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July 26, 2016

Mr. Mark Norton
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

Subject: Proposal to Prepare a California Environmental Quality Act (CEQA) Substitute Environmental Document (SED) and an Economic Analysis for a Basin Plan Amendment

Dear Mr. Norton:

The purpose of this letter is to present CDM Smith's proposal to the Santa Ana Watershed Project Authority (SAWPA) to complete a California Environmental Quality Act (CEQA) analysis and documentation and an economic analysis applicable to a proposed Santa Ana River Regional Water Quality Control Board (Regional Board) amendment to the Santa Ana River Basin Water Quality Control Plan (Basin Plan). The following sections provide the project background and objectives and CDM Smith's proposed scope of work, schedule and budget.

Project Background

Regional Board Resolution R8-2004-001 (adopted January 22, 2004) amended the Basin Plan to include revised groundwater management zones, revised total dissolved solids (TDS) and nitrate-nitrogen objectives, revised TDS and nitrogen wasteload allocations for discharge of recycled water to the Santa Ana River and its tributaries, and revised reach designations for selected waterbodies. The Basin Plan amendment was subsequently approved by the State Water Resources Control Board (September 30, 2004), the Office of Administrative Law (December 23, 2004), and the US Environmental Protection Agency (January 20, 2007).

The Basin Plan amendment established a Salt Management Plan for the Santa Ana Region, which contains a watershed-wide monitoring program to determine compliance with water quality objectives. The Regional Board uses the monitoring data to assess whether applicable water quality standards are being attained, determine if any assimilative capacity exists in each groundwater management zone, and, when needed, revise wasteload allocations.

Regional Board review of recent monitoring data shows that ambient concentrations of TDS and/or nitrate-nitrogen have changed in several groundwater management zones. Accordingly, the available assimilative capacity has changed and wasteload allocations applicable to discharges of

reclaimed water must be updated to ensure compliance with applicable water quality objectives in all groundwater management zones.

In addition, the Regional Board has determined that newly available data and modeling results show that continuing to recharge recycled water in accordance with the current effluent limits will not exhaust the available assimilative capacity in the Riverside A Groundwater Management Zone (Riverside A GMZ), but that some portion of the total inorganic nitrogen (TIN) assimilative capacity would need to be allocated. The Regional Board has also found that raising the nitrate as nitrogen objective from 4.2 mg/L to 5.0 mg/L in the Chino South Groundwater Management Zone (CSGMZ) would be consistent with maximum benefit to the people of California because it would actually help to improve water quality in the CSGMZ.

Given these regulatory findings, the Regional Board has implemented a Basin Plan amendment process. As part of this process a Substitute Environmental Document (SED) for the Proposed Amendments to comply with CEQA is required for specific elements including:

- Update of the TDS and Nitrogen Wasteload Allocations for Discharges of Recycled Water;
- Increase the Nitrate Objective in the CSGMZ from 4.2 mg/L to 5.0 mg/L.

Update of the TDS and Nitrogen Wasteload Allocations for Discharges of Recycled Water

A requirement of the January 2004 Nitrogen and TDS Basin Plan Amendment is to perform a recomputation of AWQ for all of the groundwater management zones in the watershed for which adequate data exist. To date, AWQ determinations have been made for the following periods:

- 1954 to 1973: Historical or objective setting period
- 1978 to 1997
- 1984 to 2003
- 1987 to 2006
- 1990 to 2009
- 1993 to 2012

In the Riverside A GMZ, the current ambient concentrations of nitrogen and TDS for the most recent recomputation period remains well below the water quality objectives. Thus, there is assimilative capacity for TIN and TDS in the Riverside-A Management Zone.

Table 1. Volume-Weighted TDS and Nitrate in the Riverside A GMZ,

Water Quality Basis	TDS (mg/L)	Nitrate (mg/L)
Historical Ambient	560	6.2
Water Quality Objective	560	6.2
Current Ambient - 1997	440	4.4
Current Ambient - 2003	440	4.9
Current Ambient - 2006	440	4.9
Current Ambient - 2009	430	5.2
Current Ambient - 2012	420	5.4

"…the [Basin Monitoring Program Task Force] *BMPTF commissions a team of technical consultants to update the Wasteload Allocation Model (WLAM) used to determine whether TIN and TDS levels in local rivers and streams meets the applicable water quality objectives in the underlying groundwater management zone(s) under a wide range of different assumptions regarding the reuse or discharge of recycled water. Results from the WLAM analysis are used to establish appropriate effluent limits governing TIN and TDS concentrations in recycled water discharged to surface waters throughout the region."*[1]

Based on the current ambient water quality determination and the Riverside A GMZ objective, there is 0.8 mg/L of assimilative capacity for nitrogen in the basin. *"The average TIN concentration over the entire 63-year modeling period is also slightly higher than the current average TDS concentration in the underlying groundwater (5.5 vs. 5.4 mg/L, respectively). Consequently, incidental recharge of recycled water is likely to degrade existing water quality in the Riverside-A Management Zone; but, it is not likely to cause or contribute to an exceedance of the water quality objective (6.2 mg/L) for TIN."* [1].

Because incidental streambed recharge is likely to lower water quality (by increasing TIN concentrations) in the Riverside A GMZ, an allocation of assimilative capacity is required in order to permit the continued discharges of recycled water into the Santa Ana River reaches overlying Riverside A GMZ. Risk Sciences[1] concludes that the allocation of assimilative capacity is consistent with the state's Antidegradation Policy and the State Water Board's Recycled Water Policy. Modifying the wastewater treatment plants to meet more stringent effluent limits will increase capital and O&M treatment costs without additional human health benefits or improvements to the environment.

[1] Risk Sciences. 2015a. Draft Rationale Supporting an Allocation of Assimilative Capacity to Encourage Groundwater Recharge Using Recycled Water in the Riverside-A Management Zone. Prepared for the Basin Monitoring Program Task Force. March 18, 2015. Risk Sciences is citing data and conclusions from WEI.

Increase the Nitrate Objective in the CSGMZ from 4.2 mg/L to 5.0 mg/L.

In the CSGMZ, the current ambient concentrations of nitrogen and TDS for the most recent recomputation period is well above the water quality objectives. Thus, there is no assimilative capacity for TIN and TDS in the Chino South GMZ.

Table 2. Volume-Weighted TDS and Nitrate in the Chino South GMZ,

Water Quality Basis	TDS (mg/L)	Nitrate (mg/L)
Historical Ambient	676	4.2
Water Quality Objective	680	4.2
Current Ambient - 1997	720	8.8
Current Ambient - 2003	790	15.3
Current Ambient - 2006	940	25.7
Current Ambient - 2009	980	26.8
Current Ambient - 2012	990	28

When there is no assimilative capacity, the State Water Board has stated that, *"Where the constituent in a groundwater basin is already at or exceeding the water quality objective, the Regional Board must set* [effluent] *limitations no higher than the objectives set forth in the Basin Plan. Exceptions to this rule may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent through percolation through the ground to the aquifer.[2]"* The WLAM accounts for system mixing (recycled water discharges, stormwater runoff, rising groundwater and other components) and for nitrogen removal through streambed recharge (an N-Loss Coefficient of 50 percent is allowed for in this reach of the Santa Ana River). Over the 63-year modeling period, the recharged water complies with the current water quality objectives, with the exception of drought periods. Risk Sciences[3] states, *"At present, all of the NPDES permits restrict the average TIN concentration to not more than 10 mg/L. However, because the WLAM indicates that imposition of the current effluent limits does not assure consistent compliance with the water quality objective in the CSMZ, the Regional Board is obligated to make some sort of adjustment to resolve the inconsistency. Options include:*

1. *Imposing more stringent effluent limits on nitrate-nitrogen discharges.*
2. *Using the long-term average, rather than the 10-year average, to evaluate compliance in the WLAM.*

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[2] SWRCB Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).
[3] Risk Sciences. 2015b. Draft Petition to Revise Water Quality Objective for Nitrate-Nitrogen in Chino-South Management Zone. Prepared for the Basin Monitoring Program Task Force. October 27, 2015. Risk Sciences is citing data and conclusions from WEI.

3. *Revising the WLAM to include an appropriate translator between nitrate-nitrogen and Total Inorganic Nitrogen.*

4. *Performing new site-specific studies to determine if a higher nitrogen-loss coefficient is appropriate.*

5. *Amend the Basin Plan to raise the nitrate-nitrogen objective from 4.2 mg/L to 5.0 mg/L in the CSMZ."*

Option 5 is proposed in the petition from the BMPTF to the Regional Board to be included in this Basin Plan Amendment. Further, the BMPTF recommends that the current NPDES effluent limits for TIN remain the same. This proposal assumes that compiling cost information for the economic analysis for Option 5, will suffice for the other options as well.

Scope of Services

As a Lead Agency, the Regional Board is required to comply with CEQA when considering amendments to the Basin Plan. Accordingly, an SED will be prepared to address the potential environmental effects of the actions described above involving amendments to the Basin Plan. The SED will include an Environmental Checklist that serves as the basis for a systematic evaluation of the potential for the amendments to result in a significant impact relative to a variety of environmental factors such as biological resources, recreation, water quality and other such topics. Each checklist item will have an explanation supporting the checklist entry. For each checklist item a determination will be made as to whether no impact is anticipated, or, if a physical impact may occur, determine whether the impact is potentially significant, less than significant after mitigation, or less than significant. The explanation for each issue will identify the significance criteria or threshold, if any, used to evaluate each question, and the mitigation measure identified, if any, to reduce the impact to less than significant.

The following sections describe the proposed scope of services.

Task 1 – Prepare Draft CEQA Documentation

CDM Smith will prepare a draft CEQA document using a format acceptable to the Regional Board. CDM Smith proposes to use the same document format that was previously used to prepare the SED to support the Regional Board's proposed *Basin Plan Amendment related to Incorporate Updates to the Total Dissolved Solids and Nitrogen Management Plan for the Santa Ana Region*. At this time, CDM Smith proposes to prepare an SED with the following sections:

- Section 1 - Introduction, which provides the document's purpose and the regulatory context for the CEQA analysis;

- Section 2 - Action Description, which presents the proposed action along with the specific Basin Plan Amendments;

- Section 3 - Environmental Setting, which describes the area where the regulatory action is proposed;
- Section 4 - Environmental Issues, which evaluates the potential impact (s) of the proposed action relative to 17 environmental issue areas (Environmental Checklist), and presents mandatory findings of significance, as required under CEQA;
- Section 5 - Alternatives, which presents the analysis of any reasonable alternatives to the proposed action; and
- Section 6 – References section that provides SED information sources.

The draft SED will include figures required to support the presentation of the CEQA analysis. It is assumed that the groundwater management zone maps and any other appropriated figures that have been developed by others for the amendments will be provided to CDM Smith in a format that is appropriate for inclusion in the SED.

A draft SED analysis will be submitted electronically to SAWPA for subsequent review by the appropriate stakeholders, *e.g.*, the Regional Board, and the BMPTF.

Task 2 – Prepare Final CEQA Documentation

CDM Smith will prepare a final SED based on comments received from the reviewers and compiled by SAWPA on the draft document. This proposal assumes one draft and one final document; additional drafts may require additional funding. The final SED will be submitted to SAWPA electronically for appropriate distribution.

Task 3 – Prepare Draft Economic Analysis

CDM Smith will prepare a draft economic analysis for the two proposed projects: (i) Adoption of the revised and updated WLAM report.; and (ii) Increase the Nitrate Objective in the CSGMZ from 4.2 mg/L to 5.0 mg/L.

The draft economic analysis will include tables and figures required to support the analysis. It is assumed that all of the cost information for WRF improvements can be obtained from BMPTF stakeholders, including recent plant upgrades. CDM Smith is not proposing to develop any new cost information. The draft economic analysis will be submitted electronically to SAWPA for subsequent review by the appropriate stakeholders, *e.g.*, the Regional Board, and the BMPTF.

Task 4 – Prepare Final Economic Analysis

CDM Smith will prepare a final economic analysis based on comments received from the reviewers and compiled by SAWPA on the draft document. This proposal assumes one draft and one final document; additional drafts may require additional funding. The final economic analysis will be submitted to SAWPA electronically for appropriate distribution.

Task 5 – Project Coordination

CDM Smith has budgeted two face-to-face meeting with the Regional Board and other stakeholders; the first meeting will confirm the project scope and CEQA and economic analysis needs; the second meeting will be for the review and discussion of comments on the draft documents. Additional project coordination will occur internally and externally via email and teleconference, and through regular meetings of the BMPTF where CDM Smith will be attending to discuss other projects.

Schedule

CDM Smith proposes to submit the draft SED document and draft economic analysis to SAWPA for stakeholder review within four weeks of receiving a notice to proceed and completion of the face-to-face meeting to confirm CEQA and economic analysis requirements. A final SED document and a final economic analysis document will be prepared within two weeks of the receipt of final comments on the drafts.

Budget

CDM Smith proposes to conduct this scope of services on a time and materials basis with a not to exceed fee of $29,527. This fee is based on 154 technical hours as shown in the attached Table 3. Hourly costs will be billed in accordance with the attached Table 4 - Schedule of Hourly Rates.

CDM Smith appreciates the opportunity to assist SAWPA and the BMPTF on this important project. Please call or email if you have any questions.

Sincerely,

Joseph P. LeClaire, PhD
Associate
CDM Smith Inc.

Richard D. Meyerhoff, PhD
Vice President
CDM Smith Inc.

cc: David Jensen, PE, BCEE, LEED® AP | CDM Smith
Dorothy L. Meyer | CDM Smith
Gina M. Veronese | CDM Smith

Table 3. Cost Estimate and Work Breakdown Structure: SED and Economic Analysis for Basin Plan Amendment

Task		Description	Labor						ODCs	Total Task Costs
			Associate	Principal Planner	Grade 7 Planner	Grade 6 Planner	Total Labor Hours	Total Labor Dollars		
1		Prepare Draft CEQA Documentation	5	22		32	59	$10,845		$10,845
2		Prepare Final CEQA Documentation	4	8		8	20	$3,820		$3,820
3		Prepare Draft Economic Analysis	5		28		33	$6,355		$6,355
4		Prepare Final Economic Analysis	4		8		12	$2,420		$2,420
5		Project Coordination	10	10	10		30	$6,050	$37	$6,087
		TOTAL COSTS	***28***	***40***	***46***	***40***	***154***	***$29,490***	***$ 37***	***$ 29,527***

Table 4. Schedue of Hourly Rates

Firm	Billing Classification	Rate
CDM Smith	Vice President	$245
CDM Smith	Associate	$235
CDM Smith	Grade 7	$185
CDM Smith	Grade 6	$175
CDM Smith	Grade 5	$165
CDM Smith	Grade 4	$155
CDM Smith	Grade 3	$140
CDM Smith	Grade 2	$125
CDM Smith	Grade 1	$115
CDM Smith	Administration Support	$100
CDM Smith	Special Consultants	$90 - $120