

US EPA ARCHIVE DOCUMENT

**Part 1 - Response to Comments on the Total Maximum Daily Loads for Copper, Lead and Zinc in the Los Cerritos Channel**

*December 8, 2008 Public Notice*

**March 2010**

**COMMENTORS**

1. Rutan & Tucker, LLP, Cities of Bellflower, Cerritos, Downey, Paramount and Signal Hill
2. Gail Farber and Mark Pestrella, Director and Assistant Deputy Director, County of Los Angeles Department of Public Works
3. Mark Gold, President, Kirsten James, Water Quality Director, W. Susie Sentilena, Water Quality Scientist, Heal the Bay
4. Kenneth C. Farfsing, City Manager, City of Signal Hill
5. Technical Committee for changes to the Los Cerritos Channel Metals TMDL (City Managers of Bellflower, Cerritos, Downey, Lakewood, Long Beach, Paramount and Signal Hill)
6. Michael Conway, Director of Public Works, City of Long Beach
7. Desi Alvarez, Deputy City Manager, City of Downey
8. Christopher S. Cash, Director of Public Works, The City of Paramount
9. Lisa A. Rapp, Director of Public Works, City of Lakewood
10. Mike O'Grady, City of Cerritos, Environmental Services Manager
11. Leo L. Mingle, Assistant City Manager, City of Bellflower

**INTRODUCTION**

This document summarizes the comments that were submitted in response to the December 8, 2008 Public Notice, identifies the commenter or commentors (at the beginning of the comment) and responds to the comments. Any change that is made to the TMDL, in response to the comments is indicated in the response. If no change is noted in the response, then no change was deemed to be needed in the TMDL.

**SUMMARY OF CHANGES TO THE FINAL TMDLs**

Several changes were made to the final document as a result of public comment, and are further described throughout this document, in the TMDLs, and TMDLs Appendices. These include:

1. Use of a Site Specific Translator to calculate a Dry Weather Numeric Target for copper;
2. Use of Site Specific Translators to calculate Wet Weather Numeric Targets for copper, lead and zinc;
3. Definition of Lead TMDL based on existing loads;
4. Inclusion of a 10 percent explicit margin of safety (MOS) for wet weather TMDLs;
5. Addition of one minor individual NPDES permittee to the list of NPDES permittees in the Los Cerritos Channel;
6. Modification to the watershed boundary (based on City of Downey field reconnaissance);  
and

7. Model configuration revisions including the modification of land use classifications, revised potency factors for copper, and the use of variable percent impervious values throughout the watershed.

#### REFERENCES

Ackerman, D. and S. Weisberg. 2006. Evaluating HSPF Runoff and Water Quality Predictions at Multiple Time and Spatial Scales; Southern California Coastal Water Research Project 2005-06 Biennial Report. Southern California Coastal Water Research Project. Westminster, CA.

Characklis, G.W. and M.R. Wiesner. 1997. Particles, Metals, and Water Quality in Runoff from Large Urban Watersheds. *Journal of Environ. Eng.* 123:753-759.

McPherson, T.N., S.J. Burian, H.J. Turin, M.K. Stenstrom and I.H. Suffet. 2002. Comparison of Pollutant Loads in Dry and Wet Weather Runoff in a Southern California Urban Watershed. *Water Science and Tech.* 45:255-261.

## COMMENTS AND RESPONSES

### **1. Comments from Rutan and Tucker, LLP, Submitted on Behalf of the Cities of Bellflower, Cerritos, Downey, Paramount and Signal Hill**

#### **Comment 1:**

No TMDLs can lawfully be developed for the Los Angeles Region until the Water Boards have properly reviewed and revised the region's water quality standards in accordance with applicable state and federal law and the recent *Arcadia v. State Board* case. EPA should not develop new regulatory requirements based on defective water quality standards and then rely on the Water Boards to implement the requirements before they have complied with the Superior Court's writ of mandate and judgment in the *Arcadia* case.

#### **RESPONSE:**

*EPA disagrees. TMDLs must be set at levels necessary to achieve all applicable water quality standards. Thus, these TMDLs need to be set at levels necessary to meet the existing standards as described in the TMDLs, and it would not be appropriate to put off establishment of the TMDLs based on speculation that the standards may change. The Arcadia v. State Board case cited in the comment does not preclude establishment of these TMDLs for several reasons. Although judgment has been entered in that case directing the Regional Board to reconsider certain water quality standards, the judgment leaves the existing standards in place, even though a standards review is being conducted. Moreover, the standards these TMDLs are written to implement are from the EPA-promulgated California Toxics Rule, which is not at issue in the Arcadia lawsuit. (And although the Arcadia lawsuit raises issues concerning "potential uses", none of the beneficial uses for Los Cerritos Channel are classified as "potential.") Additionally, even if the Regional Board were to adopt a less stringent standard for a pollutant subject to a CTR criterion, the CTR criterion would continue to be in effect unless and until EPA depromulgated it. Thus, any potential change in the standards addressed by these TMDLs is extremely speculative, and not a reason to delay establishment of the TMDLs. Regarding implementation of the TMDLs, please see response to comment 2.*

#### **Comment 2:**

Because TMDLs are not self-enforcing but require issuance of state regulations for implementation, and given the court's order in *Arcadia v. State Board* requiring the review and revision of the water quality standards, EPA's adoption of the proposed TMDLs would serve no purpose and is a useless act. The Cities request the TMDLs not be approved by EPA, and that instead, the State be permitted to develop the TMDLs with an implementation plan and a water quality management plan that complies with both State and federal law.

#### **RESPONSE:**

*Establishment of these TMDLs is not a useless act. TMDLs provide extensive information to the State that can be used in developing State plans and strategies for improving water quality in the targeted waterbodies. Additionally, under EPA regulations at 40 CFR 122.44(d)(1)(vii)(B), water quality-based effluent limits in NPDES permits must be consistent with the assumptions*

*and requirements of any available wasteload allocation. This requirement is not contingent on the State having adopted an implementation plan for the TMDLs. Regarding the Arcadia case, please see response to comment 1.*

*EPA appreciates the commenter's suggestion that the TMDLs, along with implementation plans, be prepared by the State rather than by US EPA. However, these TMDLs are required to be established under a consent decree, and it is not likely that the State will be able to complete adoption of all the TMDLs required in the consent decree by the applicable deadline. Therefore, EPA and the Regional Board have agreed that the metals TMDLs for Los Cerritos Channel will be established by EPA. See also response to comment 3.*

**Comment 3:**

Under the CWA, EPA cannot lawfully adopt the TMDLs as there has been no showing of a "prolonged failure" on the part of the State to adopt such TMDLs.

**RESPONSE:**

*EPA's discretionary authority to establish TMDLs is not limited to situations where there has been a prolonged failure on the part of the State, although EPA believes that the Agency does have authority to establish TMDLs in the absence of sufficient state action. Los Cerritos Channel was included on the 1998, 2002, and 2006 California 303(d) lists as an impaired water body for copper, zinc and lead. In 1999, a 13-year schedule for development of TMDLs in the Los Angeles Region was established in a consent decree between USEPA and several environmental groups, entered by the District Court on March 24, 1999 (*Heal the Bay Inc. v. Browner*). Attachment 2 of the consent decree lists the waters and pollutants for which TMDLs are required to be established by 2012. Attachment 2 includes listings for zinc, copper and lead in Los Cerritos Channel (analytical unit 84). Because the State is unlikely to complete adoption of these TMDLs in time to meet the consent decree deadline, it is appropriate for USEPA to establish these TMDLs. The Regional Board has agreed with USEPA that USEPA will establish these TMDLs.*

**Comment 4:**

State and federal policy collectively require that the proposed metals TMDLs, when properly adopted, be complied with through a Best Management Practices approach and not be enforced through the use of numeric effluent limits. The TMDLs fail to include any language that they may be complied with through an iterative BMP approach, despite the clear language in EPA's 2002 guidance on establishing TMDLs for stormwater sources, 2008 draft TMDLs to Stormwater Permits handbook, and State policy. The implication that the TMDLs are to be implemented through the use of strict numeric limits is inconsistent with CTR and State policy.

EPA's preamble to the CTR, and response to comments documents for the CTR, indicate that compliance with the CTR was to be obtained through BMPs rather than end-of-pipe controls. The California SIP for toxics standards indicates that the CTR numeric limits should not be strictly applied to stormwater because although the SIP was specifically designed to effectuate the CTR, it does not apply to regulation of stormwater discharges (SIP p. 1, n. 1). Numerous

State Board decisions indicate that numeric objectives and effluent limits are not to be applied to stormwater, and a blue-ribbon panel has stated that “it is not feasible to set and enforce numeric effluent criteria for municipal BMPs and in particular urban dischargers.”

EPA’s November 22, 2002 guidance on establishing TMDLs states that WQBELs in NPDES permits for municipal stormwater discharges should be “in the form of BMPs, and that numeric limits will be used only in rare instances.” This is reiterated in EPA’s November 2008 draft TMDLs Stormwater Handbook. Additionally, the National Research Council has recommended an iterative approach to TMDLs.

Although the EPA TMDL recommends a 10-year timeframe for compliance, it fails to reflect that a BMP approach, including an iterative BMP approach, is appropriate to meet the stormwater component of the TMDL.

**RESPONSE:**

*This comment generally goes to the issue of implementation of the TMDLs, which is a State responsibility. EPA does not disagree that a BMP approach to implementation of the TMDLs as to municipal stormwater discharges may be appropriate, and the TMDLs themselves state that EPA anticipates that “implementation for stormwater discharges will be based on BMPs which address pollution prevention.”*

*There is no inconsistency between these TMDLs and EPA’s language in the CTR preamble and response to comments document. As noted in the comment, the CTR preamble and response to comments document indicate that for stormwater sources, EPA believes that compliance with CTR standards through BMPs is appropriate; however, EPA also stated that the State will have a number of discretionary choices associated with permit writing. The commenter is correct that in its 2002 guidance on establishing TMDLs for stormwater sources, EPA indicated that it anticipated that TMDLs for municipal stormwater sources would in most cases will be implemented through a BMP approach; however, the commenter’s statement that this is “required” is an overstatement. The 2002 guidance stated that WQBELs in permits “may” be expressed as BMPs “under specified circumstances,” and that EPA expected that numeric limits may be used in some instances, albeit “rare” instances. Additionally, the guidance specifically states that its recommendations are not binding, and “there may be other approaches that would be appropriate in particular situations.” EPA’s draft TMDLs to Stormwater Permits handbook cited by the commenter also includes both BMPs and numeric effluent limitations as approaches for permit writers to consider. (“Permit writers might determine that BMPs are not an appropriate way to express effluent limitations and might choose to develop numeric effluent limitations as a feasible and appropriate way to incorporate the TMDLs provisions into the permit.” Draft handbook p. 137). There is nothing in the State Board decisions or 2006 panel report cited by the commenter that is inconsistent with these particular TMDLs.*

*The statement in the SIP that it does not apply “to regulation of storm water discharges” (p. 1, footnote 1) does not mean that CTR criteria do not apply to stormwater sources. The purpose of the SIP was to develop procedures for implementing CTR criteria in traditional NPDES permits, with the understanding that stormwater discharges could be expected to be controlled in the same manner as under the general permits specified in footnote 1 of the SIP. There is nothing in*



*either the SIP or the CTR indicating that CTR criteria do not apply to stormwater discharges. Indeed, the quotations from the CTR preamble and response to comments document that are included in this comment are all premised on the understanding that the CTR standards apply to stormwater discharges.*

**Comment 5:**

The subject metals TMDLs are contrary to law, as the TMDLs have not been developed based on an adequate consideration of their economic impacts. Because EPA is now attempting to directly apply the numeric limits set forth in CTR to small entities and to stormwater dischargers in general, and because EPA's adoption of a TMDL is rule making, EPA must now either go back and revise CTR after conducting an analysis under the Regulatory Flexibility Act, or must revise the proposed TMDL to exclude stormwater dischargers from its terms, and specifically must exclude small entities as defined under the RFA, i.e., cities with less than 50,000 population, such as Signal Hill. An economic analysis is especially important because of the severe financial difficulties facing cities in this watershed, and also the State of California. Unless EPA reviews and revises both CTR and the metals TMDLs, its adoption of the metals TMDLs is unlawful.

Federal regulations at 40 CFR 130.6 require the State's water quality management plan to include TMDLs, economic analysis, "the financial and institutional measures necessary for implementing recommending solutions," and a fiscal analysis regarding urban stormwater. Nothing in the CTR or metals TMDLs discusses the financial and institutional measures necessary for achieving the TMDLs.

EPA Region 9's January 7, 2000, Guidance Document "Guidance for Developing TMDLs in California" attaches a memorandum from the State Office of Chief Counsel that in turn attaches a 1994 State memo regarding consideration of economics in the development of TMDLs. Consideration of economics before adoption of this TMDL is particularly necessary since when the State adopted the Basin Plan, it did not contemplate applying the water quality standards on which the metals TMDLs are based to stormwater. The Cities "wanna holler and throw up [their] hands" because the State and EPA have openly shirked their legal responsibilities to conduct an adequate economic analysis of the impacts of their regulations.

Economic impacts of strictly complying with numeric effluent limits will be severe. The commenter attaches several studies and requests that EPA consider such studies in development of the metals TMDLs.

**RESPONSE:**

*TMDLs are not rules; they rest primarily on determinations of fact, not policy considerations. The metals TMDLs are specific factual determinations that calculate the copper, lead and zinc loads that the Los Cerritos Channel can receive and still achieve the applicable water quality standards. They have no applicability nationwide, or even statewide. Because they are not rules, they are not subject to the RFA. The Clean Water Act requires TMDLs to be set at levels necessary to meet applicable water quality standards, without qualification, and does not require TMDLs to include an economic analysis. It would not be appropriate to exclude stormwater*

*dischargers in general, or small entities in particular, from the TMDLs analysis, as TMDLs need to analyze all the sources of a pollutant and allocate loads to such sources. Excluding a source would essentially mean that source had an allocation of zero and could not discharge the pollutant at all.*

*In adopting the CTR, EPA considered the possibility that the CTR standards could indirectly affect small entities, but noted that the State has considerable discretion in deciding how to meet water quality standards and in developing discharge limits as necessary to meet standards. EPA found that although the State's implementation of federally-promulgated water quality criteria or standards may result indirectly in new or revised discharge limits for small entities, the criteria themselves would have a direct effect only on the State of California, which is not a small entity under the RFA. Thus, EPA reasoned that the CTR was not subject to the RFA. 65 Fed. Reg. at 31709. Neither the CWA nor EPA regulations require the State or EPA to re-analyze the appropriateness of the existing water quality criteria, such as those in the CTR, when TMDLs are developed.*

*While EPA's regulations in 40 CFR 130.6(c) include economic factors as an item for consideration in a State's implementation of its water quality management plan and in evaluating BMPs, the regulations do not mandate consideration of economic factors in the development of TMDLs. To the contrary, as noted above, the CWA specifically requires that TMDLs be established at levels necessary to implement water quality standards, without qualification.*

*The State guidances included in the comment deal with State law and are not binding on US EPA. The documents submitted regarding costs go to the issue of implementation of the TMDLs, and permit development, which will be done by the Regional Board. They do not go to the technical issues involved in the development of the TMDLs by US EPA. However, the Regional Board may consider economic impacts when implementing these TMDLs, so long as the implementation actions are consistent with the CWA and EPA regulations (e.g. 40 CFR 122.44(d)(1)(vii)(B)).*

**Comment 6:**

The metals TMDLs are improper as insufficient science exists to support their development and as they are "not suitable for calculation." EPA delayed and then abandoned altogether its proposed 2000 TMDL rule due to unresolved concerns regarding lack of data to support TMDLs and some pollutants not being suitable for TMDL calculation. The Court of Appeals for the D.C. Circuit held in *Friends of the Earth, Inc. v. EPA* that if a TMDL of a particular pollutant for a particular water body is not "suitable for calculation," it is not proper for EPA to adopt a TMDL for such pollutant and water body, and that "nothing forecloses the agency from reconsidering" its general position that "all pollutants" are suitable for calculations of TMDLs. Administrator Lisa Jackson has emphasized the need to rigorously adhere to sound science.

**RESPONSE:**

*These TMDLs are based on a robust scientific analysis. This particular comment does not raise specific scientific issues. EPA is responding to technical concerns raised in other comments*



*elsewhere in this document. EPA's decision to withdraw the 2000 TMDLs rule does not invalidate any TMDLs being established now based on the Clean Water Act and existing EPA regulations, nor does the Friends of the Earth case present grounds for not establishing these TMDLs. That case dealt largely with the issue of calculating daily loads. These metals TMDLs include daily loads for all three pollutants. EPA continues to consider all pollutants suitable for calculation of TMDLs, and the comment does not present any reasons why lead, copper, and zinc are not suitable for calculation of TMDLs.*

**Comment 7:**

EPA failed to utilize a “translator” in establishing the metals TMDLs. Under EPA regulations at 40 CFR 122.44(d)(1)(vi), it is necessary for EPA to develop a “translator” to convert a narrative water quality standard into a pollutant-specific numeric effluent limitation. EPA’s Guidance for California TMDLs confirmed the importance of utilizing a translator to translate narrative water quality standards into numeric limits. Here, EPA relied entirely upon CTR in setting numeric targets. In doing so, EPA failed to use a translator to translate the narrative objectives contained in the Basin Plan into the numeric targets contained in the TMDL. EPA failed to properly translate the CTR criteria for dissolved metals into a proper set of WLAs because EPA merely applied CTR’s default conversion factors, without any finding that such an approach is appropriate. In addition, as set forth in other technical comments, EPA has wrongly determined that the WLAs are to be based on total recoverable limits for metals, rather than on dissolved metal limits. Because the TMDL fails to include an explanation of how the narrative objectives were translated into numeric targets, and because EPA improperly sought to convert the CTR’s dissolved metal limits into total recoverable metal limits, EPA acted contrary to 40 CFR 122.44(d)(1)(vi). The TMDL must be revised based on an appropriate translation of the narrative objectives in the Basin Plan.

**RESPONSE:**

*There is no requirement in the CWA or EPA regulations for a translator in developing TMDLs. Under the Region 9 guidance quoted by the commenter, when a TMDL is established to implement a narrative water quality objective, the TMDL should include numeric targets translating the narrative standard into numbers suitable for TMDL calculation. Here, it is not necessary to “translate” the CTR criteria because they are already numeric. Nor is a translator required here by 40 CFR 122.44(d)(1)(vi), which relates to effluent limitations in permits (not TMDLs), and which applies when there is no criterion for the pollutant being addressed, which is not the case for the pollutants in these TMDLs.*

*TMDLs must be set at levels necessary to achieve all applicable water quality standards. Therefore, the TMDLs must be set at levels necessary to meet any applicable Basin Plan objective and also applicable CTR criteria. EPA determined that by applying the CTR criteria, the TMDLs also address the Regional Board’s narrative toxicity objective. This is consistent with the basis for the CTR, which was to protect the public health and aquatic life from toxicity. 62 Fed. Reg. 42160, 42181 (August 5, 1997).*

*EPA has revised these TMDLs to include site-specific translators for each metal during wet weather conditions. See response to comments 34 and 40 for more complete discussion on our*

*development and application of these site-specific translators for these Los Cerritos Metals TMDLs.*

**Comment 8:**

The metals TMDLs are contrary to law since EPA has failed to properly determine the loading capacity of the Los Cerritos Channel for metals. There is no evidence an adequate assimilative capacity study has been conducted. The TMDL report failed to analyze the assimilative capacity of the Los Cerritos Channel to determine the amount of each pollutant the water body can assimilate without impairing its designated uses, based upon its particular characteristics. TMDLs need to include an analysis of the sources of the pollutant loading and must describe the link between numeric targets and pollutants of concern.

**RESPONSE:** *EPA performed a comprehensive analysis of the sources of metals loading to Los Cerritos Channel, including stormwater sources, other point source dischargers, and atmospheric deposition. Stormwater runoff was analyzed using monitoring data, and, for wet-weather loading, using a model. As discussed in the TMDLs report, the model's accuracy was compared to City of Long Beach flow data and found to predict observed flow and metals loadings within acceptable modeling ranges.*

*The dry-weather loading capacity was determined in a straight-forward and pragmatic way by multiplying the hardness-adjusted dry-weather numeric target expressed as total recoverable by the critical dry-weather flow, which was estimated based on existing monitoring data.*

*In calculating the wet-weather loading capacity, EPA found that given the variability in wet-weather flows, the concept of a single critical flow is not justified. Instead, a load duration curve approach is used to establish the wet-weather loading capacity. In brief, the load duration curve was developed by multiplying the daily wet-weather flows by the in-stream numeric target. The resulting curve identifies the total allowable load for a given daily flow, a.k.a. the daily loading capacity. This process used the model described in the TMDLs report. This approach is widely used in TMDLs throughout the country to establish wet-weather loading capacity. It has also been used in many other metals TMDLs in Southern California, e.g. LA River, Ballona Creek, San Gabriel River.*

**Comment 9:**

EPA wrongly assigns the responsibility for non-point sources, such as aerial deposition, to the municipal stormwater permittees. EPA's failure to gather sufficient data, combined with its failure to assign a proper load allocation for nonpoint source discharges, has resulted in an arbitrary set of WLAs for the Cities.

(a) Data: The WLAs assigned to municipal point sources are defective in light of the lack of available scientific data to support them. The TMDL report acknowledges that there are insufficient data to develop a site-specific conversion factor for the dry-weather copper targets, that no model simulation was performed for the dry weather discharges due to limited data, and that the dry weather municipal stormwater allocations "can be rudimentary because of data

limitations and variability within the system.” EPA also acknowledged the significant uncertainty in the analysis of pollutant loads and effects on water quality.

(b) Nonpoint sources: EPA acknowledges that brake pads are a substantial contributor to copper loading, but holds municipalities responsible for virtually all copper discharges. EPA recognizes that atmospheric deposition could potentially account for 57%-100% of the metals in storm runoff. The State Board understands that the pollution caused by aerial deposition cannot be solved by simply pushing the responsibility onto municipal stormwater permittees. Yet rather than treating all atmospheric deposition as a nonpoint source, as it should, EPA treats only the direct aerial deposition of metals as a distinct nonpoint source. The net effect of EPA’s approach is to shift the responsibility and cost of addressing such metal loadings from the State of California to the municipal Stormwater permittees. Other TMDLs in the US address atmospheric deposition as nonpoint sources of pollutant and allocate separate load allocations.

(c) Clean Air Act: The complexity of source identification for atmospheric deposition in TMDLs highlights the inability of water quality programs, such as the NPDES program, to address the problem of air emissions. Atmospheric deposition must be dealt with under the Clean Air Act. Programs under the CWA, such as the TMDL and NPDES permitting program, were not designed to regulate air emissions. By failing to include a load allocation for atmospheric deposition as a nonpoint source, the metals TMDL fails to coordinate with the appropriate authorities to identify and develop an air-quality management plan for such sources of pollutants.

(d) Research on sources of air deposition: The Toxic Release Inventory Program for various businesses in the Los Angeles Region shows a sample of various industrial sources of atmospheric deposition of metals in the Los Angeles River watershed. Such a deposition analysis of businesses affecting the metals deposition for the Los Cerritos Channel must be performed and expanded upon, and further research conducted into all possible sources of atmospheric deposition.

(e) Implementation: By failing to include a load allocation for atmospheric deposition, the TMDL fails to include any air quality management strategies. Because the metals TMDL fails to quantify a load allocation for indirect atmospheric deposition, the TMDLs lack any means to measure the effects of emission programs under the CAA. EPA’s failure to classify atmospheric deposition as a nonpoint source, and to recommend that California, in the implementation section, devise a series of implementation measures, acted contrary to EPA regulations regarding nonpoint sources and the practices of EPA and other states in developing TMDLs that address atmospheric deposition.

(f) EPA regulations: EPA regulations at 40 CFR 130.2(i) indicate that if BMPs or other nonpoint source pollution controls make more stringent load allocations practicable, then WLAs can be made less stringent. The metals TMDL ignores this provision and improperly imposes more stringent WLAs on the Cities.

**RESPONSE:**

*(a) Data: There is rarely 100% certainty in any regulatory decision. While more complete knowledge is always preferable, EPA considers there is sufficient understanding of the science, and sufficient monitoring and modeling data, for development of complete, reasonable metals TMDLs. In the CWA itself, Congress acknowledged there may be uncertainties when it mandated inclusion of a margin of safety in TMDLs. EPA performed an analysis of wet-weather and dry-weather data and revised the TMDLs to include site-specific translators for dry-weather*

and wet-weather. See response to comments 34 and 40 for more complete discussion on our development and application of these site-specific translators for these Los Cerritos Metals TMDLs. EPA did determine it was appropriate to determine dry weather allocations without the use of a model because of available empirical data.

(b) *Nonpoint sources:* In these TMDLs, direct air deposition to the waterbody is treated as a nonpoint source of the pollutant and given its own load allocation. Inclusion of air deposition that enters the waterbody by way of NPDES-regulated stormwater discharges in the allocations for stormwater is the most appropriate approach for these TMDLs. Different strategies may be appropriate based on specific fact situations addressed by other TMDLs, such as those put forth by the commenter. Although municipalities may not have direct control over indirect atmospheric deposition, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. The Regional Board has indicated that research suggests that re-suspended road dust is the primary source of atmospheric deposition of metals; it then follows that roads within the cities are the primary source of the metal-laden particulates that comprise the majority of atmospheric deposition loading. (Regional Board Comment Summary and Responses regarding the San Gabriel Rivers metals TMDLs (July 7, 2006), p. 5.) Including indirect air deposition in a stormwater permittee's WLA is consistent with the general principle that municipal permittees are responsible for storm water that they discharge to the channel, regardless of the ultimate source of the pollutants. Once metals are deposited on land under the jurisdiction of a permittee, they are within a permittee's control and responsibility. That said, in order to facilitate reductions in pollutant concentrations in runoff, EPA encourages source control whenever possible. See, e.g., Sec. 7.6 of the TMDLs report, Source Control Alternatives, regarding the possibility of reducing copper loading from automobile brake pads and the work of the Los Angeles County Department of Public Works to identify cost-effective pollution reduction projects. The Regional Board has indicated its commitment to working with stakeholders to confirm recent studies regarding metal-laden air deposition and to further characterize the source and control measures. (Regional Board Comment Summary and Responses regarding the San Gabriel Rivers metals TMDLs (July 7, 2006), p. 5.)

(c) *Clean Air Act:* EPA agrees that all available authorities should be used to address the problem of air deposition, and supports working with the Air Resources Board, the Air Quality Management District, and local businesses to encourage reductions in air deposition. While the TMDLs and NPDES programs may not have been developed to regulate air pollution, it is necessary to address pollutants that enter our water bodies through air deposition. Even though stormwater agencies may not be able to directly regulate entities responsible for air emissions, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters.

(d) *Research on air deposition:* EPA supports additional research to clarify the sources of air deposition. However, it is neither necessary nor appropriate to postpone development of these TMDLs until this is done. See response to part (a) above.



*(e) Implementation: While these TMDLs contain some implementation recommendations, the responsibility for implementing the TMDLs will be with the Regional Board. It will be appropriate for the Board to work with the air district and other authorities in doing so.*

*(f) EPA regulations: It is precisely because of the difficulties in reducing nonpoint loads of these metals that EPA did not consider it appropriate to make the WLAs for point sources less stringent. Where any wasteload allocation to a point source is increased based on an assumption that loads from nonpoint sources will be reduced, there must be “reasonable assurances” that the nonpoint source load allocations will in fact be achieved. See EPA Memorandum “New Policies for Establishing and Implementing TMDLs, August 8, 1977.*

**Comment 10:**

The metal TMDL is improper as there has been a lack of intergovernmental coordination in its development, as required by law. Under CWA 33 USC 1329(a)(1)(C) (CWA Sec. 319), there needs to be inter-governmental coordination and public participation in identifying BMPs to address nonpoint sources. There is no evidence of sincere consultation with municipalities in the development of this TMDL, nor is there evidence of inter-governmental coordination or prior public participation in the process of developing the WLAs and LAs in the TMDL.

**RESPONSE:**

*Municipalities and others have had the opportunity to submit comments on the draft TMDLs, which EPA has considered and is responding to prior to establishing the final TMDLs. On December 17, 2008, EPA met with stakeholders and others to discuss the details of the Los Cerritos Channel Metals TMDLs. During the comment period EPA invited initial comments on the wet weather modeling used in development of the TMDLs, and responded to these initial comments received, on January 16, 2009. EPA extended the deadline for receipt of all comments from January 22, 2009, to February 5, 2009, to allow commentors additional time to respond. On August 13, October 8, and November 12, 2009, EPA also met with municipalities to answer additional questions prior to revising the draft TMDLs. Comments provided by stakeholders have resulted in significant adjustments to these TMDLs; e.g., modification to include site specific translators for wet weather TMDLs for each metal. EPA is not identifying specific BMPs in these TMDLs, as the Regional Board is responsible for developing implementation plans in these TMDLs.*

**2. Comments from Mark S. Pestrella, The County of Los Angeles, Department of Public Works**

**Comment 11:**

In the draft TMDL under Section 3, numeric targets for the TMDL are based on the water quality objectives established by the CTR for both dry and wet weathers. However, a review of the incorporation of the CTR into the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, known as the State Implementation Policy, indicates that the policy never was intended to apply to the regulation of storm water (dry

and wet weather) discharges. Although the State Implementation Policy provides a process for determining the appropriate effluent limitation for a specific discharge, these calculation procedures are not intended to apply to storm water discharges and, thus, are inappropriate for such discharges specifically due to the highly variable and complex nature of a storm event. Moreover, a review of the U.S. Environmental Protection Agency's (EPA's) regulatory record accompanying the adoption of the CTR criteria indicates that the criteria was never intended to apply to storm water discharges and were not intended to be applied without consideration of dilution. Moreover, the CTR criteria was not intended to be applied as never-to-be-exceeded values.

In summary, no regulatory and scientific basis exists for applying CTR criteria directly to stormwater discharges in the context of a TMDL. Application of these criteria as never-to-be-exceeded end-of-pipe limitation, especially without consideration of dilution in the receiving water, was clearly never contemplated during the development of the CTR criteria. If the EPA adopts the CTR criteria as numerical objectives for wet-weather flows in the Los Cerritos Channel, it would be doing so in clear violation of the rationale for the CTR criteria, without evidence in the record, and in an arbitrary and capricious manner. For these reasons, we recommend that the CTR not be used to place regulations on storm water discharges.

**RESPONSE:**

*See Response to Comment 4.*

**Comment 12:**

- a) Table 6-6 (2nd row, 1st column) — replace the phrase "Los Angeles County Department of Public Works MS4 Permit" with "Los Angeles County MS4 Permit."
- b) Table 6-7 (1st row, last column) — replace the phrase "Los Angeles County Department of Public Works MS4 Permit" with "Los Angeles County MS4 Permit."
- c) Table 6-8 (1st row, last column) — replace the phrase "Los Angeles County Department of Public Works MS4 Permit" with "Los Angeles County MS4 Permit."
- d) The Los Angeles County MS4 Permit has 84 cities in it. However, only a few of these cities are located in the Los Cerritos Channel Watershed. Please specify/reference the parties under the Los Angeles County MS4 Permit that are responsible for the Los Cerritos Channel Metals TMDL. The parties should include the Cities of Lakewood, Bellflower, Paramount, Downey, Signal Hill, Cerritos, and the County of Los Angeles. The City of Long Beach and the California Department of Transportation have their own respective permits, but are also responsible parties for this TMDL.

**RESPONSE:**

*EPA has made the above suggested corrections and changes to the TMDLs.*

**Comment 13:**

Due to differing conditions in surface waters, Federal regulations (40 Code of Federal Regulations 131.11) allow adjusting the water quality criteria to reflect site-specific or local environmental conditions. Site-specific criterion derivation could be justified for the



Los Cerritos Channel because 1) species at the site could potentially be less sensitive than those used in the national criterion development and 2) the physical and chemical characteristics of water at the site could potentially influence the level of biological availability and/or toxicity of chemicals. Thus, as part of the TMDL development process, the EPA should derive site-specific criterion for the Los Cerritos Channel that provides the necessary level of protection to aquatic life in the channel by taking into account the species composition and water quality characteristics at the site.

**RESPONSE:**

*1) Development of site specific criterion is a change to Water Quality Standards, which is outside of the regulatory realm of TMDLs. 2) TMDLs must be set at levels necessary to achieve all applicable standards. The CTR criteria are set to protect the beneficial uses of the water body. Please see response to Comments 34 and 40 regarding site specific translators based on water quality characteristics at the site and their influence on the level of biological availability and/or toxicity of chemicals.*

**Comment 14:**

Under Section 3 of the TMDL, wet weather is defined as days when the maximum daily flow is equal to or greater than 23 cubic feet per second. This TMDL should define a wet-weather event by providing a time frame between two separate storm events. As an example, a time frame of 72 hours between storm events was proposed and approved by the California Regional Water Quality Control Board — Los Angeles Region for the Los Angeles River Metals TMDL.

**RESPONSE:**

*The Los Angeles River Metals TMDLs does not define wet weather events with a time frame of 72 hours between storms. It defines wet weather as days when the maximum daily flow in the River is equal to or greater than 500 cfs. The Santa Monica Bay Beaches Wet Weather Bacteria TMDL does define wet weather as days with 0.1 inch of rain or greater and the three days following the rain event.*

*The Santa Monica Bay Bacteria TMDL defined waste load allocations in terms of days of exceedance and a definition of a storm event based on rainfall is suitable. The Metals TMDLs is more of a traditional TMDLs, with waste load allocations expressed as a function of flow, and a definition of a storm based on rainfall would not be suitable because assimilative capacity is a direct function of river flow, and there is imperfect correlation between rainfall and flow, especially during rainfall of events of less than 0.1 inch. The intensity and duration of rainfall vary throughout the watershed. The loading capacity and allocations, and the distinction between wet and dry weather must therefore be a function of flow.*

**Comment 15:**

By referring to the Basin Plan, the TMDL designates the Los Cerritos Channel for wildlife (existing), noncontact water recreation, and warm freshwater habitat (intermittent) beneficial uses. Establishing what uses are attainable is very critical for achieving the Clean Water Act goal

of restoring water quality. It is important to ensure that the right uses are in place before implementing the TMDL. Therefore, we recommend that a use-attainability analysis be conducted as an integral part of the TMDL development process.

**RESPONSE:**

*TMDLs must be set at levels necessary to achieve all applicable standards. EPA regulations clearly contemplate that a State's designated uses – which are a component of water quality standards – is not limited to existing uses. See 40 CFR 131.13(f). Thus, these TMDLs need to be set at levels to meet the existing standards described in the TMDLs. If the commenter thinks the Regional Board should consider a use attainability analysis under 40 CFR 131.10(g) for waters addressed by these TMDLs, such comments should be addressed to the Regional Board.*

**Comments From Mark Gold, Heal the Bay**

**Comment 16:**

a) The Proposed TMDL must include dry-weather *and* wet-weather numeric targets for each waterbody-pollutant combination included on the 303(d) List. The Proposed TMDL includes dry-weather numeric targets for copper and wet-weather numeric targets for copper, lead, and zinc in the Los Cerritos Channel. There are no dry-weather numeric targets proposed for lead and zinc in this TMDL. This approach is inappropriate and illegal because the California Clean Water Act Section 303(d) List of Water Quality Limited Segments (“303(d) List”) does not distinguish between impairments occurring in dry-weather and wet-weather. By creating dry-weather TMDLs for certain constituents and not others, the EPA will initiate “pocket de-listings” of the omitted constituents, which will cause the impaired waterways to be vulnerable during dry weather to the very pollutants that cause the impairments. Thus, the Proposed TMDL must include both dry-weather and wet-weather numeric targets for each waterbody-pollutant combination listed as impaired on the 303(d) List. If monitoring efforts show that a responsible party already meets the numeric targets and allocations under certain flow regimes, they will be in early compliance with the TMDL.

b) The Proposed TMDL should include dry-weather and wet-weather numeric targets based on *chronic* aquatic life criteria. In the Proposed Los Cerritos Channel TMDL, acute criteria are used for the calculation of wet-weather numeric targets and WLAs. The EPA's justification for this is that chronic exposures occur over a 4-day interval, and most storms in California have duration less than four days (Page 13). This method is not protective of the most critical conditions of the waterway. During certain wet weather events, particularly during El Niño, it is possible to encounter storms lasting more than four days. For storms of a shorter duration but high intensity or for multiple storms that occur over a longer duration, water may remain in a waterway for more than four days. Such events can pose a major threat to aquatic life if chronic pollution criteria are not used for the calculation of wet weather numeric targets. During these storms, more volume enters the Channel, sediments containing metals are suspended and hardness concentrations drop, resulting in higher toxicity of metals that enter the waterway at this time. Furthermore, the CTR criteria apply at all times during wet and dry weather. There are

no exceptions for very large storm events. Hence, chronic criteria should be used instead of acute to provide adequate protection to aquatic life during these critical storm events.

**RESPONSE:**

*a) Los Cerritos Channel was included on the 1998, 2002 and 2006 California 303(d) lists as an impaired water body for copper, zinc, and lead. EPA reviewed the City of Long Beach dissolved metals dry and wet weather monitoring storm water data for LCC at Stearns Street to confirm impairment. In further analysis of the data, EPA found that data for the Los Cerritos Channel showed impairments of copper during dry weather, and impairments of copper, lead and zinc during wet weather. This is consistent with studies that show the majority of metals loading to rivers in the region occur during storm events, (McPherson, et al., 2002; and Characklis and Wiesner, 1997). For the Los Cerritos Channel, a lack of dry weather impairment due to lead and zinc is consistent with other TMDLs (Los Angeles River, Ballona Creek, and San Gabriel River Metals) adopted in the Los Angeles Region. This is consistent with seasonal variations as provided in federal regulations (40 CFR 130.7(c)).*

*b) The acute criteria are used on a shorter time interval and are more appropriate for setting numeric targets for wet-weather conditions. The chronic criteria are based on exposure to pollutants over a longer timeframe (e.g. 4 days), and was stated in the TMDLs, storms of this length are a rare occurrence in Southern California. Data collected at the City of Long Beach Stearns Street station shows that the average duration of storms affecting the Los Cerritos channel is one day (ranging from 10 to 39 hours over 17 storms evaluated in 8 years). Due to this relative short duration of wet weather events in the watershed, EPA finds it more appropriate to apply the corresponding acute criteria as numeric targets for wet weather TMDLs. Furthermore we wish to remind the commenter that increased stream flows during storms co-occur with decreasing hardness which has the effect of increasing the toxicity of metals such as copper, lead and zinc, resulting in more stringent acute wet-weather criteria. Finally, copper, lead and zinc (at environmentally relevant concentrations found in Los Cerritos Channel) do not bioaccumulate within fish. For these reasons EPA feels that using chronic numeric criteria during storm events is not appropriate. For these reasons EPA feels that using chronic numeric criteria during storm events is not appropriate.*

**Comment 17:**

For the development of the numeric targets and waste load allocations for copper in Los Cerritos Channel, the median value of hardness data sets for wet-weather and dry-weather were used (Page 12). Choosing the median hardness value of this data set is inadequate. As half the measured hardness values in the data set fall below the median value, the chosen method is aiming to protect aquatic life merely half of the time. As the data set is a representative sample of actual hardness concentrations, this would result in higher levels of pollutants that will be biologically available in the water body around 50 percent of the time than accounted for in the target. We therefore urge EPA to use the 10th percentile hardness data instead of median values to calculate more protective numeric targets in order to account for the entire range of conditions, including instances when the pollutants are the most bioavailable.

**RESPONSE:**

*Because of the variability in hardness values during wet weather, the 10<sup>th</sup> percentile of hardness data would not accurately represent the hardness values during storm water conditions. For wet-weather, some judgement is applied in the selection of the appropriate hardness value. The 50<sup>th</sup> percentile adequately characterizes the highly variable stormwater hardness condition. In wet weather hardness values are generally significantly lower than in dry weather, and the weather is dry a larger percent of the time. Furthermore, the use of translators tends to overestimate the dissolved fraction. Choosing the median hardness value of this data set is adequate.*

*The toxicity of certain metals is affected by the hardness of the ambient water. We used site-specific stormwater hardness values to set reach specific targets in Los Cerritos Channel. There is a good degree of variability in hardness values in storm water. The 10th percentile of hardness data would not accurately represent the hardness values during storm water conditions. For example, looking specifically at copper in Los Cerritos Channel: the 10<sup>th</sup> percentile hardness value of 17 mg/l results in a target of 6.3 ug/l; use of the 50<sup>th</sup> percentile hardness value of 27 mg/l results in a target of 9.8 ug/l; and using the 90<sup>th</sup> percentile value of 68 mg/l results in a target of 23.4 ug/l. This represents a nearly four-fold difference in the wet-weather total copper target. Use of the 10<sup>th</sup> percentile would be overly protective 90% of the time and at least twice as protective as needed 50% of the time. The Regional Board is working on implementation provisions for CTR criteria that will determine the appropriate use of hardness values in determining site specific objectives. These implementation provisions will be applicable to multiple TMDLs.*

**Comment 18:**

EPA does not provide an adequate margin of safety in the Proposed TMDL, as there is no explicit margin of safety applied to the numeric targets. As discussed above, the exclusive choice of targets based on acute toxicity rather than using chronic toxicity criteria is certainly less protective of aquatic life. Also, the freshwater targets were calculated using the 50th percentile hardness. Again, this means that approximately half of the time the hardness values will be lower than this value and pollutants will become more bioavailable.

Furthermore, the choice of the default CTR conversion factor is not an adequate implicit margin of safety because the default CTR only compensates for uncertainty in the conversion between total recoverable metals and their dissolved forms. Non-conservative assumptions, variability, and uncertainties introduced in other aspects of the TMDL, such as in flow calculations and hardness value calculations, may have led to underestimations of pollutant loadings that exceed any margin of safety created by the use of “conservative” conversion factors. Of note, EPA mentions conservative assumptions that could be used to develop an adequate MOS, acknowledging that other conservative assumptions should be used in addition to 90th percentile translators to provide an adequate margin of safety, yet these methods were not used in the Proposed TMDL. As stated by the EPA document *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion*, “The MOS may be provided by leaving a portion of the loading capacity unallocated or by using conservative modeling assumptions to establish WLAs and LAs. If a portion of the loading capacity is unallocated to provide a MOS, the amount left unallocated shall be described. If conservative



modeling assumptions are relied on to provide a MOS, the specific assumptions providing the MOS shall be identified. For example, a State may recommend using the 90th percentile translator value to address MOS needs and account for variability of data **and** to use the critical 10 and 90 percentiles for other variables such as hardness and TSS when conducting steady-state modeling.” (EPA 823-B-96-007), emphasis added.

Finally, CTR criteria themselves have associated uncertainties. For instance as described in the Federal Registry, “[a]n aquatic life criterion derived using EPA’s CWA section 304(a) method might be thought of as an estimate of the highest concentration of a substance in water which does not present a significant risk to the aquatic organisms in the water and their uses.” (45 FR 79341.) ... EPA’s 1985 Guidelines attempt to provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or underprotection. The approach EPA used is believed to be as well balanced as possible...” 40 CFR part 131, emphasis added.

Pursuant to Section 303(d), TMDLs must include a margin of safety to reflect uncertainties regarding discharges and water quality. 33 U.S.C. § 1313(d); 40 C.F.R. § 130.7(c)(1) (“TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS with seasonal variations *and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.*”) (emphasis added); *see also Minnesota Center for Environmental Advocacy v. U. S. Environmental Prot’n Agency*, 2005 U.S. Dist. LEXIS 12652 (D.Minn.2005) (holding that regulatory agencies “...must comply with the statutory and regulatory mandate to establish a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.”). Thus, EPA is required to include a margin of safety and it must be sufficiently protective to ensure that water quality standards are attained and maintained by the TMDLs.

We urge the EPA to include an explicit margin of safety to the Los Cerritos TMDL. There is a precedent for applying explicit margins of safety to a TMDL within Region 9. The Pinto Creek Copper TMDL that was established by EPA included an explicit margin of safety equal to 10% of the loading capacity available for some target sites and equal to 20% of the loading capacity available for allocation for target sites containing more uncertainty in potential source areas. Thus, in establishing an adequate margin of safety and obtaining sufficiently protective numeric targets in Los Cerritos Channel, EPA should follow the Pinto Creek Copper TMDL precedent by including an explicit margin of safety in the proposed TMDL.

**RESPONSE:**

*EPA has revised the wet-weather TMDLs to include metal-specific translator values based on EPA’s 1996 guidance (The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion), which replace the previous use of the default CTR conversion factor. As part of this revision EPA also elected to include an explicit margin of safety equal to 10% of the loading capacity or existing load available for wet-weather allocations, as a number of uncertain estimates are off-set by the margin of safety. EPA found the observed dissolved-to-total metals ratios are different than CTR default conversion values, and there appears to be very poor correlation between the fraction of particulate metals and*

*TSS. Also, as the highest metal loads occur during storms (with variable stream flows) there is more uncertainty of the fate of these metals during wet weather conditions.*

*In addition, the TMDLs include an implicit margin of safety by evaluating dry-weather and wet-weather conditions separately and assigning allocations based on two disparate critical conditions.*

*In regards to use of the acute criteria for setting wet-weather TMDLs targets see response to Comment 16 and for selection of the 50% hardness value please see response to Comment 17.*

**Comment 19: Typo**

As a side note, we believe there is an error in the in-text referencing of figures within the TMDL document. The document mentions on Page 9 that monitoring sites are depicted in Figure 2 (Page 4), when in fact the monitoring sites were shown in Figure 1 (Page 3).

**RESPONSE:**

*EPA has made the above suggested correction and change to the TMDLs.*

**Comment 20:**

The Proposed TMDL states that “implementation measures will be developed by the Regional Boards.” (Page 40). How soon does EPA expect the implementation plan for these TMDLs to be developed? An implementation plan still has not been developed by the Regional Board as a follow up to the Malibu Creek Watershed Nutrient TMDL—five years after EPA TMDL development. Implementation plans are crucial in ensuring that dischargers are on-track for ultimate compliance with the waste load allocations. Thus, the EPA should actively encourage the timely development of an implementation plan and work with the Regional Board to develop such a plan. This implementation plan should set a timeline with enforceable water quality milestones. We recommend an implementation schedule similar to the one included in the original San Gabriel metal TMDL proposed by the Regional Board in the Total Maximum Daily Loads for Metals and Selenium San Gabriel River and Impaired Tributaries (July 13, 2006 Draft Figure 7-1 Page 57).

The Proposed TMDL implies that the Regional Board will be developing a Monitoring Plan (“When the Regional Board adopts metals TMDLs, they will include a monitoring plan.” (Page 42)). We agree with the general components EPA recommends to be a part of the monitoring program and Regional Board includes in their adopted metals TMDLs, including ambient monitoring, compliance assessment monitoring, and special studies. Again, when will the development of a monitoring plan take place? A comprehensive monitoring plan is essential to assess progress towards meeting the WLAs and ultimate compliance with the WLAs. Thus, we urge the EPA to work with the Regional Board to develop a comprehensive monitoring plan in the very near future.

**RESPONSE:**



*These TMDLs, along with others in the Los Angeles Region, are required to be established under consent decree, and EPA and the Regional Board have agreed these Los Cerritos Channel metals TMDLs will be established by EPA. Implementation measures are required under State regulation (whereas implementation plans are not required under federal regulations), so stakeholders are encouraged to coordinate with the Regional Board regarding a third party implementation plan. Implementation measures will be addressed in the applicable permits and developed by the Regional Board. The timing of implementation plan development is beyond the scope of these TMDLs. EPA supports the Regional Board's timely development of an implementation plan that includes a comprehensive monitoring plan. EPA will forward this comment to the Regional Board. Please see response to Comment 3, 4 and 9.*

### **Comments From, Kenneth C. Farfsing, the City of Signal Hill**

#### **Comment 21:**

The LCC Metals TMDL presents an ideal opportunity for third-party TMDL or implementation plan development. There are seven municipalities (the Cities of Bellflower, Cerritos, Downey, Lakewood, Long Beach, Paramount and Signal Hill) as well as portions of unincorporated Los Angeles County and significant Caltrans rights-of-way located in the watershed. These parties are very familiar with local watershed issues, including the need to work together to preserve and enhance the Los Cerritos Wetlands. The stakeholders have convened several meetings since December and have assembled a team of technical experts to evaluate the proposed TMDL. The stakeholders could collectively leverage state funds, as well as the resources of their agencies, to improve the data quality and scientific analysis of the TMDL, building upon work already completed by EPA. The stakeholders are interested in developing an implementation plan, which would include source control, appropriate Best Management Practices (BMPs), and a schedule for BMP implementation.

EPA previously entered into a Memorandum of Understanding (MOU) with the City of Los Angeles and the Los Angeles Regional Water Quality Control Board (Regional Board) for the development of the TMDLs on the Los Angeles River (CREST), and any agreement entered into with the municipalities involved in the LCC Metals TMDL could be based on this MOU. Three of our communities (Downey, Long Beach and Signal Hill) are familiar with Third Party TMDL development and are serving on both the Steering and Technical Committees for CREST. We believe that Third Party development of at least the implementation plan for the LCC Metals TMDL would increase the level of stakeholder support, thereby increasing the likelihood of effective implementation of pollutant controls.

In 2007 the seven cities in the Los Cerritos Channel Watershed formed a joint powers authority (JPA) known as the Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority. This regional water management group was formed to address major water resource issues facing our communities, including water conservation, storm water and flood control as specific concerns. The JPA is currently applying for a \$5 million grant through the State and Regional Water Boards for the installation of trash capture devices in the Los Angeles

River Watershed. We believe that this JPA is the mechanism to complete a Third-Party TMDL Implementation Plan, with the support of EPA and the Regional Board.

**RESPONSE:**

*Implementation is within the Regional Board's purview. Whether or not the Regional Board enters into an MOU with the cities affected by the Los Cerritos Channel Metals TMDLs is up to the Regional Board. EPA will forward this comment to the Regional Board. Please see response to Comments 3,4, 9 and 20.*

**Comment 22:**

EPA has made it clear that its TMDL will not contain an Implementation Plan, and that the plan is instead to be developed by the Regional Board. Unfortunately neither EPA nor the Regional Board appear to have sufficient financial and staff resources to properly develop such an implementation plan. The Cities are, moreover, concerned that without an appropriate, well thought-out implementation plan, the fiscal impacts of the TMDL cannot be properly evaluated. The preparation of a Third-Party TMDL Implementation Plan could eliminate this financial uncertainty by providing the necessary resources with which to draft a workable implementation plan. The Third Party Implementation Plan would include a realistic compliance schedule based on source control and an iterative BMP approach. It is anticipated that the Implementation Plan would specify the use of an iterative BMP approach and thus eliminate the concern created by EPA's failure to confirm, in its TMDL Report, that the TMDLs waste load allocations (WLAs) need not be enforced as strict numeric limits (see Exhibit D, EPA9s November 22, 2002 Guidance Memorandum on establishing TMDLs). The Implementation Plan would include separate strategies for each metal, taking into account the source(s) of individual metals. For example, the strategy for addressing copper would incorporate the copper control legislation being proposed by the Brake Pad Partnership. As EPA states in its TMDL Report, *"the contribution of automobile brake pads to copper levels in Los Cerritos Channel could be significant."*

The TMDL Report, in section 7.6 Source Control Alternatives, describes the possible impact of the reduction of copper in brake pads, but indicates this would not occur within 10 years, thus implying that stakeholders need to spend millions of dollars regardless of the efforts of the Brake Pad Partnership. This approach is bad public policy and a wasteful expenditure of millions of dollars of taxpayer funds. It should also be noted that EPA representatives at a recent meeting of the Los Cerritos Channel TMDL Technical Committee noted that the "10 years" referenced in this section of the TMDL may not be applicable.

**RESPONSE:**

*Please see response to Comments 3,4, 9 and 20.*

**Comment 23:**

The LCC Metals TMDL is the first TMDL for the Los Cerritos Channel. However, there are several other impairments currently listed for this waterway. It is thus assumed that additional

TMDLs will need to be developed over the next several years for the Los Cerritos Channel. If this TMDL is adopted, and the remaining TMDLs for the Los Cerritos Channel are adopted serially thereafter, such a process will necessitate the stakeholders forming a joint committee (hopefully with the participation of the Water Boards and EPA), to review the scientific data and the TMDL requirements and to thereafter locate fiscal resources to implement BMPs, only to then repeat this same process again and again as each new TMDL is adopted. It might be much more efficient and cost-effective for the stakeholders, EPA and the Water Boards, to address all or a suite of TMDLs within the watershed with a coherent strategy, or with a watershed planning process. We believe that this would be an appropriate use of the Third-Party TMDL process by EPA. A recent circulated draft EPA Handbook (see Exhibit E) recognizes this approach as an effective alternative to developing serial TMDLs for the water body:

*"Because waters have different priority rankings on the state's 303(d) list does not mean they cannot be addressed at the same time as part of a watershed TMDL. . . . This approach might add waters to heir current workload since they will be addressed sooner than they are scheduled. However in the long run, developing the watershed TMDL will provide cost savings over addressing waters individually . . . ."*

The EPA Draft Handbook also provides that: *"While technical considerations can determine the scope of a TMDL, practical considerations such as available budget and schedule can also be important factors in deciding how to approach a watershed TMDL."*

**RESPONSE:**

*EPA appreciates the commenter's suggestion that the Los Cerritos Channel Metals TMDLs be bundled with other potential TMDLs for the Los Cerritos Channel. EPA supports an efficient and cost effective strategy for implementing these and potentially other TMDLs. At this time, however, EPA will not be bundling the Los Cerritos metals TMDLs with other impairments listed for this waterway such as ammonia and bacteria. EPA has reviewed available data from 2003 and 2007 for exceedances of ammonia in the Los Cerritos Channel, and the preliminary conclusion is a finding of non-impairment for ammonia. EPA and the Regional Board await additional results from current sampling efforts to reaffirm this preliminary finding. We recognize that stakeholders have asked EPA to produce bacteria TMDLs concurrently with these metals TMDLs; nonetheless, EPA considers bacteria to be a lower priority at this time so we are not establishing bacteria TMDLs for Los Cerritos Channel at this time.*

*Implementation of this and any other Los Cerritos Channel TMDLs is within the purview of the Regional Board. EPA is under consent decree to complete these and numerous other TMDLs. Whether or not the Regional Board bundles this and other future Los Cerritos Channel TMDLs is up to the Regional Board. EPA will forward this comment to the Regional Board.*

**Comment 24:**

Although the California Toxics Rule (CTR) provides criteria for dissolved metals, EPA's TMDL implements the CTR criteria by converting the dissolved criteria to total recoverable criteria. The total recoverable criteria are then compared to model results for total recoverable metals during wet weather conditions. The use of conversion factors in the LCC Metals TMDLs leads to substantial errors in the calculated reductions in metal loads that would be required to

meet the TMDL targets (see Exhibit A). The use of inappropriate conversion factors significantly overestimates the magnitude of load reductions necessary to consistently meet water quality objectives and overestimates the degree of impairment. The most egregious example of the error introduced by this approach is evident in the estimated wet weather reductions required to meet the TMDL targets for lead. Not one of the 29 storm events monitored from 2001 to 2008 had measured dissolved lead concentrations that exceeded the acute aquatic life criteria used as the target for wet weather events. In fact, 90 percent of the measured concentrations of dissolved lead were less than 1/10 of the acute aquatic life criteria. Even though none of the measured dissolved concentrations exceeded the CTR criterion for dissolved lead, EPA's conversion to total recoverable concentrations results in a calculated 62.3 percent decrease in average annual wet weather lead loads as necessary to bring the receiving waters into compliance with the TMDL targets. Since the freshwater aquatic life criteria for the metals of concern are expressed in the dissolved form and dissolved metal data are available, the process used to convert the criteria to a total recoverable form is unnecessary and contributes significant uncertainty in the development of the TMDL. The translation process tends to obfuscate the real concern of dissolved metals and will detract from the stakeholder's ability both to effectively identify key sub-watersheds of concern and to implement effective BMPs.

**RESPONSE:**

*EPA performed an analysis of wet-weather and dry-weather data and revised the TMDLs to include site-specific translators for dry-weather and wet-weather. See response to comments 34 and 40 for more complete discussion on our development and application of these site-specific translators for these Los Cerritos Metals TMDLs. The TMDL for lead is defined by the estimated existing load (modeled average daily concentration representing existing conditions) which is smaller than the allowable load. Using the estimated existing load results in 0% reductions for lead.*

**Comment 25:**

EPA Region 9 staff asserts in its Los Cerritos Channel Metals TMDLs Response to Initial Comments that "the TMDLs should not be based directly on CTR dissolved standards because NPDES regulations require that metals limits in permits be stated as total recoverable in most cases" and that "because the TMDLs will be incorporated into NPDES permits the WLAs are expressed as total recoverable metals." However, 40 CFR 122.45(c) provides specific exclusions from the requirement that permit effluent limitations, standards or prohibitions for a metal be expressed as a total recoverable metal. One exception is when "an applicable effluent standard or limitation has been promulgated under the CWA and specifies the limitation for the metal in the dissolved or valent or total form." As noted above, the CTR is such a limitation or standard. Therefore, it is not necessary or helpful to convert dissolved criteria to total recoverable criteria in these TMDLs.

**RESPONSE:**

*The permitting regulation at 40 CFR 122.45(c)(1) refers to an applicable "effluent standard or limitation." This refers to effluent standards or limitations promulgated under CWA 301(b) (referring to technology based standards), not water quality based standard such as those in the CTR. EPA contemplates that water quality standards will be written as dissolved criteria and*



*then translated into permit limits expressed as total recoverable metal. See "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criterion," EPA 823-B-96-007 (June 1996). Also see Section 5.7.3 of "Technical Support Document for Water Quality-Based Toxics Control", EPA 505-2-90-001 (March 1991). The CTR does not require that the permit limitations be expressed in dissolved metals. Furthermore this provision does not preclude use of effluent limitations expressed in total recoverable metal to implement CTR criteria. These TMDLs are water quality based, designed to meet the dissolved criteria and then translated to total metals in preparation for integration into the applicable NPDES permits. The TMDLs are expressed in terms of total recoverable metal for four specific reasons: 1) The purpose of the TMDLs is to control the Total Maximum Daily load which includes the total load of metals. There is uncertainty in the relationship between the total and dissolved phase. In the absence of certainty about the sorption/desorption of metals in the receiving water, the targets are based on the total recoverable fraction. If the targets and the waste load allocations set to meet the targets were expressed in the dissolved form, additional particle-associated metals could dissolve in the receiving water causing the criteria to be exceeded; 2) If TMDLs are written in dissolved then there is no control placed on sediment sources. Once in the environment the metals will remain in the sediment and will continue to dissolve. The expression of the metals in terms of total recoverable metals provides a common currency for keeping track of the total mass of the pollutant load; 3) The expression of the metals in terms of total recoverable metals protects downstream uses in the Los Cerritos Channel Estuary (i.e. metals associated with suspended particles will continue to dissolve as they move down stream). Indeed we have reviewed available sediment results in downstream locations and find elevated levels of zinc and lead in some recent samples (Bight 2003 and SWAMP 2005); 4) NPDES regulations require that metals limits in permits be stated as total recoverable in most cases. Because the TMDLs will be incorporated into NPDES permits the WLAs are expressed as total recoverable metals.*

**Comment 26:**

The presence of large Publicly Owned Tax (Treatment) Works (POTWs) in other watersheds has led to TMDLs in the Los Angeles region that are implemented in terms of total recoverable metals. For most NPDES permits, discharge limitations for metals are required to be expressed in terms of total recoverable concentrations. The absence of major NPDES dischargers in the freshwater portion of the Los Cerritos Channel watershed negates any need to use total recoverable concentrations and loads in developing the TMDL. By developing the TMDL directly in terms of the dissolved fraction, the results will provide more accurate information that will lead to a more effective implementation process. This will also be consistent with Chollas Creek Dissolved Metals TMDL, which was approved by EPA on December 18, 2008. We believe that the facts support basing the Los Cerritos Channel TMDL, on the dissolved criteria, and we hereby request that the TMDL be rewritten prior to adoption to express metals targets and allocations in the dissolved phase. Should EPA not accept our request to base the TMDL on dissolved metals: then EPA should use its own guidance to calculate site-specific translators from available data, and use the site-specific translators to modify the targets and allocations in the TMDL. EPA's 1996 guidance regulation entitled, "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion" has been used to calculate site specific translators, as shown in Exhibit A. Translators computed using three

different methods are consistent with each other and differ significantly from the default CTR translators. We believe that EPA must choose between either the 1996 guidance regulation or rewrite the Los Cerritos Channel as a dissolved metals TMDL (See Exhibit A).

**RESPONSE:**

*EPA has carefully considered Exhibit A provided by the commenters, describing their analysis of site specific data to determine metal specific translator values for wet weather conditions. As part of our consideration, EPA replicated the commenters' translator analysis and found some wet weather data points had been not included. EPA performed its own independent analysis of these data and determined different wet weather metal-specific translator values using all available wet weather data.*

*Also, EPA finds it more prudent to express the allocations in total recoverable metals. As a matter of procedure, this will occur either here within the TMDLs or during revision of the existing NPDES permit. Now expressing the numeric value here in the TMDLs, both permit writer and permittee will know the explicit wasteload allocation for each metal and the circumstances it applies (wet or dry weather).*

*Please see response to Comments 34 and 40.*

**Comment 27:**

Taken at face value as proposed, the LCC Metals TMDL will require the stakeholders to implement BMPs to control metals concentrations for all storm events, even extreme storm events. A review of the rainfall data in the proposed TMDL indicates that the highest concentration of copper in runoff (350 percent above the compliance levels) occurred on November 10, 2002. Subsequent exceedences occurred during El Nino type storm events such as occurred on October 20, 2004, when zinc levels were detected at 760 percent above the proposed compliance levels. This would mean BMPs would need the capacity to reduce metals in runoff by as much as 88 percent, which was the worst case referenced in the TMDL. Design storm provisions should be established so that stakeholders can properly, confidently, and realistically move forward with BMP design and implementation. A design storm is used to establish maximum flows for which controls must be designed and constructed. A design storm is based on the principle that control of the largest storm events (e.g., significant El Nino events) may not be reasonable. This approach is supported by EPA comments within the TMDL Report, which recognizes that high-flows may have elevated concentrations of pollutants, but also that the time of exposure is short and thus that these high levels are actually less critical. Similarly, a minimum urban flow should apply so that stakeholders would only be responsible for exceedences in negligible flows.

**RESPONSE:**

*EPA disagrees. These LCC Metals TMDLs do not require 'structural BMPs', rather they identify the necessary load reductions without specifying the specific implementation measures. Also we note that CTR defines the applicable water quality standards for these metals TMDLs, specifically to protect aquatic life uses and these apply during all flow levels. We acknowledge the concept of design storm and note it has been discussed as part of the Regional Board's Triennial Review process, however currently there is no high flow exclusion for metals.*



**Comment 28:**

In EPA's TMDL Guidance Document, entitled "*Guidance for Developing TMDLs in California*," EPA recognized that economic factors should be considered when developing TMDLs (Exhibit D). In light of the current fiscal difficulties faced by all levels of government, it is critical that an appropriate economic analysis of the impacts of the TMDL be conducted. The LCC Metals TMDL contains no economic analysis and little guidance for the development of a proper implementation plan. The ultimate success of the TMDL depends upon a properly developed TMDLs combined with a reasonable implementation plan, along with a determination by EPA that the TMDLs' Waste Load Allocations need not be enforced as strict numeric limits, but may instead be complied with through the use of iterative BMPs. We have prepared several economic analysis documents for the Los Angeles River Metals TMDL and the San Gabriel River Metals TMDL. We are submitting these to you for your consideration with these comments (Exhibits F and G). In addition, in order to provide EPA an order of magnitude of the costs of compliance and the critical nature of the design storm, we have prepared two cost analysis scenarios, which are detailed below.

**RESPONSE:**

*TMDLs must be set at levels necessary to meet applicable water quality standards, and there is no requirement that TMDLs include an economic analysis. The Regional Board may consider economic impacts when implementing these TMDLs, so long as the implementation actions are consistent with the CWA and EPA regulations [e.g. 40 CFR 122.44(d)(1)(vii)(B)].*

*While 40 CFR 130.6(c) includes economic factors as an item for consideration in a State's implementation of its water quality management plan and development of Best Management Practices, it does not mandate consideration of economic factors in development of TMDLs. To the contrary, the CWA specifically requires that TMDLs be established at levels necessary to implement water quality standards, without qualification. Neither the CWA nor EPA regulations require the State or EPA to reanalyze the appropriateness of the existing water quality objectives when TMDLs are developed. Please see response to Comment 5.*

*In the past, the Regional Board has indicated that economics are extensively considered in developing TMDLs implementation (including NPDES permit revision) programs, and also noted that funding is available to municipalities through the State's Consolidated Grants program. In the Regional Board Response to Comments for San Gabriel River Metals TMDLs they affirmed their consideration of economics:*

*"Consideration of economics in establishing the TMDL could not result in a different total maximum daily load; however, the economics are considered in establishing a lengthy and flexible implementation schedule. This is particularly true of municipal storm water dischargers, where the TMDL implementation anticipates the use of BMPs."*

*Please also see Response to Comment 4.*

**Comment 29:**

The stakeholders are concerned, from a practical standpoint, with the WLAs that may immediately go into effect upon EPA approval of the TMDL. The stakeholders are further

concerned with the future incorporation of this TMDL into the forthcoming MS4 permit, and the lack of any reference in EPA's TMDL Report that the WLAs need not be strictly complied with as enforceable numeric limits, but instead may be deemed to be complied with through the use of an iterative BMP approach. Strictly complying with the TMDL's numeric limits is technically and fiscally impossible, and a reasonable implementation schedule must thus be developed that provides for deemed compliance through the use of an iterative BMP approach. Although no TMDL has yet been incorporated into the MS4 Permit for Signal Hill, and thus no TMDL as yet become legally enforceable, compliance timeframes for adopted TMDLs in the Los Angeles area, as set forth in the various TMDL Reports, include:

Los Angeles River Metals - 22 years

San Gabriel River Metals - 15 years

Los Angeles River Trash - 7 years

Ballona Creek Bacteria - 10 years

Ballona Creek Estuary Toxics (including Chlordane) - 15 years

As the stakeholders are considering bundling the TMDLs, with the anticipated greater up front costs, the full 22-year compliance schedule should be provided, along with the use of iterative BMPs and a deemed compliance iterative approach.

**RESPONSE:**

*Implementation is within the Regional Board's purview. Whether or not the Regional Board creates a compliance schedule for Los Cerritos Channel Metals TMDLs is up to the Regional Board. EPA will forward this comment to the Regional Board. Please see responses to Comments 3, 4, 9, and 20.*

**Comment 30:**

The proposed TMDL lists an individual NPDES discharge permit that allows a wet weather discharge containing metals up to 400,000 gallons per day in concentrations exceeding the numeric limitations in the proposed TMDL. Yet, the TMDL Report does not permit the Cities the ability to discharge stormwater if there is any exceedance. All permit holders, i.e., GCASP, GIASP, individual NPDES, etc., should be held to the same criteria.

**RESPONSE:**

*The above described minor individual NPDES discharge permittee is Paramount Petroleum Corporation. Paramount Petroleum's currently permitted discharge flow is a maximum of 400,000 gallons per day of treated stormwater, however recent data (2008) shows much smaller discharges of 20 gallons per day. Regardless, NPDES permit limitations, including those for Paramount Petroleum, will need to be consistent with the concentration-based WLAs established for point sources in these TMDLs, and permit limits will need to meet the water quality targets established in these TMDLs. Permit writers can translate waste load allocations into effluent limits by applying the SIP procedures or other applicable engineering practices authorized under federal regulations. Regional Board staff has indicated its preference that wet-weather WLAs will not be used to determine monthly permit limits but will only be used in determination of a daily maximum limit, which EPA considers reasonable.*

**Comment 31:**

The character of flow in concrete-lined channels changes during wet weather, and as such, the beneficial use designations and pollutant target goals should be adjusted accordingly. Precedent for such an adjustment was established in the 2003 Amendment to the Water Quality Control plans suspending REC 1 and REC 2 designations during high flow events. We believe that the Regional Board inadvertently omitted the Los Cerritos Channel from the list of high flow suspensions (see Los Angeles County Coastal Streams listing). The Los Cerritos Channel is a concrete-lined, open box channel, north of the Estuary, which would qualify the Channel for the high suspension. Since we would like to further investigate "bundling" of this TMDL with a bacteria TMDL, we request that EPA encourage the Regional Board to amend the high flow exemption to include the Los Cerritos Channel.

**RESPONSE:**

*With respect to 'bundling' please see response to Comment 23 . EPA will forward this comment to the Regional Board.*

**Comment 32:**

We encourage EPA to recommend that the Regional Board accept our offer to work with other Cities in the watershed to complete the implementation portion of the TMDL, as well as targeted monitoring studies. We further request that EPA delay adoption of the TMDL until such time as an Implementation Plan, as proposed in this letter, can be concurrently adopted by the Regional Board. We believe sufficient time exists to complete these components under the TMDL Consent Decree schedule. We request a meeting with appropriate EPA and Regional Water Board staff to discuss the advantages of "bundling" and the development of the Third Party Implementation Plan. As we move forward together towards the eventual goals of improving water quality, every step should be based on a scientific foundation and recognize the current economic realities.

**RESPONSE:**

*Due to the consent decree deadlines, EPA is unable to delay its completion of the Los Cerritos Channel Metals TMDLs. With respect to 'bundling' see response to Comment 23, and in regards to implementation, see Comments 3,4, 9 and 20.*

**Comments From the City Managers of Bellflower, Cerritos, Downey, Lakewood, Long Beach, Paramount, and Signal Hill****Comment 33:**

The TMDL should be revised to express targets and allocations in the form of dissolved metals. Because dissolved metals data are available for the Los Cerritos Channel, a direct comparison to California Toxics Rule (CTR) criteria (which are also expressed as dissolved metals) is possible and recommended. Conversion of CTR criteria to total recoverable concentrations is unnecessary and introduces significant uncertainty and error to the TMDL. Federal regulations require only that metals limits in permits be stated as total recoverable concentrations in most cases, not all

cases. One exception specified in 40 CFR 121.45 (c)(1) is for cases where "an applicable effluent standard or limitation has been promulgated under the CWA and specifies the limitation for the metal in the dissolved or valent or total form;" the CTR is such a standard.

**RESPONSE:**

*See response to Comment 25.*

**Comment 34:**

If EPA does not accept our request to make the TMDL a dissolved metals TMDL, translation between dissolved and total recoverable metals should use site-specific translators developed using EPA's 1996 guidance (The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion). We have calculated and provide herein site-specific translators using available data for the Los Cerritos Channel (wet weather), and recommend that they be used instead of CTR default translators.

**Response:**

*EPA appreciates the effort by the Cities involved in the Los Cerritos TMDLs to further evaluate the use of site specific translators. The Cities included in their comments an analysis of existing ambient metals data from the Los Cerritos Watershed that yielded wet-weather site-specific translators (See City of Long Beach comments and attachment; hereafter cited as the City of Long Beach translator analysis (2009)). EPA performed its own independent analysis of all available wet weather data ( $n = 31$ ) and produced wet-weather site-specific translators for each metal. Please see Comment 40 for further discussion of the analysis and selection of site-specific wet-weather translators.*

**Comment 35:**

a) The January 5 comments to EPA staff also discussed several other concerns with the wet weather model. The Technical Committee is particularly concerned that inappropriate land use aggregations used in the model result in inaccurate assignments of pollutant loading rates for metals in the TMDL's defined sub-basins. We believe that at least three of the land cover classifications could lead to mistakes in developing a useful implementation plan. For example, the commercial land cover classification includes the Long Beach Airport, the largest single facility regulated under the General Industrial Permit within the watershed. Another transportation-related problem is the inclusion of freeways in a mixed urban land cover category. Freeways are regulated under Caltrans' Statewide MS4 Permit rather than under municipal MS4 permits. Therefore, the land cover categories used in modeling the watershed should include at least a land cover category for transportation other than airports.

b) Thirdly, the municipalities are concerned that the high-density residential land cover category is too broad. The high-density single-family sub-group should be extracted and either treated as a separate land cover category or combined with the low density residential categories. These changes would improve the analysis of metal loadings by sub-basin and make the results more useful in formulation of an implementation plan.

c) The January 5 comments also included a number of other technical concerns with the use of the model, including the use of a single generic soil type, handling of atmospheric deposition, the use of metals "potency factors," and the time scales used in modeling. EPA's response indicated a reluctance to make changes in the model because the post processing of model results to develop the TMDL and associated documentation would be a significant effort. However, if the use of the model were restricted to providing an accurate source assessment, such post-processing would not be necessary. The EPA response indicated that, as of January 16, 2009, EPA was undecided about supporting recalibration of the Los Cerritos Channel model. EPA cited a modeling effort currently underway by the County of Los Angeles that would support implementation planning within watersheds. However, the Committee understands that this model will not be available for some time and would not be available to use in developing an implementation plan. Therefore, we recommend that the cities in the watershed request that EPA recalibrate the model to provide a more accurate source assessment.

**Response:**

a) *EPA made several changes to the model to more accurately represent local conditions. These model configuration revisions include the modification of land use classifications, revised potency factors for copper, and the use of variable percent impervious values throughout the watershed. They are described in more detail in the following paragraphs and in the revised TMDLs which was public noticed on November 24, 2009.*

*The land use dataset used to represent the LCC watershed was the Southern California Association of Governments (SCAG) 2005 land use dataset that covers Los Angeles County. The multiple land use categories in the dataset were grouped into similar classifications, which resulted in a subset of seven categories for modeling: agriculture, commercial, industrial, high-density residential, low-density residential, mixed, urban and open. These seven categories were then further divided into 12 unique pervious or impervious land uses. A numeric parameter potency wash off factor (POTFW) was assigned to each of the 12 land use category based on available POTFW values which were created for: agriculture, commercial, high density residential, industrial, low density residential, mixed urban and open. The POTFW values were obtained from previous SCCWRP studies. Because the POTFW values are only available for these land uses categories, all modeled land use groupings must be assigned one of the POTFW values, as described below.*

*EPA worked with the stakeholders to redefine some of the classifications, ensuring that the groups have similar hydrologic and metals-loading properties. EPA worked with the stakeholders to change the land use category of the Long Beach Airport from commercial to mixed urban. Reclassification of the freeway system covered under the CalTrans' Statewide MS4 to a transportation land use category is also possible. However, the POTFW assigned to the transportation category must be selected from the existing list of POTFWs, which do not include a transportation category. The transportation category could be given a parameter value from the mixed urban or industrial POTFWs. At this point in time expanding the POTFW categories is not an option. In the future, if and when more data that includes new potency factors becomes available, there is the potential to expand the model. However, at this point each land use will need to be parameterized based on the current list of POTFWs (high density,*



residential, low density residential, commercial, agriculture, industrial, mixed urban, and open space).

b) We redefined some of the land use classifications in the model including reclassifying the high-density single family class as low-density residential. As mentioned above in response to 35(a), expanding the POTFW categories is not feasible since the studies have not currently been done to support these efforts.

c) We incorporated copper potency factor revisions from SCCWRP (Ackermann and Weisberg, 2006), and re-assigned the wet weather modeling parameters, which resulted in decreased copper existing loads and lower required reductions. Please see responses to 35(a) and 35(b), and 36 regarding the use of metals "potency factors". Any changes to the land use and/or soils classification will result in additional model post-processing (this requires significant modification to the model input files and is not simply related to the source assessment discussion in the TMDLs report). The POTFW values implicitly includes loading from aerial deposition. Specifically, these factors are assumed to already include inputs from aerial deposition, so additional representation of aerial deposition is not included in the model. The model was run on a one-hour time step, consistent with the precipitation data available at the Long Beach weather station (CA5085). These precipitation data were available for several years, thereby capturing a range of meteorological conditions. While a smaller time step would better capture the flashy nature of runoff in an urban watershed, a one-hour time step was selected to maintain consistency with previous studies without further calibration (i.e., the regional approach) and to utilize the available long-term rainfall data.

**Comment 36:**

Consistent with a statement by new EPA Administrator Lisa Jackson that "EPA's actions must be transparent," EPA should provide the MS4 permittees within the Los Cerritos Channel Watershed the original calibration data set used to establish the potency washoff factors (POTFW) used to estimate the loadings of total recoverable metals from each land use type in the wet weather model. This information should include the number of sites used for each land use type, specifics regarding the land uses within each representative land use, and raw data. Data should be sufficient to allow a full evaluation of the comparability of land use types in the Los Cerritos Channel Watershed and possible recalculation of POTFWs.

**Response:**

Previous wet weather watershed modeling and TMDLs efforts has led to the development of a regional watershed modeling approach to simulate hydrology, sediment and metals transport in the Los Angeles Region. This approach was used to calculate the TMDLs for the Los Cerritos Channel. To assess the link between sources of sediment, metals, and the impaired waters, the wet weather modeling system simulates land-use based sources of sediment and associated metals loads and the hydrologic and hydraulic processes that affect delivery. The modeling approach assumes that metals loading can be dynamically simulated based on hydrology and sediment transported from land uses in a watershed. The potency wash off factors (POTFW) used in the wet weather modeling analysis for the Los Cerritos Channel Metals TMDLs were originally developed by the Southern California Coastal Water Research Project (SCCWRP).

SCCWRP developed watershed models based on HSPF (EPA's Hydrological Simulation Program – FORTRAN [HSPF] [Bicknell et al., 2001]) which is an integral component of EPA's Loading Simulation Program C++(LSPC) (Shen et al., USEPA, 2003a), the model that was used to represent the hydrologic and water quality conditions in the Los Cerritos Channel watershed.

The relationships between sediment and copper, lead and zinc were simulated using the POTFW parameter, which is the wash off potency factor or the ratio of constituent yield to sediment outflow (since it is a ratio, it is unit less). A unique POTFW value was assigned for each constituent and these values were varied by land use category. These values were obtained from previous SCCWRP studies, and land use sites used to categorize the variables include high density residential, low density residential, commercial, agriculture, industrial, and open space. SCCWRP developed watershed models, based on HSPF (Bicknell et al., 2001), of multiple homogeneous land use sites in the region. Sufficient storm flow and water quality data were available at these locations to facilitate calibration of land-use-specific HSPF modeling parameters. These parameters used in the LSPC model have been successfully validated in an additional HSPF model of Ballona Creek (Ackerman et al., 2005a; SCCWRP, 2004), and similar models of the Los Angeles River, the San Gabriel River, Los Angeles / Long Beach Harbors using LSPC. These models were used to calculate TMDLs for each of these waterbodies.

The original data used in these studies, such as the number of sites used for each land use type specifics, regarding the land uses within each representative land use, and raw data, may be accessed through SCCWRP.

**Comment 37:**

Adoption of this TMDL should be delayed until the summer or fall of 2009 to allow the municipal permittees within the Los Cerritos Channel Watershed to complete a Third Party Implementation Plan and submit it to the Regional Water Board for its consideration. This would allow permittees to work with EPA and the Regional Board to ensure concurrent adoption of both the TMDL and an implementation plan before full Proposition 84 proposals are due to the State Water Board.

**RESPONSE:**

Due to the consent decree deadlines, EPA is unable to delay its completion of the Los Cerritos Channel Metals TMDLs. Implementation measures will be developed by the Regional Board and stakeholders are encouraged to coordinate with the Regional Board regarding a third party implementation plan.

**Comments From Michael P. Conway, The City of Long Beach**

**Comment 38:**

In the interests of conserving paper and consistent with the City of Long Beach "Green" policy, we have not attached the technical comments submitted by the Signal Hill dated February 5, 2009, and the attachments thereto as part of our submittal. However, it is our intent to

incorporate by reference all of that submittal, and the attachment thereto (except for those comments referring to Signal Hill funding issues) as if they were attached to this letter. Please include them in the administrative record of the TMDL.

**RESPONSE:**

*Please see Comments 21-32.*

**Comment 39:**

A dissolved metals TMDL is appropriate here. The TMDL should acknowledge that the Los Cerritos channel Metals TMDL need not be expressed as total recoverable metals. An exception to the general requirement is set forth in 40 CFT 122.45(c)(1) where “an applicable effluent standard or limitation has been promulgated under the CWA and specified the limitation for the metal in the dissolved or valent or total form;” the CTR is such a standard.

The TMDL should be expressed as dissolved metals TMDL since dissolved metals data are available from the monitoring stations used in developing the TMDLs.

Wet-weather TMDL targets and loads should be expressed in terms of dissolved metals. This will produce “real world” data and allow direct comparison to California Toxics Rule (CTR) criteria that are based on dissolved metals concentrations.

**RESPONSE:**

*See response to Comment 25.*

**Comment 40:**

Alternatively, EPA should utilize its existing translator. In the alternative, the City requests that EPA use the total suspended solids-dependent translator specified in EPA’s 1996 guidance document entitled, The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion to translate between dissolved and total recoverable metals if EPA denies the Los Cerritos Watershed agencies’ request for a dissolved metals TMDL.

**[The commenter included a technical memorandum (attachment C) titled, *Metal Translators: Application to the Los Cerritos Channel Wet Weather TMDL*, prepared by Kinnetic Laboratories for the City of Long Beach, Feb. 2009]**

**RESPONSE:**

*EPA appreciates the effort by the City of Long Beach (and other Cities involved in the Los Cerritos TMDLs) to further evaluate the use of site specific translators. EPA has carefully considered Attachment C provided by the commenters, an analysis of existing paired metals data from the Los Cerritos watershed that yielded wet-weather site-specific translators. [See City of Long Beach comments and attachment; hereafter cited as the City of Long Beach translator analysis (2009).] We acknowledge this analysis was performed using EPA’s 1996 guidance; however we also find it noteworthy to clarify the City’s analysis is based on wet weather data*

representing greater than 50% storm capture ( $n=24$ ), thus not all available metals data was included in this analysis.

In accordance with EPA Translator guidance, we performed our own independent analysis of available wet weather data after normality testing the data set, and produced wet-weather site-specific translators for each metal. We calculated site-specific translators using four different data sets which included: the City of Long Beach data set, all wet weather data, wet data with greater than 50% storm capture, and wet data with greater than 75% storm capture. In the course of our analysis, we utilized all three options in EPA's 1996 Metals Translator Guidance to examine the four different data sets. The three options are described as follows:

1. *Direct Measurement - Assuming no Relationship to Total Suspended Solids (TSS), uses descriptive statistics and may be developed directly as the ratio of dissolved to total recoverable metal;*
2. *Direct Measurement - Based upon Relationship to TSS, uses regression equations to evaluate correlations and yield  $r^2$  values, which indicate the strength of the relationship with TSS and fraction of particulate metals; and*
3. *Partition coefficient – Based on relationship to TSS and is functionally related to the number of metal binding sites on the particulate surfaces in the water column (i.e., concentrations of TSS, TOC, or humic substances), and  $r^2$  values also indicate the strength of the relationships and the translator (fraction of particulate metals).*

Evaluation of the wet weather paired metals data in Los Cerritos Channel shows that dissolved to total ratios are not similar to those suggested by the CTR conversion values. For lead, the percent of total to dissolved values fell below 15% in 30 of the 31 samples evaluated (See Appendix C of the TMDLs); this is drastically different from the CTR conversion value (97%). For copper and zinc dissolved to total ratios range from 4% to 88%; whereas the default CTR conversion values are closer to 96% or more.

In the course of our analysis via options 2 & 3, we observed very poor to marginal correlation of particulate metals fractions with TSS ( $R^2$  values ranged from 0.09 – 0.58). Without any reliable relationship with TSS, we disregarded translators derived from options 2 & 3, regardless of the data set; i.e., >50%, >75% or all wet data.

Direct measurement (Option 1) using all wet-weather data was selected as the preferred method to determining the site specific translators in Los Cerritos watershed for two reasons. First we acknowledge the local wet weather dissolved fractions do not resemble the dissolved fractions defined by CTR conversion values. Second, as stated above, the local data showed high degree of uncertainty (poor correlation) between the particulate fraction and TSS.

We selected the 90% value, based on CTR SIP (section 1.4.1) that such percentile is associated with acute criteria, which applies during wet weather conditions.

**Comment 41:**

Tetra Tech's watershed model for simulation of wet-weather metals loadings to Los Cerritos Channel should be recalibrated to provide a more accurate source assessment to provide information to support development of an effective and efficient implementation plan.

a) The Simulation of Wet Weather Metals Loadings should be recalibrated. The January 5 comments to EPA staff also discussed several other concerns with the wet-weather model. We are particularly concerned that in-appropriate land use aggregations used in the model result in inaccurate assignments of pollutant loading rates for metals in the TMDL's defined sub-basins. Long Beach, in this watershed, is approximately 62% residential and its allocation should be adjusted to reflect that. There are no POTWs in the Los Cerritos watershed. TetraTech's model should take this into consideration.

b) We believe that at least three of the land cover classifications will hinder the development of a useful implementation plan. First, the "commercial" land cover classification includes the Long Beach Airport, the largest single facility regulated under the General Industrial Permit within the watershed. Second, freeways are included in the "mixed Urban" land cover category. Freeways are regulated under Caltrans Statewide MS4 Permit rather than under municipal MS4 permits. The land cover categories used in modeling the watershed should include a land cover category for transportation other than airports. Third, we are concerned that the "high-density residential" land cover category is too broad. The high-density single-family sub-group should be extracted and either treated as a separate land cover category or combined with the Low Density residential categories. These changes would improve the analysis of metals loading by sub-basin and make the results more useful in formulation of an implementation plan.

c) The Technical Committee's January 5 comments also included a number of other technical concerns with the use of the model, including the use of a single generic soil type, handling of atmospheric deposition, a major concern, the use of metals "potency factors" and the time scales used in modeling. The EPA staff response indicated that EPA was undecided about supporting recalibration of the Los Cerritos Channel model because the post processing of model results to develop the TMDL and associated documentation would be a significant effort. Restricting the use of the model to providing an accurate source assessment will eliminate this concern and will result in better data. EPA staff cited a modeling effort currently underway by the County of Los Angeles that would support implementation planning within watersheds; it is our understanding that this model is still under development and will not be available to use in developing an implementation plan.

d) Additionally, EPA's TMDL will not contain an implementation plan; instead, EPA indicates that the Regional Board will develop one. The Technical Committee believes that the preparation of the third-party TMDL implementation plan would offer a good solution by allowing development of a workable implementation plan based on source control that would incorporate a realistic compliance schedule and an iterative best management practices (BMPs) approach.

e) Our consultant would like to review the original calibration data set used to establish the POTFW used to estimate the loadings of total recoverable metals from each land use type in the wet-weather model, including the number of sites used for each land type and the specific, actual



land uses within each representative land use designation. This data is not privileged or proprietary. We hope you will provide this information informally, so that we need not make a FOIA request. If you concur, please provide us with an opportunity to review this data at your earliest convenience.

**RESPONSE:**

- a) Please see response to Comments 35 and 36.
- b) Please see response to Comment 35.
- c) Please see response to Comment 35 and 36.
- d) Please see response to Comments 3,4, 9 and 20.
- e) The data is available for review through SCCWRP. Please see response to Comment 35 and 36.

**Comment 42:**

Transparency means that data should be made available for inspection. We commend EPA Administrator Lisa Jackson for her statement that EPA's actions must be transparent. Consistent with that policy, the City of Long Beach requests that the EPA provide the MS4 permittees within the Los Cerritos Channel Watershed the original calibration data set used to establish the potency washoff factors (POTFW) used to estimate the loadings of total recoverable metals from each land use type in the wet-weather model. This information should include the number of sites used for each land use type and specifics regarding the land uses within each representative land use.

Our consultant would like to review the original calibration data set used to establish the POTFW used to estimate the loadings of total recoverable metals from each land use type in the wet-weather model, including the number of sites used for each land type and the specific, actual land uses within each representative land use designation. This data is not privileged or proprietary. We hope you will provide this information informally, so that we need not make a FOIA request. If you concur, please provide us with an opportunity to review this data at your earliest convenience.

**RESPONSE:**

*The original calibration data set used to establish the POTFW used in the wet-weather modeling is from SCCWRP. Please see response to Comment 36.*

**Comments From Desi Alvarez, The City of Downey**

**Comment 43:**

During the California Toxics Rule (CTR) adoption process, the EPA addressed local concerns about regulatory costs and complexities, by asserting that an iterative BMP implementation approach would be appropriate in applying CTR limits to storm and urban runoff discharges, so that costly "end of pipe" controls would be unnecessary. Local agencies request that EPA

reiterate their past commitments to this principal and be granted reasonable opportunity to implement these challenging regulations without fear of unwarranted enforcement actions.

**RESPONSE:**

*Please see response to Comment 4.*

**Comment 44:**

Starting with the 1990 “Early Action” NPDES Permit, local agencies were assured that early efforts to reduce runoff water impairments would be acknowledged in later implementation efforts. Since that time, the LCC stakeholder agencies have instituted a variety of programs, including street sweeping, SUSMP, Low Impact Development (LID), and erosion controls. The City of Downey in particular has permitted installation of nearly a thousand infiltration systems LCC Metals TMDL (approaching 3% of our parcel base) mostly for residential redevelopment and additions. In contrast, few state General Industrial and Construction Activity Stormwater Permittees have been able to demonstrate a reduction in either metals or runoff. The proposed TMDL should incentivize past, current and future source and runoff control measures through USEPA support of a MS4 Permit safe harbor provision, based on the demonstrable source control efforts.

**RESPONSE:**

*EPA commends the City of Downey’s efforts to institute a variety of methods to reduce source runoff and control metals. Development of implementation measures will be addressed in the applicable permits. See response to Comment 20 and 46.*

**Comment 45:**

While we appreciate the January 16, 2009 response to our modeling questions, additional time and stakeholder solicitations are required to reconcile discrepancies with the USEPA developed watershed model.

a) Watershed Delineation: Based on our analysis, about 10% of the EPA model area shifted out of the LCC watershed, while additions resulted in a net 4% reduction of Downey LCC watershed area. Other cities have reported similar errors. On January 28, 2008, the City of Downey submitted corrected GIS shape files to the EPA, State Board, and County of Los Angeles. It is unreasonable for regulators to assume that local agencies can effectively reduce LCC pollutant loadings, when being referred to the wrong areas.

b) Land Use: We understand the EPA model utilized only high and low density residential categories characterized at 15% and 65% imperviousness respectively. Such simplifying assumptions punish communities that aggressively incorporate LID, the very water quality measure most strongly advocated by regulatory and environmental organizations. Furthermore, land use errors are readily apparent, such as the placement of our Golden Park in the high density residential, rather than open space, category.

c) Soil Infiltration Assumptions: Most Los Angeles County water quality models assume a “D” type soils, with infiltration rates of less than 0.05 inches per hour and potentially as little as 0.01 inches per hour. If the LCC agencies are being asked to adopt LID principles, why then are our soils are being modeled as unsuitable for infiltration? A solution would be to use the Los Angeles County Hydrology Manual soil types and infiltration rates, which in Downey, are many times higher.

d) Pollutant Loading Rates: To this point, we have been unable to determine the source and applicability of the pollutant loadings rates used by the USEPA contractor; however in the December 17, 2008 presentation, copper loadings were highest in residential areas and lower where commercial and industrial uses predominate. This observation is in opposition to many other USEPA and Regional Board studies and encourages conversion of residential areas to commercial applications.

e) BMP Implementation: As previously identified, the model ignores ongoing local BMP implementation efforts that modify or eliminate the discharge of pollutants. The model should provide some incentive toward those already addressing water quality impairments.

f) Model Dissolved Pollutants: As discussed more thoroughly elsewhere, CTR is based on the concentration of *dissolved* metal concentrations, yet we understand the USEPA model assumes loadings based on the delivery and transport of total recoverable metals. The model should address the form of pollutant being regulated, rather than artificially introducing extra and unnecessary conversions, assumptions, and safety margins. In summary, the USEPA should allow for local agency review, correction and resolution of model input data, rather than binding local agencies to past regulatory expediency. While we appreciate that this cannot be an endless process, or can be addressed by periodic updates, it was the regulatory agency’s decision to initiate this first phase of the modeling and TMDL process without accommodating local stakeholder input and considerable on the ground experience and knowledge about local drainage parameters and land use characteristics.

**RESPONSE:**

*a) EPA modified the LCC watershed boundary based on the City of Downey’s field reconnaissance, resulting in the removal of 9 acres overall. Downey requested the reassignment of an additional 5 acres of land from the LCC watershed, and EPA requested concurrence from CalTrans before making the change. As the modeling changes were made before concurrence was received, this change may be easily made at a later date by the stakeholders.*

*b) See response to Comment 35.*

*c) See response to Comments 35 and 36.*

*d) See response to Comments 35 and 36.*

*e) See response to Comments 20, and 44.*

*f) See response to Comments 25 and 34.*

**Comment 46:**

The LCC Metals TMDL presents an ideal opportunity for third-party TMDL or implementation plan development. There are seven municipalities (the Cities of Bellflower, Cerritos, Downey,

Lakewood, Long Beach, Paramount and Signal Hill) as well as portions of unincorporated Los Angeles County and significant Caltrans rights-of-way located in the watershed. These parties are familiar with local watershed issues, including revitalization of the degraded Los Cerritos Wetlands. Our stakeholders have convened several meetings since December and assembled technical experts to evaluate the proposed TMDL. The stakeholders could collectively leverage state resource agency funds to improve data quality and scientific analysis of the TMDL, building upon work already completed by EPA. The stakeholders are interested in developing an implementation plan, which would include source control, appropriate Best Management Practices (BMPs), and schedules for BMP implementation. EPA previously entered into a Memorandum of Understanding (MOU) with the City of Los Angeles and the Los Angeles Regional Water Quality Control Board (Regional Board) for the development of the TMDLs on the Los Angeles River (CREST), and any agreement entered into with the municipalities involved in the LCC Metals TMDL could be based on this MOU. The cities of Downey, Long Beach and Signal Hill each serve on both the CREST Steering and Technical Committees. We believe that Third Party development of the LCC Metals TMDL implementation plan would increase stakeholder support and implementation effectiveness. In 2007, the seven LCC watershed cities formed a joint powers authority (JPA) known as the Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority. This regional water management group was formed to address major water resource issues facing our communities, including water conservation, storm water and flood control as specific concerns. This JPA is currently applying for a \$5 million grant through the State and Regional Water Boards for the installation of trash capture devices in the Los Angeles River Watershed. We believe that this JPA would provide an ideal mechanism through which to develop a Third-Party Implementation Plan, with the support of EPA and the Regional Board.

**RESPONSE:**

*Due to the consent decree deadlines, EPA is unable to delay its completion of the Los Cerritos Channel Metals TMDLs. Implementation measures are required under State regulation (whereas implementation plans are not required under federal regulations), so stakeholders are encouraged to coordinate with the Regional Board regarding a third party implementation plan. Please see response to Comments 20 and 44.*

**Comment 47:**

In this TMDL, the EPA has deferred Implementation Plan development to the Regional Board. Unfortunately neither the USEPA, nor the Board has sufficient financial and staff resources to properly develop such a plan. Moreover, the Cities are concerned that without an appropriate, well thought-out implementation plan, the fiscal impacts of the TMDL cannot be evaluated. The preparation of a Third-Party TMDL Implementation Plan could eliminate this financial uncertainty by providing the necessary resources with which to draft a workable implementation plan. The Third Party Implementation Plan would include a realistic compliance schedule based on source control and an iterative BMP approach. It is anticipated that the Implementation Plan would specify the use of an iterative BMP to the MEP approach and eliminate local concerns that the TMDL Report does not specify that its waste load allocations (WLAs) need not be enforced as strict numeric limits (see EPA's November 22, 2002 Guidance Memorandum on establishing TMDLs provided by the City of Signal Hill). The Implementation Plan would include both

general and separate specific strategies for addressing the recognized source(s) of each metal. For example, the strategy for addressing copper would incorporate the copper control legislation being proposed by the Brake Pad Partnership. Despite a lack of action at both the state and federal level last year, the City of Downey provided \$4,200 in support to the Brake Pad Partnership and its efforts to reduce this important source of copper to receiving waters. As stated in the TMDL Report, *"the contribution of automobile brake pads to copper levels in Los Cerritos channel could be significant."*<sup>1</sup> The TMDL Report, in section 7.6 Source Control Alternatives, describes the possible impact of reducing copper in brake pads, but indicates this would not occur within 10 years, implying that stakeholders will need to spend millions of dollars to alleviate a problem that would otherwise be addressed nationally. This is bad public policy, a squandered use of public resources, and an example of how the recommended iterative approach is commonly ignored.

**RESPONSE:**

*Due to the consent decree deadlines, EPA is unable to delay its completion of the Los Cerritos Channel Metals TMDLs. Implementation measures are required under State regulations, so stakeholders are encouraged to coordinate with the Regional Board regarding a third party implementation plan. Fiscal issues will also be explored during the NPDES permit renewal process by the Regional Board. See response to Comments 3,4, 9 and 20.*

**Comment 48:**

The LCC Metals TMDL is the first of several watershed impairments and we must assume that additional TMDLs will soon be proposed. Serial TMDL adoption is a wasteful process that necessitates multiple stakeholder meetings to review the scientific data, TMDL requirements, and fiscal resource development to implement BMPs, that hopefully will not work at cross purposes. It would be more efficient and cost-effective for the stakeholders to address a suite of watershed TMDLs through a coherent Third-Party TMDL watershed planning process. A recent draft EPA Handbook repeatedly encourages recognition and consideration of all impairments as an effective alternative to developing serial TMDLs for a single water body:

*"Because waters have different priority rankings on the state's 303(d) list does not mean they cannot be addressed at the same time as part of a watershed TMDL. . . . This approach might add waters to their current workload since they will be addressed sooner than they are scheduled. However in the long run, developing the watershed TMDL will provide cost savings over addressing waters individually . . . ." 2*

*"While technical considerations can determine the scope of a TMDL, practical considerations such as available budget and schedule can also be important factors in deciding how to approach a watershed TMDL." 3*

**RESPONSE:**

*Please see response to Comments 23.*

**Comment 49:**

While the LCC model input introduces many small errors, its dependence on total recoverable metal transport, rather than dissolved, is unfathomable given that CTR is based on dissolved



metal concentrations and dissolved metal concentrations data were provided to the USEPA by the City of Long Beach. The use of translators (conversion factors) lead to substantial overestimation of metal loads and necessary load reductions to meet CTR requirements, which contributes additional uncertainty to the TMDL implementation process (see Metals Translator study prepared for the City of Long Beach and submitted separately). Translation obfuscates our real concern (dissolved metals) and stakeholder's ability to initiate effective source controls. We assert the presence of large Publicly Owned Treatment Works (POTWs) or Water Recovery Plants (WRPs) in other local watersheds has resulted in TMDLs with implementation based on total recoverable metals. Most NPDES permits contain discharge limitations for metals as total recoverable concentrations. The absence of these dischargers in the the LCC watershed negates any value from developing a TMDL based on total recoverable metal concentrations and loads. Developing this TMDL in terms of the dissolved fraction will result in more accurate information, a more effective implementation process and be consistent with the Chollas Creek Dissolved Metals TMDL, approved by EPA on December 18, 2008. The most telling example of the oversight in this TMDL is for lead during wet weather. Not one of the 29 storm events monitored (2001 to 2008) had dissolved lead concentrations that exceeded CTR acute aquatic life criteria. In fact, 90% of the analyses found dissolved lead at less than 1/10 of the acute aquatic life criteria. Even though none of the samples exceeded the dissolved lead CTR criterion, TMDL conversions to total recoverable concentrations results in the need for a projected 62.3% decrease in average annual wet weather lead loads. In its response to initial comments EPA replied that "the TMDLs should not be based directly on CTR dissolved standards because NPDES regulations require that metals limits in permits be stated as total recoverable in most cases" and that "because the TMDLs will be incorporated into NPDES permits the WLAs are expressed as total recoverable metals." This is incorrect as noted in 40 CFR 122.45(c) which provides that "an applicable effluent standard or limitation has been promulgated under the CWA and specifies the limitation for the metal in the dissolved or valent or total form." CTR is just such a limitation or standard and it is unnecessary and counter productive to alternate between dissolved and total recoverable numeric criteria. Should the USEPA be disinclined to base the LCC Metals TMDL on dissolved metals, we recommend use of the 1996 USEPA guidance regulation entitled, "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion" which was used in the Metals Translator study prepared for the City of Long Beach and submitted separately. This study computed translators, using three different methods, which are consistent with each other and differ significantly from the default CTR translators used in the LCC Metals TMDL. We most strongly encourage the USEPA to choose between either the 1996 guidance methodology or rewrite the LCC Metals TMDL based on dissolved metals concentrations.

**RESPONSE:**

*Please see response to Comments 25 and 34.*

**Comment 50:**

The LCC Metals TMDL requires stakeholders to implement structural BMPs to control metals in all storm events, even extreme "act of god" storm events. A design storm is used to establish maximum flows for which controls must be designed and constructed and is based on the principle that control of rare large storm events may not be an unreasonable societal goal.

This approach is supported by EPA comments within the TMDL Report, which recognizes that high-flows may have elevated concentrations of pollutants, but also that the time of exposure is short and thus that these high levels are actually less critical. As suggested in the following figures, this would mean that BMPs must reduce the concentration of metals in runoff by as much as 88%, during events where flooding should be the primary concern for local agencies. In a December 2007 Design Storm study prepared by the Southern California Coastal Water Research Project (SCCWRP) for the Los Angeles Regional Water Quality Control Board ([ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/520\\_designStorm.pdf](ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/520_designStorm.pdf)) BMP design was acknowledged as a substantial and costly hurdle. The LCC Metals TMDL should include limitations so that stakeholders can confidently and realistically design and implement BMPs. Similarly, a minimum urban flow exemption should apply so that stakeholders would only be responsible for exceedences resulting from significant flows that are likely to have a negative impact on receiving water quality.

**RESPONSE:**

*EPA disagrees. These LCC Metals TMDLs do not require ‘structural BMPs’, rather they identify the necessary load reductions without specifying the specific implementation measures. Also we note that CTR defines the applicable water quality standards for these metals TMDLs, specifically to protect aquatic life uses and these apply during all flow levels. There is no high flow exclusion for metals.*

**Comment 51:**

a) As was evaluated by the City of Signal Hill, the City of Downey is also being buffeted by multiple recently adopted and proposed TMDLs for the Rio Hondo, Los Angeles River, San Gabriel River and now the LCC watersheds. The proposed LCC Metals TMDL in particular does not allow the City to assess its financial impact on our community. We encourage the USEPA to work with local agencies to develop a fair short term implementation plan in synchronicity with the iterative BMP to the MEP concept advocated by USEPA headquarters. The USEPA TMDL Guidance Document, entitled “*Guidance for Developing TMDLs in California,*” recognized that economic factors should be considered when developing TMDLs. In light of the current fiscal difficulties faced by all levels of government, it is critical that an appropriate economic analysis of the impacts of the TMDL be conducted. The LCC Metals TMDL contains no economic analysis and little guidance for the development of a proper implementation plan. Along with a determination by USEPA that the TMDLs’ Waste Load Allocations need not be enforced as strict numeric limits, but may instead be complied with through the use of iterative BMPs, the ultimate success of this TMDL depends upon a properly developed regulation, combined with a reasonable implementation plan. In order to provide the USEPA an order of magnitude of the costs of compliance and the critical nature of the design storm, we have prepared two cost analysis scenarios, which are detailed below.

*b) Sand-Filters and Infiltration Trench Alternative*

In order to determine the compliance costs magnitude resulting from this TMDL, we assumed that implementation would be similar to that prepared by the Los Angeles Regional Water Board for the Los Angeles and San Gabriel River Metals TMDLs. These plans rely upon the installation of sand-filters in 20% to 30% of the watershed and infiltration trenches also in 20% to 30% of

the watershed. The remaining untreated watershed area was assumed to be covered by other water conservation programs and non-structural BMPs.

In developing their cost estimates, the Regional Board relied upon EPA and FHWA installation costs, based on a 0.5-inch design storm. Since the proposed LCC Metals TMDL does not contain a design storm, we have relied upon costs from the Caltrans 2002 BMP Pilot Program in Los Angeles and San Diego Counties. This Pilot Program utilized design storms ranging from 1 inch to 1.9 inch depending on location, which is a more protective approach. It is important to note that the EPA, FHWA, and Caltrans estimates excluded the costs of land acquisition, construction of conveyance systems, and long term maintenance and financing, and thus these cost methodologies significantly understate the true cost of compliance.

The Caltrans BMP Pilot Program costs equate to \$84,500 per acre for the installation of infiltration trenches and \$115,700 per acre for the installation of sand filters. The City of Downey has 215 acres in the LCC watershed and in this analysis 43 acres (20% of the area) are assumed to drain to sand filters and an equal area to infiltration trenches. This equates to nearly \$5 million (43 acres x \$115,700) for sand filter construction and \$3.6 million (43 acres x \$84,500) for infiltration trenches, excluding land acquisition, operation, and maintenance costs. The \$8.6 million in compliance costs maybe significantly understated since they do not include real estate acquisition, conveyance system, operation, maintenance, or financing costs. As such, additional municipal expenditures would be necessary in the long run, unless USEPA makes clear in the TMDL Report that the Waste Load Allocations need not be imposed as strict numeric limits, but instead allow deemed compliance through the use of iterative BMPs. This analysis is also subject to the use of dissolved or total recoverable metals concentrations.

*c) Catch Basin Bio-Filter Alternative*

The LCC TMDL Report asserts that a probably source of metals is aerial deposition. Under the Catch Basin Bio-Filter Alternative, local BMPs are necessary near most catch basins. This example uses a bio-filter system driven by evapotranspiration, an unproven BMP at the watershed scale, but potentially a best available current technology. This alternative ignores that most rainfall in the LCC watershed falls during January and February, when evapotranspiration is essentially non-existent. The following example estimates potential construction costs of this approach, but does not include long term maintenance and operational costs. This Catch Basin Bio-Filter Alternative is sized based upon a modest 0.2 inch per hour design storm (equivalent to the current SUSMP criteria). Runoff from storms in excess of 0.2 inches per hour would bypass the biofilters and highlights the importance of a reasonable design storm, since the concept significantly drives implementation costs. Even with this expenditure, there is no guarantee that this alternative will result in compliance with strict numeric limits. The following table summarizes application costs for this alternative in the LCC watershed: (Commenter attached table with costs.)

*d) Municipal Service Impacts*

The City of Downey does not have a dedicated revenue source to finance the TMDL program. Propositions 13, 62, and 218, along with case law, require that storm water fees be placed before the electorate for approval and that storm water fees are special taxes, subject to a super majority approval. If precluded from steady BMP implementation through redevelopment, as our water

quality program is currently based, the City of Downey would need to finance all TMDLs, through its General Fund or seek support at the state and federal level. Our General Fund supports a variety of critical services, including police, fire, public works, public facilities, street maintenance, and park maintenance. Absent voter approved funds, the City would be required to reduce, eliminate or defer existing infrastructure maintenance and services. This also highlights the importance of designing and using the right BMPs to address all impairments, since there is unlikely to be sufficient funds for corrections or overlapping treatment needs.

**RESPONSE:**

*Comment noted. Please see response to Comments 4 and 5. EPA will forward this comment to the Regional Board.*

**Comment 52:**

From a purely practical standpoint, the LCC stakeholders are concerned that if numeric Waste Load Allocations go into immediately effect upon Water Board adoption of our next MS4 Permit, we will be placed in the untenable position of being in immediate noncompliance. Strictly complying with the TMDLs' numeric limits is technically and fiscally impossible, and a reasonable implementation schedule must thus be developed that asserts compliance through the use of an iterative BMP approach. Compliance timeframes for other adopted TMDLs in the Los Angeles area, as set forth in the various TMDL Reports, include:

Los Angeles River Metals - 22 years

San Gabriel River Metals - 15 years

Los Angeles River Trash - 7 years

Ballona Creek Bacteria - 10 years

Ballona Creek Estuary Toxics (including Chlordane) - 15 years

As the stakeholders are considering bundling the TMDLs, with the anticipated greater upfront costs, the full 22-year compliance schedule should be provided, along with the use of iterative BMPs and a deemed compliance iterative approach.

**RESPONSE:**

*Please see response to Comments 4 and 20.*

**Comment 53:**

The proposed LCC Metals TMDL lists one individual NPDES dischargers with permits that allow wet weather discharges up to 40,000 gallons per day with metal concentrations exceeding the limitations in the proposed TMDL. All permit holders should be held to the same criteria by the responsible permit issuing agencies. As addressed previously, the draft TMDL does little to incentivize proactive BMP implementation and rewards those who delay implementation into the distant and unforeseeable future. As reiterated by Appendix B of our MS4 Annual Report (<http://ladpw.org/wmd/NPDESRSA/AnnualReport/>) there is little incentive for aggressive BMP utilization by municipal, industrial or construction permittees.

**RESPONSE:**

*Please see response to Comment 30.*

**Comment 54:**

In summary, the City of Downey would like to thank the USEPA for providing this opportunity to comment on the proposed LCC Metals TMDL. Achieving compliance with this and the many other watershed TMDLs will be a complex, long-term and potentially astronomically costly effort. We encourage EPA to impose on the Regional Board to accept local offers of assistance in developing an effective stakeholder supported implementation plan for the LCC Metals TMDL, as well as targeted monitoring studies. We further request that USEPA delay adoption of the TMDL until such time as said Implementation Plan can be concurrently adopted by the Regional Board. We believe sufficient time exists to complete these components within the TMDL Consent Decree schedule. We request a meeting with appropriate regulatory staff to outline potential advantages to “bundling” our TMDLs and development of a Third Party Implementation Plan. As we stakeholders move forward towards the goals of improving receiving water quality and eliminating existing impairments, every action should be based on a scientific foundation that acknowledges substantial and nearly universal economic realities.

**RESPONSE:**

*Comment noted. Please see response to Comments 20, and 23.*

**Comments From Christopher S. Cash, The City of Paramount****Comment 55:**

The City does not have a dedicated funding source to finance the TMDL program. Any storm water fee or tax would have to be placed before the general electorate for approval. The law further defines most storm water fees as special taxes, subjecting them to a 2/3<sup>rd</sup>'s voter approval. In these difficult economic times, Paramount would have great difficulty obtaining voter approval for a new special tax. It is likely that Paramount will need to finance the new TMDL requirements for the Los Cerritos Channel, through its General Fund. Our General Fund supports a variety of critical services, including law enforcement, public works, public facilities, street maintenance, and park maintenance. Absent new voter approved funds, the City will be required to reduce, eliminate or defer existing critical needs to pay for the new TMDL mandates.

**RESPONSE:**

*Please see response to Comment 5.*

**Comment 56:**

In terms of addressing the many technical comments, the City of Paramount concurs with the City of Signal Hill comments letter dated February 4, 2009 sent to your attention.

**RESPONSE:**

*Comment noted. Please see response to Comments 1-10, and 21-37.*



### Comments From Lisa A. Rapp, The City of Lakewood

#### **Comment 57:**

The City does not have a dedicated revenue source or enterprise funds to finance the TMDL program. Propositions 13, 62, and 218 require that any storm water fee or tax be placed before the general electorate for approval. The laws further define most storm water fees as special taxes, subjecting them to a 2/3<sup>rd</sup>'s voter approval. In these difficult economic times, Lakewood would have a difficulty of obtaining voter approval for a new special tax. It is therefore likely that Lakewood will need to finance the new TMDL requirements for the Los Cerritos Channel, through its General Fund. Our General Fund supports a variety of critical services, including sheriff, fire, public works public facilities, street maintenance, and park maintenance. Absent new voter approved funds, the City will be required to reduce, eliminate or defer existing critical services to pay for the new TMDL mandates.

#### **RESPONSE:**

*Please see response to Comment 5.*

#### **Comment 58:**

Rather than restating the numerous technical comments, the City of Lakewood concurs with the issues addressed by the City of Signal Hill comment letter dated February 4, 2009 sent to your attention, as if fully detailed herein.

#### **RESPONSE:**

*Comment noted. Please see response to Comments 1-10, and 21-37.*

### Comments From Mike A. Grady, The City of Cerritos

#### **Comment 59:**

With only thirty of the roughly 18,000 acres in the watershed, the TMDL will have a limited effect on Cerritos relative to other stakeholders. However, Cerritos recognizes the importance of adopting effective TMDLs that are practical, achievable and cost-effective. Therefore, the City would like to express its concurrence with the extensive comments submitted by the City of Signal Hill, including the exhibits attached thereto.

#### **RESPONSE:**

*Comment noted. Please see response to Comments 1-10, and 21-37.*

### Comments From Leo L. Mingle, The City of Bellflower

**Comment 60:**

Understanding that other agencies in the Watershed may be submitting identical documentation, the City of Bellflower (City) is submitting these comments in electronic form to conserve paper. The City incorporates by reference the correspondence, exhibits and documents submitted by the City of Signal Hill (Signal Hill) to the U.S. Environmental Protection Agency (USEPA) (comment letter dated February 4, 2009), which includes a memorandum from the LCC Metals TMDL Technical Committee (Technical Committee) summarizing the recommendations by members of the Technical Committee for changes to the LCC Metals TMDL. The City supports the Technical Committee's recommendations.

**RESPONSE:**

*Comment noted. Please see response to Comments 1-10, and 21-37.*

**Comment 61:**

The City, as in Signal Hill's case, does not have a dedicated revenue source or enterprise to finance the TMDL program; therefore, the City would have to finance new TMDL requirements through its General Fund. In the past, the City cut or reduced critical services and programs in order to fund stormwater programs required by the MS4 NPDES Permit. Given the current economic climate, the City has recently cut or reduced critical services and programs in order to offset revenue shortfalls. This included a 12-day unpaid furlough for all City employees from December 19, 2008 through January 5, 2009.

**RESPONSE:**

*Please see response to Comment 5.*