

RESPONSE TO COMMENTS - LOMA ALTA SLOUGH TMDL

**Comments Submitted by
The City of Oceanside
The City of Vista
The Friends of Loma Alta Creek**

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Introduction

As part of the public participation process, Tentative Investigative Order No. R9-2014-0020 (Tentative Investigative Order) and the draft report titled “Phosphorus Total Daily Load for Loma Alta Slough, Oceanside, California (draft TMDL Report),” was made available for public review and comment on March 14, 2014. A public comment period for these documents ended on May 5, 2014. A public workshop was convened on April 24, 2014, prior to the close of the public comment period, to provide an additional opportunity for public participation. Written comments were received from the City of Oceanside, the City of Vista, and the Friends of Loma Alta Creek.

Based upon consideration of the comments received and discussions with the City of Oceanside and the United States Environmental Protection Agency (USEPA), the Tentative Investigative Order was withdrawn and replaced with a Tentative Resolution that calls for the impairment to be addressed via existing requirements of Order No. R9-2013-0001, a regional municipal separate storm sewer system (MS4) NPDES permit (Regional MS4 Permit).

Many comments focused on either the use of an Investigative Order to adopt the TMDL or on the proposed requirements of the tentative Investigative Order. Such comments are no longer applicable because an Investigative Order, nor adoption of the TMDL, are being proposed at this time. The response to the City of Oceanside’s Comment No. 1 provides a discussion on the purpose of the Tentative Resolution.

I. Comments Submitted by the City of Oceanside

The comment numbers listed below pertain to the numbering used on the City of Oceanside's comment table.

A. General Comments

Comment 1: The City appreciates Regional Board staff efforts in crafting a framework to measure progress towards restoring beneficial uses in the Loma Alta Slough. Additionally, the City agrees with the Regional Board's approach in implementing the existing MS4 Permit to address the eutrophication impairment. If implemented as proposed in the City's revised Investigative Order (IO) (Attachment 1), the IO has the potential to be a useful and effective assessment tool to measure the effectiveness of permit implementation as related to improvements to the eutrophication condition.

Response: *The Tentative Investigative Order has been withdrawn and replaced. with a Tentative Resolution that calls for the impairment to be addressed via existing requirements of Order No. R9-2013-0001, the municipal separate storm sewer system (MS4) NPDES permit (Regional MS4 Permit).*

As noted in the draft TMDL Report, the requirements of the Regional MS4 Permit, which the City is enrolled in, is the most effective and efficient regulatory mechanism to restore the beneficial uses of the Loma Alta Slough. Based on the City of Oceanside's (City) comment letter, we expect the monitoring plan proposed in the Tentative Investigative Order will be included in the City's proposed actions for the applicable Water Quality Improvement Plan submitted pursuant to the Regional MS4 Permit.

The Tentative Resolution explains that the existing requirements of the Regional MS4 Permit provides an efficient path toward the implementation actions and environmental outcomes than a traditional TMDL, and retains a high level of assurance that the actions will be taken in a reasonable time frame. The Tentative Resolution documents the San Diego Water Board commitment to restoring the impairment by resolving to the Public and USEPA by taking the following actions:

- 1. The Board approved 2015 Water Quality Improvement Plan and amendments, will be submitted to the USEPA. The 2015 Water Quality Improvement Plan will document the specific actions and time schedule identified by City to restore the beneficial uses of the Loma Alta Slough.*
- 2. The Board will re-initiate the TMDL process based on the Draft TMDL Staff Report and latest science if the City's actions do not produce results by 2023.*

The Resolution findings explain that through a stakeholder process numeric targets were selected and special studies were being conducted to develop the TMDL. Prior to finalizing the TMDL, the Regional MS4 Permit was adopted which prohibits the main source of impairment and establishes a process for correcting high priority water impairments, such as the Loma Alta Slough, through the development and implementation of the Water Quality Improvement Plan. Further, the City demonstrates its commitment to identifying sources and correcting them and estimates it can achieve the numeric goals by 2023, by its active participation in the stakeholder process (which selected the numeric targets and provided input into the special studies), and by its Comment Letter¹ on the Tentative Investigative Order.

Comment 2: The City proposes that the revised IO includes the following elements:

(1) A Slough monitoring component with macroalgae Numeric Goals consistent with the original tentative IO to track changes to the extent and severity of the impairment. These goals would be incorporated into the Water Quality Improvement Plan (Order R9-2013-0001 Provision B) and refined through the adaptive process if needed. The Water Quality Improvement Planning process will also requires the City to set interim numeric goals within the Permit term to measure short term progress towards attainment. Additionally, the Slough monitoring could be integrated with the future Monitoring and Assessment Program under the Water Quality Improvement Plan. Annual reporting timelines would be aligned to maximize efficiency.

(2) A defined schedule for the IO monitoring and final attainment of Numeric Goals, aligned with the WQIP and MS4 Permit cycle. This would include a Progress Evaluation aligned with the WQIP Interim Goals to assess the success of the City's strategies on addressing the eutrophication impairment to date. (3) Implementation plans and strategies from current and future MS4 Permit efforts. This references specific milestones of the Permit to create and implement programmatic changes such as the final Water Quality Improvement Plan, updated Jurisdictional Runoff Monitoring Program activities and MS4 source investigation work.

Response: The Tentative Resolution addresses these issues by finding that the Water Quality Improvement Plan required by the Regional MS4 Permit will provide an efficient and accountable path toward restoring the beneficial uses in the Slough.

¹ Comment Letter – Tentative Investigative Order No. R9-2014-0020, submitted by the City of Oceanside, dated May 5, 2014.

Comment 3: At this time, the City sees the TMDL as a redundant regulatory component where a more practical alternative exists to address the eutrophication impairment in Loma Alta Slough. The WQIP process, MS4 Permit discharge prohibitions, and the City's illicit discharge detection and elimination program are existing commitments which will identify and address controllable sources and activities contributing to the impairment. We suggest that a TMDL is not necessary, as the use of existing regulations to address a 303(d) water body is an excellent example of an alternative approach which aligns with the Practical Vision of the Regional Board, as well as USEPA's long-term vision for the 303(d) program. The USEPA's December 2013 Memorandum: "A New Long-Term Vision for Assessment, Restoration and Protection under the Clean Water Act Section 303(d) Program" details goals for alternatives to the traditional TMDL process, which considers other programmatic tools to address impaired waters (e.g. Category 4b listings, lowered TMDL priority and adaptive management scenarios). The Water Quality Improvement Plan and the City's jurisdictional programs, required under the Regional MS4 Permit, are appropriate implementation tools. A "clean" IO without reference to the TMDL, but with defined goals and milestones, offers the Regional Board and the City flexibility (as intended in the MS4

Response: *See the response to the City of Oceanside's Comment 1. We agree that the Regional MS4 Permit provides a more efficient regulatory process for ensuring implementation actions are conducted and environmental outcomes are achieved.*

Comment 4: The Investigative Order (I.O.) is not the type of action that qualifies as a "single regulatory action" through which a TMDL may be adopted. The legal authority to issue the I.O. is set forth in Water Code section 13267. Section 13267 applies when the Regional Board is "establishing or reviewing any water quality control plan or waste discharge requirements" or "in connection with any action relating to any plan or requirement." By its plain terms, "Water Code section 13267 is inapplicable at the TMDL stage...." (City of Arcadia v. State Water Resources Control Board (2006) 135 Cal.App.4th 1392, 1414.) An I.O. is a legal vehicle to require persons to furnish technical or monitoring program reports which the Regional Board requires. It is not a permit, a waiver, or an enforcement order that could serve as the "single regulatory action" through which a TMDL could be adopted, even if the other conditions required by the APA and the Impaired Waters Policy were satisfied. Adoption of the TMDL through the I.O. thus exceeds the legal authority found in Section 13267.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 5: By blending the adoption of a TMDL with the adoption of the I.O., the I.O. imposes or creates compliance requirements beyond the scope of Water Code section 13267. Water Code section 13267 may be enforced through Water Code section 13268 if required reports are not timely submitted. Submission of the required reports or information is the only compliance standard for Section 13267 orders. By adopting the TMDL, with its numeric targets, through the I.O., however, the Regional Board is conflating several separate actions into one vehicle that cannot legally support the combined actions, and, in the process, is confusing the manner in which compliance is to be achieved. To address this confusion, the Regional Board should not include adoption of the TMDL through the I.O. and should clarify that compliance with the I.O. is achieved by the submission of the documents required by the I.O. to the Board at the times required. The goals of the TMDL can be achieved through the proposal made by the City.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.

Comment 6: Adoption of the TMDL through the I.O will result in the adoption of a TMDL that must satisfy all the requirements of a TMDL, including the process by which the TMDL may be amended. Adoption of a TMDL in this way does not create an alternative to a TMDL or avoid the constraints imposed by a TMDL. Thus, the Regional Board staff's proposed approach is not a new approach to addressing an impairment; rather, it is simply a legally deficient short-cut to adopt a TMDL. Once adopted, the TMDL and its wasteload allocations become rigid and cannot flexibly be amended as the Board staff intends. Specifically, once adopted as a TMDL and approved by EPA, the TMDL must be incorporated into the Basin Plan during or before the next triennial review. ((33 U.S.C § 1313(d)(2) ("If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section."(Emphasis added)); Impaired Waters Policy, p. 9.)) Inclusion of the TMDL in the Basin Plan is required by federal law, and, contrary to the statements on page 42 of the TMDL, is not without regulatory effect. Federal law requires that TMDL be included in the Basin Plan in order to make sure that they have regulatory effect and are implemented by the States. The State Board has specifically Loma Alta Slough Investigative Order and Phosphorous TMDL acknowledged in its May 2001 report to EPA that "Federal law requires that TMDLs must be formally incorporated into the Basin Plan to be part of the basis for Regional Board actions." (Emphasis added.) Once in the Basin Plan, they can only be changed through a Basin Plan amendment, which would require State Board review. In addition, once adopted as a TMDL, the numeric targets and associated wasteload allocations become rigid and can only be revised in limited circumstances that require cumbersome administrative processes through EPA. (33 U.S.C § 1313(d)(4).) Any such revision would require re-approval of the TMDL by EPA, which could only be provided if strict criteria were to be established. (33 U.S.C § 1313(d)(2) and (4); Aug. 2, 2006 Memorandum from Benita Best-Wong to Water Division Directors (noting that revision of loading capacity, wasteload and load allocations require re-approval by EPA).) Adopting the TMDL through the I.O. will thus not result in a new, flexible approach that will allow for timely revisions based on the developing science. Rather, it will result in the same old approach that has proven so cumbersome and difficult to implement. In contrast, the City's proposed approach is new and flexible, while remaining consistent with state and federal standards. The City's approach is consistent with recent EPA policy regarding TMDLs, which recognize that listed impairments can be given lower priority when they impairment is being addressed by existing regulatory requirements, and also could be accommodated, is needed, through the Category 4b process.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.

Comment 7: Before adopting the TMDL, the Regional Board must comply with Health & Safety Code section 57004. Section 57004 provides that the Regional Board must not take any action to adopt the final version of a “rule” unless the Board has submitted the scientific portions of the proposed rule to external scientific peer review, has received a written report that contains an evaluation of the scientific basis of the proposed rule and has assessed and responded to that written report. Adoption of a TMDL falls within the definition of a “rule” set forth in Section 57004(a)(1). Because the TMDL has not been the subject of peer review, no written report that contains an evaluation of the scientific basis of the proposed rule exists and the Regional Board has not assessed and responded to the written report. Adoption of the TMDL would thus violate Health & Safety Code section 57004. The TMDL Report asserts on page 43 that this TMDL “does not require a scientific peer review because no rulemaking is occurring to adopt or implement it.” This statement is inconsistent with the law and the facts. However it is originally adopted, a TMDL, once adopted and approved by EPA, must be included in the Basin Plan and will by definition apply to all dischargers subject to the TMDL, which here include all “NPDES permits and WDRs.” (33 U.S.C § 1313(d)(2) (“If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section.”)(Emphasis added)).) In fact, the State Board has specifically acknowledged in its May 2001 report to EPA that “Federal law requires that TMDLs must be formally incorporated into the Basin Plan to be part of the basis for Regional Board actions.” (Emphasis added.) The TMDL is therefore a rulemaking. By definition, all TMDLs implement an existing standard (i.e., the applicable water quality standard that is not being met), so the TMDL’s claim on page 43 that peer review is not required because the “TMDL implements an existing standard and relies on existing requirements for implementation” is erroneous. It is the key scientific basis for the unique numeric targets in the TMDL that must be subjected to peer review, and which the Regional Board cannot adopt in the form of a TMDL until that review occurs.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside’s Comment 1.

Comment 8: As presented throughout the stakeholder process, the City is concerned that the impairment in the Slough is caused by a combination of point and nonpoint sources of nutrients. The City is required to address the point sources of non-stormwater entering its MS4 and effectively prohibit those that are not allowed under the MS4 Permit. Many of these sources are truly controllable under the City’s authority. The City agrees that this will be effective in addressing nutrient loading to Loma Alta Slough. Also under the MS4 Permit, the City is required to address sources of groundwater that are found to be “contaminated” and therefore potentially contributing to the impairment in the Slough. However, potential implementation actions to address groundwater as a source may be challenging and costly and loads may take many years to dissipate. These sources may not be “controllable” at this time. With this understanding, the City will develop and implement strategies and programs aimed at eliminating those controllable sources of non-stormwater flows entering its MS4. In performing source investigations, the locations of non-point sources of nutrients will also be identified. Concurrent with implementation, the City will perform assessment monitoring in the Slough to evaluate changes in the impairment condition. Throughout the process, adaptive management will be critical to incorporate the latest science and any new information. There are also periodic regulatory check points, providing opportunity for the stakeholders and Regional Board to adapt their approach. Many of the comments below specifically address the groundwater concerns voiced by the City. The City feels that they have addressed these concerns appropriately in the redline/strikeout of the Tentative Investigative Order provided as Attachment 1 to the comment letter.

Response: Comment noted. San Diego Water Board staff will be available to help the City craft a robust and defensible investigation to determine the contribution of nutrient loading to the MS4 via groundwater.

Comment 9: The City understands that multiple State and Regional Board permits and programs address dischargers other than the City in the Loma Alta watershed (City of Vista, County of San Diego, North County Transit District, Caltrans). We support the responsibility of the City in fulfilling the requirements of a revised Investigative Order as proposed in Attachment 1. However, if the Regional Board chooses to move forward with the current TMDL approach, other responsible parties with discharge potential must be included in the Investigative Order/TMDL. There are specific comments included below pertaining to the inclusion of all stakeholders in the Investigative Order and TMDL.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.

Comment 10: The hydrology in Loma Alta Slough plays an important role in the eutrophication impairment. Loma Alta Slough is a bar built estuary wherein the mouth of the Slough is closed the majority of the year due to natural sand migration. The City does not force the closure of the Slough. There are multiple references in the Tentative Order and in the TMDL Staff Report that incorrectly characterize the City's actions with respect to management of the mouth of the Slough. Specifics are included below and should be addressed in all instances.

Response: The draft TMDL Staff Report has been revised to more clearly present the current understanding of this issue. Regardless of whether or not the City opens or closes the mouth of the Loma Alta Slough, the operation of the Loma Alta Creek Ultraviolet Facility does require the manipulation of the water level within the Slough.

Comment 11: The City is actively conducting routine outfall investigations to identify controllable sources of non-storm water discharge from the City MS4 to Loma Alta Creek. These efforts will lead to the identification of both anthropogenic point source discharges, as well as non-point source discharges into the City MS4. Information gathered through this process will lead to more intensive monitoring at problem outfalls with persistent discharges. Focus on priority drainage areas and incorporation of monitoring information into the WQIP process will refine source reduction and elimination strategies. This requirement of the MS4 Permit will lead to the identification of controllable sources of flow and/or nutrients to the Loma Alta Slough and reasonable strategies to reduce or eliminate such discharges.

Response: Comment noted.

Comment 12: In order to maintain compliance with the current 2013 Regional MS4 Permit, the City is currently working to add language to its ordinance which specifically prohibits residential over-irrigation runoff and the pumping of groundwater to the City MS4 (unless conditionally approved by the State). Prohibiting over-irrigation runoff and pumped groundwater discharge without conditional approval are new requirements under the current 2013 Regional MS4 Permit and were not required under the 2007 Regional MS4 Permit.

Response: Comment noted. We note that the plain language of the City's existing Ordinance No. 10-OR0412-1 appears to prohibit over-irrigation water from discharging to the MS4.

Comment 13: The City is currently inspecting residential areas with a focus on identifying and eliminating over-irrigation runoff and pumping of groundwater to City MS4. Conducting inspections of residential areas is a new requirement under the current 2013 Regional MS4 Permit and was not required under the 2007 Regional MS4 Permit.

Response: Comment noted.

Comment 14: The current 2013 Regional MS4 Permit allows for different types of inspections. Therefore, the City has increased inspection frequency of high priority industrial, commercial, and municipal facilities in the Loma Alta watershed. In general, the City first conducts an on-site, in-person inspection. Then, City inspectors increase inspection frequency of the facility throughout the year by conducting a series of drive-by inspections. Drive-by inspections often focus on identifying non-stormwater discharges for elimination including over-irrigation runoff. Different inspection types were not allowed under the 2007 Regional MS4 Permit.

Response: Comment noted.

Comment 15: The City is currently inspecting the equipment and best management practices (BMPs) of mobile businesses which deal with water. Mobile Businesses which deal with water must pass a stormwater inspection upon original issuance or renewal of City business license. Mobile business inspections are not a requirement under the current 2013 Regional MS4 Permit.

Response: Comment noted.

Comment 16: The City is working towards identifying high priority drainage areas within the Loma Alta watershed and will increase the frequency of surveys, observations, and investigations in these areas.

Response: Comment noted.

Comment 17: Areas to target education outreach will be prioritized based on data and information gathered via the inspection program and the monitoring source assessment program. Target audiences (i.e. commercial, industrial, residential) will be identified in these prioritized areas in order to develop effective outreach programs that will result in behavior change to prevent runoff that may contribute to the impairment in the Slough.

Response: Comment noted.

Comment 18: In order to provide consistency with the MS4 Permit, specifically the development and implementation of the Water Quality Improvement Plan, references to "numeric targets" should be substituted with "numeric goals" in all cases. Appropriate modifications are included in the redline/strikeout provided as Attachment 1 to the comment letter.

Response: To provide consistency with section 303(d) of the Clean Water Act the term numeric targets presented in the draft TMDL Staff Report will not be changed to numeric goals. As stated in the Comment Letter, the City has committed to using the numeric targets presented in the draft TMDL Staff Report as numeric goals in the Water Quality Improvement Plan.

Comment 19: The decision to focus solely on phosphorous as the limiting nutrient in the Slough may not be the most effective means to solve the eutrophication impairment in the Slough. There are factors discussed in McLaughlin et al. (2011), aside from Figure 4.2 on page 60 (elaborating on the nutrient status of the Slough as measured from transect data in 2008) which suggests that both N and P loads from the watershed should be controlled. Negative residuals in Phosphorous budgets calculated by McLaughlin et al. (2011), as described in the report, may indicate that external P loads "are not sufficient to support the high biomass observed" and that internal recycling may play a significant part in maintaining the algal biomass seen during the summer months. Additionally, it's a commonly accepted phenomenon that decreasing salinity in estuarine environments (becoming exceedingly freshwater) during closure periods allows for greater binding of P into sediments with elevated Fe content, which can be recycled into the water column via decomposition of sediment organic matter. The microbial loop may also play a part in the recycling of deficit P in the Slough during the closed inlet period, as noted in the report. This discussion should also investigate relevant peer-reviewed literature focused on the need to control not just P, but also N inputs in estuaries, especially due to the complex physical and biogeochemical process observed in dynamic subtidal environments such as Loma Alta Slough. A review by Howarth and Marino (2006) provides a good starting point for this discussion, as it summarizes results from relevant studies over the past 30 years in a variety of environments where N controls biomass, regardless of P values. [Howarth, R.W., Marino, R. (2006). Nitrogen as the limiting nutrient for eutrophication in coastal marine ecosystems: Evolving views over three decades. *Limnol. Oceanogr.* 51:1, part2, pp364-376] The City recommends revisions to the Investigative Order to reference "nutrients" as opposed to only phosphorous, consistent with the redline/strikeout submitted as Attachment 1 to the comment letter.

Response: The decision to focus on phosphorous as the limiting factor is consistent with the results of the site-specific Slough modeling conducted by Coastal Management Associates and studies conducted by McLaughlin et al. (2011). It is important to note that nitrogen and phosphorous co-occur in NPDES non-storm water discharges from the MS4. This is well documented in non-storm water MS4 discharge monitoring, especially for over-irrigation flows.

A discussion of nutrient cycling is not needed at this time in the Draft TMDL Staff Report, as internal dry weather cycling of nutrients is driven by eutrophic conditions whose origin has been identified as the watershed during summer closure periods. Should further work be done on the Slough to determine how reductions in watershed loading might impact internal cycling of phosphorous, changes may be made to the Draft TMDL Staff Report. It should also be noted that modification of Slough management practices could also result in a Slough that is not freshwater dominated.

B. Comments on the Tentative Investigative Order That Was Released with the Draft TMDL in March 2014

Comment 20 – Tentative Investigative Order Finding 2: The purpose of Order section should reflect the intrinsic character of CWC Sec. 13267 for investigative monitoring reports (to "furnish technical monitoring reports") and should be revised to provide direction to answering the Slough Monitoring Program study questions. The City suggests that the finding be revised consistent with the redline/strikeout provided as Attachment 1 to the comment letter.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 21 – Tentative Investigative Order Findings 2 & 4: The reference of the 1996 303(d) listing for bacteria should be removed. The Tentative IO and associated TMDL is focused solely on assessing effects of reduced nutrient loads to Loma Alta Slough. Recommend revision consistent with redline/strikeout provided by the City (Attachment 1 to the comment letter).

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 22 – Tentative Investigative Order Finding 10: There is no mention here of the lands held by North County Transit District (NCTD) and Caltrans along the Loma Alta Corridor. Neither is referenced in the Tentative I.O. NCTD owns and is responsible for addressing flows from numerous private storm drain outfalls, transit stations and landscaped areas which could be considered potential sources. The NCTD Sprinter corridor along Loma Alta Creek contains multiple storm drain outfalls draining directly to Loma Alta Creek, which are inaccessible for City staff to monitor due to right-of-way restrictions. There are also NCTD-managed habitat mitigation areas near the El Camino Real detention basin which may be using irrigation for re-vegetation efforts. If the Regional Board continues with the approach in the Tentative Order, NCTD should be included in this discussion.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1. However, staff understands that the City can make arrangements with NCTD to inspect the storm drains that convey water from the City's MS4 system to Loma Alta Creek and Slough.*

Comment 23 – Tentative Investigative Order Finding 11: It should be emphasized that Loma Alta Slough is an intermittently and seasonally subtidal estuary. "Coastal estuarine wetland" is too broad of a term and has implications for the methods from which the algal numeric targets were derived. Recommend revision consistent with redline/strikeout provided by the City (Attachment 1 to the comment letter).

Response: The San Diego Water Board chose to use the term “Coastal estuarine wetland” because the Loma Alta Slough’s present state is a highly modified and managed system. This generality allows for relevancy to persist for any potential future actions by the City of Oceanside or others to modify the Slough, such as changing the management practices of the Slough and/or conducting in-Slough habitat restoration.

Comment 24 – Findings 6 & 9: The I.O. is not a “single regulatory action” through which the TMDL may be adopted. The State Board’s “Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options” (“Impaired Waters Policy”), as well as the State’s Continuing Planning Process, presumes that TMDLs will be adopted through a Basin Plan Amendment. (See Impaired Waters Policy, p. 1 (“it is anticipated that the majority of TMDLs will be established through an implementation plan adopted as a Basin Plan amendment.”); see also, Report in Support of U.S. Environmental Protection Agency’s Review of California’s Continuing Planning Process, State Water Resources Control Board (May 2001), pp. 31-33 (noting that “TMDLs are generally adopted by the State and Regional Boards as Basin Plan amendments” and that “Federal law requires that TMDLs must be formally incorporated into the Basin Plan to be part of the basis for Regional Board actions.”).) In very limited circumstances, TMDLs may be adopted through a “single regulatory action.” A ‘single regulatory action’ is an action in which all “persons subject to regulations have the opportunity to participate in the process during which the assumptions underlying an implementation plan are derived.” If the TMDL will apply to persons who are not a party to the action, adoption of the TMDL without a Basin Plan amendment would constitute “underground regulation” in violation of California’s Administrative Procedures Act because it would subject persons “to subsequent requirements based upon assumptions determined in a previous proceeding to which they were not a “party.” Here, the I.O. only applies to the City of Oceanside. However, as the TMDL Report demonstrates, the TMDL will apply to other parties in the future, including the County of San Diego, the City of Vista, the North County Transit District, Caltrans and a large number of other point and non-point sources. In fact, the wasteload allocation in the TMDL is assigned to “NPDES permits and WDRs”, unequivocally illustrating that the TMDL will apply to multiple parties that are not part of this proceeding. (TMDL, p. 35.) As these other entities are not parties to the I.O., the I.O. is not and cannot be a “single regulatory action” through which the TMDL may be adopted. The key consideration is not that the I.O. and the TMDL can be efficiently adopted through one vote of the Regional Board; the key consideration is that the TMDL will and must in the future apply to non-parties to the I.O. and therefore must be adopted as a Basin Plan Amendment as required by the Impaired Waters Policy and the State’s Continuing Planning Process. While it may be efficient for the Regional Board to adopt the TMDL through the I.O., that action is not consistent with the APA or State Board policy.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside’s Comment 1.

Comment 25 – Tentative Investigative Order Finding 12: Please provide reference to the study cited in which eutrophication was confirmed.

Response: The eutrophic conditions were confirmed during monitoring activities conducted by the Southern California Coastal Water Research Project (SCCWRP) in 2008. The findings were presented in the report titled “Eutrophication and Nutrient Cycling in Loma Alta Slough, Oceanside, California,” prepared by SCCWRP, dated December 2011. One of the findings of this study was that Loma Alta Slough is highly disturbed with respect to eutrophication.

The monitoring program also found chronic hypoxia (dissolved oxygen (DO) < 2 mg l-1) conditions upstream of the railroad Bridge occurred almost immediately with the closure of the Slough ocean inlet and endured throughout early fall until the Slough was opened in preparation for the storm season. Macroalgal biomass dominated the aquatic primary producers during closed Slough conditions during the summer and fall index periods, with 100% cover in the summer and fall and extremely high biomass (~350 g C m-2) during the summer.

Comment 26 – Tentative Investigative Order Finding 12: For consistency with Comment #19: "Loading of nutrients, specifically phosphorous, into the Slough associated with dry weather flows results in excessive algal growth during the summer months.

Response: The Findings in the Tentative Resolution and the revised draft TMDL Report address this comment.

Comment 27: Tentative Investigative Order Finding 13: The berm closes naturally due to sand accretion at the beach. Recommend revision consistent with redline/strikeout provided by the City.

Response: See response to the City of Oceanside's Comment 10.

Comment 28 – Tentative Investigative Order Finding 14: With respect to the impairment of non-contact recreation beneficial use from macroalgae, only one applicable study is cited in an October 2011 memo from SCCRWP to the Regional Board, and in SCCWRP/CMA (2013), which elaborates on the selection of numeric targets (p.104) for percent cover. This study [Supplee et al. (2009)] provided information from a public survey in lotic streams of Montana to estimate the percent coverage at which recreation becomes undesirable. It is questionable to substitute results from this study to a lentic environment on the coast with different shared recreational uses and beneficial uses other than REC-2.

Response: The percent cover used was agreed to by the stakeholder group, which included the City. The stakeholder group evaluated the research regarding REC-2 and algal cover, in addition to impacts to other beneficial uses.

Comment 29 – Tentative Investigative Order Table 1: The numeric targets for macroalgal biomass and cover were selected based on the best available science; however, there are some shortfalls with the science at this time. While studies like the European Union Water Framework Directive [Scanlan et al. 2007] were used to derive values for this project, the targets were converted from data collected from estuaries across multiple geographic locations in Europe with variable estuary types (intertidal vs. subtidal). As noted in Sutula (2011) ["Review of Indicators for Development of Nutrient Numeric Endpoints in California Estuaries. Southern California Coastal Water Research Project Technical Report No. 646. December 2011".] the Scanlan study did not clearly specify the geographic scope of specific thresholds for macroalgal biomass and percent cover. It is our understanding that the more recent work by Sutula et al. (2014, in press) has expanded the confidence of extrapolating threshold effects of macroalgae growth across California intertidal estuaries. We understand that the numeric targets were chosen based on the best science available at the time of drafting the TMDL Staff Report and Investigative Order. However, given that Loma Alta Slough is a subtidal, intermittently closed estuary, we recommend that the numeric targets are revised to "numeric goals" and are subject to adaptation as new information becomes available. Numeric goals and the incorporation of the adaptive management process is consistent with requirements of the Water Quality Improvement Plan in Provision B of the Regional MS4 Permit.

Response: *To provide consistency with section 303(d) of the Clean Water Act the term numeric targets will not be changed to numeric goals. A section has been added to the implementation plan in the revised draft TMDL Report describing how modifications may be made to the numeric targets and schedule if supported by the science and/or the results of special studies conducted by the City.*

Comment 30 – Tentative Investigative Order Findings 16 & 17: If this section is to remain, change "dry weather MS4 discharge" to "non-storm water discharge" Loma Alta Slough Investigative Order and Phosphorous TMDL for consistency with the MS4 Permit. Both findings include language stating that the primary source of pollutants affecting the eutrophic conditions and causing the impairment in the slough is the City's MS4. However, this has not been proven and the purpose of the IO is to find and eliminate the primary sources of pollutants causing the impairment. To our knowledge no other intensive studies other than those presented in the staff report have proven that the majority of phosphorous loading is from the City MS4. Ambient concentrations of P in perennial creek flows upstream of the MES may also be a source. Watershed monitoring by the City in 2010-2011 showed ambient creek water values of P >0.2mg/L when averaged above and below the mass emission station. Additionally, there is no discussion on the natural flow status of the creek; there is variable perennial flow from natural tributaries and springs (notably Garrison Creek) throughout the year that provides base flows in addition to those contributions from MS4 discharges. The language should be revised consistent with the redline/strikeout provided as Attachment 1 to the comment letter.

Response: *The San Diego Water Board has not received any data from the City or any other interested parties sufficient to show that other discharges, including groundwater, are the primary source of phosphorous loading in the watershed and/or to the Slough. The San Diego Water Board has not been provided any data to show what flows within the creek during summer closure periods constitute "natural" flows vs. flows of an anthropogenic nature. The City is encouraged to conduct creek flow source identification, such as using stable isotopes, to better understand watershed hydrodynamics. These studies should be included in the Water Quality Improvement Plan.*

Comment 31 - Tentative Investigative Order Finding 17: The last sentence needs to be revised: "The Regional MS4 Permit requires the City to identify and eliminate controllable and illicit dry-weather sources of total phosphorus non-storm water flows discharging into the City's MS4 and from the MS4 to Loma Alta Slough and its tributary waters"

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 32 – Tentative Investigative Order Finding 18: "Because the City's MS4 System is the primary source of pollutants affecting the eutrophic conditions, it is appropriate for the City to conduct the assessments" If the Regional Board continues with the approach in the Tentative Order, the statement should be revised to include mention of NCTD, Caltrans, the County of San Diego, and the City of Vista.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 33 – Tentative Investigative Order Finding 19: Consistent with Comment #24, the City would prefer that Finding 19 be deleted in its entirety. Should the Finding remain, the reference to the MS4 Permit should be revised as follows: "Existing MS4 Permit requirements include adequate prohibitions and limitations needed to meet the numeric target..."

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 34 – Tentative Investigative Order Finding 20: Although the Regional Board is exempt from certain aspects of CEQA compliance pursuant to its status as a certified regulatory program, the Regional Board remains subject to all of those aspects of CEQA outside the scope of the exemption for certified regulatory programs, including CEQA's policy goals and substantive standards. (San Joaquin River Exch. Contractors Water Auth. v. SWRCB (2010) 183 Cal.App.4th 1110, 1125; City of Arcadia v. SWRCB (2006) 135 Cal.App.4th 1392, 1422.) As these cited cases illustrate, adoption of a TMDL typically requires the preparation of a substitute environmental review document because implementation of a TMDL almost always requires activities that may have environmental impacts. Here, there is more than a reasonable possibility that the TMDL and its implementation could have environmental impacts. For example, as suggested in the TMDL, the City could implement the TMDL through restoration projects that could have both short-term and long-term impacts from construction activities and work within the Slough. As also noted in the TMDL, compliance with the TMDL may result in increased bacteria loading at the beach that could have environmental impacts. Thus, the TMDL could have impacts on air quality, biological resources, transportation/traffic, greenhouse gas emissions and cumulative impacts, among others. Neither Class 8 nor Class 21 exemptions apply to the adoption of a TMDL. While the TMDL is intended to address the eutrophication in the Slough, its implementation may have other environmental impacts that must be assessed. Similarly, the TMDL establishes new numeric targets and is not merely an action to enforce a law, general rule, standard or objective. If the Regional Board intends to adopt the TMDL, it must do so in compliance with CEQA and prepare a substitute environmental review document.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.

Comment 35 - Tentative Investigative Order Finding 23: As set forth in Finding 1, the regulatory authority for the I.O. is Water Code section 13267. The remedy for a failure to submit the technical or monitoring reports required by an I.O. issued pursuant to Water Code section 13267 is an enforcement action under Water Code section 13268. Section 13268 does not include a cost recovery provision. Water Code section 13304 and 13365 have no application to Section 13267 or to the I.O. under consideration by the Regional Board. Therefore, all references to cost recovery and to Sections 13304 and 13267 must be deleted from the I.O. Consistent with Finding 1, the regulatory authority for the I.O. is Water Code section 13267.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.

Comment 36 – Tentative Investigative Order Finding 24: The Investigative Order needs to provide clarification on what constitutes compliance. In meetings with Regional Board staff, it has been agreed that compliance with the Investigative Order will be gained through the development and submittal of required plans and reports and through performance of the required monitoring. Recommend revision to the Investigative Order consistent with the redline/strikeout provided by the City (Attachment 1 to the comment letter). The suggested revisions are provided in Section 5 of the redline of the Tentative Order (Section 4 of the Tentative Order). As asserted in Finding 24 of the Tentative Order, compliance related to implementation actions will be addressed via the Regional MS4 Permit.

Response: This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.

Comment 37 – Tentative Investigative Order Sections 1.a and 11.1.2: Monitoring questions should be consistent. See City's proposed redline/strikeout included as Attachment 1 to the comment letter for specific recommended revisions.

Response: See response to the City of Oceanside's Comment 1.

C. Comments on the draft TMDL Report (March 2014)

Comment 38 - TMDL Staff Report Executive Summary: The numeric target for macroalgal biomass is listed as 90 grams dry weight per square meter. The Tentative IO and Staff Report list the target volumetrically in cubic meters. Please correct.

Response: The requested modification has been made.

Comment 39 - TMDL Staff Report Section 1: Suggest revised text: "The impairment is limited to the summer-dry weather season when natural and anthropogenic activities sand accretion at the ocean inlet restricts the mixing of freshwater and saltwater/ocean water..."

Response: See response to the City of Oceanside's Comment 10.

Comment 40 - TMDL Staff Report Section 1: "The implementation plan to achieve the TMDL is for the City of Oceanside (City) to comply with existing permits that prohibit the discharge of non-storm water and illicit discharges into the City's municipal separate storm sewer system (MS4)." Other stakeholders should be referenced here, as in the Tentative I.O.

Response: *Comment noted. The revised draft TMDL Report identifies multiple potential dischargers of Phosphorus in the implementation plan section.*

Comment 41 - TMDL Staff Report Section 3.1: An explanation should be included in this section which describes how the delineation / extent of the Slough was determined (e.g., the extent of tidal influence during open berm periods, observed limits of eutrophic conditions). This has implications for the extent of the problem and therefore which areas should be monitored under the Investigative Order. Additionally, a more thorough description of the current and historical land uses surrounding the Slough and upstream watershed.

Response: *The delineation (i.e., extent/location) of the Loma Alta Slough is consistent with that used in the report titled Watershed Loading, Hydrodynamic, and Water Quality Modeling in Support of the Loma Alta Slough Bacteria (modeling report). The use of this consistent delineation allows for a direct use of the findings from the modeling report. Because the draft TMDL Staff Report is specific to Loma Alta Slough under current conditions an appropriate level of description of the current and historic land uses adjacent and upstream is already included.*

Comment 42 - TMDL Staff Report Figure 3: This section of Loma Alta Creek, according to the description in Section 3.1, is within the Slough boundary. Revise caption as necessary.

Response: *The requested modification has been made.*

Comment 43 - TMDL Staff Report Section 3.1: "The City constructs a During the summer months, a berm naturally forms across the Slough and the City operates the Loma Alta Slough Ultraviolet Treatment Facility (FETD) during the summer months to maintain a constant water level in the Slough." prevent water with high indicator bacteria from discharging to Buccaneer Beach and the Ocean."

Response: *See response to City of Oceanside's Comment 10.*

Comment 44 - TMDL Staff Report Section 3.2: NCTD is mentioned in this section, "which has right-of-ways and rail facilities adjacent to Loma Alta Creek and other facilities that cross the Slough." Why are separate stakeholders mentioned here in the Staff Report and not in the Tentative Investigative Order?

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 45 - TMDL Staff Report Section 4.1: This section incorrectly assumes that the majority of dry weather watershed flows are solely from MS4 discharges and that perennial flows from inputs upstream are nonexistent. Also, remove the mention of the City's construction of the sand berm, which occurs naturally (see comment #10 above). A citation(s) should be included for the statement "A healthy aquatic habitat cannot be supported when dissolved oxygen is reduced to below 2 milligrams per liter (mg/l), a condition called hypoxia."

Response: See response to City of Oceanside’s Comment 30 regarding data for identification of perennial flows as “natural” vs. anthropogenic. Please see response to Comment #10 for a discussion on the sand berm and clarifications made. Citations have been included regarding hypoxia. It is important to also note that the San Diego Water Board Basin Plan states:

“Adequate dissolved oxygen levels are vital for aquatic life. Depression of dissolved oxygen levels can lead to fish kills and odors resulting from anaerobic decomposition. Dissolved oxygen content in water is a function of water temperature and salinity. Water Quality Objective for Dissolved Oxygen: Dissolved oxygen levels shall not be less than 5.0 mg/l in inland surface waters with designated MAR or WARM beneficial uses or less than 6.0 mg/l in waters with designated COLD beneficial uses.”

Comment 46 - TMDL Staff Report Section 4.1: Statement describing the impairment should acknowledge that the restriction of tidal flushing occurs naturally. Recommend revised sentence to read: "Eutrophication in the Slough is the result of the restriction of tidal flushing caused by natural sand accretion processes at the mouth of the Slough..."

Response: An acknowledgement of the natural processes that causes restriction of tidal flushing has been added to Section 4.1.

Comment 47 - TMDL Staff Report Section 4.2: First paragraph should be under separate heading for impairment of WILD, EST, RARE, MAR beneficial uses.

Response: The requested change will not be made because the first paragraph provided a description of the REC-1 and REC-2 beneficial uses of the Loma Alta Slough.

Comment 48 - TMDL Staff Report Section 4.3: See comment #19 for addressing P as the causative pollutant in this section. Additionally, suggested text revision for the following: "and the natural closing the mouth of the Slough by the City are the driving components in the eutrophication of the Slough"

Response: See response to City of Oceanside’s Comments 10 and 19.

Comment 49 - TMDL Staff Report Section 4.3: The reference of bacteria in the first and last sentences in this paragraph should be removed as the I.O. and TMDL were developed to address the eutrophication impairment in the Slough. The "management plan" of the City closing the berm should also be changed as previously noted. The Loma Alta Slough Investigative Order and Phosphorous TMDL Slough closes naturally during the summer months.

Response: See response to City of Oceanside’s Comments 1 and 10.

Comment 50 - TMDL Staff Report Section 5.1: Please provide further clarification with respect to the TMDL calculation which is driving the waste load and load allocations for P into the Slough. After reviewing McLaughlin et al. (2011), and MACTEC (2009) which summarized the lagoon I.O. work, it appears that the value used to calculate P loading into the Slough was derived solely from one index period in July 2008 at the mass emission station. There needs to be clarification where this value came from, especially for what bin of P it represents (SRP, Total P, Dissolved P...). The value of 0.02 mg/L P appears to have come from Table 4-56 in MACTEC (2009); which shows the average P concentrations of six dry weather sampling events across the first two weeks of July 2008. Time-weighted composites were collected across a 30-min interval on each of the six days. These data were collected at the Mass Emission Station (MES), upstream of the major tributary confluence described in Tetra Tech (2013). Please verify if this is the case. Nutrient loading from this tributary and separate downstream sources were noteworthy as described in Tetra Tech (2013). Use of the MES data was limited in scope, did not account for downstream tributary sources, and only represented a subset of the critical loading period. It remains unclear why this value was used, rather than a modeled value for the upstream segment simulated across the entire critical period. Additionally, due to discrepancies observed in the 2008 MES flow data which arose during the modeling effort, flow data were recollected in 2011 to resolve differences between observed data and the calibrated model. From July to August 2011, the flow maintained a rough mean of 0.55cfs, which is reported on p.39 of SCCRWP/CMA (2013) and is used in the TMDL calculation in this section. The methodology behind using averaged P concentration from the MES in July 2008, coupled with new flow values from August 2011, brings the results of the TMDL calculation into question. The use of these two values from very brief and different time periods poses implications for the validity of the calculated reduction and maximum load values., as inputs below the MES could be assisting the cumulative nutrient loading into the Slough (see Tetra Tech 2013).

Response: *The TMDL calculation utilizes the same flow and nutrient data that was utilized in the modeling report, including required reduction calculations to meet macroalgal numeric targets. The use of these flow values and concentrations was agreed to by the stakeholder group during the stakeholder process, and the resultant model displayed good accuracy and fit for macroalgae. In regards to inputs from below the MES, the Tetra Tech 2013 report found no evidence of cumulative nutrient loading below the MES as having an impact on the Slough:*

“The total phosphorus inputs, the limiting nutrient in the Slough, from the MS4 and ground water (below the MES) appear to be minimal (in fact, they are an order of magnitude less than loads present at the MES). Loads at the downstream station and loads at the MES are similar.”

Comment 51 - TMDL Staff Report Section 5.1: There needs to be a focus on both nitrogen and phosphorous inputs. There should be a reference to a study, report, or article here showing the reasoning behind selecting P as the focus of the TMDL.

Response: *See response to the City of Oceanside’s Comment 19.*

Comment 52 - TMDL Staff Report Section 5.2.1: To more accurately reflect the natural processes at the mouth of the Slough, the City recommend revision to read: "The hydrological status of the Slough is variable and dependent upon precipitation events and the status, both natural and from the actions of the City, of the sand berm at the beach"

Response: *See response to City of Oceanside’s Comment 10.*

Comment 53 - TMDL Staff Report Section 5.2.2: See comment #29 above regarding the discussion of macroalgae numeric targets. The "reference condition" for subtidal estuaries such as Loma Alta is still being researched. Numeric adverse effect thresholds have been converted from intertidal environments. The order and staff report should provide for flexibility in these target values depending on the results of the reference condition thresholds for subtidal estuaries through adaptive management protocols as prescribed under the Regional MS4 Permit.

Response: *Comment noted. The Water Board will evaluate future proposals to revise the numeric goals and targets based on future scientific analyses within the context of the Water Quality Improvement Plans or re-initiated TMDL.*

Comment 54 - TMDL Staff Report Section 5.2.2: "...This condition was evident in the Slough during the summer of 2008, when some of the highest algal biomass levels found in the Southern California Bight were recorded in the Slough while surface water nutrient concentrations generally met the Basin Plan's numeric interpretation..." The eutrophication may not be entirely attributed to loading from surface water; the impairment may be related to the bio-degradation of organic materials present in the slough.

Response: *The San Diego Water Board does not disagree that nutrient cycling within the Slough may contribute to eutrophication during the summer dry season. However, the source of nutrients during this time period is from watershed loading during the summer dry period. As described in section 7.1 of the draft TMDL Report, previous monitoring found wet weather organic materials were not a source of nutrients for the impairment. The required reduction in watershed loading of over 96% during the summer dry period shows that the mass load from the watershed is significant, despite the low concentrations. Further discussion can be found in section 7.1 of the Draft TMDL Staff Report. Future work on internal dry season nutrient cycling following reductions in watershed loading may be incorporated into the draft TMDL Staff Report.*

The December 2011 SCCWRP Report concluded that the bio-degradation of organic materials present in the slough does not contribute to the impairment for the following reasons:

- *“The contribution of benthic P was significant only during the spring and fall periods. During the summer, sediments took up P, so terrestrial loads provided the majority of P supporting macroalgal biomass. A deficit in the P budget residual indicates that external loads are not sufficient to support the high biomass observed. It is likely that internal recycling of P through the microbial loop plays an important part of maintaining high primary producer biomass within the Slough. “*
- *“Despite the high biomass and chronic hypoxia, the straight channel and fluvial hydrology of Loma Alta Slough, a river mouth estuary, lends itself toward scouring of sediments during storm events and effectively prevents the interannual accumulation of organic matter that can occur in more*

depositional environments (such as lagoons) after the growing season. This self-cleansing function thus resetting the eutrophication “clock” each storm season, making the system less susceptible to eutrophication. Sediment oxygen demand, as measured by benthic dissolved oxygen fluxes, was generally low during all periods of the year. Benthic contributions of N and P were likewise low and small relative to terrestrial runoff.”

Comment 55 TMDL Staff Report Section 5.2.3: Suggested text insertion: "There should be no loading of phosphorus from the City or other responsible agency's MS4 into the Slough during the summer dry season, and therefore the reductions would be required regardless of the selected numeric targets."

Response: The statement is consistent with the requirements of the Regional MS4 permit and will not be changed.

Comment 56 - TMDL Staff Report Section 6.1: "More recent inspections conducted by the San Diego Water Board also have confirmed dry season discharges of nutrient-enriched flows in the City's MS4 (San Diego Water Board, August 2, 2013)." The City should be provided the analytical results from samples collected during the "MS4 Audit" performed by RWQCB staff in August 2013.

Response: The inspection report was provided to the City on August 7, 2013 with the request that the City follow up on the sampled discharge.

Comment 57 - TMDL Staff Report Section 6.1: Caltrans is noted here in the TMDL Staff Report as a potential contributor, but not in the Tentative I.O. The same is to be said for NCTD.

Response: See response to City of Oceanside's Comment 1.

Comment 58 - TMDL Staff Report Section 6.2: "Order No. R9-2013-0001 requires the City to address groundwater infiltration into the MS4 system if it is determined to be a source of pollutants to the receiving water. To date, no source analysis for suspected groundwater discharges has been conducted near the Slough or upstream of the mass loading station" There have been investigations in the L108 tributary drainage for sources of groundwater (Tetra Tech 2013) as well as upstream at the Loma Alta Creek headwaters under the Transitional Dry Weather MS4 Outfall Field Screening program required by the MS4 Permit provision D.2.a. These investigations have been mostly qualitative and limited to flow calculations and nutrient measurements, however the City has been conducting investigations into non-point source discharges into the MS4.

Response: The San Diego Water Board agrees with the City of Oceanside that qualitative investigations have been conducted, but maintains that a groundwater investigation to determine the contribution of nutrient loading via groundwater has not been conducted. The City is encouraged to conduct an adequate groundwater investigation. We recommend the performance criteria provided in the Tentative Investigative Order. Findings from an adequate groundwater study may be incorporated into future revisions of the Water Quality Improvement Plan and the draft TMDL Staff Report.

Comment 59 - TMDL Staff Report Section 6.2: This paragraph elaborates on the findings of groundwater investigations as part of the Tetra Tech (2013) and City's monitoring efforts in August 2012 (Tetra Tech 2013). The text of the TMDL Staff Report states: "suspected groundwater contained an average phosphorus concentration of 0.003 mg/l, well below the Basin Plan's numeric interpretation of the Biostimulatory WQO of 0.1 mg/l. As stated in Tetra Tech (2013), the levels of phosphorus at the mass emission station are over an order of magnitude higher than that found in potential groundwater sources". The value presented here is misinterpreted; Tetra Tech (2013) listed this value in Table 2-4 (p.9) of their report as 0.003 TP (kgP/d) or, kilograms of P per day. This daily loading value was calculated from flow and nutrient data collected by City staff, which are presented in Oceanside & Vista's supplemental sampling summary. The nutrient results for the groundwater locations are presented in Table 4 of Oceanside's supplemental sampling summary which coincided with Tetra Tech (2013). The actual average Total P concentration across the three sampled groundwater sites was in fact 0.038 mg/L, which is higher than the averaged P loading estimates at the Mass Emission Station used in the TMDL calculation. Additionally, using the Basin Plan's WQO of 0.1mg/L P in this statement is equally unjustified, as the average P loading used in the TMDL calculation was well below this benchmark as well. Regardless that the groundwater outfall data presented in Tetra Tech (2013) was high in Total N, this additional loading of P should have been considered in the Slough's pollutant loading calculation. The obvious increase in flow downstream of the tributary seen in Tetra Tech (2013), coupled with large increase in Nitrogen loading between the MES and downstream location, underscores the need to assess ambient nutrient concentrations below the MES as well.

Response: Section 6.2 has been modified in response to the comment. The comment is correct regarding the 0.003 mg/L, as it is a typo in the draft document that has been corrected. The San Diego Water Board used a value of 0.038 mg/L as an evaluation point based on the suspected groundwater data collected by the City. This was the average calculated using the three suspected groundwater discharges sampled. The use of 0.038 mg/L remains lower, typically an order of magnitude or more, than MS4 discharge values from the City's non-storm water monitoring program upstream of the mass emission station and the resultant total loading when compared to the mass loading station. This interpretation was not clear and has been clarified in the section of the revised Draft TMDL Staff Report.

The San Diego Water Board used the source investigation as much as feasible, and with conservative assumptions. However, it is important to note the incomplete nature of the study. For example, the mainstem tributary had flows of 143 gallons per minute, while those discharges investigated upstream by the City of Oceanside as "suspected groundwater" had total flows of 29.2 gallons per minute. Despite these limitations, this is the only data available. Despite the contribution of suspected groundwater phosphorous and MS4 discharges in the tributary, the Tetra Tech 2013 report determined that the tributary had no impact on the loading to the Slough. In fact, a slight reduction in mass loads from 0.22 kg P/day to 0.21 kg P/d was documented from the mass emission station to the Slough, despite the tributary input. Findings from an adequate groundwater study for the watershed, in addition to source investigations conducted on a watershed basis, may be incorporated into the draft TMDL Staff Report in the future.

Comment 60 - TMDL Staff Report Section 6.2: "Using an estimate of groundwater contributing 20 percent of the flow at 10 percent of the point source concentration level, the existing non-point source loading is estimated as no greater than 2.44 percent of the total, or 19.7 grams per month, phosphorus during the impairment period" It is unclear in this description which flow values are used (Tetra Tech values, or MACTEC values) as well as what was considered the groundwater P concentration, especially given the misinterpretation of the 0.003 kgP/d value as noted in Comment #59. Please elaborate on how these values were selected.

Response: *Section 6.2 has been modified in response to the comment. Despite the study's limitations, the San Diego Water Board used the City of Oceanside's flow data from the downstream investigations to estimate that groundwater contributed approximately 20 percent of the flows observed. The San Diego Water Board further assumed groundwater concentrations to be 10 percent of the concentration of watershed-wide MS4 discharges, based on monitoring data collected by the City of Oceanside as specified in the TMDL Staff Report (see also response to comment #59). Thus, 20 percent was multiplied by 0.1 to get a 2 percent loading estimate for the entire existing watershed load. This section of the Draft TMDL Staff Report has been modified and simplified in order to clarify and correct the existing numbers. Lastly, findings from any additional groundwater studies and source investigations may be incorporated into the draft TMDL Staff Report in the future, thus modifying load estimates.*

Comment 61 - TMDL Staff Report Section 6.3: All other stakeholders with the potential to contribute to the impairment should be included as additional responsible parties to the Investigative Order. Page 26 of the TMDL Report states that there are a number of other potential sources, including NPDES permitted organizations, with discharge prohibitions. One additional stakeholder that should be included as a responsible party is Caltrans who holds a State issued Stormwater and Use of Recycled Water Permit. Caltrans has landscaped areas along L.A. Creek which they may irrigate using recycled water. Additionally, City staff are aware of at least one Caltrans-owned storm drain outfall which empties directly into Loma Alta Creek near Interstate 5. Recycled water may contain phosphorus and/or nitrogen (contributes to impairment).

Response: *See response to the City of Oceanside's Comment 1. The San Diego Water Board agrees that Caltrans has the potential to discharge recycled water that could affect the Slough. However, the San Diego Water Board has not been provided with any data to demonstrate that Caltrans is in violation with its permits or is discharging recycled water to the City's MS4. The identification and elimination of the discharge of recycled water into the City's MS4 system should be part of the City's Illicit Discharge and Elimination program, and the Water Board will enforce provisions of the Caltrans permits as necessary.*

Comment 62 - TMDL Staff Report Section 6.2: "Therefore, evidence to date fails to confirm that groundwater-based Phosphorous has a significant impact, if any at all, on the eutrophication impairment of Loma Alta Slough." This statement may be true, however the groundwater appears to contribute significant nitrogen loads to the Slough, potentially contributing to the eutrophication impairment in the Slough as well.

Response: *See response to City of Oceanside's Comments 19 and 58.*

Comment 63 - TMDL Staff Report Section 6.3.1: "There are no permanent dewatering discharges regulated...in the Loma Alta watershed." While this may be true, there appear to be several non-permitted groundwater discharges into the creek that should be regulated.

Response: *These non-permitted groundwater discharges should be addressed by the City as required by Provision E.2 of the MS4 Permit² which requires each Copermitttee to implement a program to actively detect and eliminate illicit discharges and improper disposal into the MS4, or otherwise require the discharger to apply for and obtain a separate NPDES permit.*

Comment 64 - TMDL Staff Report Section 6.3.1: "Aside from dischargers regulated by the MS4 permit, none were identified as a significant source of phosphorous to the Slough during the summer impairment. Most other discharges are of infrequent duration or occur outside of the seasonal impairment." Based on the City's experience, this statement is incorrect. Several other notable dischargers are located within the watershed including Evergreen Nursery, multiple mobile home parks, and communities discharging groundwater to prevent landslides.

Response: *Based on the reconnaissance conducted by the San Diego Water Board during the course of TMDL development, it is likely that illicit discharges are occurring to the MS4. For instance, Board staff identified a significant, routine discharge from a mobile harm park and brought that to the attention of City staff. We understand that discharge has ceased. Prior to making and changes to the Draft TMDL Staff Report the San Diego Water Board needs information regarding alleged discharges into the creek, such as location and facility name. Please be advised that Provision E.2 of the MS4 Permit requires the City to implement a program to actively detect and eliminate illicit discharges and improper disposal into the MS4, or otherwise require the discharger to apply for and obtain a separate NPDES permit.*

Comment 65 - TMDL Staff Report Section 6.3.2: The City's Water Efficient Landscape Regulation applies to the new developments only. This should be noted within the paragraph.

Response: *The San Diego Water Board's interpretation is that section 37.137(a), which is under the section titled "Waste Water Prevention", applies to all persons, not just to those with new projects subject to the approval/landscaping requirements set forth elsewhere in the Ordinance. Section 37.137(a) states, "no person shall use water for irrigation that due to runoff, low head drainage, overspray or other similar condition, water flows onto adjacent property, non-irrigated areas, structures, walkways, roadways, or other paved areas." The introductory phrase "no person" does not limit this section to those new projects which are subject to other requirements of this Ordinance.*

Comment 66 - TMDL Staff Report Section 7.1: McLaughlin et al. (2011) also suggested that nutrient mineralization through the microbial loop could also provide a means of the biomass sustaining itself during berm closure, although the budgets were a coarse estimate of sources/losses of P. (See comment #19). Again, in this section, remove mention that the City closes the berm. It occurs naturally.

Response: *Comment noted. Please see response to City of Oceanside's Comment 19.*

² Order No. R9-2013-0001

Comment 67 - TMDL Staff Report Section 7.3: "At the February 20, 2014, Loma Alta TMDL stakeholder meeting, City staff stated that the transitional monitoring was already underway and that new MS4 discharges and outfalls in the watershed had been identified." City staff also mentioned at this meeting that new discharges of groundwater and non-point source discharges into the MS4 had been identified in the upper watershed as well.

Response: *This statement was not included in the draft TMDL Staff Report because the City has not provided information to support the claim that groundwater infiltrates into storm drains. Following the February 20, 2014 meeting, the San Diego Water Board requested additional the following information from the City:*³

- 1. A copy of the standard operating procedure or protocol used by the City of Oceanside that is used to determine that groundwater is entering a storm drain.*
- 2. A map showing the locations of the storm drains where the City of Oceanside has determined that are subject to groundwater infiltration.*

On March 3, 2014 the City of Oceanside responded noting the protocol used to classify non-storm water flows as groundwater infiltration relies on the best professional judgment of the inspector, but providing no details on how this judgment would be made. Furthermore the response failed to include a map showing the location where groundwater infiltrates storm drains.

Comment 68 - TMDL Staff Report Section 10: Remove reference of the City maintaining the berm. It closes naturally. Increased tidal flushing in the summer would likely require constant dredging of the berm or creating a permanent opening with jetties.

Response: *See response to City of Oceanside's Comment 10.*

Comment 69 - TMDL Staff Report Section 10.3: Investigations conducted under the MS4 Permit suggest that the MS4 is not the only source of nutrients to Loma Alta Creek and Slough. Sources are under investigation and preliminary results indicate the presence of controllable point sources (e.g., illicit discharges) and uncontrollable non-point sources (e.g., groundwater).

Response: *The draft TMDL Report is written based on the best available information to date. The illicit discharges are to be addressed by the City pursuant to Provision E.2 of the Regional MS4 Permit which requires each Copermittee to implement a program to actively detect and eliminate illicit discharges and improper disposal into the MS4, or otherwise require the discharger to apply for and obtain a separate NPDES permit. The Water Quality Improvement Plan should include either the results of the investigations conducted by the City to identify these illicit discharges, or provide the means and methods by which the City will use to identify the discharges and either eliminate them or have the dischargers obtain a separate NPDES or other applicable permit.*

³ E-mail from Mr. Barry Pulver to Mr. Mo Lashaie, dated February 21, 2014.

Comment 70 - TMDL Staff Report Section 11: "The Numeric Targets should be met as soon as the City eliminates controllable dry-weather sources of phosphorous in its MS4." Language related to adaptive management should be included here to recognize the possibility that the eutrophication impairment may not be completely solved through the effective prohibition of non-stormwater discharges. If the City has demonstrated that it has been able to effectively prohibit non-stormwater discharges, and the impairment continues, the Regional Board and City will need to re-assess the approach with respect to other sources within the watershed.

Response: *Provision B.5 of the Regional MS4 Permit requires the City to implement an iterative approach in the Water Quality Improvement Plans. Because the Regional MS4 Permit is the regulatory instrument by which the City will restore the beneficial uses of the Slough, there is no need to amend the draft TMDL Report. This matter will be revisited if it becomes necessary at a future date to re-convene the stakeholder process to adopt a final TMDL.*

Comment 71 - TMDL Staff Report Section 11: This section references the Tentative I.O. that will "demonstrate that the numeric targets and the TMDL are met by 2022." This should be reworded, as the I.O. is an information-gathering effort to assess whether strategies and programs implemented to effectively prohibit non-stormwater discharges to the MS4 were effective on meeting the targets.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 72 - TMDL Staff Report Section 11.1: Due to the challenges and timeframes associated with remediating nutrient rich groundwater, the TMDL should acknowledge that the City's primary focus will be on controllable non-stormwater discharges to the MS4. If the control of these sources is found to be insufficient to address the impairment, other sources will be considered in the future.

Response: *Comment noted. It is prudent for the City to prioritize termination of illicit dry-weather discharges. However, as described in response to Comment 67, the City must improve its process for determining whether persistent flows from storm drains are actually from groundwater.*

Comment 73 - TMDL Staff Report Section 11.1.1: This section mentions the San Luis Rey Watershed Management Area. This is not applicable to the Loma Alta Slough. Suggest removing reference to San Luis Rey Watershed and replace with Carlsbad Watershed Management Area.

Response: *The requested change has been made.*

Comment 74 - TMDL Staff Section 11.1.3: "To address the indicator bacteria the intake of the FETD may need to be relocated to allow treated water to be discharged in the Slough and flow to the ocean." While it makes sense to recognize the inherent conflict in managing the nutrient and bacteria impairments within the Slough, it is premature to make a recommendation for management actions as these options have not been fully investigated and may not be feasible. This consideration should be deleted.

Response: *Section 11.1.3 includes the statement that "...the City is encouraged to explore additional actions such as" moving the intake for the FETD. This is not a recommendation but recognition that adaptive management actions may be needed to address the eutrophic impairment of the Loma Alta Slough. This is in alignment with the City of Oceanside's Comment 70, that other factors may be needed to be considered and that the City of Oceanside should explore other management options to restore the beneficial uses of the Loma Alta Slough.*

Comment 75 - TMDL Staff Report Section 12.1: This first paragraph sounds like the I.O.'s purpose is a compliance assessment tool to enforce the MS4 Permit. "Investigative Order No. R9-2014-0020 requires the City to design and implement a monitoring program to evaluate compliance with the dry-weather prohibition within the MS4 permit..." This seems as if the IO is going above and beyond its purpose, which is to submit monitoring results and reports that will allow the assessment of progress in addressing the eutrophication impairment. Compliance with the "effectively prohibit" provision in the MS4 Permit can only be measured with respect to the implementation of requirements in Provision E.2 of Order R9-2013-0001.

Response: *See response to the City of Oceanside's Comment 1.*

II. Comments Submitted by the City of Vista

Comment 1: The City of Vista appreciates the Regional Board's effort to develop an innovative, flexible, streamlined approach to address the eutrophication impairment in the Loma Alta Slough in lieu of issuing a traditional Total Maximum Daily Load (TMDL).

Response: *Comment Noted*

Comment 2: However, like the City of Oceanside, Vista does not believe it is necessary for the Board to issue a TMDL because other mechanisms are already available in the recently issued 2013 Municipal Storm Water Permit: the Water Quality Improvement Plans and supporting Jurisdictional Plans currently under development.

Response: *See response to the City of Oceanside's Comment 1.*

Comment 3: Moreover, the proposed alternative to the Board's proposed process is aligned with the development of the Water Quality Improvement Plan for the Carlsbad Watershed Management Area, which includes Loma Alta Slough. Eutrophication in Loma Alta Slough will be addressed, in large part, by implementing the prohibition requirements in the 2013 Permit. Implementation will include programs targeting non-storm water discharges; program scheduling; monitoring plans; assessment; and reporting. All of these measures will be reviewed and approved through a rigorous, ongoing public process. Even though the 2013 permit is not fully effective until 2015, the City of Oceanside and Vista are already coordinating to better align their programs to improve the environmental health of the slough. This and other measures will be described in the Water Quality Improvement and Jurisdictional Plans.

Response: *Comment noted.*

III. Comments by the Friends of Loma Alta Creek

These comments pertain to an informal draft released to the stakeholder group. Some of the comments were addressed prior to issuing the Tentative Investigative Order and TMDL Report for public comment.

Comment 1: I do support p.6 #19a and p.9 1.a- regarding source of water investigation.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1. Source water investigations will need to be done as part of the City's process to identify sources of dry weather discharges in persistent flowing storm drains. We are no longer establishing requirements for the methods to be used to identify groundwater; however the steps in the former tentative Investigative Order may be used by the public and the Board as a benchmark by which to judge the appropriateness of whatever is subsequently proposed by the City.*

Comment 2: I strongly support p.10 a i-v. a b.

Response: *This comment is no longer applicable because we are no longer proposing an Investigative Order, nor adoption of the TMDL at this time. See response to the City of Oceanside's Comment 1.*

Comment 3: Is there a spot in this to list upstream dischargers and what they are discharging? For example, I believe the Mission Linen Supply on Industry Street, Oceanside has a permit and this could certainly be contributing to water quality issues. Has this been analyzed? It was referred to in the report at p. 28 but I find no scientific data or source material referenced to make an allegation that this is not contributing to water quality issues. Also- See page 26 6.3 of the Report stating that point sources are present but no dischargers such as Mission are specifically referred to. Why not? We would like to see all dischargers/permits listed in the Order/Report/Appendix.

Response: *Pursuant to the MS4 Permit the City of Oceanside is required to conduct an illicit discharge detection and elimination program which will result in the effective elimination of these discharges. Review of the California Integrated Water Quality System (CIWQS)⁴ and the Storm Water Multiple Application and Report Tracking System (SMARTS)⁵ databases indicates that the Mission Linen Supply facility does not currently have a NPDES permit. A list of all dischargers and permit holders is not needed.*

Comment 4: Typo on p.9 1.d omits "Alta" after "Loma__Creek"

Response: *Comment noted.*

⁴

<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=drilldown&reportName=facilityAtAGlance&placeID=240960&reportID=5970575>

⁵ <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

Comment 5: Can you kindly clarify/correct your p.3 section10 on the building uses percentages -You have the overall stats wrong or somewhat misleading about residential use and that could be very misleading. Note that it should be 45% residential, etc. "Predominantly" doesn't give a very good picture of the stats. 45% of 70% seems much smaller than "predominantly". We would prefer you use the City of Oceanside's narrative as below.

<http://www.ci.oceanside.ca.us/gov/water/clean/mass/lomalta.asp>

"Over 70 percent of the watershed is developed and is comprised of the following land uses: Residential (45 percent), industrial (7 percent), commercial (4 percent) and public facilities (16 percent)."

Response: *The revised Draft TMDL Staff Report has been amended per your suggestion.*

Comment 6 – TMDL Staff Report: The photos should show some of the unaltered habitat/creek areas upstream- not all is slough or concrete channel, just to give a broader idea of the upstream conditions. I realize the report is more focused on Loma Alta Slough, but we all know water runs "downhill" from upstream sources too. This Creek, in spite of its condition, supports multiple endangered and sensitive species. Perhaps the Report should source the Draft SAP and MHCP that Oceanside has to give a more accurate picture of why the TMDL is important, not just for water quality but for water quality protection.

Response: *The TMDL is specific to the Loma Alta Slough and therefore limits its discussion to upstream portions of Loma Alta Creek. But more importantly, the implementation plan does require the MS4 copermittees to address non-storm water flows throughout the watershed. Further other Water Board programs, such as the industrial and construction storm water permit and the 401 Certification, Dredge & Fill, and Wetlands Program will minimize future hydromodification to the Loma Alta Creek and result in restoration actions within the watershed.*

Comment 7 – TMDL Staff Report page 8: You should clearly state that "industrial" development resulted in fill. Simply saying "commercial and residential" does not capture the area accurately.

Response: *Comment noted and requested changes have been made.*

Comment 8 – TMDL Staff Report page 11: Recent projects have shown groundwater occurring much higher than 7 feet below the surface. Reference to Robertson's Concrete proposed project studies on Industry adjacent to Loma Alta Creek, where groundwater was found within 3-4 feet of the surface.

Response: *The statement in the Draft TMDL Staff Report is correct and does not need to be changed. The depth to groundwater information presented in this section is intended to describe groundwater conditions adjacent to the Loma Alta Slough and was estimated using Geotracker database⁶ data from groundwater monitoring wells located in close proximity to the Loma Alta Slough. The proposed Robertson's Concrete facility is approximately 1.5 miles from the Loma Alta Slough, therefore groundwater elevation data at that site is not applicable to the immediate vicinity of the Loma Alta Slough.*

⁶ <http://geotracker.waterboards.ca.gov/>

Comment 9 – TMDL Staff Report page 15: Kindly cite a reference from the watershed plan that indicates "a significant impact associated with urban development", emphasis on urban. I find that allegation unsupported by data or scientific reference. As you know this creek is bordered by heavy industry for quite long sections and one shouldn't solely attribute "urban: development for the problems. Storm drains, runoff and use of chemicals and hazardous wastes should all be considered, the later of which arise from industrial properties.

Response: *In this context the term “urban development” is widely defined and includes residential, industrial, commercial development and infrastructure needed to support these developments. The impairment of Loma Alta Slough is the result of the discharge of phosphorus into the watershed, which is related to non-storm water discharges, not permitted discharges from industrial/commercial facilities. Existing permits exist to address these discharges. The TMDL implementation plan requires the City, pursuant to the Regional MS4 Permit, to identify and effectively eliminate all non-permitted non-storm water discharges, including those from industrial facilities.*

Comment 10 – TMDL Report Section 8.1 future growth: I disagree with the allegation that this is not going to be an issue, "de minimus". The City of Oceanside still is issuing development plans to industrial users on the Creek in the floodway, the area still floods out on an almost yearly basis allowing contaminants into the creek, in spite of the City's permitting system. There are also several large properties adjacent to the Slough that can be developed for either industrial or commercial uses. We have suggested to the City on multiple occasions that NO MORE development plans be allowed upstream in the floodway and heavily discouraged in the floodplain, but to date, have been completely ignored. There are little if any stormwater detention basins or BMPs in many of these industrial areas and for places like Waste Management on Industry, the stormwater BMP is a small curb of approximately 5inches that does nothing to hold back flood waters as we just saw in the recent storm. We have observed flows going over this curb. Plus WM and several other businesses are located in the FLOODWAY. WM has a heavy industrial operation with heavy truck repairs, multiple hazardous chemicals stored onsite, diesel fueling, etc. on site. They have planned a compressed natural gas plant in the floodway and we have initiated litigation to stop it. They are one of many who do extensive auto repairs upstream and do not have adequate flood/runoff prevention in place.

Response: *The term ‘de minimus’ has been deleted.*

Comment 11 – TMDL Report: We completely support upstream monitoring, especially in the Industrially developed areas at Industry Street and upstream near Melrose.

Response: *Comment noted.*