Appendix I

Environmental Analysis, Checklist, and Economic Factors

For the Chollas Creek Metals Total Maximum Daily Loads

California Regional Water Quality Control Board
San Diego Region

May 30, 2007

1 California Environmental Quality Act Requirements

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) must comply with the California Environmental Quality Act (CEQA) when amending the Water Quality Control Plan for the San Diego Basin 9 (Basin Plan) as proposed in this project to adopt total maximum daily loads (TMDLs) for copper, lead, and zinc in Chollas Creek. Under the CEQA, the San Diego Water Board is the Lead Agency for evaluating the environmental impacts of the reasonably foreseeable methods of compliance with the proposed TMDLs.

The adoption of a Basin Plan amendment is an activity subject to CEQA requirements because Basin Plan amendments constitute rules or regulations requiring the installation of pollution control equipment, establishing a performance standard, or establishing a treatment requirement.[1] TMDL Basin Plan amendments normally contain a quantifiable numeric target that interprets the applicable water quality objective. TMDLs also include wasteload allocations (WLAs) for point sources, and load allocations (LAs) for nonpoint sources and natural background. The quantifiable target together with the allocations may be considered a performance standard.[2] Sections 1.1 and 1.2 below describe in detail the statutory requirements and scope of this environmental analysis required by the CEQA for Basin Plan amendments.

1.1 Exemption from Requirement to Prepare Standard CEQA Documents

The CEQA authorizes the Secretary of the Resources Agency to certify state regulatory programs, designed to meet the goals of the CEQA, as exempt from its requirements to prepare an Environmental Impact Report (EIR), Negative Declaration, or Initial Study. The State Water Resources Control Board's (State Water Board) and the San Diego Water Board's Basin Plan amendment process is a certified regulatory program and is therefore exempt from the CEQA's requirements to prepare such documents. [3]

The State Water Board's CEQA implementation regulations[4] describe the environmental documents required for Basin Plan amendment actions. These documents consist of a written report that includes a description of the proposed activity, alternatives to the proposed activity to lesson or eliminate potentially significant environmental impacts, and identification of mitigation measures to minimize any significant adverse impacts. For this project, these documents are the Technical Report entitled *Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay* (Technical Report), an initial draft of the Basin Plan amendment (Appendix J) and an environmental checklist (section 4 below). These components fulfill the requirements of the CEQA for preparation of environmental documents for this Basin Plan amendment.[5]

---

[1] 14 CCR section 15187 (a).
[2] The term "performance standard" is defined in the rulemaking provisions of the Administrative Procedure Act [Government Code sections 11340-l 1359]. A "performance standard" is a regulation that describes an objective with the criteria stated for achieving the objective [Government Code section 11342(d)].
[3] 14 CCR section 15251(g) and Public Resources Code section 21080.5.
[4] 23 CCR section 3720 et seq. "Implementation of the Environmental Quality Act of 1970."
[5] 23 CCR section 3777

1.2 Scope of Environmental Analysis

The CEQA has specific provisions that establish the scope of the environmental analysis required for the adoption of this metals TMDLs Basin Plan amendment. The CEQA limits the scope to an environmental analysis of the reasonably foreseeable methods of compliance with the WLAs and LAs. The State Water Board CEQA Implementation Regulations for Certified Regulatory Programs[6] require the environmental analysis to include at least the following:

1. A brief description of the proposed activity. In this case, the proposed activity is the metals TMDLs Basin Plan amendment. This amendment is described in section 2 of this appendix.

2. Reasonable alternatives to the proposed activity (discussed in section 8).

3. Mitigation measures to minimize any significant adverse environmental impacts of the proposed activity (discussed in section 5).

Additionally, the CEQA[7] and CEQA Guidelines[8] require the following components, some of which are repetitive of the list above:

1. An analysis of the reasonably foreseeable environmental impacts of the methods of compliance. These methods may be employed to comply with the metals TMDLs Basin Plan amendment. Reasonably foreseeable methods of compliance are described in section 3. Sections 4 and 5 identify the environmental impacts associated with the methods of compliance.

2. An analysis of the reasonably foreseeable feasible mitigation measures relating to those impacts. This discussion is also in section 5.

3. An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts. This discussion is in section 5.1.

Additionally, the CEQA Guidelines require the environmental analysis take into account a reasonable range of:[9]

1. Environmental factors (section 5).
2. Economic factors (section 7).
3. Technical factors (section 6).
4. Population (section 6).

[6] Ibid.
[7] Public Resources Code section 21159 (a)
[8] 14 CCR section 15187(c)
[9] 14 CCR section 15187(d),Public Resources Code section 21159 (c)

5. Geographic areas (section 6).
6. Specific sites. (section 6)

A "reasonable range" does not require an examination of every site, but a reasonably representative sample of them. The statute specifically states that the agency shall not conduct a "project level analysis."[10] Rather, a project level analysis must be performed by the dischargers that are required to implement the TMDLs.[11] Notably, the San Diego Water Board is prohibited from specifying the manner of compliance with its regulations,[12] and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the dischargers. In preparing this environmental analysis, the San Diego Water Board has considered the pertinent requirements of state law,[13] and intends this analysis to serve as a tier 1 environmental review.

Any potential environmental impacts associated with the TMDLs depend upon the specific compliance projects selected by the dischargers, most of whom are public agencies subject to their own CEQA obligations. If not properly implemented or mitigated at the project level, there could be adverse environmental impacts from implementing the Chollas Creek metals TMDLs. The substitute CEQA documents identify broad mitigation approaches that could be considered at the project level. Consistent with the CEQA, the substitute documents do not engage in speculation or conjecture, but rather consider the reasonably foreseeable environmental impacts of the reasonably foreseeable methods of compliance, the reasonably foreseeable mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid, eliminate, or reduce the identified impacts.

2 Description of the Proposed Activity

The Basin Plan designates beneficial uses of waterbodies, establishes water quality objectives for the protection of these beneficial uses, and outlines a plan of implementation for maintaining and enhancing water quality. The proposed amendment would incorporate into the Basin Plan TMDLs for copper, lead, and zinc in the Chollas Creek Watershed.

Two beneficial uses exist in Chollas Creek that are sensitive to, and subject to impairment by elevated concentrations of dissolved metals in the water column. Warm Freshwater Habitat (WARM) and Wildlife Habitat (WILD) require water quality suitable for the protection of aquatic life and aquatic dependent wildlife. The water quality in Chollas Creek does not support the WARM and WILD beneficial uses of the creek because of elevated levels of dissolved copper, lead, and zinc.

[10] Public Resources Code section 21159(d)
[11] Public Resources Code section 21159.2
[12] Water Code section 13360
[13] Public Resources Code section 21159 and 14 CCR section 15187

The San Diego Water Board's goal in adopting the TMDLs is to eliminate the water quality problems caused by copper, lead, and zinc in Chollas Creek. Dissolved copper, lead, and zinc can inhibit the growth of aquatic vegetation, decreasing spawning areas and habitats for fish and other living organisms. Wildlife living in rivers and in riparian areas can be harmed by ingesting or coming into contact with dissolved copper, lead, and zinc. The adoption of a TMDL is not discretionary; rather, it is compelled by section 303(d) of the federal Clean Water Act.

The TMDLs for copper lead and zinc, and their derivation are discussed in the Technical Report, section 6. The TMDLs will be implemented primarily through regulation of urban runoff with waste discharge requirements (WDRs) that implement federal National Pollutant Discharge Elimination System (NPDES) regulations. The primary dischargers are municipalities located in the Chollas Creek watershed, the California Department of Transportation (Caltrans), and the U.S. Navy Dischargers will receive wasteload allocations that can be met over a phased compliance schedule that should result in attainment of water quality standards. The wasteload allocations and their derivation are discussed in the Technical Report, section 8. The Implementation Plan and compliance schedule are discussed in the Technical Report, section 11.

2.1 Surrounding Land Uses and Setting

Chollas Creek is a highly urbanized watershed. Flow in Chollas Creek is highly variable with the highest flow rates associated with storm events. During the summer, the creek has only standing pools of water with no surface flow for extended periods of time. Much of the creek has been channelized and concrete lined, but some sections of natural creek bed remain. Many plant communities within Chollas Creek have been replaced by non-native and/or invasive species (such as *Arundo donax*). These types of plants can produce habitats that are much less desirable than the native plant species with regard not only to providing a structure to hide or perch, but also as a food source. Non-native and/ or invasive species also may grow so abundantly that they reduce the capacity of the stream channel, which may lead to more frequent or more severe flooding. Neither the surface water nor groundwater resources in the watershed are used for municipal or domestic drinking water supplies. In fact, the San Diego Water Board has exempted the groundwater from the MUN beneficial use designation under the terms and conditions of the State Water Board's *Sources of Drinking Water Policy*.[14] The predominant land use in the watershed is residential, followed by open space, industrial, commercial/institutional and roadways land uses. More information on the watershed characteristics is found in the Technical Report, section 3.2.

3 Analysis of Reasonably Foreseeable Methods of Compliance

The analysis of potential environmental impacts is based on the numerous alternative methods of compliance available for controlling copper, lead, and zinc loading in Chollas Creek. The majority of metals discharged into the Chollas Creek watershed result from stormwater runoff of metals from freeway surfaces and commercial/industrial land uses. Attainment of the WLAs will be achieved through discharger implementation of

[14] State Water Board Resolution No. 88-63

structural and nonstructural control strategies designed to reduce metals loading in urban runoff. Structural and non-structural control strategies can be based on specific land uses, sources, or periods of a storm event, and are described in general below. Nonstructural BMPs are generally designed to control or eliminate the sources of pollutants to a watershed. Structural BMPs include source control as well as treatment control BMPs designed to remove pollutants from runoff. In order to comply with these TMDLs, emphasis should be placed on BMPs that control the sources of pollutants and on the maintenance of BMPs that remove pollutants from runoff. Some examples of BMPs that may be implemented by the dischargers to meet the WLAs are described below. These examples are general, (not specific to metals treatment and not specific to Chollas Creek), and are not meant to be exhaustive of the suitable suit of appropriate BMPs.

The City of San Diego, in its comments, suggested that large areas of private property would need to be condemned and demolished in order to build large detention basins and treatment works as a BMP option. This BMP option was not considered in the analysis because significantly cheaper and smaller BMPs are available to meet the WLAs of these TMDLs.

Nonstructural Controls

1. **Education and Outreach**: Conduct education and outreach to residents and businesses to discourage over-watering. Conduct education and outreach to residents, businesses, and municipal fleets to encourage vehicle and equipment practices that minimize the potential for contamination of stormwater runoff.

2. **Road and Street Maintenance**: Increase the frequency of street sweeping to maintain clean sidewalks, streets, and gutters. Street sweeping reduces non-point source pollution by five to 30 percent when a conventional mechanical broom and vacuum-assisted wet sweeper is used. The USEPA reported that the new vacuum assisted dry sweepers can achieve a 50 to 88 percent overall reduction in the annual sediment loading for a residential street, depending on sweeping frequency. A reduction in sediment load may lead to a reduction in metals being carried to the MS4, and ultimately to Chollas Creek, since sediment, or road dust, has been found to adsorb metals (Birch and Scollen, 2003). Researchers have found that the metals concentrations in road dust increases with traffic volume. High traffic areas should be given a priority when scheduling street sweepings.

3. **Illicit Discharges**: Identify and eliminate illicit discharges to the storm drain system.

4. **Inspections**: Conduct inspections of commercial and industrial facilities for compliance with local ordinances and permits, as well as copper, lead, and zinc load reductions required under these TMDLs. Conduct inspections of treatment control BMPs to ensure their adequacy of design and proper function.

5. **Development/Enforcement of Local Ordinances**: Develop and enforce municipal ordinances prohibiting exposure of copper, lead, and zinc materials to stormwater and stormwater drainage pathways, or eliminating dry weather nuisance flows.

Structural Controls

1. **Vegetated Swales and Buffer Strips**: Construct and maintain vegetative buffer strips along roadsides and in medians to slow runoff velocities and increase stormwater infiltration. Replace curbs with vegetated swales to allow highway and road runoff to be filtered through vegetated shoulders and medians. Eliminate constructed curbs to increase infiltration to ground water.

2. **Bioretention**: Construct and maintain bioretention BMPs to provide on-site removal of metals from storm water runoff through landscaping features. Field and laboratory analysis of bio-retention facilities shows high removal rates of copper (43 to 97 percent), lead (70 to 95 percent), and zinc (64 to 95 percent).

3. **Detention Basins**: Construct and maintain detention basins designed to capture and treat stormwater runoff.

4. **Retention Ponds**: Construct and maintain retention/irrigation ponds to capture stormwater runoff for later irrigation of landscape.

5. **Sand Filters:** Install and maintain sand filters, in some instances including pumps, which are effective for pollutant removal from stormwater. Sand filters may be a good option in densely developed urban areas with little pervious surface since the filters occupy minimal space.

6. **Diversion Systems**: Install diversion systems to capture non-stormwater runoff. During low flow conditions, runoff may be diverted from storm drain outlets to an on-site treatment system and released back to the creek, or it may be diverted to wastewater collection plants for treatment.

7. **Porous Pavement**: Install and maintain pavement systems that allow storm water to infiltrate into ground water, and come into contact with biological systems in the soil. Storm water coming into contact with soil as overland flow can benefit from metals reductions.

8. **Infiltration Systems**: Install and maintain pavement systems that allow storm water to infiltrate into ground water, and come into contact with biological systems in the soil. Storm water coming into contact with soil as groundwater can benefit from metals reductions.

4 Environmental Checklist

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
1.	**Earth. Will the proposal result in:**				
	a. Unstable earth conditions or in changes in geologic substructures?		X		
	b. Disruptions, displacements, compaction or overcoming of the soil?			X	
	c. Change in topography or ground surface relief features?		X		
	d. The destruction, covering or modification of any unique geologic or physical features?				X
	e. Any increase in wind or water erosion of soils, either on or off the site?			X	
	f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			X	
	g. Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?		X		
2.	**Air. Will the proposal result in:**				
	a. Substantial air emissions or deterioration of ambient air quality?		X		
	b. The creation of objectionable odors?		X		
	c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?				X

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
3.	**Water. Will the proposal result in:**				
	a. Changes in currents, or the course of direction or water movements, in either marine or fresh waters?			X	
	b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?			X	
	c. Alterations to the course of flow of flood waters?		X		
	d. Change in the amount of surface water in any water body?		X		
	e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?			X	
	f. Alteration of the direction or rate of flow of ground waters?		X		
	g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?		X		
	h. Substantial reduction in the amount of water otherwise available for public water supplies?				X
	i. Exposure of people or property to water related hazards such as flooding or tidal waves?		X		
4.	**Plant Life. Will the proposal result in:**				
	a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?		X		
	b. Reduction of the numbers of any unique, rare or endangered species of plants?		X		

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
	c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?		X		
	d. Reduction in acreage of any agricultural crop?				X
	e. Toxic conditions that effect plant growth?		X		
5.	**Animal Life. Will the proposal result in:**				
	a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?		X		
	b. Reduction of the numbers of any unique, rare or endangered species of animals?		X		
	c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?		X		
	d. Deterioration to existing fish or wildlife habitat?		X		
6.	**Noise. Will the proposal result in:**				
	a. Increases in existing noise levels?		X	~~X~~	
	b. Exposure of people to severe noise levels?		X	~~X~~	
7.	**Light and Glare. Will the proposal:**				
	a. Produce new light or glare?		X	~~X~~	
8.	**Land Use. Will the proposal result in:**				
	a. Substantial alteration of the present or planned land use of an area?			X	
9.	**Natural Resources. Will the proposal result in:**				
	a. Increase in the rate of use of any natural resources?				X
	b. Substantial depletion of any nonrenewable natural resource?				X

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
10.	**Risk of Upset. Will the proposal involve:**				
	a. A risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?			X	
11.	**Population. Will the proposal:**				
	a. Alter the location, distribution, density, or growth rate of the human population of an area?			X	
12.	**Housing. Will the proposal:**				
	a. Affect existing housing, or create a demand for additional housing?			X	
13.	**Transportation/Circulation. Will the proposal result in:**				
	a. Generation of substantial additional vehicular movement?			X	
	b. Effects on existing parking facilities, or demand for new parking?		X		
	c. Substantial impact upon existing transportation systems?			X	
	d. Alterations to present patterns of circulation or movement of people and/or goods?			X	
	e. Alterations to waterborne, rail or air traffic?			X	
	f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?			X	
14.	**Public Service. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:**				
	a. Fire protection?			X	
	b. Police protection?			X	

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
	c. Schools?				X
	d. Parks or other recreational facilities?			X	
	e. Maintenance of public facilities, including roads?		X		
	f. Other governmental services?		X		
15.	**Energy. Will the proposal result in:**				
	a. Use of substantial amounts of fuel or energy?				X
	b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?				X
16.	**Utilities and Service Systems. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:**				
	a. Power or natural gas?			X	
	b. Communications systems?				X
	c. Water?				X
	d. Sewer or septic tanks?			X	
	e. Storm water drainage?			X	
	f. Solid waste and disposal?				X
17.	**Human Health. Will the proposal result in:**				
	a. Creation of, and exposure of people to, any health hazard or potential health hazard (excluding mental health)?		X		
18.	**Aesthetics. Will the proposal result in:**				
	a. The obstruction of any scenic vista or view open to the public?		X		

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
	b. The creation of an aesthetically offensive site open to public view?		X		
19.	**Recreation. Will the proposal result in:**				
	a. Impact upon the quality or quantity of existing recreational opportunities?		X		
20.	**Archeological/Historical. Will the proposal:**				
	a. Result in the alteration of a significant archeological or historical site, structure, object or building?		X		
21.	**Mandatory Findings of Significance**				
	Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
	Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)				X
	Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)		X		
	Substantial adverse: Does the project have environmental effects which will cause		X		

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
	substantial adverse effects on human beings, either directly or indirectly?				

5 Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures

As stated previously, the environmental analysis must include an analysis of the reasonably foreseeable environmental impacts of the methods of compliance and the reasonably foreseeable feasible mitigation measures relating to those impacts. This section, consisting of answers to the questions in the checklist, discusses compliance methods and mitigation measures as they pertain to the checklist.

In formulating these answers, the impacts of implementing in the Chollas Creek watershed the non-structural and structural BMPs listed in section 3 were evaluated. At this time, the exact type, size, and location of BMPs that might be implemented to comply with the TMDLs is unknown. This analysis considers a range of non-structural and structural BMPs that might be used, but is by no means an exhaustive list of available BMPs. When BMPs are selected for implementation, a project-level and site-specific CEQA analysis must be performed by the responsible agency.

Potential reasonably foreseeable impacts were evaluated with respect to earth, air, water, plant life, animal life, noise, light, land use, natural resources, risk of upset, population, housing, transportation, public services, energy, utilities and services systems, human health, aesthetics, recreation, and archeological/historical concerns. Additionally, mandatory finding of significance regarding short-term, long-term, cumulative and substantial impacts were evaluated. Based on this review, we concluded that the potentially significant impacts can be mitigated to less than significant levels. The evaluation considered whether the construction or implementation of the BMPs would cause a substantial, adverse change in any of the physical conditions within the area affected by the BMP. In addition, the evaluation considered environmental effects in proportion to their severity and probability of occurrence.

A significant effect on the environment is defined in regulation as "*a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant*."[15]

[15] 14 CCR section 15382

A significant effect on the environment is defined in statute as "*a substantial, or potentially substantial, adverse change in the environment*" where "*Environment*" is defined by Public Resources Code section 21060.5 as "*the physical conditions which exist within the area which will be affected by a proposed project, including air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance*."[16]

In this analysis, the level of significance was based on baseline conditions (i.e., current conditions). Short-term impacts associated with the construction of structural BMPs were considered less than significant because the impacts due to construction activities are temporary and similar to typical capital improvement projects and maintenance activities currently performed by municipalities. The long-term impacts associated with structural BMPs were considered potentially significant, but only if they could have an adverse, or potentially adverse, impact on the environment.

Social or economic changes related to a physical change of the environment were also considered in determining whether there would be a significant effect on the environment. However, adverse social and economic impacts alone are not significant effects on the environment.

1. Earth. a. Will the proposal result in unstable earth conditions or in changes in geologic substructure?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs would not create unstable earth conditions or changes in geologic substructure because none of these BMPs include earth moving activities.

For structural BMPs, infiltration of collected stormwater could potentially result in unstable earth conditions if loose or compressible soils are present, or if such BMPs were to be located where infiltrated stormwater flowing as groundwater could destabilize existing slopes. These impacts can be avoided by siting infiltration type BMPs away from areas with loose or compressible soils, and away from slopes that could become destabilized by an increase in groundwater flow. Infiltration type BMPs can also be built on a small enough scale to avoid these types of impacts. In the unlikely event that municipalities might install facilities on a scale that could result in unstable earth conditions or in changes in geologic substructures, potential impacts could be avoided through proper geotechnical investigations, siting, design, and ground and groundwater level monitoring to ensure that structural BMPs are not employed in areas subject to unstable soil conditions.

[16] Public Resources Code section 21068

1. Earth. b. Will the proposal result in disruptions, displacements, compaction or overcoming of the soil?

Answer: Less than significant

Discussion: Non-structural BMPs would not result in disruptions, displacements, compaction or overcoming of the soil because none of these BMPs include earth moving activities.

Depending on the structural BMPs selected, the proposal may result in minor surface soil excavation or grading during construction of structural BMPs resulting in increased disturbance of the soil. However, most of the relevant areas are already urbanized, and have already suffered soil compaction and hardscaping. Standard construction techniques, including but not limited to, shoring, piling and soil stabilization can mitigate any potential short-term impacts. In addition, structural BMPs can be designed and sited in areas where the risk of new soil disruption is minimal. Soil disruptions, displacements, compaction or overcoming during construction activities would be similar to typical temporary capital improvement construction and maintenance activities currently performed by municipalities, and no long-term impacts to the soil are expected.

1. Earth. c. Will the proposal result in change in topography or ground surface relief features?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs would not affect topography or ground relief features because none of the non-structural BMPs would result in earth moving activities.

Implementation of structural BMPs could result in some change in topography or ground surface relief features, however, most of the potential BMPs are so small that changes to topography will not be noticeable. If the municipalities implement BMPs on a scale large enough to change topography or ground relief features, then potential adverse impacts could be avoided or mitigated through siting such topographic alterations in geologically stable areas, or by installing or designing structural BMPs with the least amount of impact to the topography. Additionally, any structural BMPs can, if necessary, be constructed underground to minimize topographic or ground surface relief issues.

1. Earth d. Will the proposal result in the destruction, covering or modification of any unique geologic or physical features?

Answer: No impact

Discussion: Non-structural BMPs would not cause the destruction, covering or modification of any unique geologic or physical features because none of these BMPs would result in earth moving activities.

Complying with these TMDLs using structural BMPs in areas where doing so would result in the destruction, covering or modification of a unique geologic or physical features is not a reasonably foreseeable alternative that responsible agencies would choose. Furthermore, no impact is expected because foreseeable methods of compliance, including implementation of structural BMPs to control metals, would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical features. In the unlikely event that municipalities might install facilities on a scale that could result in the destruction, covering or modification of any unique geologic or physical features, potential impacts could be mitigated by mapping these features to avoid siting facilities in these areas. Additionally, any structural BMPs can, if necessary, be constructed underground to minimize destruction, covering or modification of any unique geologic or physical features.

1. Earth. e. Will the proposal result in any increase in wind or water erosion of soils, either on or off the site?

Answer: Less than significant

Discussion: Non-structural BMPs would not result in increase in wind or water erosion of soils, either on or off site because none of the non-structural BMPs would result in increased storm water discharge to the MS4 system, or in exposing soils to erosion by wind and water.

Depending on the structural BMPs selected, the proposal may result in minor soil excavation during construction of structural BMPs. However, construction related erosion impacts will cease with the cessation of construction. Wind or water erosion of soils may occur as a potential short-term impact. On site soil erosion during construction activities will be similar to typical temporary capital improvement projects and maintenance activities currently performed by the municipalities. Typical established best management practices should be used during implementation to minimize offsite sediment runoff or deposition. Construction sites are required to retain sediments on site, both under general construction stormwater WDRs and through the construction program of the applicable MS4 WDRs; both of which are already designed to minimize or eliminate erosion impacts on receiving water. Over the long

term, off-site erosion of canyons and natural channels could potentially be reduced if the structural BMPs divert stormwater from entering the canyons and channels, or reduce the runoff flow velocity, which may be considered a beneficial impact.

1. Earth. f. Will the proposal result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?

Answer: Less than significant

Discussion: No impact to beach sands is expected because no downstream beaches exist at the mouth of Chollas Creek. Chollas Creek empties into San Diego Bay between two deep water industrial facilities. These facilities maintain a dredging schedule as part of their ship birthing operations.

Non-structural BMPs would not result in erosion of beach sands, or increases in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake; however, non-structural BMPs, such as increased street sweeping, may reduce siltation and sediment deposition in canyons and natural channels. Reduction in siltation and sediment deposition in the creek is beneficial as fine sediments may contain toxic pollutants.

Depending on the structural BMPs selected, the proposal may result in a reduction of siltation or sediment deposition in the Chollas Creek channels. This may result because certain BMPs, such as detention basins, may change the time and volume of stormwater released to the creek. Reduction in siltation and sediment deposition in the creek is beneficial as fine sediments may contain toxic pollutants.

Little or no impact is expected for creek bed erosion, since the flow rate in the creek is not expected to increase using foreseeable methods of compliance and much of the creek channel is concrete lined.

BMPs that reduce or eliminate dry weather flows are not expected to impact Chollas Creek because of the small flow volumes involved. Additionally, a potential reduction of pollutant laden silt is considered a benefit.

1. Earth. g. Will the proposal result in exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs would not result in exposure of people or property to geologic hazards because none of these BMPs would result in earth moving activities.

For structural BMPs, infiltration of collected stormwater could possibly result in ground failure if loose or compressible soils are present, or if such BMPs were to be located where introduced groundwater movements could destabilize existing slopes. This may result in landslides, mudslides, ground failure, or similar hazards. However, complying with these TMDLs using structural BMPs in areas where doing so, or of a size or scale that would result in exposure of people or property to such geologic hazards is unlikely when other alternatives exist. In the unlikely event that municipalities might install facilities on a scale that could result in exposure of people or property to geologic hazards, a geotechnical investigation should be prepared at the project level to ensure that structural BMPs are not employed in areas subject to potential geologic hazards.

2. Air. a. Will the proposal result in substantial air emissions or deterioration of ambient air quality?

Answer: Less than significant with mitigation

Discussion: Short term increases in traffic during the construction and installation of structural BMPs and long-term increases in traffic caused by non-structural BMPs and maintenance of structural BMPs are potential sources of air emissions that may adversely affect ambient air quality. Several mitigation measures are available to reduce potential impacts to ambient air quality due to increased traffic during short-term construction and long-term maintenance activities. Mitigation measures could include, but are not limited to, the following: 1) use of construction, maintenance, and street sweeper vehicles with lower-emission engines, 2) use of soot reduction traps or diesel particulate filters, 3) use of emulsified diesel fuel, 4) use of vacuum-assisted street sweepers to eliminate potential re-suspension of sediments during sweeping activity, 5) the design of structural devices to minimize the frequency of maintenance trips, and/or 6) proper maintanance of vehicles so they operate cleanly and efficiently.

The generation of fugitive dust and particulate matter during construction or maintenance activities could also impact ambient air quality. An operations plan for the specific construction and/or maintenance activities could be completed to address the variety of available measures to limit the ambient air quality impacts. These could include vapor barriers and moisture control to reduce transfer of particulates and dust to air.

The emission of air pollutants during short-term construction activities associated with reasonably foreseeable methods of compliance would not likely change ambient

air conditions, because long-term ambient air quality would not change after short-term construction activities are completed.

Ambient air quality may change as a result of increased traffic due to an increase in street sweeping and/or structural BMP maintenance activities. However, the impact to ambient air quality can be reduced by using the mitigation measures described above for street sweepers and maintenance vehicles. The potential impact to ambient air quality can be further reduced if street sweeping and/or maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity. In any case, the number of additional vehicles expected in the watershed due to non-structural and structural BMPs is not expected to increase the level of pollutants in the air compared to current conditions, because various common managerial practices are available to mitigate the adverse effects. In fact, additional street sweeping could potentially reduce the amount of dust and particulates that may be available on the streets.

2. Air. b. Will the proposal result in creation of objectionable odors?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs could result in the creation of objectionable odors caused by exhaust from street sweepers or maintenance vehicles. Objectionable odors due to engine exhaust would be temporary and dissipate once the vehicle has passed through the area. Objectionable odors from exhaust could be reduced if gasoline or propane engines were used instead of diesel engines. Additionally, street sweepers and maintenance vehicles could be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods when there are fewer people in the area.

Construction and installation of structural BMPs may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles, but no more so than during typical infrastructure construction and maintenance activities currently performed by the municipalities. However, structural BMPs may be a source of objectionable odors if BMP designs allow for water stagnation or collection of water with sulfur-containing compounds. Stormwater runoff is not likely to contain sulfur-containing compounds, but stagnant water could create objectionable odors. Mitigation measures to eliminate odors caused by stagnation could include proper BMP design to eliminate standing water, covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Structural BMPs should be inspected regularly to ensure that treatment devices are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Structural BMPs should be designed to minimize stagnation of water and

installed in such a way so as to increase the distance to sensitive receptors in the event of any stagnation.

2. Air. c. Will the proposal result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Answer: No impact

Discussion: Non-structural and/or structural BMPs would not be of the size or scale to result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally.

3. Water. a. Will the proposal result in changes in currents, or the course of direction or water movements, in either marine or fresh waters?

Answer: Less than significant

Discussion: Most non-structural BMPs will not cause changes in currents, or the course of direction or water movements, in either marine or fresh waters because most of these BMPs would not introduce any physical effects that could impact these characteristics. Reduction of dry weather nuisance flows is the only foreseeable non-structural BMP that could have a physical impact in Chollas. However, any reduction of dry weather flows would bring Chollas Creek to a more natural, pre-development condition with respect to currents, which is beneficial to the environment, as discussed in the answer to question 4a.

Structural BMPs may change the currents in Chollas Creek. However, streamflow in the lower watershed is highly channelized, therefore none of the reasonably foreseeable structural BMPs would alter the direction or slope of the stream channels in the lower watershed. The roughness coefficient may be reduced as sediment is kept out of the channels, which could increase the flow rate in the channel but would not change the direction of flow. The increase in flow rate in the channels could be offset by the reduction of peak flow, as a result of the installation of structural BMPs such as detention basins, porous pavement, sand filters or infiltration basins. Overland flow in the urbanized portion of the watershed is directed primarily to storm drains. This overland flow may change depending on the structural BMPs installed such as porous pavement or infiltration basins. If stormwater runoff flow is reduced, or is diverted to wastewater treatment plants, these changes would reduce the potential for erosion, which is beneficial to the environment. Unchannelized portions of Chollas Creek could also be subject to a reduction of peak flow resulting in a reduction of channel scour. This would return Chollas Creek to a more natural, pre-development condition with respect to currents or the course of direction or water movements, which is beneficial to the environment.

3. Water. b. Will the proposal result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?

Answer: Less than significant

Discussion: Non-structural BMPs would not result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff because none of these BMPs would introduce any physical effects that could impact these characteristics.

Depending on the structural BMPs selected, absorption rates, drainage patterns, and surface water runoff may change. Grading and excavation during construction and installation of structural BMPs could result in alterations in absorption rates, drainage patterns, and surface water runoff. However this is less than significant because these effects will not persist after construction has ceased. Several types of structural BMPs collect and/or inhibit stormwater runoff flow, which would likely alter drainage patterns and surface runoff. For example, structural BMPs such as buffer strips would change drainage patterns by increasing absorption rates, which would reduce the amount of surface runoff. If stormwater runoff is diverted to wastewater treatment facilities, drainage patterns would be altered and surface runoff to the canyons would be reduced. If stormwater is diverted to wastewater treatment facilities, thereby reducing the overall flow, the erosion and scour that would normally be caused in the canyons by stormwater runoff would be reduced. The amount of flow within the stream channel may change, however, the channelized drainage pattern would remain essentially unchanged.

In general, reducing stormwater runoff due to non-structural and structural BMPs would be beneficial to the environment because peak flows would be attenuated, reducing erosion and channel scour. Reduction in the amount of water in the stream channel may affect the ecology of the stream, however, all of these affects can be mitigated to less than significant levels as discussed below in the answers to questions 4 and 5 on Plant Life and Animal Life.

3. Water. c. Will the proposal result in alterations to the course of flow of flood waters?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs are unlikely to alter the course of flow of flood waters because none of the BMPs would introduce any physical effects that could impact these characteristics.

The course of flow of flood waters may change depending on the structural BMPs selected. Structural BMPs, such as sand filters, could reduce a storm drain's ability to convey flood waters. This can be mitigated through proper design (including flood water bypass systems), sizing, and maintenance of these types of structural BMPs. Other structural BMPs, such as sewer diversions, detention basins or infiltration basins, could alter the course of flood waters by diverting a portion of the flood waters. If these types of structural BMPs are used, then Chollas Creek flood waters would likely return to a more natural, pre-development condition with respect the volume of flood waters in the channel, which is beneficial to the environment.

3. Water. d. Will the proposal result in change in the amount of surface water in any water body?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs such as ordinances that prohibit nuisance flows would result in a reduction in the amount of dry weather surface water in Chollas Creek. This would decrease the water which is available to in-channel wetlands. However, dry weather wetlands did not exist in Chollas Creek under predevelopment conditions. Today's dry weather wetlands in Chollas Creek are not high value wetlands because of the predominance of *Arundo donax*, and invasive plant species. Reduction of nuisance flows would return Chollas Creek to predevelopment conditions, i.e., a seasonal, ephemeral stream which does no support dry season wetlands. Therefore, this impact is not significant.
Depending on the structural BMPs selected, stormwater runoff may be retained and/or diverted for groundwater infiltration and/or to wastewater treatment facilities. Water that is retained or diverted would not flow into the canyons and the Chollas Creek stream channel. Because the surface water runoff to the canyons would be reduced, the adverse effects of channel scour and erosion of the canyons would also be reduced. Reduction in the amount of water in the stream channel may affect the ecology of the stream, however, all of these affects can be mitigated to less than significant levels as discussed below in the answers to questions 4 and 5 on Plant Life and Animal Life.

3. Water. e. Will the proposal result in discharge to surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?

Answer: Less than significant

Discussion: Non-structural and/or structural BMPs would not result in any additional discharge to surface waters. Depending on the structural BMPs selected, the current amount of runoff discharged to surface waters may actually be reduced if diverted for groundwater infiltration or to wastewater treatment facilities.

If non-structural and/or structural BMPs are implemented, the level of pollutants discharged to Chollas Creek would be reduced. The purpose of these TMDLs is to improve the surface water quality to meet water quality objectives and beneficial uses. When municipalities comply with these TMDLs, water quality will be improved, which is beneficial to the environment.

During wet weather discharges, certain structural BMPs (including detention basins, infiltration basins, and sand filters) would reduce turbidity and increase dissolved oxygen, because these BMPs would remove sediment and bioavailable oxygen demanding substances from the surface water. Reduced turbidity, and increased dissolved oxygen is beneficial to the environment.

A reduction of dry weather discharges (i.e., a cessation or reduction in nuisance flows) would result in a reduction of overall water in Chollas Creek during the dry season. This would result in a water temperature increase, and a decrease of dissolved oxygen in dry weather pools in Chollas Creek. Reduction in the amount of water in the stream channel may affect the ecology of the stream, however, all of these affects can be mitigated to less than significant levels as discussed below in the answers to questions 4 and 5 on Plant Life and Animal Life.

3. Water. f. Will the proposal result in alteration of the direction or rate of flow of groundwaters?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs would not result in alteration of the direction or rate of flow of groundwaters because none of the BMPs would introduce any physical effects that could impact these characteristics.

Over the long term, infiltration of stormwater runoff via infiltration type BMPs such as porous pavement, and infiltration trenches, could significantly alter the direction or rate of flow of groundwaters. This could result in unstable earth conditions if such BMPs were to be located where infiltrated stormwater flowing as groundwater could destabilize existing slopes. As discussed in the answer to question 1.a, these impacts can be avoided by siting infiltration type BMPs away from areas with loose or compressible soils, and away from slopes that could become destabilized by an increase in groundwater flow. Infiltration type BMPs can also be built on a small enough scale to avoid these types of impacts. In the unlikely event that municipalities might install facilities on a scale that could result in unstable earth conditions, potential impacts could be avoided through proper groundwater investigations, siting,

design, and groundwater level monitoring to ensure that structural BMPs are not employed in areas where slopes could become destabilized.

3. Water. g. Change in the quantity or quality of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not change the quantity or quality of groundwaters because none of these BMPs would introduce any physical effects that could impact these characteristics.

Infiltration type BMPs such as porous pavement and infiltration trenches may increase the quantity and degrade the quality of ground waters. The increase in quantity is unlikely to have any adverse effects since, under pre-development conditions, infiltration rates of stormwater runoff to groundwater were most likely much higher than they are today due to the absence of hardscapes. However, as discussed in question 3.f above, increased infiltration of stormwater near steep slopes, such as canyon walls, could potentially destabilize these slopes by saturating the soils making them more prone to sliding. Mitigation would include not siting large infiltration BMPs near canyon walls or other steep slopes.

Stormwater also contains dissolved pollutants such as nutrients, metals, pesticides, hydrocarbons, oil and grease. However, infiltration BMPs are not expected to degrade groundwater with respect to these pollutants for the following reasons.

Ambient nitrogen and phosphorus concentrations in groundwater are likely higher than nutrient concentrations in stormwater due to decades of over application of fertilizers on domestic and commercial landscapes and deep percolation of applied irrigation water. Nonetheless, if stormwater nutrient concentrations are higher than ambient concentrations in the groundwater, mitigation could include education and outreach to homes and business to better manage fertilizer use. Phytoremediation can also be used to remove nutrients from stormwater runoff.

Metals in stormwater runoff are not expected to degrade groundwater quality since metals tend to adsorb to clay and organic particles in the soil. Likewise, oil and grease would become bound up in the soil and remain nearer to the surface due to lower densities. Pesticides and hydrocarbons are not expected to degrade groundwater quality because natural bacteria in the soil and groundwater tend to break pesticides down.

3. Water. h. Will the proposal result in substantial reduction in the amount of water otherwise available for public water supplies?

Answer: No impact.

Discussion: Non-structural and/or structural BMPs would not result in substantial reduction in the amount of water otherwise available for public water supplies because the Chollas Creek watershed provides no public water supplies. None of the surface water or groundwater in the Chollas Creek watershed is used for public water supply In fact, the groundwater has no designated beneficial uses and has been exempted, along with the surface waters, by the San Diego Water Board from the MUN use designation under the terms and conditions of the State Water Board's *Sources of Drinking Water Policy*.[17]

3. Water. i. Will the proposal result in exposure of people or property to water related hazards such as flooding or tidal waves?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in exposure of people or property to water related hazards such as flooding or tidal waves because none of these BMPs would introduce any physical effects that could impact these characteristics.

Installation of structural BMPs that are not properly designed and constructed to allow for bypass of stormwater during storms that exceed design capacity can cause flooding. However, this potential impact can be mitigated through proper design and maintenance of structural BMPs. Any modifications to the watershed hydrology should be modeled and accounted for in the design of BMPs.

4. Plant Life. a. Will the proposal result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?

Answer: Less than significant with mitigation

Discussion: Most non-structural BMPs will not result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants) because most of these BMPs would not introduce any physical effects that could impact these characteristics. However, the creation and

[17] State Water Board Resolution No. 88-63.

enforcement of ordinances to eliminate nuisance flows could result in a change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants), especially in the dry weather season. However, this would return Chollas Creek's dry weather flows to a more natural, pre-development condition, returning the stream's plant community to a more natural, dry weather condition.

These flow reductions could lead to a reduction in total plant biomass along the Chollas Creek corridor. The reduced plant biomass could very well represent a significant decrease in the area of invasive and non-native plant species (such as *Arundo donax*) within the watershed. A reduction in invasive species is necessary before the native plant populations could be restored to pre-development conditions.

The decrease in flow may result in an increase in native plant species. Native plant species that previously thrived in the Chollas Creek corridor may naturally repopulate the areas that are currently occupied by invasive species. Increased diversity or area of native plant cover also could be accomplished through restoration/mitigation projects within the Chollas Creek corridor. Regardless of the method, the opportunity for restoration/enhancement of the stream corridor to pre-development conditions is realistic.

Conversely, a decrease in flow may decrease plant diversity by reducing the number of species that require a more constant water supply. However, these plant species are likely non-natives to Southern California and would not be present in the watershed absent the nuisance dry weather flows. Impeding the propagation of invasive species is not a negative impact.

During the wet weather season, the installation of structural BMPs such as vegetated swales, buffer strips, engineered (bioretention) wetlands, or retention ponds could increase the diversity or number of plant species by increasing available habitat, which is beneficial to the environment. However, during storm events, structural BMPs could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species within the canyons and stream channel, by modifying the hydrology of the creek, which could be adverse. This can be mitigated through proper project modeling, siting and design so that the resulting creek hydrology mimics natural conditions.

Construction activities could result in the elimination of plant cover in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of structural BMPs, or by re-establishing and maintaining the plant communities post construction. Or, municipalities may choose to implement non-structural BMPs and/or structural BMPs that do not divert or reduce the surface water runoff that would be discharged to the canyons and stream channel.

Should a large impermeable detention basin be required, this could be constructed underground so as not to impact the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants).

4. Plant life. b. Will the proposal result in reduction of the numbers of any unique, rare or endangered species of plants?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in reduction of the numbers of any unique, rare, or endangered species of plants because these BMPs will not affect the habitat of any unique, rare, or endangered species of plants.

Depending on the structural BMPs selected, direct or indirect impacts to special-status plant species may occur. However, the installation of structural BMPs would likely be implemented in highly urbanized areas and would not likely result in a change or reduction in the number of unique, rare or endangered species of plants in the immediate area of the installation.

Mitigation measures could be implemented to ensure that potential impacts to unique, rare or endangered plant species are eliminated. When the specific projects are developed and sites identified, a focused protocol plant survey and/or a search of the California Natural Diversity Database should be performed to confirm that any potentially sensitive or special status plant species in the site area are properly identified and protected as necessary. If sensitive plant species occur on the project site, mitigation is required in accordance with the Endangered Species Act. Mitigation measures should be developed in consultation with the California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS).

Responsible agencies should endeavor to avoid installing structural BMPs that could result in reduction of the numbers of unique, rare or endangered species of plants, and instead opt for non-structural BMPs and/or identify and install structural BMPs in areas that will not reduce the numbers o such plants.

Should an impermeable detention basin be required, this could be constructed underground so as not to result in reduction of the numbers of any unique, rare or endangered species of plants.

4. Plant life. c. Will the proposal result in introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?

Answer: Less than significant with mitigation

Discussion: Most non-structural BMPs will not result in introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species because most of the BMPs would not introduce any physical effects that could impact these characteristics. However, the creation and enforcement of ordinances to eliminate nuisance flows could result in the introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species especially in the dry weather season. However, this would cause Chollas Creek's dry weather flows to return to a more natural, pre-development condition, facilitating a return to a more natural, dry weather habitat. As discussed in the answer to question 4.a., impeding the propagation of invasive species is not a negative impact.

For structural BMPs that may include the use of plants, such as vegetated swales or engineered (bioretention) wetlands, new species of plants may possibly be introduced into the area. However, in cases where plants or landscaping is incorporated into the specific project design, the possibility of disruption of resident native species could be avoided or minimized by using only plants native to the area. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (1999, California Invasive Plant Council, as amended) should be prohibited.

4. Plant life. d. Will the proposal result in reduction in acreage of any agricultural crop?

Answer: No impact

Discussion: Non-structural and/or structural BMPs will not result in reduction in acreage of any agricultural crop. Based on the California Department of Conservation Division of Land Resources Protection Farmland Mapping and Monitoring Program Important Farmland in California, 2002, there is no Prime Farmland, Farmland of Statewide Importance, Unique Farmland or Farmland of Local Importance in the Chollas Creek watershed. Structural BMPs are not expected to be placed in any area currently engaged in crop production. If structural BMPs are installed, they would likely be located in already highly urbanized areas and would not impact the acreage of any agricultural crop.

4. Plant life. e. Will the proposal result in toxic conditions that effect plant growth?

Answer: Less than significant impact with mitigation.

Discussion: Non-structural BMPs will not result in toxic conditions that effect plant growth because non of the BMP would include physical effects that could lead to the accumulation of toxicity.

Structural BMPs such as infiltration basins may accumulate metal to level that are toxic to certain plants. Metals that are removed by infiltration BMPs typically are retained in the upper 2 to 5 inches of soil or sediment. Typically, metals levels returned to background levels or non-detectable levels below about 5 inches depth.

There is a potential (given enough time) that metals may accumulate in the upper 2 to 5 inches of soil to levels that might be toxic to plants. The mitigation measures could include replanting with metals resistant plants, or covering with gravel or cobblestones, or covering with compost as a mulch. The added benefit that compost might have is a higher affinity to bind with metals (due to its high organic content), and that placement of compost on the soil surface will capture the metals before they bind with the soil As metals concentrations build, the mulch could be removed and replaced. Other options for minimizing exposure to soil could include putting the infiltration BMP underground or indoors, and/or restricting access. Finally, the metals-laden, top 2 to 5 inches of soil could be removed, disposed of and replaced.

5. Animal Life. a. Will the proposal result in change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs, such as the creation and enforcement of ordinances to eliminate nuisance flows, could result in change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna) due to a reduction of dry weather flows that could eliminate instream habitats dependant on those flows. However, this would return Chollas Creek's dry weather flows to a more natural, pre-development condition, facilitating a return to a more natural, dry weather habitat, as discussed in the answer to question 4.a.

Stream riffle and run habitat would decrease in duration during dry weather conditions, thereby limiting aquatic-dependent species to pools during that time period. While migration of aquatic species would be limited during dry weather, migration would be possible during wet weather flows. Furthermore, aquatic species that would naturally occur in Chollas Creek would not have a life cycle that would be dependent upon riffle and run habitat during dry weather since none existed under pre-development conditions. Note that Chollas Creek is not considered potential habitat for species that may require a comparatively higher volume of flow for migration upstream, which is required for species such as Steelhead Trout. Therefore, such consideration is not necessary.

The installation of structural BMPs such as vegetated swales, buffer strips, engineered (bioretention) wetlands, or retention ponds could increase the diversity or number of animal species, which is beneficial by creating habitat for those species. However, these types of structural BMPs could also increase the likelihood of vectors and pests. For example, constructed basins and vegetated swales may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation includes the prevention of standing water through the construction and maintenance of appropriate drainage slopes and through the use of aeration pumps.[18] Mitigation for vectors and pests should involve the use of appropriate vector and pest control strategies, maintenance, and frequent inspections.

Installation of non-vector producing structural BMPs can help mitigate vector production from standing water. Netting can be installed over structural BMPs to further mitigate vector production. Structural BMPs can be designed and sites can be properly protected to prevent accidental vector production. Vector control agencies may also be employed as another source of mitigation. Structural BMPs prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies.

Structural BMPs could also divert, or reduce stormwater runoff discharge, which could decrease the number and/or diversity of animal species within the canyons and stream channel by eliminating habitat dependant on those flows. Because the Chollas Creek watershed is heavily developed with significant areas of impermeable surfaces, stormflow generated streamflow in Chollas Creek is very likely higher today than under pre-development conditions. Therefore, native communities of animals and the habitats they depend upon likely can thrive under lower streamflow conditions than what currently exist in Chollas Creek. Hydrologic modeling could be used to estimate the rate and volume of pre-development stormwater runoff to, and flow in Chollas Creek. Using this information, BMPs could be selected and sized to not reduce streamflows in Chollas Creek below pre-development levels. BMPs that completely eliminate stormwater runoff are not reasonably foreseeable because of their cost and the availability of other feasible and less costly alternatives. Furthermore, the removal of toxic metals from Chollas Creek water will increase the number and/or diversity of benthic organisms, insects or microfauna in the sediment in the stream channel.

The current number or diversity of animal species could be maintained by minimizing the size of structural BMPs and limiting the encroachment and/or removal of animal habitat. Additionally, municipalities may choose to implement non-structural BMPs and/or structural BMPs that do not divert or reduce the stormwater runoff that would be discharged to the canyons and stream channel. Additionally, should an impermeable detention basin be required, it could be constructed underground so as not remove habitat leading to a change in the diversity of species, or numbers of any

[18] http://www.cabmphandbooks.com/Muncipal.asp

species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna).

5. Animal Life. b. Will the proposal result in reduction of the numbers of any unique, rare or endangered species of animals?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in reduction of the numbers of unique, rare or endangered species of animals because these BMPs will not cause a reduction in habitat for unique, rare, or endangered animals.

Depending on the structural BMPs selected, direct or indirect impacts to special-status animal species may possibly occur. The installation of structural BMPs would likely be implemented in highly urbanized areas, which are not likely to be inhabited by special-status species. However, there is the possibility for special-status species (such as the gnat catcher) to be present. If special status species are present during activities such as, ground disturbance, construction, operation and maintenance activities associated with the potential projects, it could conceivably result in direct impacts to special status species including the following:

- Direct loss of a special status species
- Increased human disturbance in previously undisturbed habitats
- Mortality by construction or other human-related activity
- Impairing essential behavioral activities, such as breeding, feeding or shelter/refuge
- Destruction or abandonment of active nest(s)/den sites
- Direct loss of occupied habitat

In addition, potential indirect impacts may include but are not limited to, the following:

- Displacement of wildlife by construction activities
- Disturbance in essential behavioral activities due to an increase in ambient noise levels and/or artificial light from outdoor lighting around facilities

Mitigation measures, however, could be implemented to ensure that special status animals are not negatively impacted, nor their habitats diminished. For example, when the specific projects are developed and sites identified, a focus protocol animal survey and/or a search of the California Natural Diversity Database should be performed to confirm that any potentially special-status animal species in the site area are properly identified and protected as necessary.

If special-status animal species are potentially near the project site area, as required by the Endangered Species Act (ESA), two weeks prior to grading or the construction of facilities and per applicable USFWS and/or CDFG protocols, pre-construction surveys to determine the presence or absence of special-status species should be conducted. The surveys should extend an appropriate distance (buffer area) off site in accordance with USFWS and/or CDFG protocols to determine the presence or absence of any special-status species adjacent to the project site. If special-status species are present on the project site or within the buffer area, mitigation would be required under the ESA. To this extent, mitigation measures shall be developed with the USFWS and CDFG to reduce potential impacts.

In sensitive habitat areas with unique, rare or endangered species, responsible agencies should endeavor to avoid implementing structural BMPs and instead opt for implementing non-structural BMPs, such as developing and enforcing ordinances, and/or low impact structural BMPs that can be retrofitted into existing facilities that will not divert or reduce surface water runoff discharge to the canyons and stream channel.

Additionally, should an impermeable detention basin be required, this could be constructed underground so as not to result in reduction of the numbers of any unique, rare or endangered species of animals through the destruction of habitat.

5. Animal Life. c. Will the proposal result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals?

Answer: Less than significant with mitigation

Discussion: Most non-structural BMPs will not result in introduction of new species of animal into an area, or in a barrier to the migration or movement of animals because most of the BMPs would not introduce any physical effects that could impact these characteristics. However, the creation and enforcement of ordinances to eliminate nuisance flows could result in a barrier to the migration or movement of animals especially in the dry weather season by eliminating habitat dependant on those flows. However, this would cause Chollas Creek's dry weather flows to return to a more natural, pre-development condition, facilitating a return to a more natural, dry weather habitat, as discussed in the answer to question 5a.

Structural BMPs would not foreseeably introduce new species. In addition, because structural BMPs would likely be installed in urbanized areas, the potential installation sites would not act as a travel route or regional wildlife corridor. However, BMPs could potentially be constructed in open space where travel routs or regional wildlife corridors exist. A travel route is generally described as a landscape feature (such as a ridgeline, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources such as water, food, or den sites). Wildlife corridors are generally an area of habitat, usually linear in nature, which connect two or more habitat patches that

would otherwise be fragmented or isolated from one another. Construction of reasonably foreseeable structural BMPs should not restrict wildlife movement because the size of BMPs are generally too small to obstruct a corridor.

A corridor for terrestrial animals would be maintained regardless of flow since reduced flows would not provide physical barriers for these animals. In the event that any structural BMPs built would hinder animals from moving throughout the stream corridor, a pathway around the BMPs could be constructed.

A net loss of native animal species habitat in the stream corridor due to BMP installation should be mitigated. Initially, avoidance and minimization of habitat loss should be considered. In some cases, BMPs may actually provide important habitat for animals in the stream corridor. Examples of such BMPs include detention/ retention ponds, vegetated swales, and buffer strips.

Responsible agencies should endeavor to avoid compliance measures that could result in significant barriers to the migration or movement of animals, and instead opt for non-structural BMPs and/or structural BMPs that would not change the migration or movement of animals. Potential project sites in open space areas that might be used to install structural BMPs should be evaluated in consultation with CDFG to identify potential wildlife travel routes. If a wildlife travel route is identified that could be impacted by the installation of structural BMPs, then the project should be designed to include a new wildlife travel route in the same general location.

Some migratory avian species may use portions of potential project sites, including ornamental vegetation, during breeding season and may be protected under the Migratory Bird Treaty Act (MBTA) while nesting. The MBTA includes provisions for protection of migratory birds under the authority of the USFWS and CDFG. The MBTA protects over 800 species including, geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species. If construction occurs during the avian breeding season for special status species and/or MBTA-covered species, generally February through August, then prior (within 2 weeks) to the onset of construction activities, surveys for nesting migratory avian species should be conducted on the project site following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within the appropriate distance of construction areas, further mitigation may not be necessary.

Alternatively, to avoid impacts, the agencies implementing the TMDLs may begin construction after the previous breeding season for covered avian species and before the next breeding season begins. If a protected avian species was to establish an active nest after construction was initiated and outside of the typical breeding season (February – August), the project sponsor, would be required to establish a buffer as required by USFWS between the construction activities and the nest site.

If active nest for protected avian species are found within the construction footprint or within the proscribed buffer zone, construction would be required to be delayed

within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation are developed in consultation with USFWS or CDFG. These impacts are highly site specific, and assuming they are foreseeable, they would require a project-level analysis and mitigation plan.

5. Animal Life. d. Will the proposal result in deterioration to existing fish or wildlife habitat?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in deterioration to existing fish or wildlife habitat. The creation and enforcement of ordinances to eliminate nuisance flows could result in improved water quality to existing fish or wildlife habitat. In addition, this would return Chollas Creek's dry weather flows to a more natural, pre-development condition, which is a significant improvement to the environment as discussed in the answer to question 5a.

Depending on the structural BMPs selected, direct or indirect impacts to existing fish or wildlife habitat may occur. However, the installation of structural BMPs would likely be implemented in highly urbanized areas; therefore, the installation of structural BMPs would not likely result in the deterioration of existing fish and or wildlife habitat in the immediate area of a project. Nonetheless, potential effects on fish or wildlife habitat can be reduced by minimizing the size of structural BMPs and limiting the encroachment and/or removal of animal habitat.

Structural BMPs could also divert, reduce, and/or eliminate stormwater runoff discharge, which could potentially change the fish and wildlife habitat within the canyons and stream channels by changing the flow regime of the creek. Because the Chollas Creek watershed is heavily developed with significant areas of impermeable surfaces, stormflow generated streamflow in Chollas Creek is very likely higher today than under pre-development conditions. Therefore, native communities of animals and the habitats they depend on likely can thrive under lower stormflow generated streamflow conditions than what currently exist in Chollas Creek. Hydrologic modeling could be used to estimate the rate and volume of pre-development stormwater runoff to, and flow in Chollas Creek. Using this information, BMPs could be selected and sized to not reduce streamflows in Chollas Creek below pre-development levels. BMPs that completely eliminate stormwater runoff are not reasonably foreseeable because of their cost and the availability of other feasible and less costly alternatives. The return to more natural, pre-development flow regimes in Chollas Creek could be beneficial to restoring native habitats in the creek. Furthermore, the removal of toxic metals from the water could also improve the fish and wildlife habitat in the canyons and stream channels.

Dischargers may also choose to implement non-structural BMPs and/or structural BMPs that do not divert or reduce the surface water runoff that would be discharged to the canyons and stream channel. Additionally, should an impermeable detention basin be required, this could be constructed underground so as not to result in deterioration to existing fish or wildlife habitat at the project site.

Additionally, metals that are removed by infiltration BMPs typically are retained in the upper 2 to 5 inches of soil or sediment. Typically, metals levels returned to background levels or non-detectable levels below about 5 inches depth.

There is a potential (given enough time) that metals may accumulate in the upper 2 to 5 inches of soil to levels that might be toxic to animals. The mitigation measures that could be implemented would include proper and adequate cover materials that would limit the access to the soil that is being affected by metals in stormwater. Options could include planting grass or iceplant, covering with gravel or cobblestones, or covering with compost as a mulch. Any of these cover options would reduce the potential for exposure to soils with elevated metals concentrations. The added benefit that compost might have is a higher affinity to bind with metals (due to its high organic content), and that placement of compost on the soil surface will capture the metals before they bind with the soil As metals concentrations build, the mulch could be removed and replaced. Other options for minimizing exposure to soil could include putting the infiltration BMP underground or indoors, and/or restricting access. Finally, the metals-laden, top 2 to 5 inches of soil could be removed, disposed of and replaced.

6. Noise. a. Will the proposal result in increases in existing noise levels?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs could result in increases in existing noise levels due to increased traffic from street sweepers and/or maintenance vehicles which may increase the noise level temporarily as the vehicles pass through an area. However, the increase in noise levels would be no greater than typical infrastructure maintenance activities currently performed by municipalities and is therefore, less than significant.

The construction and installation of structural BMPs would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact is less than significant. The noise associated with the construction and installation of structural BMPs would be the same as typical construction activities in urbanized areas, such as ordinary road and infrastructure maintenance and building activities. Contractors and equipment manufacturers have been addressing noise problems for many years and through design improvements, technological advances, and a better understanding of how to

minimize exposures to noise, noise effects can be minimized. An operations plan for the specific construction and/or maintenance activities could be prepared to identify the variety of available measures to limit the impacts from noise to adjacent homes and businesses.

Severe noise levels could be mitigated by implementing commonly-used noise abatement procedures, such as sound barriers, mufflers, and limiting construction and maintenance activities to times when these activities have lower impact, such as periods when there are fewer people near the construction area. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined, depending upon proximity of construction activities to receptors.

6. Noise. b. Will the proposal result in exposure of people to severe noise levels?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs would not result in increases in exposure of people to severe noise levels because none of these BMPs would introduce any physical effects that could impact this characteristic. Increased traffic from street sweepers and/or maintenance vehicles may increase the noise level temporarily as the vehicles pass through an area, but these levels will not be severe.

There is the possibility that severe noise levels could be emitted during construction activities. The increase in noise levels could be mitigated by implementing commonly-used noise abatement procedures, such as sound barriers, mufflers, and limiting construction and maintenance activities to times when these activities have lower impact, such as periods when there are fewer people in the area. Applicable and appropriate mitigation measures should be evaluated when specific projects are determined, depending upon proximity of construction activities to receptors.

7. Light and Glare. Will the proposal produce new light or glare?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not produce new light or glare because none of the BMPs would introduce any physical effects that could impact light and glare.

The construction and installation of structural BMPs could potentially be performed during evening or night time hours. If this scenario were to occur, night time lighting would be required to perform the work. Also, lighting could possibly be used to increase safety around structural BMPs.

In the unlikely event that construction is performed during night time hours, a lighting plan should be prepared to include mitigation measures. Mitigation measures can include shielding on all light fixtures, and limiting light trespass and glare through the use of directional lighting methods. Other potential mitigation measures may include using screening and low-impact lighting, performing construction during daylight hours, or designing security measures for installed structural BMPs that do not require night lighting.

8. Land Use. Will the proposal result in substantial alteration of the present or planned land use of an area?

Answer: Less than significant

Discussion: Non-structural BMPs will not result in alteration of the present or planned land use of an area because none of the BMPs would introduce any physical effects that could impact land uses.

Implementation of structural BMPs may potentially cause minor alterations in present or planned land use of an area. However, municipalities are not required or expected to change present or planned land uses to comply with the TMDLs, and are encouraged to seek alternatives that would have the lowest impact on the land use and the environment. Potential conflicts between complying with the TMDLs and other land uses can be resolved by standard planning efforts under which specific projects are reviewed by local planning agencies. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined, and a cost-benefit analysis of proposed compliance alternatives should be performed.

More reasonable alternatives should be evaluated and implemented, such as non-structural BMPs and low impact and/or small scale structural BMPs, before considering an alternative that would create considerable hardship for the community in the area.

9. Natural Resources. a. Will the proposal result in increase in the rate of use of any natural resources?

Answer: No impact

Discussion: Non-structural and/or structural BMPs will not increase the rate of use of any natural resources. Implementation of non-structural and/or structural BMPs should not require quarrying, mining, dredging, or extraction of locally important mineral resources. Operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types of equipment used in structural BMPs may consume electricity to operate pumps, etc. However, the

relative amounts of additional fossil fuel and electricity that might be used would fall well within the capacity and expectations of normal city maintenance. The additional use of fossil fuels and electricity could be mitigated and reduced if municipalities used alternative fuels and/or renewable energies to power their vehicles and equipment.

9. Natural Resources. b. Will the proposal result in substantial depletion of any non-renewable natural resource?

Answer: No impact

Discussion: Non-structural and/or structural BMPs will not substantially deplete any non-renewable natural resource. Operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types equipment used in structural BMPs may consume electricity to operate pumps, etc. However, the relative amounts of additional fossil fuel and electricity that might be used would fall well within the capacity and expectations of normal city maintenance. The additional use of fossil fuels and electricity could be mitigated and reduced if municipalities used alternative fuels and/or renewable energies to power their vehicles and equipment.

10. Risk of Upset. Will the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?

Answer: Less than significant

Discussion: Non-structural and structural BMPs will not involve a risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions. The reasonably foreseeable non-structural and structural BMPs included in this evaluation would not be subject to explosion or the release of hazardous substances in the event of an accident because these types of substances would not be present. There is the possibility that hazardous materials (e.g., paint, oil, gasoline) may be present during construction and installation activities, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of construction and installation activities.

11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?

Answer: Less than significant

Discussion: Non-structural BMPs will not alter the location, distribution, density, or growth rate of the human population of an area because none of the BMPs would introduce any physical effects that could impact these characteristics.

Implementation of structural BMPs may potentially alter the location, distribution, density, or growth rate of the human population of an area. However, municipalities are not required or expected to change present or planned land uses to comply with the TMDLs, and municipalities are encouraged to seek alternatives that would have the lowest impact on the existing and planned population of an area. Potential conflicts between complying with the TMDLs and planned growth can be resolved by standard planning efforts under which specific projects are reviewed by local planning agencies. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined.

More reasonable alternatives should be evaluated and implemented, such as non-structural BMPs and low impact and/or small scale structural BMPs, before considering an alternative that would create the need to relocate the population of parts of the watershed..

12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?

Answer: Less than significant

Discussion: Non-structural BMPs will not affect existing housing, or create a demand for additional housing because none of these BMPs would introduce any physical effects that could impact housing.

Implementation of structural BMPs may potentially affect existing housing. However, municipalities are not required or expected to change present or planned land uses to comply with the TMDLs, and municipalities are encouraged to seek alternatives that would have the lowest impact on land use and the environment. Potential conflicts between complying with the TMDLs and other land uses can be resolved by standard planning efforts under which specific projects are reviewed by local planning agencies. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined.

More reasonable alternatives should be evaluated and implemented, such as non-structural BMPs and low impact and/or small scale structural BMPs, before considering an alternative that would create considerable hardship for the community in the area.

13. Transportation/Circulation. a. Will the proposal result in generation of substantial additional vehicular movement?

Answer: Less than significant

Discussion: Non-structural and/or structural BMPs will not result in generation of substantial additional long-term vehicular movement. There may be additional vehicular movement during construction of structural BMPs and during street sweeping and/or maintenance activities. However, vehicular movement during construction would be temporary, and vehicular movement during street sweeping and/or maintenance activities would be periodic and only as the vehicle passes through the area. This may generate minor additional vehicular movement.

In order to reduce the impact of construction traffic, a construction traffic management plan could be prepared for traffic control during any street closure, detour, or other disruption to traffic circulation. The plan could identify the routes that construction vehicles would use to access the site, hours of construction traffic, and traffic controls and detours. The plan could also include plans for temporary traffic control, temporary signage and stripping, location points for ingress and egress of construction vehicles, staging areas, and timing of construction activity which appropriately limits hours during which large construction equipment may be brought on or off site.

The potential impact to vehicular movement can be reduced if street sweeping and/or maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by municipalities, or at times when these activities have lower impact, such as periods of low traffic activity.

13. Transportation/Circulation. b. Effects on existing parking facilities, or demand for new parking?

Answer: Less than significant with mitigation.

Discussion: Non-structural BMPs may affect existing parking facilities, or create demand for new parking structural, if increased street sweeping and/or maintenance is implemented in areas with parking along roadsides. Available parking in an area could be reduced during certain times of the day, week, and/or month, depending on frequency of street sweeping and/or maintenance events. Street sweeping and maintenance events should be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, and/or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

Depending on the structural BMPs selected, alterations to existing parking facilities may occur to incorporate structural BMPs. This could reduce available parking in an area. However, structural BMPs can be designed to accommodate space constraints or be placed under parking spaces and do not have to occupy space in existing parking facilities. Available parking spaces can be reconfigured to provide equivalent number of spaces or provide functionally similar parcels for use as offsite parking to reduce potential impacts.

13. Transportation/Circulation. c. Will the proposal result in substantial impacts upon existing transportation systems?

Answer: Less than significant

Discussion: Non-structural BMPs will not result in significant impacts upon existing transportation systems. The only foreseeable impact would come from increased street sweeping, however long-term impacts are unlikely because any increase in maintenance vehicular activities would fall well within the present day activities in any municipality, and would therefore not qualify as substantial.

Depending on the structural BMPs selected, temporary alterations to existing transportation systems may be required during construction and installation activities. The potential impacts would be limited and short-term. Potential impacts could be reduced by limiting or restricting hours of construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement.

13. Transportation/Circulation. d. Will the proposal result in alterations to present patterns of circulation or movement of people and/or goods?

Answer: Less than significant

Discussion: Non-structural BMPs will not result in alterations to present patterns of circulation or movement of people and/or goods, because none of the BMPs, including increased street sweeping, would introduce any physical effects that could impact these characteristics. No long-term impacts are expected because any increase in maintenance vehicular activities would fall well within the present day activities in any municipality.

Depending on the structural BMPs selected, temporary alterations to present patterns of circulation or movement of people and/or goods may be required during construction and installation activities. The potential impacts would be limited and short-term. Potential impacts could be reduced by limiting or restricting hours of

construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement.

13. Transportation/Circulation. e. Will the proposal result in alterations to waterborne, rail or air traffic?

Answer: Less than significant

Discussion: Non-structural and/or structural BMPs are not expected to result in alterations to waterborne, rail or air traffic because none of the BMPs would introduce any physical effects that could impact these characteristics.

Depending on the structural BMPs selected, temporary alterations to rail transportation could potentially occur during construction and installation activities. However those potential impacts would limited and short-term and could be avoided through proper siting and design, and scheduling of construction activities

13. Transportation/Circulation. f. Will the proposal result in increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

Answer: Less than significant

Discussion: Non-structural BMPs could result in an increase in traffic hazards to motor vehicles, bicyclists or pedestrians due, for example, to increased street sweeping. However, any foreseeable impact from increased street sweeping would fall well within the present day conditions in any municipality, and would therefore not present new safety concerns.

Depending on the structural BMPs selected, a temporary increase in traffic hazards may occur during construction and installation activities. The specific project impacts can be reduced and mitigated by marking, barricading, and controlling traffic flow with signals or traffic control personnel in compliance with authorized local police or California Highway Patrol requirements. These methods would be selected and implemented by responsible local agencies considering project level concerns. Standard safety measures should be employed including fencing, other physical safety structures, signage, and other physical impediments designed to promote safety and minimize pedestrian/bicyclists accidents.

14. Public Service. a. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Fire protection?

Answer: Less than significant

Discussion: Non-structural BMPs will not have an effect upon, or result in a need for new or altered fire protection services because none of the BMPs would introduce any physical effects that could impact this characteristic.

During construction and installation of structural BMPs, temporary delays in response time of fire vehicles due to road closure/traffic congestion during construction activities may occur. However, any construction activities would be subject to applicable building and safety and fire prevention regulations and codes. The responsible agencies could notify local emergency service providers of construction activities and road closures and could coordinate with local providers to establish alternative routes and appropriate signage. In addition, an Emergency Preparedness Plan could be developed for the construction of proposed new facilities in consultation with local emergency providers to ensure that the proposed project's contribution to cumulative demand on emergency response services would not result in a need for new or altered fire protection services. Most jurisdictions have in place established procedures to ensure safe passage of emergency vehicles during periods of road maintenance, construction, or other attention to physical infrastructure. In any case, the installation of structural devices would not create any more significant impediments than such other ordinary activities.

14. Public Service. b. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Police protection?

Answer: Less than significant

Discussion: Non-structural BMPs will not have an effect upon, or result in a need for new or altered fire protection services because none of the BMPs would introduce any physical effects that could impact this characteristic.

During construction and installation of structural BMPs, temporary delays in response time of police vehicles due to road closure/traffic congestion during construction activities may occur. The responsible agencies could notify local police service providers of construction activities and road closures and could coordinate with local police to establish alternative routes and traffic control during construction projects. In addition, an Emergency Preparedness Plan could be developed for the proposed new facilities in consultation with local emergency providers to ensure that the proposed project's contribution to cumulative demand on emergency response services would not result in a need for new or altered police protection services. Most jurisdictions have in place established procedures to ensure safe passage of emergency vehicles during periods of road maintenance, construction, or other attention to physical infrastructure. In any case, the installation of structural devices would not create any more significant impediments than such other ordinary activities.

14. Public Service. c. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Schools?

Answer: No impact.

Discussion: Non-structural and structural BMPs will not have an effect upon, or result in a need for new or altered schools or school services because none of the BMPs would introduce any physical effects that could impact this characteristic.

14. Public Service. d. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Parks or other recreational facilities?

Answer: Less than significant.

Discussion: Non-structural BMPs will not have an effect upon, or result in a need for new or altered parks or other recreational facilities because none of the BMPs would introduce any physical effects that could impact parks or recreational facilities.

During construction and installation of structural BMPs, parks or other recreational facilities could be temporarily affected. Construction activities could potentially be performed near or within a park or recreational facilities. Potential impacts would be limited and short-term and could be avoided through siting, designing, and scheduling of construction activities.

In the unlikely event that the municipalities might install facilities on a scale that could alter a park or recreational facility, the structural BMPs could be designed in such a way as to be incorporated into the park or recreational facility. Additionally, should an impermeable detention basin be required, this could be constructed underground so as not to result in need for new or altered parks or other recreational facilities.

14. Public Service. e. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: maintenance of public facilities, including roads?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs may include additional road maintenance such as additional and/or increased street sweeping. Structural BMPs may require additional maintenance by municipalities to ensure proper operation. As discussed above for

Questions 2, 6, and 13, additional or increased street sweeping and maintenance activities could affect air, noise, and transportation/circulation. The increase in air pollutants and noise levels would be no greater than typical street sweeping and maintenance activities currently performed by the municipalities. Street sweeping and maintenance events could be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

14. Public Service. f. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: other government services?

Answer: Less than significant with mitigation

Discussion: As discussed above, non-structural and/or structural BMPs may include increased street sweeping and/or additional maintenance by dischargers to ensure proper operation of newly installed structural BMPs. However, the potential impacts to air, noise, and transportation/circulation would be no greater than typical street sweeping and maintenance activities currently performed by municipalities. Street sweeping and maintenance events could be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

Implementation of the TMDLs will result in the need for increased monitoring in Chollas Creek and its tributaries to track compliance with the TMDLs. However, no effects to the environment would be expected from these monitoring activities.

15. Energy. a. Will the proposal result in use of substantial amounts of fuel or energy?

Answer: No impact

Discussion: Non-structural and/or structural BMPs will not use substantial amounts of fuel or energy. As discussed above for Question 9, operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types equipment used in structural BMPs may consume electricity to operate pumps, etc. However, the relative amounts of additional fossil fuel and electricity that might be used would fall well within the capacity and expectations of normal city maintenance. The additional use of fossil fuels and electricity could be reduced if the municipalities used alternative fuels and/or renewable energies to power their vehicles and equipment.

15. Energy. b. Will the proposal result in a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

Answer: No impact

Discussion: Non-structural and/or structural BMPs will not result in a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy. As discussed for Questions 9 and 15a above, operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types equipment used in structural BMPs may consume electricity to operate pumps, etc. However, the relative amounts of additional fossil fuel and electricity that might be used would fall well within the capacity and expectations of normal city maintenance. The additional use of fossil fuels and electricity could be reduced if the municipalities used alternative fuels and/or renewable energies to power their vehicles and equipment.

If alternative sources of energy are used, sources of alternative energy and fuel may be needed. Equipment and components for renewable sources of energy such as solar or wind are readily available. Alternative fuels such as ethanol or biodiesel are commercially available and can be used. Sources of new energy are not required to be developed.

16. Utilities and Service Systems. a. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: power or natural gas?

Answer: Less than significant

Discussion: Non-structural BMPs will not result in a need for new systems or alterations to power or natural gas utilities because none of the BMPs would introduce any physical effects that could impact this characteristic.

Installation of structural BMPs may require alterations or installation of new power or natural gas lines. Power, and natural gas lines might need to be rerouted to accommodate the addition of structural BMPs. The degree of alteration depends upon local system layouts which careful placement and design can minimize. However, that the installation of structural BMPs will result in a substantial increased need for new systems, or substantial alterations to power or natural gas utilities, is not reasonably foreseeable, because none of these BMPs are large enough to substantially tax current power or natural gas sources. No long term effects on the environment are expected if alterations to power or natural gas utilities are required.

16. Utilities and Service Systems. b. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: communications systems?

Answer: No impact

Discussion: Non-structural BMPs will not result in a need for new systems or alterations to communications systems because none of the BMPs would introduce any physical effects that could impact this characteristic. Current forms of communications used in street sweeping and maintenance vehicles could still be used.

New systems or alterations to communications systems are not necessarily required for structural BMPs. Structural BMPs can be manually inspected and maintained without any communications system required. However, that municipalities could install a remote monitoring system, which could include a new communications system, is possible. A telephone line or wireless communications system could be installed, which would not be a substantial alteration.

16. Utilities and Service Systems. c. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: water?

Answer: No impact

Discussion: Non-structural and/or structural BMPs will not result in a need for new systems or alterations to water lines. The need for new municipal or recycled water to implement these TMDLs, is not foreseeable.

16. Utilities and Service Systems. d. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: Sewer or septic tanks?

Answer: Less than significant

Discussion: Non-structural and/or structural BMPs will not result in a need for new systems or alterations to sewer or septic tanks because none of the BMPs would introduce any physical effects that could impact this characteristic.

Depending on the structural BMPs selected, a portion or all of the surface water runoff may be diverted to wastewater treatment facilities. If stormwater is diverted for treatment at a wastewater treatment facility, new connections to existing sanitary sewer lines may be required, but no new major sewer trunks or substantial alterations to sewer system would be expected because BMPs utilizing the sewer would likely contribute small amounts of first flush storm water. Any environmental affects from

associated construction activities would be small scale and short-term and similar to typical municipal capital improvement projects.

16. Utilities and Service Systems. e. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: stormwater drainage?

Answer: Less than significant with mitigation.

Discussion: Non-structural BMPs will not result in a need for new systems, or substantial alterations to stormwater drainage systems because none of the BMPs would introduce any physical effects that could impact this characteristic.

In order to achieve compliance with the TMDLs, the stormwater drainage systems may need to be reconfigured and/or retrofitted with structural BMPs to capture and/or treat a portion or all of the stormwater runoff. The alterations and/or additions to stormwater drainage systems will depend on the compliance strategy selected by each municipality at each location where structural BMPs might be installed. Impacts from construction activities to retrofit or reconfigure the storm drain system as part of BMP installation, and mitigation measures have been considered and discussed in the previous responses to the questions.

16. Utilities and Service Systems. f. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: solid waste and disposal?

Answer: No impact

Discussion: Most non-structural BMPs will not result in a need for new systems, or substantial alterations to the solid waste and disposal systems because none of the BMPs would introduce any physical effects that could impact this characteristic. However, increased street sweeping would generate additional solid waste, but this additional waste is not expected to exceed the maintenance capacity of normal city operations. No new solid waste or disposal systems would be expected.

Structural BMPs may generate solid wastes requiring disposal. The installation of structural BMPs may generate construction debris. Installed structural BMPs may collect sediment and solid wastes that will require disposal. Structural BMPs may require disposal of construction debris and collected sediment and solid waste material, but no new solid waste or disposal systems would be needed to handle the relatively small volume generated by these projects. Construction debris may be recycled at aggregate recycling centers or disposed of at landfills. Sediment and solid wastes that may be collected can be disposed of at appropriate landfill and/or disposal facilities.

17. Human Health. a. Will the proposal result in creation of, and exposure of people to, any health hazard or potential health hazard (excluding mental health)?

Answer: Less than significant with mitigation

Discussion: As discussed above for Questions 2 and 13, non-structural BMPs such as street sweeping and maintenance vehicles could have an effect on air and transportation/circulation. Non-structural BMPs could increase the amount of pollutants emitted into the atmosphere above ambient conditions. Non-structural BMPs could also increase traffic, which could potentially decrease the safety of pedestrians. In both cases, potential impacts can be reduced or eliminated if street sweeping and/or maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity.

As discussed above for questions 1, 2, 3, 5, and 13, the installation of structural BMPs could have an effect on earth, air, water, animal life, and transportation/circulation. Structural BMPs could increase the risk of unstable earth conditions, which could pose a physical risk to persons in the area should a slope fail. Construction, installation, and maintenance of structural BMPs could increase the amount of pollutants the air, which could have an effect on health. Structural BMPs could potentially result in additional habitat and/or standing water which can attract pests, such as flies, mosquitoes and/or rodents, which can be carriers of disease. Maintenance of structural BMPs could also increase traffic, which could potentially decrease the safety of pedestrians. Additionally, heavy machinery and materials that may be used during construction and installation of structural BMPs could pose physical and/or chemical risks to human health.

Potential impacts to earth could be avoided or mitigated through proper geotechnical investigations, siting, design, and ground and groundwater level monitoring to ensure that structural BMPs are not employed in areas subject to unstable soil conditions. Potential health hazards attributed to installation and maintenance of structural BMPs can be mitigated by use of OSHA construction and maintenance health and safety guidelines. Potential health hazards attributed to BMP maintenance can be mitigated through OSHA industrial hygiene guidelines. Installation of non-vector producing structural BMPs can help mitigate vector production from standing water. Netting can be installed over structural BMPs to further mitigate vector production. Structural BMPs can be designed and sites can be properly protected to prevent accidental health hazards as well as prevent vector production. Vector control agencies may also be employed as another source of mitigation. Structural BMPs prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies. Potential impacts to transportation/circulation can be reduced or eliminated if maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at

times when these activities have lower impact, such as periods of low traffic activity. Appropriate planning, design, siting, and implementation can reduce or eliminate potential health hazards due to the installation of structural BMPs.

Additionally, potential benefits will include a reduction in the rate of bioaccumulation of lead, copper and zinc, because of the result reduction of exposure to people eating fish caught at the mouth of Chollas Creek or otherwise in San Diego Bay.

Finally, metals that are removed by infiltration BMPs typically are retained in the upper 2 to 5 inches of soil or sediment. Typically, metals levels returned to background levels or non-detectable levels below about 5 inches depth.

There is a potential (given enough time) that metals may accumulate in the upper 2 to 5 inches of soil to levels that might be toxic to humans, plants, and/or animals. The mitigation measures that could be implemented would include proper and adequate cover materials that would limit the access to the soil that is being affected by metals in stormwater. Options could include planting grass or iceplant, covering with gravel or cobblestones, or covering with compost as a mulch. Any of these cover options would reduce the potential for exposure to soils with elevated metals concentrations. The added benefit that compost might have is a higher affinity to bind with metals (due to its high organic content), and that placement of compost on the soil surface will capture the metals before they bind with the soil As metals concentrations build, the mulch could be removed and replaced. Other options for minimizing exposure to soil could include putting the infiltration BMP underground or indoors, and/or restricting access. Finally, the metals-laden, top 2 to 5 inches of soil could be removed, disposed of and replaced.

18. Aesthetics. a. Will the proposal result in the obstruction of any scenic vista or view open to the public?

Answer: Less than significant with mitigation.

Discussion: Non-structural BMPs will not result in the obstruction of any scenic vista or view open to the public because none of the BMPs would introduce any physical effects that could impact this characteristic.

That municipalities would comply with these TMDLs by installing structural BMPs that would adversely affect a scenic vista or view open to the public, is not reasonably foreseeable. Most structural BMPs, which will likely be used, are subsurface devices such as sand filters. Once completed, structural BMPs would not foreseeably obstruct scenic vistas or open views to the public. In the unlikely event that the municipalities might install facilities on a scale that could obstruct scenic views, such impacts could be reduced or eliminated with appropriate planning, design, and siting of the structural BMPs. Additionally, any structural BMPs can, if necessary, be constructed underground to eliminate aesthetic issues.

18. Aesthetics. b. Will the proposal result in the creation of an aesthetically offensive site open to public view?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in the creation of an aesthetically offensive site open to public view because none of the BMPs would introduce any physical effects that could impact this characteristic.

The installation of structural BMPs could potentially create an aesthetically offensive site open to public view. Structural BMPs may create an aesthetically offensive site to the public during construction and installation, but this would be temporary until construction is completed. Once installation of the structural BMPs is complete, the site may continue to be aesthetically offensive to the public. However, many structural BMPs can be designed to provide wildlife habitat, recreational areas, and green spaces in addition to improving stormwater quality. Appropriate architectural and landscape design practices can be implemented to reduce adverse aesthetic effects. Screening and landscaping may also be used to mitigate adverse aesthetic effects. The adverse aesthetic effects could be reduced or eliminated and possibly improved with appropriate planning and design of the structural BMPs. Additionally, any structural BMPs can, if necessary, be constructed underground to eliminate aesthetic issues.

Above-ground structural BMPs may also become targets of vandalism. Vandalized structures may become aesthetically offensive. Vandalism, however, already exists to some degree in most, if not all, urbanized areas. Adding several new structures is not of itself likely to have any impact upon current vandalism trends. Improved lighting and enforcement of current vandalism ordinances may decrease vandalism of structural BMPs.

19. Recreation. Will the proposal result in impact on the quality or quantity of existing recreational opportunities?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in impact on the quality or quantity of existing recreational opportunities because none of the BMPs would introduce any physical effects that could impact these characteristics.

During construction and installation of structural BMPs, parks or other recreational areas could be temporarily affected. Construction activities could potentially be performed near or within a park or recreational area. Potential impacts would be

limited and short-term and could be avoided through proper siting, design, and scheduling of construction activities.

In the event that the municipalities might install facilities on a scale that could alter a park or recreational area, the structural BMPs could be designed in such a way as to be incorporated into the park or recreational area. Additionally, any structural BMPs can, if necessary, be constructed underground to minimize impacts on the quality or quantity of existing recreational opportunities. Mitigation to replace lost areas may include the creation of new open space recreation areas and/or improved access to existing open space recreation areas.

Additionally, improvement of water quality could create new recreation opportunities in Chollas Creek by providing the opportunity to recreate in and near a clean water body with a robust and diverse population of plants and animals.

20. Archeological/Historical a. Will the proposal result in the alteration of a significant archeological or historical site, structure, object or building?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in the alteration of a significant archeological or historical site, structure, object or building because none of the BMPs would introduce any physical effects that could impact these characteristics.

In the unlikely event that municipalities might install facilities on a scale that could result in significant adverse effects on a significant archeological or historical site, structure, object or building, a project level, site-specific environmental assessment should be performed to identify the mitigation measures that could be employed to minimize the potential effects on archeological or historical sites and identify alternatives that could potentially be used that would have less impact. The agencies responsible for implementing these TMDLs could consult the relevant local archeological or historical commissions or authorities to identify these types of sites and determine ways to avoid significant adverse impacts. The potentially adverse effects on archeological or historical sites that might be present could be reduced or eliminated with appropriate planning, design, and siting of the structural BMPs.

Additionally, if during ground-disturbing activities paleontological resources are identified within the project area, all work within 50 feet of the discovery should be halted and a qualified paleontologist contacted to evaluate the finds and make recommendations. If the paleontological resources are not significant as determined by a qualified paleontologist, no further protection is necessary. If such paleontological resources are found to be significant, they should be avoided by project activities. If avoidance is not feasible, adverse effects to such paleontological resources should be mitigated. Upon completion of the paleontological assessment, a report should be prepared documenting the methods and results, as well as

recommendations. The City should require implementation of the recommendations of the report. The report should be submitted to the appropriate City agencies.

21. Mandatory Findings of Significance - Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Answer: Less than significant with mitigation

Discussion: Non-structural BMPs will not result in the substantial degradation of the environment for plant and animal species because none of the BMPs would introduce any physical effects that could impact these characteristics.

As discussed above in Questions 4 and 5, plant and animal species could potentially be adversely affected by the installation and operation of structural BMPs. Mitigation measures could be implemented to ensure that unique, rare or endangered plant and/or animal species and their habitats are not taken or destroyed. When specific projects are developed and sites identified, a focused protocol plant and/or animal survey and/or a search of the California Natural Diversity Database should be performed to confirm that any potentially sensitive or special status plant and/or animal species in the site area are properly identified and protected as necessary. If sensitive plant and/or animal species occur on the project site, mitigation is required in accordance with the Endangered Species Act. Mitigation measures should be developed in consultation with the CDFG and the USFWS. Responsible agencies should endeavor to avoid installing structural BMPs that could adversely affect any unique, rare or endangered species of plants and/or animals, and instead opt for non-structural BMPs and/or identify and install structural BMPs that will have little or no impact such as underground BMPs.

Taken all together, the potential impacts of the project will not cause a significant cumulative impact in the environment. In any case, the implementation of these TMDLs will result in improved water quality in the waters of the Region and will have significant beneficial impacts to the environment over the long term.

21. Mandatory Findings of Significance - Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)

Answer: No impact

Discussion: There are no short-term beneficial effects on the environment from the implementation of non-structural and/or structural BMPs that would be at the expense of long-term beneficial effects on the environment. The implementation and compliance with these TMDLs will result in improved water quality in the waters of the Region and will have significant beneficial impacts to the environment over the long term.

21. Mandatory Findings of Significance - Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Answer: Less than significant with mitigation

Discussion: Cumulative impacts, defined in section 15355 of the CEQA Guidelines, refer to two or more individual effects, that when considered together, are considerable or that increase other environmental impacts. Cumulative impact assessment must consider not only the impacts of the proposed metals TMDLs, but also the impacts from other TMDL, municipal, and private projects, which have occurred in the past, are presently occurring, and may occur in the future, in the watershed during the period of implementation.

Past and present projects may be regarded as the general construction (development and maintenance) which has brought the Chollas Creek watershed from a natural, pristine condition, to the urban, developed setting which is present today. This provides a baseline level of construction with which to compare all water quality project requirements. The past and present baseline of construction in the Chollas Creek watershed are typical of any fully developed urban area, and will probably remain constant in the future. The increment of increase proposed by the cumulative requirements of all water quality requirements can be mitigated through scheduling, and is insignificant compared to the past and on-going baseline of typical municipal construction.

Present and future impacts will come from all of the water quality control programs and pollutant load reduction projects being implemented in the watershed or planned for the near future. For Chollas Creek, these include TMDLs for Diazinon, Indicator Bacteria TMDLs, the mouth of Chollas Creek toxic sediment TMDLs, toxic pollutants in sediment in San Diego Bay near Chollas Creek, and projects to comply with the WDRs in Order No. R9-2007-0001 (the San Diego County municipal stormwater requirements).

The San Diego Water Board adopted a diazinon TMDL for Chollas Creek in 2002, and will likely adopt TMDLs for indicator bacteria in 2007. The San Diego Water Board has also required the cities of La Mesa, Lemon Grove, and San Diego to initiate trash reduction programs in an iterative BMP implementation process, under section C of Order No. 2001-01,[19] (the previous San Diego County municipal stormwater requirements) and section A.3.a.(1) of Order No. R9-2007-01. In assessing cumulative impacts from multiple water quality control requirements, this CEQA analysis considers the nature, source and transport of impairing compounds, the pollutant loading mechanisms and the reasonably foreseeable methods of compliance.

Cumulative impacts are not expected to be significant because effective non-structural BMPs, that have no adverse impacts, are available to implement the Diazinon TMDL, Indicator Bacteria TMDLs, and trash reduction program. The principal implementation provision for the Diazinon TMDL was federal legislation banning the sale and use of the pesticide in the United States.[20] Other BMPs for Diazinon reduction include education and outreach to discourage homeowners and businesses from using stockpiled Diazinon, and encourage integrated pest management practices, none of which will have adverse effects on the physical environment, and therefore no significant cumulative impact.

The Indicator Bacteria TMDLs can be implemented through education and outreach, and enforcement of ordinances requiring pet owners to properly dispose of pet waste, ordinances prohibiting disposal of grease, food products, and other bacteria-laden waste products into the storm drain, and ordinances banning nuisance flows into the stormdrain system. Another important bacteria load reduction program is to find and fix illegal cross-connections between the sanitary sewer system and the stormdrain system, such as the recently discover cross-connection and large sewage spill at Naval Station San Diego, at the mouth of Chollas Creek. Fixing cross connections between the stormdrain and sanitary sewer systems may increase the overall number of construction projects needed in the watershed to implement TMDLs. However, estimating the number of cross connections that might exist is purely speculative. Further, these types of construction projects are on a small scale and fall well within typical municipal capital improvement and maintenance activities. Therefore the cumulative effects will not be considerable, and can be mitigated, if necessary, through scheduling.

The mouth of Chollas Creek toxic sediment TMDL is currently in the initial stages of development. The San Diego Water Board identified the 1-10 acres near the mouth of Chollas Creek in San Diego Bay as one of five priority toxic hotspots in San Diego Bay. The San Diego Water Board listed the same areas on the 1998 List of Water Quality Limited Segments as a priority for establishing a TMDL that addresses benthic community degradation and toxicity in the marine sediment of Chollas Creek channel in San Diego bay. The likely contaminants of concern that cause the benthic

[19] Order No. 2001-01 was superseded by Order No. R9-2007-0001 adopted on January 24, 2007.
[20] Diazinon Revised Risk Assessment And Agreement With Registrants; Prevention, Pesticides And Toxic Substances (7506C)

community degradation are: chlordane and non-polar organics (including polychlorinated biphenyls (PCBs)) and polycyclic aromatic hydrocarbons (PAHs) in sediment. However, cumulative effects are not expected since the likely implementation action will result in some form of dredging and cleanup. Therefore the cumulative effects will not be considerable, and can be mitigated, if necessary, through scheduling.

Trash reduction can be achieved through education and outreach, and enforcement of ordinances against littering. For the most part, these activities will not have adverse environmental impacts, and therefore no significant cumulative impact.

Ordinances prohibiting nuisance flows will reduce both bacteria and metals loading to Chollas Creek. The effects of eliminating nuisance flows may be attributable to several water quality control projects, but the effects of each will not be cumulative because they are not additive, i.e., once flows are reduced for any project, other projects won't result in further reductions.

The dischargers may opt to use structural BMPs to reduce bacteria and metals loading to Chollas Creek which would increase the likelihood of environmental effects that are cumulatively considerable. The City of San Diego funded an assessment of BMP strategies that would lessen the anticipated impacts and allow an integrated TMDL strategy that address both current and anticipated TMDLs. In this study,[21] the authors recommended a strategy that used a tiered approach that reduces the impact to the environment, and allows for more cost effective implementation of lower-impact BMPs. The tiered approach consists of three major components:

- Tier 1 – Control of Pollutants at the Source and Prevent Pollutants from Entering Runoff
- Tier 2 – Conduct Design Studies and Implement Aggressive Street Sweeping and Runoff and Treatment Volume Reduction BMPs
- Tier 3 – Infrastructure Intensive Treatment BMPs

Implementation of this BMP strategy, because it emphasizes BMPs with the least adverse impacts to the environment, should reduce cumulative impacts to less than significant levels.

However, present and future specific TMDL projects may include structural BMP construction which must be environmentally evaluated for potential cumulative impacts by the implementing municipality. Present and future specific TMDL projects and other construction activities may result in short-term cumulative impacts as described below. However, appropriate and available mitigation measures, including scheduling, are available to reduce adverse environmental impacts associated with construction to less than significant levels.

Noise and Vibration - Local residents in the near vicinity of installation and

[21] Weston Solutions, 2006. *Chollas Creek TMDL Source Loading, Best Management Practices, and Monitoring Strategy Assessment,* September, 2006.

maintenance activities may be exposed to noise and possible vibration. The cumulative effects, both in terms of added noise and vibration at multiple metals TMDL installation sites, and in the context of other related projects, are not likely to be cumulatively considerable due to the temporary nature of noise increases and the small scale of the projects. Noise mitigation methods including scheduling of construction are discussed above, and should be used to keep cumulative noise and vibration affects to acceptable levels.

Air Quality - Implementation of the metals TMDLs program may cause additional emissions of air pollutants and slightly elevated levels of carbon monoxide during construction activities. Emission of air pollutants resulting from installation of TMDL compliance devices may exceed certain regulatory thresholds, and therefore the TMDLs, in conjunction with all other construction activity, may contribute to the region's overall exceedance of certain regulatory thresholds during the installation period. However, because these installation-related emissions are temporary, compliance with the TMDLs would not result in long-term cumulatively considerable air quality impacts. Short-term impacts can be avoided through scheduling.

Transportation and Circulation - Compliance with the metals TMDLs could involve installation activities occurring simultaneously at a number of sites along Chollas Creek and tributaries to the creek. Installation of metals reduction BMPs may occur in the same general time and space as other related or unrelated projects. In these instances, construction activities from all projects could produce cumulative traffic effects depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the numerous construction activities. Special coordination efforts may be necessary to reduce the combined effects to an acceptable level. Overall, cumulatively considerable impacts are not anticipated because coordination can occur and because transportation mitigation methods are available.

Public Services - The cumulative effects on public services due to the metals TMDLs would be limited to traffic inconveniences. These effects are not likely to be cumulatively considerable as long as alternative traffic route are available around construction sites.

Aesthetics - Construction activities associated with other related projects may be ongoing in the vicinity of one or more metals TMDL construction sites. To the extent that combined construction activities do occur, there would be temporary elevated adverse visual effects. However, these effects are not cumulatively considerable in the long-term because the effects will cease with the completion of construction. Short-term impacts can be avoided through scheduling.

As analyzed above, the construction of structural BMP, along with other construction and maintenance projects, could have short-term cumulative effects; however, these effects can be mitigated through proper construction scheduling. In addition, these effects are not cumulatively considerable in the long-term because the effects will cease with the completion of construction. In summary, appropriate and available mitigation measures, including scheduling, are available to reduce adverse

environmental impacts associated with construction to less than significant levels.

21. Mandatory Findings of Significance - Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Answer: Less than significant with mitigation

Discussion: All of the potentially significant impacts to human beings, such as air quality, noise, aesthetics, alterations to utilities, fire protection, police protections etc., are either short-term in nature, or can be mitigated to acceptable levels as previously discussed.

5.1 Alternative Means of Compliance

The CEQA requires an analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts.[22] The dischargers can use the structural and non-structural BMPs described in section 3, or other structural and non-structural BMPs, to control and prevent pollution, and meet the TMDLs' required load reductions. The alternative means of compliance with the TMDLs consist of the different combinations of structural and non-structural BMPs that the dischargers might use. Because there are innumerable ways to combine BMPs, all of the possible alternative means of compliance cannot be discussed here. However, because most of the adverse environmental effects are associated with the construction and installation of large scale structural BMPs, to avoid or eliminate impacts, compliance alternatives should minimize structural BMPs, maximize non-structural BMPs, and site, size, and design structural BMPs in ways to minimize environmental effects.

For example, in a residential area where metals loading is not as high as in commercial or roadways areas, the dischargers might be able to reduce metals loading through nonstructural BMPs like increased street sweeping, development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and development and enforcement of municipal ordinances prohibiting nuisance flows. This compliance alternative would be environmentally superior to constructing detention basins and treatment works in residential areas.

As an additional example, in a commercial area where metals loading is typically as high or higher than all other areas including, residential, roadways, open space, and industrial, the dischargers might be able to reduce metals loading through nonstructural and structural BMPs. Non-structural BMPs may include increased street sweeping, development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and

[22] 14 CCR section 15187 (c) (3)

development and enforcement of municipal ordinances prohibiting nuisance flows. Structural BMPs may include small storm drain sand filters. This compliance alternative would be environmentally superior to constructing large detention basins and treatment works in commercial areas.

6 Reasonably Foreseeable Methods of Compliance at Specific Sites

The most reasonably foreseeable method of compliance with this Basin Plan amendment establishing TMDLs for copper, lead, and zinc is through the implementation of BMPs. The Chollas Creek watershed is highly urbanized and includes the following land uses; residential, commercial/institutional, industrial, roadways, and open space. These land uses have varying geographic settings and population densities, however, generalization is possible. For example, the residential land use has a suburban developed geographical setting with a relatively high population density, while the open space land use has a more natural, undeveloped geographical setting with a relatively low population density. Potential site specific BMPs (both structural and non-structural), or combinations of BMPs, that will likely be employed to reduce copper, lead, and zinc will vary from site to site. However, specific land uses will probably require BMPs that reflect the typical copper, lead, and zinc loading associated with that land use. For example, major traffic intersections in the commercial/institutional land use areas will likely generate higher copper waste (due to automobile braking) than the residential land use where vehicular traffic is much lower. Therefore, a more intensive combination of BMPs may be required in the commercial/institutional land use areas compared to the residential land use areas.

Following is a discussion of reasonably foreseeable BMP combinations that could potentially be implemented in the land use areas listed above based on conditions at specific sites in the Chollas Creek watershed. Also included is an analysis of the possible impacts to the environment. Keep in mind that in the Environmental Checklist (section 4) and Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures (section 5) above, all short term environmental impacts, as a result of BMP implementation, were found to be less than significant with mitigation, less than significant, or of no impact. However, three possible long term impacts were consider potentially significant, including implementing BMPs which could change the amount of surface waters, alter the flow rate of groundwaters, or alter the quantity or quality of groundwaters.

The dischargers are in no way limited to the following BMP combinations, and may choose not to implement BMPs at the specific sites discussed below. The actual BMPs to be implemented will be determined by the dischargers, after careful analysis of the site specific characteristics of the locations where the dischargers intend to implement the BMPs.

6.1 Potential BMPs for Residential Land Use Areas

The site specific BMPs to be implemented in the Residential land use areas will be chosen by the dischargers after adoption of these TMDLs. The residential land use has a suburban developed geographical setting marked by both high and low building and

population densities depending on the neighborhood. Vehicular traffic, which is correlated with higher metals concentrations, is higher than in open space areas but lower than in commercial/institutional, industrial, and roadway land use areas. The source analysis indicates that residential land use areas account for less than 10 percent of the wet weather loading of copper, lead, and zinc to Chollas Creek (Technical Report Figures 5.4, 5.5, and 5.6). Therefore, residential land use areas, like the area shown in Figure I.1, may only require non-structural BMPs.

Figure I.1. Residential land use in Chollas Creek watershed located at the intersection of N. Thorn Street and S. Thorn Street.

Potential non-structural BMPs at this specific site could include (1) increased street sweeping, and (2) development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and (3) development and enforcement of municipal ordinances prohibiting nuisance flows.

Non-structural BMPs

Increasing street sweeping and the development and enforcement of municipal ordinances prohibiting exposure of copper, lead, and zinc materials to stormwater and stormwater drainage pathways, have no foreseeable potentially significant impacts. However, the development and enforcement of municipal ordinances prohibiting

nuisance flows may change the amount of surface water in Chollas Creek. This would impact the water which is available to in-channel wetlands. However, it was noted that wetlands in Chollas Creek are not high value wetlands because of the predominance of *Arundo donax*, and invasive plant species, and that the reduction of nuisance flows would return Chollas Creek to predevelopment conditions, i.e., a seasonal, ephemeral stream which does not support dry season wetlands. Additional benefits of nuisance flow reductions include elimination of non-targeted pollutants (such as lawn fertilizers and pesticides) in Chollas Creek. For a more thorough discussion of potential impacts, please see the Environmental Checklist (section 4) and Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures (section 5) above.

6.2 Potential BMPs for Commercial/Institutional Land Use Areas

The potential site specific BMPs to be implemented in the commercial/institutional land use areas will be chosen by the dischargers after adoption of these TMDLs. The commercial/institutional land use has an urban developed geographical setting marked by high building and population densities. Vehicular traffic, which is correlated with higher metals concentrations, is higher than in open space, residential, and industrial areas but lower than in the roadway land use area. The source analysis indicates that commercial/institutional land use areas account for more than 35 percent of the wet weather loading of copper, lead, and zinc to Chollas Creek (Technical Report Figures 5.4, 5.5, and 5.6). Therefore, commercial/institutional land use areas, like the one shown in Figure I.2, likely will require both structural and non-structural BMPs due to higher building densities and vehicular traffic.

Figure I.2. Commercial land use in Chollas Creek watershed located at the intersection of 54th Street and Redwood Street.

Potential non-structural BMPs at this specific site could include (1) increased street sweeping, and (2) development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and (3) development and enforcement of municipal ordinances prohibiting nuisance flows. Potential structural BMPs for this specific site could include sand filter storm drain retrofits and porous pavements.

Non-structural BMPs

Increasing street sweeping and the development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, have no foreseeable potentially significant impacts. However, the development and enforcement of municipal ordinances prohibiting nuisance flows may change the amount of surface water in Chollas Creek. This would impact the water which is available to in-channel wetlands. However, it was noted that wetlands in Chollas Creek are not high value wetlands because of the predominance of *Arundo donax*, and invasive plant species, and that the reduction of nuisance flows would return Chollas Creek to predevelopment conditions, i.e., a seasonal, ephemeral stream which does not support dry season wetlands. Additional benefits of nuisance flow reductions include elimination of non-targeted pollutants (such as lawn fertilizers and pesticides) in Chollas Creek.

Structural BMPs

Sand filter storm drain retrofit BMPs that are well maintained by municipal agencies have the advantage of high metals treatment effectiveness and no foreseeable potentially significant adverse environmental impacts. Sand filter storm drain retrofit BMPs are not expected to change the amount of surface waters, alter the flow rate of groundwaters, or alter the quantity or quality of groundwaters. Additionally, the impermeable hardscape in the area dividing the roadways shown in the picture above could be replaced with porous pavement. Installing and maintaining porous pavement systems that allow storm water to infiltrate into groundwater and come into contact with organic material in the soil, are effective metals BMPs. Storm water coming into contact with soil as overland flow can benefit from metals reductions. However, porous pavement BMPs may change the amount of surface waters, may alter the flow rate of groundwaters, and/or may alter the quantity or quality of groundwaters. None of these changes will result in adverse impacts to the environment. For a more thorough discussion of potential impacts, please see the Environmental Checklist (section 4) and Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures (section 5) above.

6.3 Potential BMPs for Industrial Land Use Areas

The potential site specific BMPs to be implemented in the industrial land use areas will be chosen by the dischargers after adoption of these TMDLs. The industrial land use has an urban developed geographical setting marked by high building density but low population density. Vehicular traffic, which is correlated with higher metals concentrations, is higher than in open space and residential areas but lower than in the commercial and roadway land use areas. The source analysis indicates that industrial land use areas account for less than 5 percent of the wet weather loading of copper, lead, and zinc to Chollas Creek (Technical Report Figures 5.4, 5.5, and 5.6). However, because of the relatively higher concentration of vehicular traffic, higher concentrations of metals are expected in these areas. Therefore, industrial land use areas, like the one shown in Figure I.3, likely will require both structural and non-structural BMPs due to higher building densities and vehicular traffic.

Figure I.3. Industrial land use in Chollas Creek watershed located near the intersection of 30th Street and Market Street.

Potential non-structural BMPs at this specific site could include (1) increased street sweeping, and (2) development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and (3) development and enforcement of municipal ordinances prohibiting nuisance flows. Potential structural BMPs for this specific site could include sand filter storm drain retrofits and porous pavements.

Non-structural BMPs

Increasing street sweeping and the development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, have no foreseeable potentially significant impacts. However, the development and enforcement of municipal ordinances prohibiting nuisance flows may change the amount of surface water in Chollas Creek. This would impact the water which is available to in-channel wetlands. However, it was noted that wetlands in Chollas Creek are not high value wetlands because of the predominance of *Arundo donax*, and invasive plant species, and that the reduction of nuisance flows would return Chollas Creek to predevelopment conditions, i.e., a seasonal, ephemeral stream which does not support dry season wetlands. Additional benefits of nuisance flow

reductions include elimination of non-targeted pollutants (such as lawn fertilizers and pesticides) in Chollas Creek.

Structural BMPs

Sand filter storm drain retrofit BMPs that are well maintained by municipal agencies have the advantage of high metals treatment effectiveness and no foreseeable potentially significant adverse environmental impacts. Sand filter storm drain retrofit BMPs are not expected to change the amount of surface waters, alter the flow rate of groundwaters, or alter the quantity or quality of groundwaters. Additionally, parking lots and other hardscape areas could be converted to porous pavement. Installing and maintaining porous pavement systems that allow storm water to infiltrate into groundwater and come into contact with biological systems in the soil, are effective metals BMPs. Storm water coming into contact with soil as overland flow can benefit from metals reductions. However, porous pavement BMPs may change the amount of surface waters, may alter the flow rate of groundwaters, and/or may alter the quantity or quality of groundwaters. None of these changes will result in adverse impacts to the environment. For a more thorough discussion of potential impacts, please see the Environmental Checklist (section 4) and Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures (section 5) above.

6.4 Potential BMPs for Roadways Land Use Areas

The site specific BMPs to be implemented in the roadways land use areas will be chosen by the dischargers after adoption of these TMDLs. The roadways land use has an urban developed geographical setting marked by both high and low building and population densities depending on the neighborhood. Vehicular traffic, which is correlated with higher metals concentrations, is higher than that all other areas, including open space areas, commercial/institutional, industrial, and residential land use areas. The source analysis indicates that roadways land use areas account for more than 27 percent of the wet weather loading of copper, lead, and zinc to Chollas Creek (Technical Report Figures 5.4, 5.5, and 5.6). Therefore, roadways land use areas, like the one shown in Figure I.4, likely will require both structural and non-structural BMPs due to higher vehicular traffic.

Figure I.4. Roadways land use in Chollas Creek watershed located at the intersection of Quince Street and Chollas Parkway.

Potential non-structural BMPs at this specific site could include (1) increased street sweeping, and (2) development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and (3) development and enforcement of municipal ordinances prohibiting nuisance flows. Potential structural BMPs for this specific site could include sand filter storm drain retrofits.

Non-structural BMPs

Increasing street sweeping and the development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, have no foreseeable potentially significant impacts. However, the development and enforcement of municipal ordinances prohibiting nuisance flows may change the amount of surface water in Chollas Creek. This would impact the water which is available to in-channel wetlands. However, it was noted that wetlands in Chollas Creek are not high value wetlands because of the predominance of *Arundo donax*, and invasive plant species, and that the reduction of nuisance flows would return Chollas Creek to predevelopment conditions, i.e., a seasonal, ephemeral stream which does not support dry season wetlands. Additional benefits of nuisance flow

reductions include elimination of non-targeted pollutants (such as lawn fertilizers and pesticides) in Chollas Creek.

Structural BMPs

Sand filter storm drain retrofit BMPs that are well maintained by municipal agencies have the advantage of high metals treatment effectiveness and no foreseeable potentially significant adverse environmental impacts. Sand filter storm drain retrofit BMPs are not expected to change the amount of surface waters, alter the flow rate of groundwaters, or alter the quantity or quality of groundwaters. For a more thorough discussion of potential impacts, please see the Environmental Checklist (section 4) and Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures (section 5) above.

6.5 Potential Site Specific BMPs for Open Space Land Use Areas

The site specific BMPs to be implemented in the open space land use areas will be chosen by the dischargers after adoption of these TMDLs. The open space land use has a natural, undeveloped geographical setting with a relatively low population density. Vehicular traffic, which is correlated with higher metals concentrations, is lower than all other areas, including residential, commercial/institutional, industrial, and roadway land use areas. The source analysis indicates that open space land use areas account for less than 1 percent of the wet weather loading of copper, lead, and zinc to Chollas Creek (Technical Report Figures 5.4, 5.5, and 5.6). Therefore, open space land use areas, like the one shown in Figure I.5, may require no BMPs, or may require non-structural BMPs only, due to lower vehicular traffic. However, because of the availability of undeveloped space, the dischargers might choose open space areas to construct detention basins.

Figure I.5. Open Space land use in Chollas Creek watershed located at the intersection of Quince Street and Chollas Parkway.

Potential non-structural BMPs at this specific site could include (1) increased street sweeping, and (2) development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, and (3) development and enforcement of municipal ordinances prohibiting nuisance flows.

Non-structural BMPs

Increasing street sweeping and the development and enforcement of municipal ordinances prohibiting exposure of copper, lead and zinc materials to stormwater and stormwater drainage pathways, have no foreseeable potentially significant impacts. However, the development and enforcement of municipal ordinances prohibiting nuisance flows may change the amount of surface water in Chollas Creek. This would impact the water which is available to in-channel wetlands. However, it was noted that wetlands in Chollas Creek are not high value wetlands because of the predominance of *Arundo donax*, and invasive plant species, and that the reduction of nuisance flows would return Chollas Creek to predevelopment conditions, i.e., a seasonal, ephemeral stream which does not support dry season wetlands. Additional benefits of nuisance flow reductions include elimination of non-targeted pollutants (such as lawn fertilizers and pesticides) in Chollas Creek.

Structural BMPs

Open spaces shown in the picture above could be seen as an opportunity for detention basin BMPs. Installing and maintaining detention basin systems that allow storm water to infiltrate into groundwater and come into contact with biological systems in the soil, are effect metals BMPs. However, detention basin BMPs may alter the flow rate of groundwaters, and/or may alter the quantity or quality of groundwaters. In both cases, appropriate mitigation measures have been identified in section 5 above. For a more thorough discussion of potential impacts, please see the Environmental Checklist (section 4) and Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures (section 5) above.

7 Economic Factors

As stated in section 1.2, the environmental analysis required by the CEQA must take into account a reasonable range of economic factors. This section on economic factors contains an estimate of the costs of implementing the reasonably foreseeable methods of compliance with the metals TMDLs Basin Plan amendment. Specifically, this analysis estimates the costs of implementing the structural and non-structural BMPs, discussed in section 3, which could be used to reduce copper, lead, and zinc loading to Chollas Creek. Implementation of these TMDLs will also entail water quality monitoring. This section provides information on the costs of collecting, transporting, and analyzing a water sample for copper, lead, and zinc.

The specific BMPs to be implemented will be chosen by the dischargers after adoption of these TMDLs. All costs are preliminary estimates only, since particular elements of a BMP, such as type, size, and location, would need to be developed to provide a basis for more accurate cost estimations. Identifying the specific BMPs that dischargers will choose to implement is speculative at this time. Therefore, this section discloses typical costs of conventional stormwater BMPs, as discussed above.

7.1 Cost Estimates of Typical BMPs for Stormwater and Urban Runoff Discharges

Approximate costs associated with typical non-structural and structural BMPs that might be implemented in order to comply with the requirements of these TMDLs are provided below. The BMPs are divided into non-structural and structural classes. Some BMPs may already be implemented in Chollas Creek in compliance with San Diego Water Board Order No. R9-2006-0011.

Non-Structural BMPs

Education and Outreach: Education and outreach to residents, businesses and industries can be a very effective tool. These efforts might be focused on the reduction of metal releases from the activities associated with the normal operation of automobiles. The cost of producing educational materials, organizing field trips, holding meetings, etc. will

vary with the scope of efforts and are estimated to be between $1,000 to $200,000.[23] Because education and outreach is a component of Order No. R9-2006-0011, which regulates urban runoff discharges, costs to develop and conduct outreach and educational programs to comply with the TMDLs' requirements are expected to be minimal.

Road and Street Maintenance: Another effective BMP to prevent pollutants from entering the MS4 is to maintain clean sidewalks, streets, and gutters. The largest expenditures for street sweeping programs are in staffing and equipment. The capital cost for a street sweeper is approximately $60,000 for a mechanical street sweeper and $180,000 for a vacuum-assisted street sweeper. The average useful life of a sweeper is about four to eight years. Operation and maintenance costs for street sweeper were estimated at $30/curb mile for mechanical street sweepers and $15/curb mile for vacuum-assisted street sweepers.[24] Increased street sweeping could lead to faster wear and tear of the road surface, which would add additional costs for road repair work. This particular BMP may prove to be more cost-effective than certain structural controls, especially in more urbanized areas with greater areas of pavement.

Illicit Discharges: Illicit discharges to the stormwater system can be identified through visual inspections during dry weather or through the use of smoke or dye tests. The costs of smoke and dye tests vary from $1,250 to $1,750. The overall costs associated with compliance with the TMDLs are expected to be relatively minor since the identification of illicit discharges is an important component of compliance with Order No. 2001-0001 regulating urban runoff discharges.

Inspections/Enforcement of Ordinances: The costs associated with inspections and enforcement of local ordinances include staffing, travel and administrative costs. The costs to comply with the TMDLs' requirements are expected to be relatively minor since inspections are an important component of compliance with Order No. R9-2006-0011 (municipal dischargers) and Order No. 99-06-DWQ (Caltrans).

Structural BMPs

Vegetated Swales and Buffer Strips: The costs associated with vegetated swales and vegetated buffer strips vary and are dependent of the costs associated with establishing the vegetation.[25] The USEPA estimated costs ranging from $3,500 for vegetated swales, to $0 to $9,000 for buffer strips to treat a 5-acre residential site.[26] Caltrans reported that the actual costs for installation of an infiltration trench that treats a 2-acre site (100 percent impervious area) was between $203,000 and $294,000.[27]

Bioretention: Bioretention areas are landscaping features adapted to provide on-site treatment of storm water runoff (USEPA, 1999, National Menu of Best Management

[23] USEPA. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. [EPA-821-R-99-012. August 1999].
[24] Ibid.
[25] Ibid
[26] Ibid.
[27] Caltrans. 2004. Report ID CTSW-RT-01-050

Practices for Stormwater-Phase II).[28] Field and laboratory analysis of bioretention facilities show high removal rates of copper (43 to 97 percent), lead (70 to 95 percent), and zinc (64 to 95 percent). Bioretention facilities are relatively expensive. The USEPA reported the following cost equation to estimate this storm water management practice, adjusting for inflation:

$$\mathbf{C = 7.30\ V^{0.99}}$$

where:

C = Construction, design, and permitting cost ($); and

V = Volume of water treated by the facility (ft^3).

Consideration should be made when evaluating the costs of bioretention that the practice replaces areas that most likely would have been landscaped. The true cost of the practice is therefore less than the construction cost reported. Maintenance activities conducted on bioretention facilities were also not found to be very different from maintenance of a landscaped area. The USEPA estimated the cost around $60,000 for a bioretention area that treats a 5-acre commercial site.[29] Caltrans reported actual costs of a bio-swale that treats a 3-acre site at Interstate 5 and Palomar to be $136,000.

Detention Basins and Retention Ponds: The costs vary depending on the volume of the basin. Costs for retention and detention basins are estimated at approximately $100,000 for a 50-acre residential site.[30]

Sand Filters: The USEPA reported that the typical cost of installation of sand filters, of various designs (in some instances including pumps), ranged between $2.50 and $7.50 per cubic foot of stormwater treated, with an average cost of about $5 per cubic foot (USEPA, 1999). The cost to treat a 5-acre commercial site was estimated between $35,000 and $70,000.[31] The cost per impervious acre treated varied considerably depending on the region and design used. The observed volume of stormwater in the Chollas Creek watershed from Table F-4 in Appendix F of this report for the 2001 through 2003 storm years[32] is 1,646,496,115 liters. Dividing this number by two and converting to cubic feet gives an average of 29,072,731 cubic feet of stormwater per year. Therefore, the maximum cost of using sand filters to treat all Chollas Creek stormwater could range from approximately $70 to $220 million. The average expected costs would be $145 million.

[28] http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm
[29] USEPA. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. [EPA-821-R-99-012]. August 1999.
[30] Ibid.
[31] Ibid.
[32] These estimates come from only two years of storm flow observations. These years may or may not represent the average flow volume experienced in Chollas Creek.

Additionally, Caltrans reported that the mean cost for the Austin Sand Filter is $1,447 per cubic meter of stormwater treated. [33] Therefore, using the same average volume of yearly stormwater (29,072,731 cubic feet = 823,284 cubic meters), the average cost for treating all of Chollas Creek's stormwater would be $1.19 billion.

Porous Pavement / Infiltration Systems: The USEPA reported that the typical cost of installation of porous pavement systems was $8.20 per square foot of pavement installed (USEPA, 1999). Maintenance cost were estimated at $200 per acre per year.

Diversion Systems: If no other on-site treatment options are available, diverting the polluted runoff to the sanitary sewer systems treatment plant may be considered. An individual diversion structure was estimated to cost about one million dollars, which does not include maintenance costs. The maintenance costs could be significant due to the need for regular inspections and maintenance of the diversion structures (Ruth Kolb, City of San Diego, personal communication, March 14, 2005).

7.2 Cost Estimate Summary for Non-Structural and Structural BMPs

Table I.1 summarizes the estimated costs for the specific BMPs that were evaluated. Costs for structural BMPs were estimated for treatment of ten percent of the urbanized watershed area (approximately 1,370 acres) with the exception of diversion structures, which are costs per unit. Cost estimates are provided in increments of 10 percent to allow for upward scaling of costs since the exact combination, size, and siting of structural BMPs is not known. For example, using the 10 percent cost estimates provided in Table I.2 below, a cost estimate for treatment of 100 percent of the watershed could easily be calculated by multiplying the 10 percent cost estimate by 10. The cost of treating 50 percent of the watershed could be calculated by multiplying the 10 percent cost estimate by five and so on.

TABLE I.1: Summary of Cost Estimates for Non-Structural BMPs

Non-Structural BMPs	Estimated Cost*	Estimated Cost Adjusted For Inflation 2006 Dollars**
Education and Outreach	$1,000 - $200,000 per program	$1,210 - $242,000 per program
Street Sweeping	$ 60,000 - $180,000 per unit	$ 72,600 - $218,000 per unit
Illicit Discharges	$0 to $1,750	$0 to $2,120

*The costs were obtained from USEPA, 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. (EPA-821-R-99-012). August 1999.
** Sahr, R.C. 2007. Consumer Price Index (CPI) Conversion Factors 1800 to Estimated 2016 to Convert to Dollars of 2006. Oregon State University, Political Science Department, Corvallis, OR. Revised January 18, 2006.

[33] Caltrans. 2004. Report ID CTSW-RT-01-050

TABLE I.2: Summary of Cost Estimates for Structural BMPs

Structural BMPs	Estimated Cost to treat 10% of Urbanized Area (ECUA 10%)	ECUA 10% Adjusted For Inflation 2006 Dollars*****	Estimated Yearly Maintenance Cost (EYMC)	EYMC Adjusted For Inflation 2006 Dollars*****
Vegetated Swale	$960,000*	$1.2 million	$67,000	$81,000
Vegetated Buffer Strip	$1.2 million*	$1.45 million	$120,000	$145,000
Infiltration Trench	~~$170 million**~~ $60 Million	~~$181 million~~ $64 Million	~~$720,000~~ $5.8 Million	~~$768,000~~ $6.2 Million
Bioretention	$16.4 million*	$19.9 million	$1.1 million	$1.3 million
Detention Basins and Retention Ponds	$2.7million*	$3.3 million	$27,000	$33,000
Sand Filters	$15 million*	$18.2 million	$2 million	$2.4 million
Austin Sand Filters	$119 million**	$127 million	~~$2 million~~ $6.4 Million	~~$2.1 million~~ $6.8 Million
Porous Pavement	$490 Million***	$593 Million	$274,000	$332,000
Diversion	$1 million****	$1.03 million	$10,000	$10,300

* Based on USEPA, 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. [EPA-821-R-99-012. August 1999].
** Based on Caltrans, 2004. Report ID CTSW-RT-01-050.
*** Based on USEPA, 1999 Storm Water Technology Fact Sheet Porous Pavement [EPA 823-F-023]
**** Cost per unit. Based on personal communication with Ruth Kolb, City of San Diego, March 14, 2005.
***** Sahr, R.C. 2007. Consumer Price Index (CPI) Conversion Factors 1800 to Estimated 2016 to Convert to Dollars of 2006. Oregon State University, Political Science Department, Corvallis, OR. Revised January 18, 2006.

7.3 Cost Estimates for Surface Water Monitoring

Investigation Order No. R9-2004-0227[34] already includes a monitoring and reporting program for dissolved metals in Chollas Creek. Whether or not TMDL implementation will require an expansion of this monitoring program is not known at this time, but will be evaluated by the San Diego Water Board following adoption of these TMDLs. In the event that additional monitoring locations or frequencies are needed beyond the requirements of the Investigation Order, the costs of collecting, transporting, and analyzing a water sample for copper, lead, and zinc is estimated below.

The costs disclosed are that of a two-person team, day-long sampling effort. The laboratory analytical costs were taken from the San Diego Water Board's Laboratory Services Contract cost tables. Where different analytical methods were available, the more expensive method was used in the estimate. Staff costs were estimated based on a two person sampling team in the field for an 8-hour day. The staff costs were estimated based on a billing rate of $110 per hour, the rate used for billing San Diego Water Board staff costs in the Cost Recovery Programs. This rate includes overhead costs. The

[34] Investigative Order No. R9-2004-0227 [CWC section 13383], *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the Discharge of Diazinon into the Chollas Creek Watershed, San Diego, California*

vehicle costs were estimated assuming a distance traveled of 25 miles per day, and a vehicle cost of $0.48 per mile, the per diem reimbursement rate for San Diego Water Board staff when they use their own cars for State business. This analysis assumes that the dischargers possess basic field monitoring equipment, including meters to measure temperature, conductivity, and pH, and equipment to measure flow in the field. No additional costs were computed for these items. Surface water monitoring costs are summarized in the table below. Assuming that a two-person sampling team can collect samples at 5 sites per day, the total cost for one day of sampling would be $1,907.

Table I.3: Cost Estimates for Surface Water Monitoring

Expenditure	Cost per Unit
Laboratory Analyses	
Copper (total)	$9 per sample
Lead	$9 per sample
Zinc	$9 per sample
Staff Costs	$220 per hr
Vehicle Costs	$12 per 25 mi

8 Reasonable Alternatives to the Proposed Activity

The environmental analysis must include an analysis of reasonable alternatives to the proposed activity.[35] The proposed activity is a Basin Plan Amendment to incorporate TMDLs for copper, lead, and zinc in Chollas Creek. The purpose of this analysis is to determine if there is an alternative that would feasibly attain the basic objective of the rule or regulation (the proposed activity), but would lessen, avoid, or eliminate any identified impacts. The alternatives analyzed include taking no action, and modifying water quality standards in Chollas Creek. In addition, two alternative time schedules for implementing load reductions to meet the TMDLs were analyzed. These alternatives are discussed in the subsections below.

8.1 No Action Alternative

Under the "no action" alternative, the San Diego Water Board would not adopt the proposed metals TMDLs Basin Plan amendment, and metals loading would likely continue at current levels. The "no action" alternative 1) does not comply with the Clean Water Act; 2) is inconsistent with the mission of the San Diego Water Board; and 3) does not meet the purpose of the proposed metals TMDLs Basin Plan Amendment. Under CWA section 303(d), TMDL development is not discretionary; the San Diego Water Board is obligated to adopt TMDL projects for waters that do not meet water quality standards.[36] Therefore the "no action" alternative is not viable and cannot be considered an acceptable alternative.

[35] 23 CCR section 3777

[36] Water quality standards are comprised of designated beneficial uses, the applicable numeric and/or narrative WQOs to protect those uses, and the State Water Board's anti-degradation policy provisions (Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*).

8.2 Water Quality Standards Action

Another alternative to adopting the metals TMDLs Basin Plan amendment is the modification of water quality standards. If the applicable standards are not appropriate, a plausible regulatory response may be to correct the standards through mechanisms such as a use attainability analysis (UAA) or a site-specific objective (SSO). If the WARM and WILD beneficial uses are improperly designated for Chollas Creek, or if SSOs for copper, lead, and zinc would be less stringent than the current California Toxic Rule water quality objectives, the TMDLs might not be necessary, or the required pollutant load reductions might be lower. This alternative might lessen or eliminate the adverse impacts associated with constructing structural BMPs by eliminating the need for structural BMPs or reducing the number of structural BMPs necessary. This alternative should not be construed as implying that standards may be changed as a convenient means of "restoring" waterbodies. To the contrary, federal and state law contain numerous detailed requirements that in many cases would prevent modifications of the standards, especially if modifications would result in less stringent waste discharge requirements. However, modification of standards may be appropriate to make uses more specific, to manage conflicting uses, to address site-specific conditions, and for other such reasons.[37]

As a first step in developing TMDLs, the San Diego Water Board confirmed the impairment status of Chollas Creek and determined, from the available evidence, that concentrations of dissolved copper, lead, and zinc in Chollas Creek exceeded water quality objectives that support WARM and WILD beneficial uses. At this time, the San Diego Water Board has no evidence that WARM and WILD beneficial uses were inappropriately designated for Chollas Creek. Therefore based on the available information, an action to de-designate these beneficial uses may be harmful to the environment, and this option is not preferred.

Developing SSOs for dissolved copper, lead, and/or zinc in Chollas Creek may be appropriate if scientific studies demonstrate that the ambient water chemistry and/or biological communities at Chollas Creek are significantly different from the chemistry and biological communities upon which the current objectives are based. SSOs should be (1) based on sound scientific rationale; (2) protect the designated beneficial uses of Chollas Creek waters; and (3) be adopted by the San Diego Water Board in a Basin Plan amendment.

There are no efforts currently underway or planned by interested persons to fund the scientific studies needed to develop SSOs for metals in Chollas Creek. Furthermore, the development of SSOs for metals in Chollas Creek, including the scientific studies necessary to support them, would be costly, time consuming, and resource intensive.

Even in the event that scientific studies were initiated and SSOs developed and adopted, the need for TMDLs likely would not be eliminated. If SSOs for metals were developed in the future and adopted, this metals TMDLs Basin Plan Amendment would be modified

[37] State Water Board 2005. *A Process for Addressing Impaired Waters in California*, June 2005

accordingly. If interested parties were willing to fund and oversee development of scientific studies to investigate SSOs, the most effective and expeditious means to improve water quality would be to conduct these studies concurrent with actions necessary to achieve compliance with these current TMDLs.

8.3 10-Year Compliance Schedule for Metals Load Reductions Only

The compliance schedule is part of the TMDLs' Implementation Plan and describes the pollutant load reduction milestones that dischargers must achieve to meet interim goals and the final TMDLs. The first version of the proposed Chollas Creek Metals TMDLs (June 2005), called for an aggressive 10-year compliance schedule for dischargers to implement structural and non-structural BMPs to reduce loading of dissolved copper, lead, and zinc. This compliance schedule has the environmental advantage of restoring water quality in Chollas Creek in a relatively short time frame, but may not provide enough time for dischargers to integrate BMP planning, design, and implementation to reduce bacteria, diazinon, and trash loading which also contribute to water quality problems in the watershed.

8.4 20-Year Compliance Schedule for Metals, Bacteria, Diazinon, and Trash Reductions

As opposed to the previous alternative, this approach allows the dischargers to engage in comprehensive BMP planning for all pollutants impairing water quality in Chollas Creek. Instead of meeting the requirements of these metals TMDLs independently, dischargers would utilize a longer compliance schedule (20 years) to address multiple pollutants.

Due to the environmental impacts anticipated from constructing BMPs in the aggressive schedule described in the previous alternative, the City of San Diego funded an assessment of BMP strategies that would lessen the anticipated impacts. In this study,[38] the authors recommend an alternative strategy that used a tiered or phased approach that reduces the impact to the environment, and allows for more cost effective implementation of lower-impact BMPs. The tiered approach consists of three major components:

- Tier 1 – Control of Pollutants at the Source and Prevent Pollutants from Entering Runoff
- Tier 2 – Conduct Design Studies and Implement Aggressive Street Sweeping and Runoff and Treatment Volume Reduction BMPs
- Tier 3 – Infrastructure Intensive Treatment BMPs

To address additional time requirements to implement a lower-impact and cost effective program that will meet the integrated TMDL goals, the authors recommend a compliance time schedule of 20 years. Tier 1 and 2 activities would be implemented on an aggressive timetable in targeted areas. Effective assessment monitoring would then be implemented to determine if these BMPs should be extended to other areas or modified to

[38] Weston Solutions, 2006. *Chollas Creek TMDL Source Loading, Best Management Practices, and Monitoring Strategy Assessment,* September, 2006.

improve effectiveness. The approach is therefore an iterative process of implementation, assessment, and further implementation or improvement.

The authors of this study assert that a 20-year compliance schedule is necessary in order to:

- Meet an integrated TMDL strategy that address both current and anticipated TMDLs;
- Assess the effectiveness of the aggressive implementation of source control and pollution prevention BMPs in targeted areas to identify which techniques are more effective and to modify approaches and/or extend aggressive activities to other sub-watersheds in a cost effective manner;
- Collect needed data on the soils and hydrological conditions within the watershed to identify where lower-impact development techniques are best suited and what engineering modifications are needed to make these systems most effective;
- Assess the effectiveness of aggressive street sweeping in targeted areas to confirm that the integrated reduction goals are being met or if additional BMPs are needed along with other Tier 1 and Tier 2 activities;
- Work with communities in which these activities will be taking place and changes occurring within their neighborhood; and
- Acquire property and easements for sub-watersheds that will require retention of storm flows prior to treatment where Tier 1 and Tier 2 activities do not achieve the reduction goals.

In short, this alternative allows dischargers to choose low-impact BMPs that are designed to remove a comprehensive suite of common pollutants found in urban runoff. Using this approach, fewer structural BMPs will probably be needed compared to addressing each pollutant individually on a different compliance schedule. This approach should minimize the adverse environmental effects from installing such structures. Although the compliance schedule is longer, this approach addressed multiple pollutants, not just metals. Because of the efficiency and minimal adverse effects expected from this approach, this is the preferred alternative.

9 CEQA Determination

The implementation of these TMDLs will result in improved water quality in Chollas Creek, but it may result in temporary or permanent localized significant adverse impacts to the environment. Specific projects employed to implement the TMDLs may have significant impacts, but these impacts are expected to be limited, short-term, or may be mitigated through careful design and scheduling. The Technical Report, the draft Basin Plan amendment, and the Environmental Checklist and associated analysis provide the necessary information pursuant to state law[39] to conclude that properly designed and implemented structural or non-structural methods of compliance will not have a significant adverse effect on the environment, and all agencies responsible for implementing the TMDLs should ensure that their projects are properly designed and implemented. Any of the potential impacts need to be mitigated at a subsequent project

[39] Public Resources Code, section 21159

level because they involve specific sites and designs not specified or specifically required by the Basin Plan amendment to implement the TMDLs. At this stage, any more particularized conclusions would be speculative.

Specific projects that may have a significant impact would be subject to a separate environmental review. The lead agency for subsequent projects would be obligated to mitigate any impacts they identify, for example, by mitigating potential flooding impacts by designing the BMPs with adequate margins of safety.

Furthermore, implementation of the TMDLs is both necessary and beneficial. If at some time, it is determined that the alternatives, mitigation measures, or both, are not deemed feasible by those local agencies, the necessity of implementing the federally required TMDLs and removing the metals impairment from Chollas Creek (an action required to achieve the express, national policy of the Clean Water Act) remains.

The benefits of meeting water quality standards to achieve the expressed, national policy of the Clean Water Act far outweigh the potential adverse environmental impacts that may be associated with the projects undertaken by persons responsible for reducing discharges of copper, lead, and zinc pollutants to Chollas Creek. Meeting water quality standards and the national policy of the Clean Water Act is a benefit to the people of the state because of their paramount interest in the conservation, control, and utilization of the water resources of the state for beneficial use and enjoyment (Water Code section 13000). Furthermore, the health, safety and welfare of the people of the state requires that the state be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation, particularly including degradation that unreasonably impairs the water quality necessary for beneficial uses.

Water quality that supports the beneficial uses of water are necessary for the survival and well being of people, plants, and animals. Warm Freshwater Habitat (WARM) and Wildlife Habitat (WILD) are beneficial uses of water that serve to promote the social and environmental goals of the people of the San Diego Region and require water quality suitable for the protection of aquatic life and aquatic dependent wildlife.

In addition, implementation of the TMDLs will have substantial benefits to water quality and will enhance beneficial uses. Enhancement of the WARM and WILD beneficial uses will have positive, indirect social and economic effects by increasing the natural habitat and aesthetic value of the Chollas Creek watershed. These substantial benefits outweigh any unavoidable temporary adverse environmental effects.

In accordance with state law,[40] the San Diego Water Board finds that, although the proposed project could have significant effect on the environment, revisions in the project to avoid or substantially lessen the impacts, can and should be made or agreed to by the project proponents. This finding is supported by the evidence provided in the impact evaluation section of this document, which indicates that all foreseeable impacts are either short-term or can be readily mitigated.

[40] Public Resources Code, section 15091

On the basis of the initial environmental review checklist and analysis, and Technical Report for these TMDLs, which collectively provide the required information;

☐ I find the proposed Basin Plan amendment could not have a significant effect on the environment.

☒ I find that the proposed Basin Plan amendment could have a significant adverse effect on the environment, but that those impacts should be mitigated. This substitute environmental documentation constitutes a program-level analysis. The Water Boards cannot specify manner of compliance. Any impacts that might occur as a result of specific implementation projects can and should be mitigated by the entity carrying out or permitting that project. However, there are feasible mitigation measures that would substantially lessen any significant adverse impacts. These mitigation measures are discussed above and in the Technical Report for the TMDLs.

☐ I find the proposed Basin Plan amendment may have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impacts. See the attached written report for a discussion of this determination.

John H. Robertus Date
Executive Officer