I. OVERVIEW

On July 10, 2013, the Conservation Law Foundation (CLF), the Natural Resources Defense Council (NRDC), American Rivers, and the California Coastkeeper Alliance (hereinafter, collectively the Petitioners) petitioned the Regional Administrator of EPA Region 9 to make "a determination, pursuant to 40 C.F.R. § 122.26(a)(9)(i)(D), that non *de-minimis*, currently non-NPDES permitted stormwater discharges from commercial, industrial, and institutional (CII) facilities are contributing to violations of water quality standards in certain impaired waters throughout Region 9, and therefore require National Pollutant Discharge Elimination System (NPDES) permits pursuant to section 402(p) of the Clean Water Act (CWA)."[1]

The Petition defines "commercial" sites as any site where the primary land use is commercial activity such as the sale of food and services as opposed to residential or industrial use. Mixed use development with any commercial activity would be considered commercial. "Industrial" sites are defined as any site where the primary land use is light or heavy industry, including buildings, equipment, and parking areas. "Institutional" sites are described as any site where an institution is located, including schools, colleges, hospitals, museums, prisons, town halls or court houses, police and fire stations, including parking lots, dormitories, and university housing.

The Petition seeks designation for permitting of all unpermitted CII sites that discharge stormwater to receiving waters impaired by lead, copper, zinc, sediment, COD/BOD, phosphorus, and/or nitrogen, as described in each state or territory's Integrated Report submitted under sections 305(b) and 303(d) of the CWA. As described in the petition, the petitioners recognize that stormwater discharges associated with industrial activity, as defined by 40 C.F.R. § 122.26(b)(14), are already regulated. For these categories of industrial facilities, the Petitioners request permitting of those portions of a facility not already permitted (e.g., employee parking lots and office buildings). Petitioners have requested regulation of all described discharges, regardless of whether or not those CII sites discharge to municipal separate storm sewer systems (MS4s) with existing NPDES permits.

NPDES regulations at 40 CFR § 122.26(f)(5) require that EPA make a final determination on the petition within 90 days of receipt. Given the broad scope of the current petition, the Region was unable to complete review of the petitions within 90 days. On October 31, 2013, Region 9 provided an interim response to the petitioners indicating additional review time would be necessary and that a final determination on the petition was anticipated within three to four additional months.

The EPA Region 9 NPDES Program

EPA Region 9 includes the states of California, Arizona, Hawaii, and Nevada; U.S. Pacific Islands Territories of Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands; and Indian Country lands within the Pacific Southwest Region. The states of California, Arizona, Hawaii and Nevada have all been authorized by EPA to administer the NPDES permit program, including the issuance of NPDES stormwater permits, except on Indian Country lands within these states.

[1] CLF, NRDC, American Rivers, and local environmental groups also petitioned the Regional Administrators of Regions 1 and 3 to designate the same sources discharging into certain impaired waters in those Regions.

II. STATUTORY AND REGULATORY BACKGROUND

In 1987, Congress amended Section 402 of the Clean Water Act (CWA) and established a phased approach to regulating discharges "composed entirely of stormwater," requiring some, but not all, point source discharges of stormwater to be regulated. Water Quality Act § 405, codified as CWA § 402(p). In the first phase, Congress required NPDES permits for discharges from municipal separate storm sewer systems (MS4s) serving a population greater than 100,000, and stormwater discharges associated with industrial activity. CWA § 402(p)(1), (2), 33 U.S.C. § 1342(p)(1), (2). Additionally, the Act provides for NPDES permits for any stormwater discharge determined by EPA or an authorized state to contribute to a violation of water quality standards (WQS) or to be a significant contributor of pollutants to waters of the United States. CWA § 402(p)(2)(E), 33 U.S.C. § 1342(p)(2)(E).[2] In 1990, EPA promulgated permit application regulations for these discharges pursuant to § 402(p)(4), 33 U.S.C. § 1342(p)(4). 55 Fed. Reg. 47990 (Nov. 16, 1990) ("Phase I rule"). The Phase I rule included a provision allowing any person to petition EPA to require an NPDES permit for a stormwater discharge that contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. 40 C.F.R. § 122.26(f)(2).

In the second phase, Congress required EPA, after conducting studies and reporting on the results to Congress, to issue regulations designating additional stormwater discharges to be regulated "to protect water quality." CWA § 402(p)(5), (6), 33 U.S.C. § 1342(p)(5), (6). Stormwater discharges designated for regulation under § 402(p)(6) were not necessarily required to be regulated through NPDES permits. Rather, Congress required that EPA "establish a comprehensive program to regulate such designated sources." *Id.* In 1995, EPA completed studies and submitted a report to Congress describing additional stormwater discharges under consideration for regulation. Based on this report, EPA promulgated regulations in 1999 ("Phase II rule") designating two additional categories of stormwater discharges for regulation: certain small MS4s[3] and small construction sites (1-5 acres); and requiring NPDES permit coverage for these discharges. 64 Fed. Reg. 68722 (Dec. 8, 1999).

The Phase II rule also added to the regulations for designating additional stormwater discharges for NPDES permit coverage ("residual designation authority" or "RDA") to allow designation of a category of discharges within a geographic area if determined to contribute to a violation of a water quality standard or to significantly contribute pollutants to waters of the United States. 64 Fed. Reg. at 68781; 40 C.F.R. § 122.26(a)(9)(i)(D).[4] These residual designation provisions are based on the authority of both §§ 402(p)(2)(E) and 402(p)(6), recognizing the permitting authority's potential need to regulate individual unregulated stormwater discharges on a case-by-case basis, as well as the potential need to regulate stormwater discharges on a categorical basis locally or regionally to address local concerns or

[2] This case-by-case authority to designate stormwater discharges for NPDES permits was codified at 40 C.F.R. § 122.26(a)(1)(v). 54 Fed. Reg. 255 (Jan. 4, 1989). *See also* 55 Fed. Reg. 47990, 47993 (Nov. 16, 1990).

[3] Regulated small MS4s are primarily separate storm sewer systems serving municipal populations within "urbanized areas" as defined by the Census Bureau based on the latest census. 40 C.F.R. §122.32(a).This term also includes other publicly owned separate storm sewer systems similar to MS4s (e.g., military bases, large hospital or prison complexes, highways) and small MS4s outside urbanized areas based on criteria developed by the State; at minimum, municipal entities outside urbanized areas with a population greater than 10,000 must be considered for permitting. 40 C.F.R. §§ 122.26(b)(16); 40 C.F.R. § 123.35(b).

[4] The Phase II rule also allows for designating stormwater discharges for NPDES permit coverage if stormwater controls are needed for such discharges based on wasteload allocations in a TMDL. 40 C.F.R. § 122.26(a)(9)(i)(C). This basis for designating stormwater discharges was not raised in the petition.

to make progress in complying with water quality standards. *See* 64 Fed. Reg. at 68781. Any discharge or category of discharges designated under the RDA regulation is subject to NPDES permitting. 40 C.F.R. § 122.26(a)(9)(ii), (iii).

III. SUMMARY OF PETITION AND REGION 9 DETERMINATION

In the Petition, the Petitioners assert the following: (1) hundreds of waterbodies in Region 9 are impaired by lead, copper, zinc, sediment, COD/BOD, phosphorus and/or nitrogen; (2) stormwater discharges from impervious areas at CII sites contain the pollutants of concern; and (3) stormwater discharges from CII sites are contributing to these water quality impairments. In support, the Petitioners cite EPA guidance and reports in which EPA has concluded that stormwater discharges are significant sources of pollutants.[5] Petitioners also cite to the National Stormwater Quality Database (NSQD) and various other studies pointing to a connection between increases in the amount of imperviousness and decreases in water quality.

Finally, the petitioners provide a list of waters within Region 9 that are impaired for the target pollutants in the petition.[6] As discussed in further detail below, the Petition describes research linking urban runoff to water quality impairments and research concerning pollutants in stormwater discharged from CII sites generally.

After reviewing the information provided by Petitioners as well as other sources of information, Region 9 has concluded that there is at present insufficient information on which to base a categorical residual designation of currently unregulated stormwater discharges from commercial, industrial and institutional sites in the Region. The petition provides no information connecting stormwater discharges from a particular CII site, nor category of CII sites, to any specific water body impairments, and the Region does not have that level of information reasonably available. Region 9 concludes that it needs additional information on a watershed or localized basis to designate discharges from CII sites individually or categorically on the basis that they are currently contributing to a violation of water quality standards. Our analysis in response to this petition indicates water quality protection programs that cover the majority of CII stormwater discharges in the Region are in place to address these discharges.

Therefore, Region 9 declines to begin a designation process for stormwater discharges from CII sites to impaired waters as presented by Petitioners. However, an important part of the Region's ongoing stormwater program is awareness of the contributions of unregulated stormwater discharges to water quality exceedences, and utilization of RDA and other available authorities, to address specific circumstances, as warranted. As described below, the Region has exercised its authority to designate unregulated stormwater discharges and will continue to do so as information supports such designations.

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[5] *See* EPA, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act.* EPA 841-B-09-001, Office of Water, Washington, D.C.; EPA Region 1, 2009, *Managing Stormwater with Low Impact Development Practices: Addressing Barriers to LID.* EPA 901-F-09-003, EPA Region 1, Boston, MA.

[6] The list attached to the Petition is derived from CWA section 303(d) lists of impaired waters in Region 9.

IV. PETITION REVIEW CRITERIA

EPA identified a number of factors to consider in exercising its individual and categorical designation authority. For a case-by-case determination, under section 402(p)(2)(E), EPA described as relevant factors the available water quality and sampling data as well as "the location of the discharge with respect to waters of the United States; the size of the discharge, the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors." 55 Fed. Reg. 47990, 47993 (Nov. 16, 1990). As noted in early guidance with respect to designations under CWA § 402(p)(3)(E), State reports generated under CWA section 305(b) are critical sources of information for making designation determinations.[7]

In the development of the Phase II rule, EPA considered designation of additional categories of stormwater sources for regulation under the NPDES permit program, based on three factors. 64 Fed. Reg. 68722, 68780 (December 8, 1999). EPA considered 1) the likelihood for exposure of pollutants to precipitation at sources included in that category, 2) whether sufficient data are available on which to make a determination of potential adverse water quality impacts for the category of sources, and 3) whether such sources were adequately addressed by other environmental programs. *Id.* The likelihood of exposure of pollutants to precipitation at industrial sources was also a factor in defining the scope of "stormwater discharges associated with industrial activity" in the Phase I rule. *See* 55 Fed. Reg. at 48008.[8] These basic factors are also relevant in evaluating the petition.[9]

In a letter from the EPA Assistant Administrator for Water to the Vermont Agency of Natural Resources,[10] EPA elaborated on these factors. EPA noted that "[n]either the CWA nor implementing regulations impose a non-discretionary duty to designate sources" and that a decision to "exercise its discretion to designate (or not) sources should be based on available information and relevant considerations." (Mehan letter at 1). Noting that sufficient information to determine causes of impairment or to identify stormwater sources of the impairment may not be available in some circumstances, EPA further stated that while it has not defined a threshold level of pollutant contribution that would trigger a finding that a source is contributing to a violation of a WQS or is a significant contributor of pollutants to waters of the U.S., "it would be reasonable to require permits for discharges that contribute more than *de minimis* amounts of pollutants identified as the cause of impairment to a water body." (Mehan letter at 2). However, EPA also noted that "other water quality protections that are already in place" are relevant to consider with respect to whether to designate a source or when to make such designation or permit application requirement effective. "Vigorously implemented controls that

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[7] *Designation of Stormwater Discharges for Immediate Permitting*, August 8, 1990, available at http://www.epa.gov/npdes/pubs/owm0220.pdf at 12.

[8] The Phase I rule provision, excluding from the definition certain industrial stormwater discharges based on the assumption that there is little or no exposure of materials or activities to precipitation was remanded. *NRDC v. EPA*, 966 F.2d 1292, 1305 (9th Cir. 1992). However, the underlying rationale that exposure of industrial pollutants to precipitation is a relevant factor was not questioned. Rather, EPA's exclusion was remanded for lack of record support. To cure this defect, in the Phase II rule EPA promulgated a conditional exclusion for owners/operators of industrial activities to certify that the facility meets the "no exposure" requirements of the rule. 64 Fed. Reg. at 68782-87; 40 C.F.R. § 122.26(g).

[9] EPA's use of these factors in deciding not to designate additional stormwater sources in the Phase II rule was upheld. See *Environmental Defense Center v. EPA*, 344 F.3d 832, 861 (9th Cir. 2003).

[10] Letter from G. Tracy Mehan, III to Elizabeth McLain, with attachment "Answers to Questions Raised," dated Sept. 16, 2003. ("Mehan letter")

otherwise might be 'voluntary' may provide a reasonable basis to defer designation of a particular source." (Mehan letter at 3).

Region 9 has evaluated the petition and the data submitted with the petition in light of the factors discussed above. The Region also developed some additional data analysis to aid in its evaluation of the petition. Further, the Region consulted authorized states in the region, since in the vast majority of the Region, states rather than EPA would be responsible for issuing permits for any designated stormwater discharges.

In sum, the factors considered by the Region in evaluating the petition are:

1. Likelihood of exposure of pollutants to precipitation at sites in the categories identified in the petition
2. Sufficiency of available data to evaluate the contribution of stormwater discharges to water quality impairment from the targeted categories of sites
    a. Data with respect to determining causes of impairment in receiving water quality
    b. Data available from establishment of Total Maximum Daily Loads
3. Whether other federal, state, or local programs adequately address the known stormwater discharge contribution to a violation of a water quality standard

V. ANALYSIS

A. Likelihood of Exposure of Pollutant Sources at CII Sites

Petitioners rely heavily on the National Stormwater Quality Database (NSQD) in support of their argument that CII areas are significant sources of pollutants, leading to WQS exceedences. The NSQD is a data compilation created through a 2001 EPA grant to the University of Alabama and the Center for Watershed Protection. The purpose of the project was to collect and evaluate stormwater data from NPDES Phase I MS4 permit holders in order to "describe the characteristics of national stormwater quality, provide guidance for future sampling needs, and to enhance local stormwater management activities in areas having limited data."[11] The most recent version of the NSQD (version 3) contains data from 8600 sampling events, representing 104 Phase I communities (there are approximately 750 Phase I communities throughout the U.S., with over 330 located in Region 9).[12] Petitioners also cite to other studies that generally link metals, nutrients, and total suspended solids (TSS) in stormwater runoff from impervious cover to increased loadings of these pollutants.

EPA considered the extent of exposure of pollutant sources when evaluating additional categories of stormwater discharges for potential permitting under the Phase II stormwater program, including the use of the NSQD. As described by Petitioners and in various studies, impervious cover is a source of pollutants. Pollutants from wear of automotive parts (e.g., tires and brake pads), spills and leaks of automotive fluids (e.g., motor oil and coolant), and materials deposited on parking lots from the

[11] Robert Pitt et.al, *The National Stormwater Quality Database (NSQD, version 1.1)*, February 16, 2004 at 2.

[12] The initial data compilation was completed in 2004. The database was updated in 2008 to include data from EPA's 1983 Nationwide Urban Runoff Program (NURP) study and USGS' 1987 National Urban-Storm-Runoff Database, as well as information from the International BMP Database. There are 35 Phase 1 Permits in Region 9, covering over 330 municipalities.

air (e.g., atmospheric deposition and wind transported pollutants) are deposited on impervious surfaces such as parking lots.[13] Because of the limited infiltration capacity of these surfaces, pollutants can build up and are not easily degraded, leaving them available to be washed off during the next precipitation event. In the preamble of the Phase I rule, EPA noted that "large parking facilities, due to their impervious nature may generate large amount of runoff which may contain significant amounts of oil and grease and heavy metals which may have adverse impacts on receiving waters" and stated that while it was not requiring regulation at this time, such sources could be designated if they were contributing to a violation of a WQS. 55 FR 47990, 48010 (November 16, 1990). For purposes of this petition, EPA accepts that many CII sites have significant amounts of impervious surface, which are exposed to a variety of pollutants that can discharge during rain events.

B. Sufficiency of Available Data on Which to Make a Determination that CII Sites Contribute to Water Quality Standards Exceedences

As discussed above, EPA agrees that it is reasonable to expect that the pollutants identified in the petition may be exposed to precipitation at CII sites with impervious cover. Moreover, EPA has recognized that "the level of imperviousness in an area strongly correlates with the quality of the nearby receiving water." 64 FR 68722, 68725 (December 8, 1999). However, this is insufficient for making a categorical determination that CII sites are contributing to violations of water quality standards in Region 9.

Because of the wide range of potential sources of the pollutants listed in the petition, it is generally not possible to identify which source or sources contribute to an exceedence of water quality standards (WQS) without a watershed-specific analysis. The petition did not include watershed-specific information to support designation of sources on an individual or categorical basis in any watershed. The most relevant and readily available data to assess whether CII sites are contributing to particular WQS exceedences are Total Maximum Daily Load (TMDL) analyses. CWA section 303(d) requires that states identify waters not meeting WQS, even with technology-based effluent limits in place. States must develop TMDLs for all such waters in accordance with a prioritized schedule developed by the state. In developing a TMDL, a quantitative assessment is made of the relative pollutant contributions from point sources, nonpoint sources, natural background, and the degree to which reductions in pollutant discharges are needed to meet applicable WQS. TMDLs are the sum of wasteload allocations for point sources, load allocations for non-point sources and natural background along with a margin of safety sufficient to ensure compliance with WQS. Once a TMDL is approved by EPA, any NPDES permit covering sources discharging to the waterbody must include requirements consistent with the TMDL. 40 C.F.R. § 122.44(d)(1)(vii)(B).

There are over 800 TMDLs in Region 9 that have been established with respect to the impaired waters within the scope of the petition.[14] As a first step, in the absence of other watershed-specific data, each of these TMDLs would need to be reviewed to determine if unregulated CII discharges contribute to the impairment in a particular watershed. Since it was not possible to complete such a task in the

[13] Tiefenthaler, L., Schiff, K., and Bay, S. 2001. *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*. Southern California Coastal Water Research Project Technical Report No. 340. *See also*, EPA, 2007, *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices*. EPA 841-F-07-006, Office of Water, Washington, D.C.

[14] http://ofmpub.epa.gov/waters10/attains_region_cy.control?p_region=9#tmdl_by_pollutant, last accessed on March 6, 2014.

timeframe of this petition response, and the resources to do so would be considerable, the Region performed an analysis, based on the information described below, to identify which impaired waters could be potentially impaired by CII sites, and then looked specifically at data related to those impaired waters.

1. GIS Analysis

In order to assess the potential contribution of CII discharges to the water quality impairments listed in the petition, it is important to assess the location of the CII sites relative to the impairments. Such data were not provided in the petition. The Region looked to a recent California data analysis, which found most CII sites are correlated with impervious cover of around 80 percent.[15] This is in the range of similar analyses elsewhere in the country.[16] The Region chose 70 percent as a conservative estimate of where imperviousness associated with CII sites is located in the Region. Region 9 created GIS maps of each of its States depicting the locations of the impaired waters covered by the Petition and the areas where there is at least 70 percent impervious cover to show where the impaired waters and significant areas of impervious cover overlap. The Region also added a layer depicting the jurisdictional boundaries of municipalities with existing Phase I MS4 permits. The maps indicate that areas with impervious cover greater than 70 percent are generally located within regulated Phase I MS4s.[17] The maps are attached as Appendix A.

2. Total Maximum Daily Load Source Assessments

As depicted by the maps in Appendix A, there are numerous water quality impairments in Region 9, located inside and outside of jurisdictional boundaries of Phase I MS4s. TMDLs have been prepared for many of the impaired water bodies listed in the database submitted with the Petition, and the source assessments that accompany the TMDLs provide useful insights into determining whether CII sites in particular, or alternatively, urban runoff more generally, is contributing to the impairments. TMDL source assessments consistently show that for TMDLs outside Phase I MS4 permitted areas, the pollutants of concern listed in the petition predominantly originate from non-CII sites, e.g., agricultural areas, mining, or natural/conservation areas. For TMDLs inside Phase I MS4 permitted areas, the pollutants of concern predominantly originate from urban runoff. As shown below, we reviewed several TMDLs in Region 9 that address the target pollutants in the petition and geographically represent different areas of water quality impairments in the Region.

a. TMDLs Outside Phase I MS4 Permitted Areas

(1) Lower Eel River Sediment and Temperature TMDL

[15] *User's Guide for the California Impervious Surface Coefficients*, Ecotoxicology Program, Integrated Risk Assessment Branch, Office of Environmental Health Hazard Assessment, California EPA, December 2010. As explained in the Guide, data for the institutional category is highly variable. Noting that this land-use does not cover large amounts of land, the authors do not recommend a specific impervious cover coefficient for this land use. *Id*. at 12.

[16] *See*, Navajo Department of Public Works*, Estimating Percent Impervious Cover,* http://www.navajocountyaz.gov/pubworks/pdfs/ImperviousCover.pdf; Cappiella, K. Brown, K. 2001. *Impervious Cover and Land Use in the Chesapeake Bay Watershed*, Center for Watershed Protection, Ellicott City, MD, Table 4.5.

[17] The island of Maui has a relatively large concentration of imperviousness outside a regulated MS4. The state of Hawaii has informed the County of Maui that it must submit an MS4 permit application for urbanized areas on Maui. Region 9 will also discuss plans for the rest of Maui with the state of Hawaii.

The Lower Eel River Sediment and Temperature TMDL was developed by EPA and finalized in December 2007. The Eel River Watershed is approximately 300 square miles and is located in Humboldt County about 200 miles north of San Francisco. This watershed is representative of the many North Coast watersheds where timber harvesting predominates. The TMDL source analysis shows almost half of the sediment loading is natural in origin. Of the human-related load, 76 percent stems from timber harvest, 20 percent is road-related erosion, and the remaining load comes from skid trails and bank erosion. Urban runoff and/or runoff from CII sites are not considered to be significant sources and no waste load allocations (WLA) were assigned to these categories of sources. The majority of the load allocation is for natural or background sources, with 20% of the load allocated to human-related (timber harvest) sources.

(2) Pajaro River Sediment TMDL

The Pajaro River Sediment TMDL was adopted by the Central Coast Regional Board in December 2006 and approved by EPA in May 2007. The Pajaro River is located approximately 60 miles south of San Francisco. It drains a watershed of 1,263 square miles of which roughly 2.5 percent is urban land with the reminder consisting largely of agriculture and open space. This watershed is representative of the many California Central Coast and Central Valley watersheds where agriculture predominates. The source assessment for the TMDL estimates that the largest portion of the sediment load is attributed to agriculture and rangeland, with 2.3 percent of the sediment loadings coming from urban runoff. According to the TMDL, urban lands include the small Phase II MS4 communities of Watsonville, Hollister, Gilroy, and Morgan Hill, rural properties throughout the watershed with farm animals or livestock boarding, and roads throughout the watershed.[18]

(3) Hanalei Bay TSS TMDL

The Hanalei Bay TMDL (Phase I – Streams and Estuaries), addressing TSS and *enterococcus*, was developed by the Hawaii Department of Health and approved by EPA in September 2008. Located on the Island of Kauai (see Figure 4), the watershed draining into Hanalei Bay is 32.3 square miles. The majority of the watershed is forested land with a small percentage in agriculture. This TMDL is representative of Hawaii watersheds where open space predominates. Urban areas, comprising less than 1 percent of the land area in the watershed, are primarily located in Hanalei town center along the Kuhio Highway. The source assessment for the TMDL estimates that scrub/shrub lands are the largest contributor of TSS (75 percent), with evergreen forest the next largest source (16 percent). Urban runoff accounts for 1.1 percent of the TSS load. No waste load allocations were assigned. As described in this phased TMDL, Hawaii is encouraging the largest landowners in the watershed to work collaboratively to address the water quality impairments.

(4) East Fork Owyhee River and Mill Creek TMDL

[18] The TMDL assigned WLAs to the Phase II MS4 communities, representing a 90 percent reduction of their 2005 load. Each of these NPDES permitted municipalities is required comply with the TMDL WLA through California's Small MS4 Permit. The permitting authority for this region has established a Wasteload Allocation Attainment Program to measure the progress that each MS4 is making toward meeting the 90 percent reduction. *See also* State Water Resources Control Board, Water Quality Order 2013-0001-DWQ NPDES General Permit No. CAS000004, Waste Discharge Requirements for Storm Water Discharges from Small MS4s (Small MS4 General Permit) Appendix G.

The East Fork Owyhee River and Mill Creek TMDL was developed by the Nevada Division of Environmental Protection in May 2005 and approved by EPA in June 2005. The East Fork Owyhee River is not meeting WQS for total phosphorus, total iron, totals suspended solids, turbidity and temperature, while the Mill Creek (a tributary of the East Fork Owyhee River) is not meeting WQS for the above constituents, as well as total cadmium, total and dissolved copper, total dissolved solids, pH and dissolved oxygen. Land uses in the East Fork Owyhee watershed include grazing, irrigation, recreation, and mining, as well as the town of Mountain City. This watershed is typical for watersheds in the arid west states of Nevada and Arizona, located outside the few urban areas. As discussed in the TMDL, the major source for the water quality impairments is the abandoned Rio Tinto copper mine, located 2.5 miles south of Mountain City, in northern Elko County, Nevada. The state of Nevada and EPA are involved in an extensive clean-up of the Rio Tinto Site.[19]

(5) Lake Tahoe Sediment, Nitrogen and Phosphorus TMDL

The Lake Tahoe Sediment, Nitrogen and Phosphorus TMDL, addressing clarity, was submitted by California in November 2010 and by the Nevada Division of Environmental Protection in August 2011. EPA approved the TMDL on August 16, 2011. Three-quarters of the watershed and two-thirds of the lake lies in California. More than 80 percent of the watershed is covered by mixed coniferous forests, though bare granite outcrops and meadows are also common. About 2 percent of the watershed is impervious surface associated with urban development, with impervious commercial and industrial pavement making up 0.48 percent of the total watershed area.[20] Most urban development exists along the lake‘s shoreline, with the largest concentrations at South Lake Tahoe, CA, Tahoe City, CA, and Incline Village, NV. The TMDL estimates that 16 percent of the nitrogen load, 38 percent of the phosphorus load, and 72 percent of the sediment load come from urban sources. The TMDL assigns WLA to the Phase I and Phase II NPDES permitted municipalities in the watershed. Additional discussion of efforts to restore clarity to Lake Tahoe is found in Section C.2.

b. TMDLs Inside Phase I MS4 Permitted Areas

(1) Los Angeles River Metals TMDL

The Los Angeles River Metals TMDL was adopted by the Los Angeles Regional Board in September 2007 and approved by EPA in October 2008.[21] It drains an 834 square mile watershed. Approximately 44 percent of the watershed area is classified as forest or open space. Approximately 55 percent of the land is categorized as urban, consisting of residential, industrial, and commercial land uses. The more urban uses are found in the lower portions of the watershed. This watershed is typical of most large urban watersheds in California. The TMDL addresses all three metals (copper, lead and zinc) that are targeted by the petition. The source assessment for the TMDL estimates that urban runoff is responsible for 80 percent of the wet weather loadings for copper, 95 percent for lead and 90 percent for zinc, with POTW discharges accounting for a large portion of the remaining load. The TMDL assigns WLA for all NPDES permitted sources in the watershed, including the Los Angeles County, Long

[19] https://ndep.nv.gov/bca/rio_tinto.htm, last accessed December 19, 2013.
[20] Lake Tahoe TMDL Technical Report, (June 2010 and August 3, 2011 (Nevada)), Table 4-14.
[21] The TMDL was revised in 2011 to adjust WLAs for three non-stormwater sources. *See*: http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/tmdl/tmdl_list.shtml

Beach, and Caltrans MS4s. The TMDL lays out a process by which compliance by the MS4 permittees will be accomplished through a phased approach and total compliance with the WLA will be met in 22 years (2030). Incorporation of TMDLs in NPDES permits is discussed further below.

(2) Chollas Creek Metals TMDL

The Chollas Creek Metals TMDL was adopted by the San Diego Regional Board in June 2007 and approved by EPA in December 2008. Chollas Creek is an urban coastal stream in southern San Diego County, and a tributary to San Diego Bay. It drains a watershed of 28.5 square miles in San Diego County of which roughly 12 percent is industrial/commercial, 57 percent is residential, with the remainder largely consisting of open space and roadways. This is a typical urbanized watershed in the Region. Like the Los Angeles River TMDL, the Chollas Creek TMDL addresses all three metals (copper, lead and zinc) that are targeted by the petition.

During the TMDL development process, modeling efforts identified freeways and commercial/institutional land uses as having the highest relative loading contributions of copper, lead, and zinc to Chollas Creek. Significant sources of all three metals are thought to include automobile operation (especially brake pads and tires) and industries with practices that may expose metals to stormwater, but specific facilities or categories were not identified. The TMDL also noted that essentially all sources of metals are discharged to Chollas Creek through MS4s that are regulated under NPDES permits.[22] There are also regulated industrial sources in the watershed, regulated by the California Multi-Sector General Stormwater Permit.[23] The TMDL implementation plan lays out a process by which compliance with the TMDL by NPDES permittee will be met within 20 years, with an 80 percent reduction in metals concentration in ten years (2018). Additionally, since the TMDL was adopted, California has proposed an NPDES permit containing requirements consistent with the TMDL, for the US Navy, which operates a naval base believed to be a large source of metals.[24] Incorporation of TMDLs in NPDES permits is discussed further below, and EPA will continue to evaluate progress in meeting this TMDL to determine if further regulation of specific sources is warranted.

(3) Ala Wai Canal Nutrient TMDL

The Ala Wai Canal Nutrient TMDL was adopted by the Hawaii Department of Health in June 2002 and approved by EPA in July 2002. The 2-mile Ala Wai Canal drains a 10,500 acre watershed on the Island of Oahu. Fifty-three percent of the watershed is urban land (Honolulu) and the rest is forested conservation land, typical for urban watersheds in Hawaii. The TMDL addresses total phosphorus and total nitrogen, two of the pollutants targeted by the petition. The source assessment for the TMDL estimates that 35-48 percent of the total phosphorus stems from urban land with 38-48 percent from the conservation lands; the remaining load is from groundwater and cesspools. For total nitrogen, the source

[22] *See*, NPDES Permit and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds in the San Diego Region, R9-2013-001, NPDES CAS0109266 *and* NPDES Statewide Stormwater Permit Waste Discharge Requirements for State of California Department of Transportation, 2012-0011-DWQ, NPDES CAS000003.

[23] California Water Quality Order No 97-03-DWQ, NPDES General Permit No. CAS000001 Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activity (Excluding Construction).

[24] *See*, Tentative Order No R9-2013-0064 NPDES Permit No CA0109169 Waste Discharge Requirements, United States Department of the Navy, Naval Base San Diego Complex *and* Tentative Order No R9-2013-0095 Time Schedule Order Requiring the United States Department of the Navy, Naval Base San Diego Complex to Comply with Requirements Prescribed in Order No R9-2013-0064 NPDES Permit No CA0109169.

assessment estimates that 10-33 percent of the load originates from urban land with 38-51 percent from the conservation lands, with remaining load coming from groundwater and cesspools. The TMDL assigns a WLA to all the point sources in the watershed, including the City and County of Honolulu MS4, Hawaii Department of Transportation MS4, Yacht Harbor Towers, and Hawaii Marine, LLC. Hawaii has incorporated these TMDLs into recently issued NPDES permits, as discussed in more detail below.

(4) Lakeside Lake Nutrients TMDL

Lakeside Lake is a 13-acre urban impoundment in Atterbury Wash in Tucson, Arizona. Originally a storm water retention basin, the impoundment was engineered in 1985 to become a public park feature and recreational fishery. The area immediately surrounding and downstream of the lake is primarily residential and commercial. A short distance upstream of the lake is a larger park, Lincoln Regional Park and Golf Course. This TMDL is representative of TMDLs for urban watersheds in arid Arizona. To offset evaporation losses (averaging .33 inches per day), and given the very dry climate in southern Arizona (12 inches of rain per year), reclaimed water is added to the lake. As described in the TMDL, the reclaimed water is very high in nutrients and accounts for 83 percent of the phosphorus load and 94.4 percent of the nitrogen load. Arizona has incorporated the TMDL into the NPDES reclaimed water permit issued to Tucson.

3. Other Studies

The Region also looked at other available information regarding discharges from CII sites and whether they contribute to water quality standard exceedences in Region 9. While there are several studies which examine the impacts of stormwater or urban runoff on receiving water, most of these studies do not provide a basis for connecting uncontrolled discharges from specific CII sites to specific impairments without additional information. For example, researchers in Santa Monica Bay studied the impact of stormwater on the marine ecosystem and concluded that a greater degree of urbanization was correlated with greater toxic effects; however, the researchers did not describe where the stormwater discharges came from.[25] In 2007, the Southern California Coastal Water Research Project (SCCWRP) released a report describing a storm water sampling program conducted over five seasons (2000 through 2005).[26] The SCCWRP reported that land-based concentrations for metals and TSS in southern California storm water are generally comparable to those in other parts of the country, as reported in the NSQD. Similar to the NSQD, the SCCWRP study found that discharges from industrial sites contained higher levels of metals and TSS than discharges from other land use types. However, all sites examined in this study are located within the Los Angeles MS4 Permit area, and, as discussed below, are being addressed through the MS4 Permit. Further, the description of the "industrial land use" category in the study is mainly made up of industrial sites that are already regulated under the Phase I regulations.[27] As

[25] Bay, S., *et. al*. 2003. *Water Quality Impacts of Stormwater Discharges to Santa Monica Bay*. Marine Environmental Research 56:205-223.

[26] Stein, E.; Tiefenthaler, L.; and Schiff, K. 2007. *Sources, Patterns and Mechanisms of Stormwater Pollutant Loading from Watersheds and land Uses of the Greater Los Angeles Area*, Southern California Coastal Water Research Project Technical Report No. 510.

[27] For example, the study includes Chemical Processing; Communication Facilities; Electrical Power Facilities; Harbor Facilities; Harbor Water Facilities; Maintenance Yards; Major Metal Processing; Manufacturing; Mineral Extraction - Oil and Gas; and Solid Waste Disposal Facilities in the industrial land use category. Stein, *et al* at Appendix A. The SCCWRP study

such, this study is not particularly helpful in determining whether unpermitted CII sites are contributing to WQS exceedences in Region 9.

In conclusion, sufficient information is not readily available to make a determination as to whether any individual or categorical CII discharges contribute to water quality exceedences on a watershed basis in Region 9. GIS analysis indicates that areas with impervious cover greater than 70 percent are generally located within regulated Phase I MS4s. TMDL source assessments consistently show that for TMDLs outside Phase I MS4 permitted areas, the pollutants of concern predominantly originate from non-CII sites, e.g., agricultural areas, mining, or natural/conservation areas. For TMDLs inside Phase I MS4 permitted areas, the pollutants of concern predominantly originate from "urban runoff." The evaluation of other water quality studies in Region 9 did not provide a basis for directly connecting the stormwater from a particular CII source, or category of CII sources, to any specific water body impairments.

C. CII Sites Addressed by other Programs

As noted above, one of the three principal factors used by EPA in evaluating discharges for designation under the Phase II regulations was the degree to which such discharges were already being addressed by other environmental programs. Region 9 evaluated regulatory programs as well as non-regulatory programs.

1. NPDES Municipal Separate Storm Sewer Permits

The CWA and the NPDES Phase I and Phase II regulations require that MS4 permittees reduce pollutants from their MS4s to the maximum extent practicable (MEP) and comply with such other provisions as the permitting authority deems appropriate. CWA § 402(p)(3)(b)(iii). To do so, federal regulations require MS4s to develop a program which analyzes and controls all significant sources of pollutants discharging into the MS4. 40 CFR §§ 122.26(d)(2) and 122.34(b). As described below, this requirement encompasses the CII sites described in the Petition that discharge into a regulated MS4.

In Region 9, MS4 permit writers and permittees have developed extensive experience with MS4 programs as many permits have been updated three or four times since they were originally issued.[28] They have gained expertise in dealing with discharges to impaired waters, and as described below, are implementing TMDLs through MS4 permits. Additionally, in Region 9's most populous state of California, the geographical boundaries of permitting authorities are generally based on watershed boundaries. This provides opportunities to efficiently address water quality impairments, including TMDL implementation, on a watershed basis. Further, in the 1990s, California designated many smaller communities and unincorporated areas, which at the time were not required to be federally regulated. California required that they apply for Phase I MS4 permits, which generally have prescriptive requirements describing how to control discharges from CII sites. Absent these designations, today many of these communities would either be regulated under the State's Phase II general permit, which is

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also concluded that there was a long-term trend toward decreasing median constituent EMCs for all land uses (with the exception of total zinc).

[28] EPA recognized that stormwater programs would "evolve and mature over time." 55 Fed. Reg. 47990, 48052 November 16, 1990.

less prescriptive with respect to CII sites, or not regulated at all. [29] As described below, an effective program for controlling discharges from CII sites within MS4 permitted areas is already underway. As shown by the maps in Appendix A, these areas are uncommon outside Phase I MS4 areas and there would be little benefit from additional permitting in such areas.

Region 9 reviewed MS4 programs being implemented under several Phase I MS4 permits and one Phase II MS4 permit to assess the degree to which the permittees are controlling pollutants from CII sites (Appendix B). A number of these permits (and others like them) cover multiple MS4s and represent examples from each state in the Region.[30] This review showed that the permittees are already implementing extensive control programs including requiring numerous best management practices (BMPs) in their implementation of requirements for good housekeeping, illicit discharge control, spill prevention and response, and minimizing exposure. For example, San Diego, CA has engaged in evaluation of its street sweeping program to identify and implement the most cost-efficient combination street sweeping practices and technologies that will maximize pollutant load reductions for the resources expended.[31] The City notes that it sweeps 45,000 curb miles of commercial streets to reduce the amount sediment, metals, and bacteria discharged in stormwater. As a result of the evaluation, the City is in the planning stages of increasing sweeping frequencies in certain high-priority areas where there are known water-quality problems in adjacent or downstream receiving waters. Region 9 MS4 permits also require MS4s to create a program to control discharges from a large number of municipally owned facilities, including parking lots, golf courses, and public parks. For example, many MS4 permits require that parking lots be inspected for dirt or debris buildup and/or swept at least twice per month.

The MS4 permits also require permittees to prioritize sources discharging into an MS4 and focus on the particular sources (including CII sites) believed to be most significant within a given jurisdiction. The permits require MS4s to address the most significant sources of pollution entering the MS4, consistent with the objectives of the petitioners. As an example of a typical MS4 permit in Region 9, the Los Angeles Regional MS4 Permit (covering 86 municipalities) requires municipalities to maintain an inventory of, among others, all restaurants, automobile service facilities, gas stations, nurseries, and any other facility the MS4 determines to be a significant contributor of pollutants to the MS4.[32] The inventory must contain fairly detailed information about each facility, including the status of pollutant sources exposed to stormwater. The MS4 must inspect each facility at least twice during the five-year permit term. During the inspection, the MS4 is required to ensure that the facility is implementing appropriate source-control BMPs. If a facility is not in compliance with local ordinances, the MS4 is required to conduct enforcement to bring the facility into compliance. (See Appendix B for example ordinances.) During FY2012, the City of Los Angeles, only one of 85 permittees, inspected over 10,000

[29] For example, early in the history of the Los Angeles MS4 Permit, California designated the MS4s owned and/or operated by the incorporated cities in Los Angeles County and unincorporated areas within the coastal watersheds of Los Angeles County as a large MS4 due to the total population of Los Angeles County and the interrelationship between the Permittees' MS4s, pursuant to 40 CFR section 122.26(b)(4). The total population of the cities and County unincorporated areas covered by this Order was 9,519,338 in 2000 and has increased by approximately 300,000 to 9,818,605 in 2010, according to the United States Census. Order No R4-2012-0175 NPDES Permit No CAS004001 Waste Discharge Requirements for MS4 Discharges within the Coastal Watersheds of Los Angeles County Except Those Originating from the City of Long Beach MS4 (hereinafter LA MS4 Permit), at p 20.

[30] There are 35 Phase 1 MS4 Permits in Region 9, covering over 330 municipalities.

[31] Brown, C., Evans, B. 2013. *Street Sweeping Effectiveness Studies*. Stormwater: Journal for Surface Water Quality Professionals. Jan/Feb 2013.

[32] *See*, Los Angeles County MS4 Permit, Section VI.D.6.

facilities and 200 facilities were required to update their BMPs through enforcement.[33] The City of San Jose's MS4 Permit contains similar language. In FY2012, San Jose inspected over 4,200 facilities and issued over 1,100 notices of violation.[34] The City of Tucson's MS4 Permit contains similar language, and Tucson is experimenting with ways to reduce copper discharges from an industrialized watershed, by timing sweeping prior to rain events and conducting additional outreach to facilities using copper.[35]

The San Francisco Bay Area Regional Permit, covering 77 municipalities, has specific requirements to reduce copper discharges. For example, municipalities are required to implement programs to manage copper discharges from cleaning architectural features, swimming pools, spas, or fountains with copper treated water, inspect industrial facilities known to use copper, and to participate in statewide programs to reduce copper discharges from brake pads.[36]

Additionally, several recently issued MS4 permits in Region 9 include requirements to develop retrofit programs, which could include CII sites. For example, in the LA Regional MS4 Permit, municipalities are required to develop a list of retrofit opportunities, either in the public right-of-way, or in concert with a TMDL.[37] The San Bernardino MS4 Permit, covering 18 permittees, requires development of a Watershed Action Plan. In the Watershed Action Plan, the permittees must explore the use of retrofits in dealing with a variety of issues, including impaired waters. After consideration, the permittees must implement any recommended retrofits. The City and County of Honolulu (CCH) MS4 Permit requires CCH to implement specific retrofits and to develop an action plan for additional retrofits within five years.[38] As an example, CCH installed curb inlet baskets at 34 inlets in the Ala Wai Canal watershed, removing sediment, metals and nutrients, among other pollutants.[39]

As TMDLs are developed that include WLA for MS4s, they are being included in MS4 permits.[40] Those permits require MS4 permittees to demonstrate that their BMP programs will be adequate to implement the WLA in the TMDLs, and EPA will continue to monitor progress. For example, the Ventura MS4 Permit (covering 15 municipalities) requires stormwater controls to implement WLA in several TMDLs, including TMDLs for nutrients and metals. The Hawaii Department of Transportation MS4 Permit also includes requirements implementing several TMDLs, including the Ala Wai Canal Nutrients TMDL discussed above, requiring the Permittee to develop a

[33] Los Angeles County MS4 Permit, Individual Annual Report Form, Reporting Year 2011-2012, City of Los Angeles at 31.
[34] City of San Jose, Stormwater Management Annual Report 2011-2012, at 4-1. There are over 10,000 commercial and industrial facilities tracked by the City of San Jose, see Appendix A.
[35] Second Annual Report, September 2013, City of Tucson, Department of Transportation, Stormwater Management Section, at 69.
[36] San Francisco Bay Region MS4 Permit Order No R2-2009-0074 NPDES Permit No CAS612008, as amended by R2-2011-0083, at C.13.
[37] *See*, LA MS4 Permit, VI.9.D.
[38] City and County of Honolulu (CCH) NPDES Permit No. HI S000002, Part D.1.f(1)(vi).
[39] CCH Storm Water Management Plan Appendix F, June 2012, Action Plan for Retrofitting the Existing MS4 with Structural BMPs at 9. See also, Specification for Curb Inlet Baskets, BioClean at: http://www.biocleanenvironmental.com/content/product/curb_inlet_baskets/Specifications%20-%20Curb%20Inlet%20Basket.pdf.
[40] The proposed California Multi-Sector General Permit, covering regulated industrial activities, also contains requirements consistent with TMDLs. *See*, Final Draft NPDES General Permit for Stormwater Discharges Associated with Industrial Activities, CAS000001, Attachment E.

systematic approach to reducing nutrients, which, at a minimum, involves debris removal and an assessment of storm sewer cleaning frequencies.

2. Other Programs Addressing Discharges from CII Sites

Given the focus on impacts of climate change on water resources, many communities and local groups have engaged in efforts to reduce the scale of existing impervious areas in order to reduce the amount of stormwater discharged through storm drains. As described below, many of these retrofits are located on, or collect stormwater from CII sites.[41]

a. Local Actions

(1) Arizona

The non-profit Watershed Management Group transformed seven parking lots on the University of Arizona, a type of institutional site covered by the petition, by installing rainwater harvesting basins, native trees and shrubs in areas previously covered by asphalt and bare earth. The Watershed Management Group has also conducted similar projects affecting commercial and residential properties in the Rincon Heights Neighborhood.[42] Similar projects have been conducted by the City of Phoenix, in partnership with the Arizona State University in downtown Phoenix.[43]

(2) California

In Santa Monica, California, the City redesigned a block of Bicknell Avenue, a commercial and residential street, with practices to reduce the amount of stormwater discharged to Santa Monica Bay as a model "green street."[44] The Los Angeles Zoo retrofitted its 33 acre parking lot to reduce pollutant discharge by installing bioswales and permeable pavement to filter stormwater and reduce runoff.[45] The City of Oakland, using funds from a voter initiative, retrofitted a parking lot near an urban lake to provide bioswales, pervious pavement, and a green roof, treating stormwater from a commercial establishment.[46]

(3) Hawaii

On the eastern side of Oahu, Hawaii, a local non-profit retrofitted a 12,000 square foot parking lot with pervious pavement to allow stormwater to infiltrate.[47] The non-profit group, Hui o Ko'olaupoko, is also installing rain gardens to remove nitrogen, phosphorus, and sediment from the

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[41] Descriptions of other projects are maintained by the American Society of Landscape Architects and can be found here: http://www.asla.org/stormwatercasestudies.aspx, last accessed on January 13, 2014.
[42] Silins, J, *Vision: A Publication of the Arizona Chapter, American Planning Association*, December, 2009 pp 1-5.
[43] Green Infrastructure and Stormwater Management: Taylor Mall Case Study, American Society of Landscape Architects.
[44] Bicknell Avenue Green Street Project:, last accessed January 13, 2014: http://www.smgov.net/Departments/OSE/Categories/Urban_Runoff/Bicknell_Avenue_Green_Street.aspx
[45] See http://lacitysan.org/wpd/Siteorg/LAPropo/sitefiles/LA_Zoo/zoointro.htm
[46] See http://wildoakland.org/2013/04/back-to-the-future-measure-dd-water-health-and-re-marshing-lake-merritt/, last accessed February 5, 2014.
[47] See http://www.huihawaii.org/, last accessed January 14, 2014.

Windward Mall parking lot, the largest single concentration of impervious surface in the He'eia stream watershed.[48] He'eia stream is on Hawaii's 303(d) list for nutrient and turbidity impairments.

(4) Nevada

As one of many of restoration programs implemented through the Lake Tahoe Environmental Improvement Program, the Stormwater Management/Best Management Practices (BMP) Retrofit Program is a unique and innovative strategy that protects Lake Tahoe's water quality from the impacts of stormwater pollution. Throughout the Tahoe Basin, in both California and Nevada, the Tahoe Regional Planning Association (TRPA) requires all landowners to install BMPs to infiltrate stormwater. As of the end of 2011, 60% of commercial facilities on the Nevada side of Lake Tahoe had completed installation of retrofit BMPs.[49] One of these facilities is Kingsbury Hardware, which installed a BMP to treat parking lot runoff before infiltrating it.[50] TRPA also created a brochure targeted at commercial and industrial facilities.[51]

b. Other Federal Support

EPA provides states CWA grant funds that can be used to fund green infrastructure activities, ranging from policy to projects. For example, CWA 104(b)(3) funds have been granted to local environmental groups to implement infrastructure improvements and EPA's Non-Point Source grant funds under 319(h) have supported projects across the Region. EPA also promotes funding of green infrastructure through administration of CWA and Safe Drinking Water Act State Revolving Funds (SRF). Specifically, in 2010, EPA implemented a green project reserve which set aside 10% of the CWA SRF grant to be used by states to implement green projects including infrastructure improvements.

Additionally, as part of EPA's commitment to engaging with local communities to support green infrastructure, since 2012, EPA has conducted a series of technical assistance projects and provided grant and contract support to address significant technical, regulatory, and institutional barriers to green infrastructure, and to build community capacity by sharing lessons learned. Some examples to date include:

Los Angeles, a 2012 grant recipient, conducted a comprehensive analysis of state and regional regulations, programs, and policies, documented in a report that describes green infrastructure barriers and opportunities in the greater Los Angeles area. As described in the report, in the already developed, highly urbanized areas of Los Angeles County, green infrastructure will mostly be implemented as retrofits or infill redevelopment. The report describes how green infrastructure can meet the goals and requirements of multiple state and regional regulations, and analyzes provisions that might complicate

[48] Hawaii Department of Health, Clean Water Branch Polluted Runoff Control Program, FY13 End of Year Report at 17.
[49] Tahoe Regional Planning Agency, 2011 Threshold Evaluation Report, Appendix IE3- Stormwater Management/BMP Retrofit Program, October 24, 2012 at IE3-3.
[50] Tahoe in Depth, Winter 2013-14, at 18.
[51] Clean Water is Everyone's Business: A Commercial and Industrial Property Owner's Guide to improving Lake Tahoe Clarity"

green infrastructure implementation.[52] As a 2013 grant recipient, Tucson will complete a green infrastructure guidance manual addressing selection, design, construction, and maintenance of green infrastructure practices, which will help assess the costs and multiple benefits of green infrastructure practices in a desert environment.

Region 9 has also supported other collaborative green infrastructure projects to reduce the discharge of pollutants from the built environment. For example, through the San Francisco Bay Water Quality Improvement Fund, EPA funded several green infrastructure projects to reduce the discharge of stormwater and pollutants from CII facilities: the City of Fremont will install tree well systems to treat stormwater pollutants, including trash, from over 14,000 square feet in an industrial area.[53]

IV. *State and Local Government Views*

While the reasons above are alone sufficient for denying the petition, EPA Region 9 also evaluated the workload implications for EPA and CWA NPDES-authorized States which would result from any designation, taking into account the broad geographic and categorical scope of the petition. As part of our analysis, based on past published estimates, the Region estimated the number of facilities potentially covered by the petition. EPA's 1995 Report to Congress estimated the existence of 7.7 million industrial, commercial and institutional sites nationally, 7.1 million meeting the definition of the CII sites in the petition.[54] The Region used California, Region 9's most populous state with approximately 12 percent of the national population, to estimate the potential workload. Based on 1995 estimates of the number of sites nationally, there could be up to 900,000 potential CII sites in California. For comparison, the number of permittees currently operating under California's general industrial stormwater permit is about 9,500, with approximately 6,400 permittees operating under the California's construction general permit. These figures show that permitting of the CII sites targeted by the petition could exponentially increase the workload of NPDES-authorized States.

Region 9 had informal discussions regarding the workload implications of the petition with representatives of each of its authorized states, who uniformly expressed considerable concern. Each of Region 9's authorized states issues and enforces numerous NPDES stormwater permits, often struggling keep up with current permit demands and to reissue permits within their five year terms. For example, California issues over 30 stormwater permits, which cover discharges from hundreds of municipalities and thousands of industrial and commercial facilities. Arizona issues over 10 permits covering stormwater discharges from 49 municipalities and hundreds of construction and industrial facilities. Hawaii issues more than 11 permits covering stormwater discharges from over a dozen municipalities and hundreds of construction and industrial facilities. Unique to Hawaii, each general permit application is reviewed and a notice of general permit conditions (NGPC) is issued to each discharger. In many cases, these NGPCs contain numeric effluent limits for stormwater discharges. Nevada issues 7 permits covering stormwater discharges from 15 municipalities and hundreds of construction and industrial

[52] U.S. EPA, 2013, *Green Infrastructure Opportunities and Barriers in the Greater Los Angeles Region.* EPA 833-R-13-001, Office of Water, Washington, D.C.
[53] http://www2.epa.gov/sfbay-delta/project-summaries#urban, last accessed February 5, 2014.
[54] U.S. EPA, March 1995, *Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program Report to Congress* EPA-K-94-002, Office of Water, Washington, D.C. page 4-2.

facilities.[55] Issuing, defending challenges, and enforcing these stormwater permits takes considerable resources, not even taking into account the numerous, non-stormwater related NPDES permits issued by each state. Given the other tools described in this document, adding another permit (or permits) covering such a large universe of facilities would consume considerable resources and compromise ongoing implementation of existing effective and increasingly protective NPDES programs.

Permitted MS4s have raised additional concerns regarding the petition in conversations with Region 9. As noted above, the permitted MS4s already have programs in place to control pollutants within their jurisdictions that address many of the facilities targeted by the petition. The permittees have expressed concern that additional NPDES permits could constitute another layer of regulation that could be confusing and interfere with the implementation of local programs, including the ability of local jurisdictions to establish stormwater utilities to help cover the costs of local programs.[56] The National Association of Clean Water Agencies expressed limited support for a targeted use of EPA's RDA, noting that there is an existing burden on MS4s and that a broad use of RDA could impact the effectiveness of stormwater utilities.[57]

VI. CONCLUSION

In 1999, EPA considered making a nation-wide designation of many of the commercial and industrial facilities described in the Petition, but did not do so because EPA lacked "information indicating a consistent potential for adverse water quality impact or because EPA believes that the likelihood of adverse impacts on water quality is low, with some localized exceptions." 64 FR 68722, 68734 (December 8, 1999). Given the very broad scope of this Petition, EPA declines to make a Region-wide designation for similar reasons given that the data in the petition are insufficient to directly connect the stormwater discharges from a particular CII source, or category of CII sources, to specific water body impairments. Moreover, considering readily available current information, our analysis in response to this petition indicates that effective water quality protection programs are in place that covers the majority of CII stormwater discharges in the Region. Awareness of the contribution of unregulated stormwater discharges to water quality exceedences is an important part of the Region's ongoing stormwater program and a basis for Regional action where further regulation is warranted. For example, in 2011, the Region proposed designation of discharges from certain MS4s on Guam, pursuant to 40 C.F.R. 122.26(a)(9)(i)(D).[58] The Region is currently taking public comment on the proposed designations and has directed the Department of Defense and Guam Department of Public Works to submit permit applications. The public comment period will remain open until the close of the public comment period on any NPDES permit related to the preliminary residual designation. The Region will continue implementation of this important part of our stormwater program to gather information and evaluate sources to support targeted designations where warranted.

[55] This number reflects NDPES stormwater permits. It does not include individual NDPES permits for process waste-water which also often also permit certain stormwater discharges.

[56] For example, see American Public Works Association February 5, 2014 Letter from Peter B. King to Jared Blumenfeld, echoing various concerns raised by the California Stormwater Quality Association and other representatives from Region 9 states.

[57] National Association of Clean Water Agencies February 14, 2014 letter from Ken Kirk to Nancy Stoner.