	ug/L	37	37	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
2,4-D	96	10	ug/L	33	33	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
2,4,5-TP	96	1	ug/L	33	33	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
Benfazon	96	2	ug/L	33	33	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.

Constituents	Data Included Since	DL	Units	High Density Single Family Residential				Educational							
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
Cyanide	96	0.01	mg/l	0	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.	S.I.D.
TPH	94	1	mg/l	3	0	100	1.3	1.2	0.23	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Oil and Grease	94	1	mg/l	3	0	100	1.3	1.2	0.23	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Total Phenols	94	0.1	mg/l	3	3	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Total Coliform	94	20	MPN/100ml	3	0	100	1,366,667	1,600,000	0.3	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Coliform	94	20	MPN/100ml	3	0	100	933,333	900,000	0.7	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Ratio Fecal Coliform/Total Coliform	94	20	MPN/100ml	3	0	100	1,233,333	1,600,000	0.51	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Streptococcus	94	20	MPN/100ml	3	0	100	610,000	140,000	1.41	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Fecal Enterococcus	94	0.1	mg/l	34	6	82	0.41	0.3	1.05	40	12	70	0.33	0.18	1.62
Ammonia	96	1	mg/l	32	1	97	6.7	5.8	0.55	39	0	100	16	10	0.71
Calcium	96	1	mg/l	32	8	75	1.5	1.2	0.66	39	8	79	3.2	2.4	0.96
Magnesium	94	1	mg/l	38	0	100	3.6	2.9	0.66	41	0	100	3.4	2.7	0.49
Potassium	96	1	mg/l	36	0	100	6.2	5	0.81	41	0	100	26	8	2.21
Sodium	94	2	mg/l	35	0	100	21	13	1.04	40	0	100	39	28	0.76
Bicarbonate	94	2	mg/l	35	0	100	21	13	1.04	40	0	100	39	28	0.76
Carbonate	94	2	mg/l	35	35	0	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
Chloride	94	2	mg/l	33	2	94	5	4.2	0.69	40	4	90	34	4.6	2.89
Fluoride	94	0.1	mg/l	33	27	18	S.I.D.	S.I.D.	S.I.D.	40	24	40	0.14	0.05	1.21
Nitrate	94	0.1	mg/l	33	1	97	3.9	2.1	1.38	40	2	95	2.6	2.2	0.73
Sulfate	94	0.1	mg/l	33	0	100	6.9	3.8	1.05	40	0	100	17.3	9.3	1.23
Alkalinity	94	4	mg/l	35	0	100	20	13	0.91	40	0	100	36	26	0.72
Hardness	96	2	mg/l	31	0	100	23	20	0.53	39	0	100	52	40	0.79
COD	97	5	mg/l	32	5	84	89	39	1.87	40	10	75	37	34	0.85
pH	94	0-14	umhos/cm	35	0	100	6.5	6.5	0.06	40	0	100	7	6.9	0.07
Specific Conductance	94	1	umhos/cm	33	0	100	90	61	0.77	39	0	100	243	111	1.41
Total Dissolved Solids	96	2	mg/l	32	0	100	58	38	0.8	39	0	100	147	68	1.35
Turbidity	94	0.1	NTU	34	0	100	34	19	1.17	41	0	100	64	36	1.14
Total Suspended Solids	96	2	mg/l	30	0	100	95	61	1.16	39	0	100	95	61	1.05
Volatle Suspended Solids	94	1	mg/l/hr	31	0	100	48	31	0.91	39	0	100	23	21	0.69
MBAS	97	0.05	mg/l	29	26	10	S.I.D.	S.I.D.	S.I.D.	38	33	13	S.I.D.	S.I.D.	S.I.D.
Total Organic Carbon	94	1	mg/l	38	0	100	9.8	7.1	0.76	42	0	100	7.5	6.5	0.5
BOD	94	2	mg/l	27	0	100	16	15	0.68	34	0	100	13	12	0.68
Dissolved Phosphorus	94	0.05	mg/l	32	0	100	0.29	0.25	0.57	37	1	97	0.27	0.2	0.86
Total Phosphorus	94	0.05	mg/l	32	0	100	0.39	0.32	0.77	37	0	100	0.31	0.23	0.65
NH3-N	94	0.1	mg/l	34	7	79	0.34	0.25	1.04	40	12	70	0.28	0.15	1.58
Nitrate-N	96	0.1	mg/l	32	11	66	0.86	0.46	1.51	39	12	69	0.51	0.48	0.86
Nitrite-N	94	0.1	mg/l	33	12	64	0.1	0.05	1.01	39	13	67	0.09	0.05	1.41
TKN	96	0.1	mg/l	35	0	100	2.9	2	1.04	39	0	100	1.6	1.3	0.73
Dissolved Aluminum	96	100	mg/l	36	26	28	105	50	1.03	42	11	74	397	248	1.21
Total Aluminum	96	100	mg/l	36	6	83	599	287	1.08	42	2	95	881	720	0.83

Constituents	Data Included Since	DL	Units	High Density Single Family Residential				Educational							
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV
Dissolved Antimony	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Total Antimony	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Arsenic	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	39	7	S.I.D.	S.I.D.	S.I.D.
Total Arsenic	97	5	mg/l	32	29	9	S.I.D.	S.I.D.	S.I.D.	42	39	7	S.I.D.	S.I.D.	S.I.D.
Dissolved Barium	97	10	mg/l	32	17	47	14	5	0.92	42	6	86	28	26	0.72
Total Barium	97	10	mg/l	32	11	66	21	21	0.72	42	6	86	37	33	0.74
Dissolved Beryllium	97	1	mg/l	19	19	0	S.I.D.	S.I.D.	S.I.D.	29	29	0	S.I.D.	S.I.D.	S.I.D.
Total Beryllium	97	1	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Boron	97	100	mg/l	32	12	63	126	125	0.58	42	5	88	189	153	0.65
Total Boron	97	100	mg/l	32	5	84	181	171	0.52	42	4	90	254	227	0.58
Dissolved Cadmium	97	1	mg/l	32	31	3	S.I.D.	S.I.D.	S.I.D.	42	40	5	S.I.D.	S.I.D.	S.I.D.
Total Cadmium	97	1	mg/l	32	30	6	S.I.D.	S.I.D.	S.I.D.	42	34	19	S.I.D.	S.I.D.	S.I.D.
Dissolved Chromium	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	41	2	S.I.D.	S.I.D.	S.I.D.
Total Chromium	97	5	mg/l	32	29	9	S.I.D.	S.I.D.	S.I.D.	42	33	21	3.6	2.5	0.74
Dissolved Chromium +6	94	10	mg/l	36	36	0	S.I.D.	S.I.D.	S.I.D.	43	43	0	S.I.D.	S.I.D.	S.I.D.
Total Chromium +6	94	10	mg/l	36	36	0	S.I.D.	S.I.D.	S.I.D.	43	43	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Copper	97	5	mg/l	32	15	53	8.5	6.7	0.95	42	8	81	13	9.9	0.94
Total Copper	97	5	mg/l	32	2	94	15	11	0.57	42	0	100	24	15	1.49
Dissolved Iron	94	100	mg/l	38	27	29	123	50	1.2	42	15	64	454	190	2.3
Total Iron	94	100	mg/l	38	7	82	1117	546	1.36	42	4	90	2705	625	3.32
Dissolved Lead	97	5	mg/l	32	28	13	S.I.D.	S.I.D.	S.I.D.	42	40	5	S.I.D.	S.I.D.	S.I.D.
Total Lead	97	5	mg/l	32	14	56	10	5.4	1.03	42	30	29	4.9	2.5	1.09
Dissolved Manganese	98	100	mg/l	11	10	9	S.I.D.	S.I.D.	S.I.D.	17	17	0	S.I.D.	S.I.D.	S.I.D.
Total Manganese	98	100	mg/l	11	10	9	S.I.D.	S.I.D.	S.I.D.	17	17	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Mercury	94	1	mg/l	35	35	0	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
Total Mercury	94	1	mg/l	35	34	3	S.I.D.	S.I.D.	S.I.D.	40	40	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Nickel	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	38	10	S.I.D.	S.I.D.	S.I.D.
Total Nickel	97	5	mg/l	32	27	16	S.I.D.	S.I.D.	S.I.D.	42	26	38	4.7	2.5	0.69
Dissolved Selenium	94	5	mg/l	38	38	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Total Selenium	94	5	mg/l	38	38	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Silver	97	1	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Total Silver	97	1	mg/l	32	31	3	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Thallium	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Total Thallium	97	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	42	42	0	S.I.D.	S.I.D.	S.I.D.
Dissolved Zinc	94	50	mg/l	38	30	21	44	25	1.42	42	19	55	66	56	0.83
Total Zinc	94	50	mg/l	38	13	66	79	66	0.75	42	5	88	138	98	1.73
Bis(2-ethylhexyl)phthalate	99	1	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Acenaphthene	99	0.05	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Acenaphthylene	99	0.05	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.
Anthracene	99	0.05	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.	S.I.D.

Constituents	Data Included Since	DL	Units	High Density Single Family Residential				Educational						
				No. of Samples	No. of Non-detects	Percent Detects	Mean	Median	CV	No. of Samples	No. of Non-detects	Percent Detects	Mean	Median
Benzo(a)anthracene	99	0.1	mg/l	5	4	20	S.I.D.	S.I.D.	1.24	0	0	S.I.D.	S.I.D.	S.I.D.
Benzo(b)pyrene	99	0.1	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.
Benzo(b)fluoranthene	99	0.1	mg/l	5	4	20	S.I.D.	S.I.D.	1.29	0	0	S.I.D.	S.I.D.	S.I.D.
Benzo(k)fluoranthene	99	0.1	mg/l	5	4	20	S.I.D.	S.I.D.	1.18	0	0	S.I.D.	S.I.D.	S.I.D.
Chrysene	99	0.1	mg/l	5	4	20	S.I.D.	S.I.D.	1.18	0	0	S.I.D.	S.I.D.	S.I.D.
Dibenz(a,h)anthracene	99	0.1	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.
Fluoranthene	99	0.1	mg/l	5	3	40	0.53	0.05	1.67	0	0	S.I.D.	S.I.D.	S.I.D.
Fluorene	99	0.1	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.
Indeno(1,2,3-cd)pyrene	99	0.1	mg/l	5	5	0	S.I.D.	S.I.D.	S.I.D.	0	0	S.I.D.	S.I.D.	S.I.D.
Naphthalene	99	0.05	mg/l	5	3	40	0.04	0.025	0.59	0	0	S.I.D.	S.I.D.	S.I.D.
Phenanthrene	99	0.05	mg/l	5	3	40	0.13	0.025	1.66	0	0	S.I.D.	S.I.D.	S.I.D.
Pyrene	99	0.05	mg/l	5	1	80	0.83	0.37	1.44	0	0	S.I.D.	S.I.D.	S.I.D.
All other SVOCs	94	0.05-5.0	mg/l	26	26	0	S.I.D.	S.I.D.	S.I.D.	23	23	0	S.I.D.	S.I.D.
Organochlorine Pesticides & PCBs	94	0.05-1.0	mg/l	31	31	0	S.I.D.	S.I.D.	S.I.D.	22	22	0	S.I.D.	S.I.D.
Carbofuran	96	5	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	43	43	0	S.I.D.	S.I.D.
Glyphosate	98	25	mg/l	11	11	0	S.I.D.	S.I.D.	S.I.D.	17	15	12	S.I.D.	S.I.D.
Diazinon	96	0.01	mg/l	30	28	7	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
Chlorpyrifos	96	0.05	mg/l	30	30	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
Thiobencarb	96	1	mg/l	30	30	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
All other N- and P- Pesticides	94	1.0-2.0	mg/l	32	32	0	S.I.D.	S.I.D.	S.I.D.	39	39	0	S.I.D.	S.I.D.
2,4-D	96	10	mg/l	27	27	0	S.I.D.	S.I.D.	S.I.D.	24	24	0	S.I.D.	S.I.D.
2,4,5-TP	96	1	mg/l	27	27	0	S.I.D.	S.I.D.	S.I.D.	24	24	0	S.I.D.	S.I.D.
Bentazon	96	2	mg/l	27	27	0	S.I.D.	S.I.D.	S.I.D.	24	24	0	S.I.D.	S.I.D.

Notes

- CV = Coefficient of variation
- DL = Detection Limit
- S.I.D. = Statistically Invalid Data, not enough data above detection limit collected
- a) Detection limits have changed throughout the monitoring process. Only data matching the current detection limit is displayed in this table. The Data Included Since field indicates the first year of the storm season with the current detection limit.

Appendix 3.D

Common Sources of Key Pollutants of Concern in the Ballona Creek WMA

Bacteria

Total Coliform, Fecal Coliform, Enterococcus spp. and Escherichia coli

Sources contributing to the bacterial indicators total coliform, fecal coliform, enterococcus and E. coli are discussed in the source assessment included in the Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL. Bacteria loads associated with point sources, including MS4 and Caltrans Stormwater Permits, minor and general NPDES permits (Appendix 3.A) are largely unknown due to lack of monitoring for bacteria; however the main contributor of flow and associated bacteria loading is the stormwater conveyance system. Storm drains discharging to Ballona Creek flow during wet and dry weather; in dry weather these flows and associated bacteria loading result from over-irrigation, car washing, restaurant washout and other activities. Non-point sources include inputs to Ballona Estuary from Del Rey Lagoon, which may be due wildlife (LARWQCB 2006).

Shellfish Harvesting Advisory

The Ballona Creek Estuary is listed as impaired based on an existing shellfish harvesting advisory. The latest Integrated Report from the SWRCB that provides information on the basis for 303(d) impairment listings does not address this particular impairment (SWRCB, 2010). Therefore, it is only listed as impaired because it is an advisory. Shellfish harvesting advisories are largely the effects of coliform in the watershed (LARWQCB, 2007). Higher amounts of impervious surfaces associated with urban landscapes result in increased magnitude and frequency of surface runoff during both wet and dry weather conditions. Bacterial contamination is generated throughout the watershed and then transported through the storm drain system regulated under the MS4 permit. Relatively high bacteria concentrations were observed through both Ballona Creek and the storm drains draining to the creek (SCCWRP, 2004).

Storm drain system discharges may have elevated levels of bacterial indicators from sanitary sewer leaks and spills, illicit connections of sanitary lines to the storm drain system, runoff from homeless encampments, pet waste, organic debris from vegetation, food waste, and illegal discharges from recreational vehicle holding tanks, among others. (LARWQCB, 2006). The bacteria indicators used to assess water quality are not specific to human sewage; therefore, fecal matter from animals and birds can also be a source of elevated bacteria levels, and vegetation and food waste can be a source of elevated levels of total coliform bacteria, in particular (LARWQCB, 2006).

In addition to flow from Ballona Creek, the Ballona Estuary also receives flow from the Del Rey Lagoon and Ballona Wetlands through connecting tide gates. Flows from Del Rey Lagoon are considered nonpoint sources of bacterial contamination. This waterbody may be considered for a natural source exclusion if it's contributing bacteria loads are determined to be from wildlife in the area, as opposed to anthropogenic sources. A source identification study for the lagoon will need to be conducted in order to apply the natural source exclusion (LARWQCB, 2006). Other non-point sources in Ballona Creek and Estuary include natural sources from birds, waterfowl and other wildlife. Data do not currently exist to quantify the extent of the impact of wildlife on bacteria water quality in the Estuary (LARWQCB, 2006)

Because shellfish harvesting advisory has been identified as an effect of coliform in the watershed, the same sources identified for contributing to bacterial indicator densities can also be tied to the shellfish harvesting advisory. While the basis for shellfish harvesting advisories is to protect shellfish harvesting (SHELL) beneficial use, and the bacteria TMDLs in the Ballona Creek watershed are established to protect recreational (REC) beneficial use, both impairments are tied to elevated levels of coliform.

Therefore, it can be concluded that the shellfish harvesting advisory in the Ballona Creek Estuary is likely linked to MS4 discharges.

Current and Historical Organics

Urban storm water has been recognized as a substantial source of organic pollutants such as PAHs, PCBs and organochlorine compounds (Suffet and Stenstrom, 1997). This is also reflected in routine storm water monitoring performed by LACDPW under the MS4 permit (LACDPW, 2002).

The major contributor of associated organochlorine compounds, pesticides, PCBs and PAHs loading to Ballona Creek and Estuary is believed to be wet-weather runoff discharged from the storm water conveyance system (USEPA and CA RWQCB, 2005). In the highly urbanized Ballona Creek watershed, the contribution of stormwater runoff and storm-borne sediment loads from these areas drain to the MS4 system.

The loadings of DDT, PCBs and chlordane reflect historic uses. Although the uses of these compounds are banned, these legacy pollutants continue to remain elevated in sediments. DDT and PCB loadings appear to have declined over the last 30 years (Stein et al., 2003).

Pesticides (DDT, DDE and DDD)

DDT is an organochlorine insecticide that was widely used on agricultural crops and to control disease-carrying insects. In California, DDT was used primarily for agricultural activities. The use of DDT was banned in the United States in 1972, except for public health emergencies involving insect diseases and control of body lice. Although DDT is no longer used, it persists in the environment, adhering strongly to soil particles. Total DDT consists of two isomers (p,p-DDT and o,p-DDT) and several degradation products (p,p-DDE, o,p-DDE, p,p-DDD, and o,p-DDD) (USEPA 2012b).

In the previous study by Young et al. (1973), the annual wet weather loads for DDTs from Ballona Creek were around 18 kg during 1971-1972 water year, which was a particularly wet year. In the 1987-88 period, wet weather loadings for DDT during a comparable size storm year were around 8 kg (Stein et al., 2003). There were no detectable concentrations of DDT in stormwater samples from 1994 to 2005 (LADPW, 2005). However, the detection limits for DDT used by the Los Angeles County lab are two orders of magnitude greater than the Communities of Practice (COP)'s human health objective.

More recently, Curren et al. (2011) evaluated the contribution of subwatersheds to chlorinated pesticide loading during wet weather flow. Fifteen storm drains from Ballona Creek subwatershed were sampled during three storms during the 2005 - 2006 winter rainy season. The suspended solids were analyzed for chlorinated pesticides. Curren et al. (2011) found DDT concentrations in Ballona Creek stormwater during the 2005-2006 season that ranged from non-detect to 0.4 ng/l. This indicates that DDT concentrations in stormwater may exceed the human health criteria. The total DDT loadings based on the average concentrations from these three storms sampled by Curren et al. (2011) were estimated to be 6.2 g.

PCBs

Polychlorinated biphenyls (PCBs) are mixtures of up to 209 individual chlorinated compounds (known as congeners). PCBs were used in a wide variety of applications, including dielectric fluids in transformers and capacitors, heat transfer fluids, and lubricants. In 1976, the manufacture of PCBs was prohibited because of evidence that they build up in the environment and can cause harmful health effects.

PCBs are typically associated with more urban areas. In addition, PCBs were commonly used in a number of household products (e.g., fluorescent light fixtures, paints, waxes, caulking). Although there is little information available to estimate the potential loads from rural areas, rural areas are unlikely to be a major source of PCBs (USEPA, 2012).

Potential pollutants from construction sites include sediment, which may contain historic PCBs from construction materials and the heavy equipment used on construction sites. In addition, in the highly urbanized Ballona Creek watershed re-development of former industrial sites has a higher potential to discharge sediments laden with pollutants such as PCBs. During wet weather, runoff from construction sites has the potential to contribute metals loadings to the creek (USEPA and CA RWRCB, 2005).

In the 1971-1972 water year, the annual wet weather loads for PCBs from Ballona Creek were around 15 kg (Young et al., 1973). In the 1987-88 water year, the wet weather loadings for PCBs were around 7 kg. LADPW has not indicated detectable levels of PCBs in stormwater from Ballona Creek since the mid-1990s.

However, detection levels for PCBs measured as arochlors were 65 ng/l, which are more than three orders of magnitude greater than the COP human health objective. In 1995-1996 water year, Suffet and Stenstrom (1997) measured PCB congeners and found elevated concentrations of total PCBs (calculated as the sum of the 18 congeners) ranging between 15,100 ng/l to 390,000 ng/l in stormwater runoff to Ballona Creek.

More recently, Curren et al. (2011) found concentrations of total PCBs that were much lower, ranging from 0.74 ng/l to 16.07 ng/l in the 2005-06 rainy season. These most recent values are all higher than the COP objective. The estimate of PCB loads based on the average concentrations from the three storms sampled by Curren et al. (2011) was 32.9 g. However, a disproportionate mass of PCB loading came from a site which had no obvious sources.

The continued presence of high PCBs in sediments from Ballona Creek also suggest land-based inputs to the storm drain system, although there is limited information to assess the impact of hundreds of individual industrial or construction stormwater projects (USEPA, 2012).

Atmospheric deposition may be a potential nonpoint source of PCBs. There may also be potential losses of PCBs that may occur as a result of volatilization. Sabin et al. (2011) provide limited information on net-gas exchange during dry weather from sites near Ballona Creek Estuary. Volatilization may be an important loss term process for PCBs. However, the rates of volatilization are a function of concentrations in both the air and water which can vary greatly over time and space.

PAHs

Polynuclear aromatic hydrocarbons (PAHs) are a group of over 200 different chemicals. They are found in nature in coal and crude oil and in emissions from combustion of fossil fuels, forest fires and volcanoes. Most PAHs entering the environment are formed unintentionally during burning (coal, oil, wood, gasoline, garbage, tobacco and other organic material) or in certain industrial processes. Important sources of PAHs in surface waters include deposition of airborne PAHs, municipal waste water discharge, urban storm water runoff particularly from roads, runoff from coal storage areas, effluents from wood treatment plants and other industries, oil spills, and petroleum pressing (ATSDR, 1995).

The loadings of PAHs are attributable to ongoing activities in the watershed. Atmospheric deposition may be a potential nonpoint source of metals and PAHs to the watershed, through either direct or indirect deposition. PAHs are released to the atmosphere through natural and synthetic sources of emissions. The largest sources of PAHs to the atmosphere are from synthetic sources, including wood burning in homes; automobile and truck emissions; and hazardous waste sites and former manufactured-gas sites (USEPA and CA RWRCB, 2005).

It is believed that the primary source of PAHs to Ballona Creek and Estuary is urban storm water runoff. Indirect atmospheric deposition reflects the process by which metals and PAHs deposited on the land surface may be washed off during storm events and delivered through storm water runoff to Ballona Creek. Most airborne PAHs are deposited on the land (e.g., through precipitation or indirect atmospheric deposition) and are transported to Ballona Creek through storm water runoff (USEPA and CA RWQCB, 2005).

Chlordane

Chlordane was used as a pesticide to control insects on agricultural crops, residential lawns and gardens, and in buildings, particularly for termite control. In 1988, all chlordane uses, except for fire ant control, were voluntarily cancelled in the US. So the majority of environmental loadings of chlordane were required to cease as of 1988 with the end of authorized commercial use. However, stocks held by homeowners could be a continuing source, as would be the erosion and transport of existing soils previously contaminated by chlordane and related compounds (MDE, 1999).

Chlordane is not an expected substance in point source discharges. If it were to occur in municipal discharges, it would be through intermittent, illicit, and generally untraceable sources (MDE, 1999).

Although it is no longer used in the US, chlordane persists in the environment, adhering strongly to soil particles. It is assumed that the only source of chlordane in the watershed is storm water runoff carrying historically deposited chlordane most likely attached to eroded sediment particles (USEPA and CA RWQCB, 2005).

Bis(2-ethylhexyl)Phthalate

Bis-2-ethylhexylphthalate is a plasticizer used in the manufacture of polyvinyl chloride (PVC). It is also a common contaminant of sample containers, sampling apparatus, and analytical equipment. A Category 3 contaminant, its incidence of exceedance is low (one in 19 samples during the past 5 years during wet weather and none of the 14 samples in the past 5 years during dry weather). Its attribution to MS4 discharges is not highly supported by these results and earlier detections can possibly be attributable to lab contamination. It is known to be a common contaminant of sample containers, sampling apparatus, and analytical equipment. For example, it has been identified as a common laboratory contaminant during groundwater monitoring data analysis (WI DNR, 2002).

Metals

There are wet and dry weather numeric targets for copper, lead, selenium, and zinc in the Ballona Creek watershed. Under the 2008 Metals TMDL, copper, lead, selenium, and zinc have separate dry weather and wet weather targets and allocations. Flow in Ballona Creek was used in the TMDL to determine when wet weather or dry weather targets and allocations applied. The Ballona Creek Toxics and Metals TMDLs were amended on December 5, 2013, with the recommendation that selenium be removed from the TMDL, and numeric targets adjusted for copper, lead, and zinc. The amendment also set sediment

targets for cadmium, copper, lead, silver, and zinc in the Ballona Creek Estuary and WLAs for those constituents in the Ballona Creek watershed (LARWQCB, 2010b).

The sources and delivery of metals can vary depending on weather and flow conditions. Wet weather metal loads are typically greater than dry weather loads, with wet weather stormwater runoff shown to be the dominant source of annual metals loading (LACDPW, 2012a). Numerous researchers have documented that the most prevalent metals in urban storm water (i.e., copper, lead, zinc, and to a lesser degree cadmium) are consistently associated with suspended solids. Because metals are typically associated with fine particles in storm water runoff, they have the potential to accumulate in estuarine sediments where they may pose a risk of toxicity. On an annual basis, stormwater contributes about 91 percent of the copper loading and 92 percent of the lead loading to Ballona Creek, the majority of which is permitted through the Los Angeles County MS4 (in addition to the Caltrans stormwater permit, general construction stormwater permit, and general industrial stormwater permit) (LARWQCB, 2013b).

During dry weather, most of the metals loadings are in the dissolved form. Storm drains convey a large percentage of the metals loadings during dry weather because although their flows are typically low, concentrations of metals in urban runoff may be quite high. (LARWQCB, 2013b). While flows during dry weather are highly variable in both time and space, storm drain metals concentrations were generally higher than those observed in Ballona Creek itself, and peak concentrations were typically an order of magnitude greater in the storm drain than in the creek (SCCWRP, 2004). SCCWRP (2004) found that high concentrations of metals in the creek correspond to locations of storm drains associated with high concentrations.

Toxic Organic Chemicals

The fertilizers used for land and landscape maintenance of municipal areas are also a source of metals. Fertilizers, herbicides, and pesticides contain metals such as cadmium, copper, lead, and zinc. Heavy metals in municipal stormwater can also come from car debris, roof shingles, building materials, and plastics (LACDPW, 2012a).

Road Infrastructure

The “The use and wear of cars is the most prevalent source of roadway pollutants. A California study found that cars are the leading source of metal loads in stormwater, producing over 50 percent of the copper, cadmium, and zinc loads. Wear from brake pads, tires, and engine parts is a significant source of metal pollutants. For example, almost 50 percent of the copper loads in roadway stormwater originates from brake pads, and tire wear accounts for over 50 percent of the total cadmium and zinc loads delivered to the San Francisco Bay each year. Such conditions are expected to be similar for the Los Angeles region. Leaking oil, grease, and coolant also contribute metals and PAHs to the roadway loads.” (LACDPW, 2012a). Table 1 shows common sources of contaminants in runoff from roads and highways.

Silver

According to the TMDL development for the Lower St. Johns River in Florida, silver compounds in soil are released into the environment by rain and may be carried long distances in air and water. Silver is stable and remains in the environment in one form or another until it is taken out again by people. Because silver is an element, it does not break down, but it can change its form by combining with other substances (USEPA, 2004). Silver has also been identified as a component in vehicle fuels (Lee, 1993).

There are limited studies and literature on the sources of silver in the watershed, but MS4 discharges cannot be eliminated as possible sources of silver. However, it should be noted that over the past five years, there have only been two exceedances of total silver in the watershed out of 70 samples (at Centinela Creek), and no exceedances for dissolved silver. Over the past ten years, there have been seven exceedances of total silver in the watershed out of 168 samples (4 percent), and four exceedances of dissolved silver out of 128 samples (3 percent). This low number of exceedances may indicate that silver is not a significant constituent of concern in the watershed.

Table 1 Common Sources of Roadway Pollutants

Source	Cadmium	Copper	Nickel	Lead	Zinc	PAHs	Nutrients	Synthetic Organic Chemicals
Gasoline	•	•		•	•			
Exhaust			•	•		•		•
Motor oil and grease			•	•	•	•		
Antifreeze	•	•		•	•	•		
Undercoating				•	•			
Brake linings		•	•	•	•			
Tires	•	•		•	•	•		
Asphalt	•	•	•		•	•		
Concrete		•	•		•			
Diesel Oil	•			•	•			•
Engine wear			•	•	•			
Fertilizers, pesticides, and herbicides	•	•	•		•		•	•

Adapted from LACDPW (2012a)

Mercury

The adopted San Francisco Bay Basin Plan amendment identified sources of mercury in San Francisco Bay to include bed erosion (about 38 percent), the Central Valley watershed (about 36 percent), urban stormwater runoff (about 13 percent), the Guadalupe River watershed (about 8 percent), direct atmospheric deposition (about 2 percent), non-urban stormwater runoff (about 2 percent), and wastewater discharges (about 1.5 percent). There was also a potential that mercury may enter the Bay from Bay margin contaminated sites and abandoned mercury mines outside the Guadalupe watershed (SFBRWQCB, 2006).

The organic form of mercury (methylmercury) is toxic and bioavailable. Sources of methylmercury in Delta waters include tributary inputs from upstream watersheds and within-Delta sources such as methylmercury flux from wetland and in-channel sediments, municipal and industrial wastewater, agricultural drainage, and urban runoff (CVRWQCB, 2010). Various sources of mercury have been identified, including urban stormwater runoff, correlating to a linkage to MS4 discharges.

Mercury is also recognized to be a potential laboratory contaminant. Mercury is found in thermometers, manometers, vacuum pumps, switches, discharge tubes, dental amalgams, and as a component in chemical reactions. Because of its frequent use, it is not unusual for mercury to be spilled, or otherwise contaminate laboratory, storage, or office areas. Contamination of laboratory spaces from historic mercury spills is also common (University of Florida, 2012).

Nutrients

Ammonia

Within the adjacent Los Angeles River watershed, the TMDL for Nitrogen Compounds Source Assessment found that although POTWs are the largest source of nutrients (note Ballona Creek Watershed does not have any POTW discharges), the urban and residential stormwater runoff collected and discharged from MS4s presents loadings of nutrients that is considerable and represents a linkage to MS4 (LARWQCB 2003). The nutrient loading for stormwater runoff from the land uses draining to MS4s would occur during storm events, so the dry weather exceedances for ammonia within Ballona Creek Reach 2 and Sepulveda Channel may be the result of permitted or unpermitted discharges to the MS4.

Trash

A numeric target of 0 (zero) trash in the water has been established by the Ballona Creek and Santa Monica Bay TMDLs. According to the TMDL Staff Reports, the major source of trash in Ballona Creek and Santa Monica Bay results from litter, which is intentionally or accidentally discarded in watershed drainage areas. “Transport mechanisms include: (1) storm drains: trash is deposited throughout the watershed and is carried to the various reaches of the river and its tributaries during and after significant rainstorms through storm drains, (2) wind action: trash can also blow into the waterways directly, and (3) direct disposal: direct dumping also occurs.” (LARWQCB, 2004). The Santa Monica Bay TMDL also lists marine vessels and ships as an additional source. Several studies conclude that urban runoff is the dominant source of trash. Ballona Creek collects runoff from several partially urbanized canyons on the south slopes of the Santa Monica Mountains as well as from intensely urbanized areas of West Los Angeles, Culver City, Beverly Hills, Hollywood, and parts of Central Los Angeles. The correlation between trash and urban runoff through storm drains can be evidenced by the large amount of trash that accumulates at the base of storm drains (LARWQCB, 2004, LARWQCB, 2010).

Pollutant Class to be Determined

The section includes water quality conditions that are not specific pollutants but indicate the presence of pollutants, or specific constituents where the linkage to a pollutant will be further investigated during EWMP development):

Cyanide

Cyanide was placed on the 303(d) list of impairments for Ballona Creek due to a sufficient number of exceedances of the CTR cyanide criteria for protection of aquatic life (SWRCB, 2010). The sources of cyanide are generally anthropogenic in nature, but can also include some natural non-point sources. Point sources of cyanide can include stormwater runoff from industrial facilities, e.g., metal plating and finishing operations may contain cyanide (LACDPW, 2005). In the Ballona Creek watershed, sand and gravel operations, oil and natural gas facilities, transportation, recycling and manufacturing facilities have been identified as industrial sources (LACDPW, 2006). These sources are regulated by California’s statewide General Industrial Stormwater Permit or individual NPDES permits.

Non-point sources of cyanide may include pesticide use, which can be transported to storm drains during dry weather flow (e.g., over-irrigation) or wet weather flow. The largest likely source of cyanide in the watershed is air-borne deposition from motor vehicle emissions (LACDPW, 2005). The amount of cyanide that could be released to the environment from natural sources is comparatively low. Natural

sources may include incomplete combustion from forest fires, decomposition of plant material and fungi. (LACDPW, 2005).

While some potential sources of cyanide may be attributed to industrial facilities, e.g., metal plating, finishing, and manufacturing operations, the MS4 cannot be eliminated as a significant linkage for cyanide impairment as the MS4 is the conduit for cyanide that comes from some of the most significant sources. The largest likely sources of cyanide in the watershed are linked to MS4 discharges, as both airborne deposition from motor vehicle emissions and pesticide use are linked to surface runoff in the MS4 and from the MS4 to Ballona Creek. The low level of cyanide exceedances may also be attributed to laboratory contaminant issues.

Dissolved Oxygen

Low dissolved oxygen concentration results when there is insufficient aeration of oxygen into water. Slow-moving, stagnant, and pooled water has little opportunity for aeration, resulting in low concentrations of dissolved oxygen. Biologically, oxygen is also removed from the water column during respiration by plants for cell production. The chemical removal of oxygen can occur as ammonia is oxidized to nitrite, and eventually nitrate, thereby removing available oxygen from the water column. The saturation of oxygen in water is lastly a function of temperature and salinity; water with lower temperature and salinity retains more dissolved oxygen, relative to higher temperature and salinity (CCRWQCB, 2006).

A characterization study conducted in Washington found that increased stream temperatures likely heavily influence lower dissolved oxygen levels (SWDE, 2013). An indicator of low dissolved oxygen is benthic algae cover. Benthic algae is a natural plant in most stream systems and is a vital component of the stream food web. Under natural conditions, algal density is kept at levels that do not adversely affect dissolved oxygen. Factors limiting algal growth include (but not limited to): 1) nutrients, 2) light, 3) substrate, 4) flowing water, and 5) temperature. The Central Coast Regional Board staff found that benthic algae cover responds proportionally to light, and to a lesser degree, nutrient availability (CCRWQCB, 2006). The direct impact of urban storm water runoff on dissolved oxygen conditions in receiving waters is not thought to be substantial. However, the secondary impacts on the dissolved oxygen balance in receiving waters due to nutrient enrichment, eutrophication, and resulting sediment oxygen demand may be important. Therefore, there is still an indirect linkage between the MS4 and low dissolved oxygen.

It should be noted that over the past five years, there have been zero exceedances of dissolved oxygen in the watershed out of 19 samples. Over the past ten years, there have been two exceedances in 43 samples. This indicates that dissolved oxygen may not be a significant constituent of concern in the watershed.

pH

The receiving water analysis for pH identified exceedances for both the Basin Plan minimum and maximum objectives. Wet weather samples exhibited exceedances for the both minimum/maximum WQOs, while dry weather samples only exhibited exceedances for maximum WQOs. A characterization study conducted in Washington found that increased low pH is likely a result of the combination of large wet-season precipitation events, the acidity of rainfall and shallow groundwater, and the poor buffering capacity of the stream and surrounding landscape (SWDE, 2013). Most pH impacts in urban waters are caused by runoff of rainwater with low pH levels (acid precipitation). In fact, urban areas tend to have more acidic rainfall than less developed areas (USEPA, 1999).

Higher levels of pH may be caused by the respiration of aquatic plants, e.g. benthic algae. Photosynthesis is accelerated during afternoon hours when peak solar radiation is present. Photosynthesis by algae uses water column carbon dioxide. The reduced carbon dioxide has a net effect of increasing pH. Central Coast Regional Board staff concluded that benthic algae is a source of biologic removal of dissolved oxygen in lower Chorro Creek during afternoon hours, and is a factor causing impairment of low dissolved oxygen and high pH (CCRWQCB, 2006). Higher levels of pH may be attributed to the MS4 by way of nutrient enrichment, which promotes algal growth.

Sediment and Exotic Vegetation

This TMDL for Ballona Creek Wetlands addresses the sediment and exotic vegetation impairments by setting targets to restore a diverse composition of healthy wetland habitats and to eliminate the presence of exotic vegetation that overwhelms the highly sensitive native habitats. The critical stressors causing impacts to the Ballona Creek Wetlands are excessive sediment on-site that has raised the mean elevation and buried critical habitat. Excess sediment has also created conditions to support highly invasive exotic vegetation that crowd out native species. Load allocations for legacy sediment were set at zero and approximately 3.1 million cubic yards of excess sediment have been identified to be removed from the sensitive habitat to restore beneficial uses (USEPA, 2012).

The potential for sediment loading into the Wetland is associated with the flow coming down the watershed. Sediment moves from the watershed down the drainage channels or MS4 system as a result of storms, wind and land based runoff. Major storms are responsible for significant transport and deposition of sediment into Ballona Creek and Ballona Wetland (USEPA, 2012).

Watershed modifications, including urbanization, influence downstream suspended sediment concentrations. The increased urban area reduces the amount of pervious cover that is subject to erosion. The Ballona Creek Watershed is extensively developed (over 80 percent of the watershed is developed). While urbanization increases the velocity of flow, which would typically cause scouring in natural channel and increase the sediment load, Ballona Creek is largely a lined channel so the natural bottom is not present to contribute additional sediment load. Sedimentation rates to the Ballona Creek Wetland are slow due to low sediment supply from the Ballona Creek Watershed (USEPA, 2012).

The largest source of impact to sedimentation is due to historical developmental activities that have led to a legacy of excess sediment loading in the wetland areas. Hydromodifications and discharges of dredged spoils and fill have caused significant changes in the size and function of the Ballona Creek Wetlands. Perhaps the largest modifications to the physical make-up of the wetland have been the construction of the Ballona Creek Flood Control channel, conversion of saltmarsh to agricultural areas in Area B, construction of Culver Boulevard through Area B, and the deposition of dredged and fill sediment on Area A during the construction of the Marina del Rey Harbor (USEPA, 2012).