CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

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| In the matter of: | ) | |
| | ) | |
| **Victor Valley Wastewater Reclamation Authority** | ) | **Order No. R6V-2012-0048** |
| | ) | |
| | ) | **Settlement Agreement and Stipulation for Entry of Order; Order** |
| **WDID Nos. 6SSO11169 and 6B360109001** | ) | |
| | ) | |

## Section I: INTRODUCTION

This Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order ("Stipulation") is entered into by and between the California Regional Water Quality Control Board, Lahontan Region Prosecution Staff ("Prosecution Staff"), and Victor Valley Wastewater Reclamation Authority ("VVWRA" or "Settling Respondent") (collectively "Parties") and is presented to the Lahontan Regional Water Quality Control Board ("Lahontan Water Board") for adoption as an Order, by settlement, pursuant to Government Code section 11415.60.

## Section II: RECITALS

1. VVWRA is a California Joint Powers Authority ("JPA") that owns, operates, and maintains wastewater collection, treatment, and disposal facilities. Member agencies of the JPA are the City of Victorville, City of Hesperia, Town of Apple Valley, and San Bernardino County (Oro Grande and Spring Valley Lake community service areas). The VVWRA service area encompasses approximately 141,000 acres within the northern portion of San Bernardino County.

2. VVWRA's wastewater treatment plant facility is located at 20111 Shay Road in Victorville, California. The facility is designed to provide tertiary-level treatment for discharges to the Mojave River. The facility is subject to Waste Discharge Requirements under Lahontan Water Board Order No. R6V-2008-004 (National Pollution Discharge Elimination System Permit No. CA 01102822).

3. On May 2, 2006, the State Water Resources Control Board ("State Water Board") adopted Order No. 2006-0003-DWQ, prescribing statewide general waste discharge requirements for all sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California. The Order establishes requirements for enrollees to operate and maintain their collection systems. VVWRA is an enrollee under this general permit. The Order contains the following prohibitions:

a. Prohibition C.1 of Order No. 2006-0003-DWQ prohibits sanitary sewer overflows ("SSOs") that result in a discharge of untreated wastewater to waters of the United States.

b. Prohibition C.2 of Order No. 2006-0003-DWQ prohibits SSOs that result in discharge of raw sewage that creates a nuisance as defined in Water Code section 13050, subdivision (m).

4. Section 301 of the Clean Water Act (33 U.S.C. § 1311) and Water Code section 13376 prohibit the discharge of pollutants to surface waters except in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. State Water Board Order No. 2006-0003-DWQ is not an NPDES permit.

5. On February 14, 2008, the Lahontan Water Board adopted Order No. R6V-2008-004, prescribing waste discharge requirements and renewing the NPDES Permit for VVWRA's wastewater treatment plant facility.

   a. Discharge Prohibition III.A.4 of Order No. R6V-2008-004 prohibits the discharge of untreated sewage into surface waters.

   b. Discharge Prohibition III.A.5 of Order No. R6V-2008-004 prohibits the discharge of wastewater to the Mojave River except at authorized discharge points.

   c. Discharge Prohibition III.B of Order No. R6V-2008-004 prohibits the discharge, bypass, or diversion of raw or partially treated wastewater, wastewater biosolids, grease, or oils from the collection, transport, treatment, emergency storage, or disposal facilities to adjacent land areas or surface waters.

6. VVWRA is alleged to have violated Discharge Prohibitions III.A.4, III.A.5, and III.B of Lahontan Water Board Order No. R6V-2008-004, Section 301 of the Clean Water Act, and Water Code section 13376 by discharging approximately 230 gallons of partially treated wastewater (anaerobically digested sludge supernatant) from its wastewater treatment facility to waters of the United States on June 18, 2010, without authorization under an NPDES permit. This discharge is referred to as "**Violation No. 1**." The Lahontan Water Board is authorized to impose administrative civil liability for this violation pursuant to Water Code section 13385.

7. VVWRA is alleged to have violated Discharge Prohibitions III.A.4, III.A.5, and III.B of Lahontan Water Board Order No. R6V-2008-004, Section 301 of the Clean Water Act, and Water Code section 13376 by discharging approximately 110,700 gallons of partially treated wastewater (chlorinated treated wastewater and incidental stormwater runoff) from its wastewater treatment facility to waters of the United States from August 22, 2010 through August 28, 2010 (6.25 days), without authorization under an NPDES permit. This discharge is referred to as "**Violation No. 2**." The Lahontan Water Board is authorized to impose administrative civil liability for this violation pursuant to Water Code section 13385.

8. VVWRA is alleged to have violated Prohibitions C.1. and C.2. of State Water Board Order No. 2006-0003-DWQ, Section 301 of the Clean Water Act and Water Code section 13376 by discharging approximately 225,519 gallons of raw sewage from its wastewater collection system to waters of the United States on December 7, 2010, without authorization under an NPDES permit. This discharge is referred to as "**Violation No. 3**." The Lahontan Water Board is authorized to impose administrative civil liability for this violation pursuant to Water Code section 13385.

9. VVWRA is alleged to have violated Prohibitions C.1. and C.2. of State Water Board Order No. 2006-0003-DWQ, Section 301 of the Clean Water Act, and Water Code section 13376 by discharging approximately 64,700 gallons of raw sewage from its wastewater collection system to waters of the United States on December 22, 2010, without authorization under an NPDES permit. This discharge is referred to as "**Violation No. 4**." The Lahontan Water Board is authorized to impose administrative civil liability for this violation pursuant to Water Code section 13385.

10. VVWRA is alleged to have violated Prohibitions C.1. and C.2. of State Water Board Order No. 2006-0003-DWQ, Section 301 of the Clean Water Act, and Water Code section 13376 by discharging approximately 42,900,000 gallons of raw sewage from its wastewater collection system to waters of the United States from December 27, 2010 through January 10, 2011 (15 days), without authorization under an NPDES permit. This discharge is referred to as "**Violation No. 5**." The Lahontan Water Board is authorized to impose administrative civil liability for this violation pursuant to Water Code section 13385.

11. On November 17, 2009, the State Water Board adopted Resolution No. 2009-0083 amending the Water Quality Enforcement Policy ("Enforcement Policy"). The Enforcement Policy was approved by the Office of Administrative Law and became effective on May 20, 2010. The Enforcement Policy establishes a methodology for assessing administrative civil liability. The Prosecution Staff considered the methodology set forth in the Enforcement Policy for Violations No. 1 through 5, as shown in Exhibits A through F, which are attached hereto and incorporated by reference as though fully set forth herein.

    In the wastewater industry, VVWRA has a general obligation to perform due diligence in ensuring the competency of the personnel providing services at public facilities. Collection systems certification provides VVWRA with evidence that the certificate holder has demonstrated job-related knowledge, skills and abilities. It provides a documented level of assurance that employees are competent in safe work practices. Certification provides concrete evidence to Board members and citizens that the agency is staffed with people who know what they are doing and is competitive in any comparison of quality of service.

    The evidence for a reduction in the penalties is supported by the fact that VVWRA staff is required to be certified in Collection Systems Maintenance by the California Water Environment Association. This was a positive factor in ensuring a prompt and efficient response to protect the health of the public and therefore considered as a factor in reducing the amount of the penalties.

12. The Parties have engaged in settlement negotiations and agree to fully settle the matter without administrative or civil litigation and by presenting this Stipulation to the Lahontan Water Board for adoption as an Order by settlement, pursuant to Government Code section 11415.60. The amount of administrative civil liability imposed pursuant to this Stipulation and Order is less than the amount calculated by the Prosecution Staff using the State Water Board's Enforcement Policy. The reduction in liability is justified considering the risks associated with proceeding to hearing and is consistent with the range of settlement considerations that may result in a reduction in the calculated liability specified in the Enforcement Policy. The Prosecution Staff believes that the resolution of the alleged violations is fair and reasonable and fulfills all of its enforcement objectives, that no further action is warranted concerning Violations No. 1 through 5, except as provided in this Stipulation and Order, and that this Stipulation and Order is in the best interest of the public.

## Section III: STIPULATIONS

The Parties stipulate to the following:

13. **Administrative Civil Liability:** The Settling Respondent hereby agrees to the imposition of an administrative civil liability totaling **$700,000**. The civil liability includes the cost of a supplemental environmental project (SEP) in the amount of $322,606. The cost of the SEP will be referred to as the SEP Amount and will be treated as a Suspended Administrative Civil Liability. The Settling Respondent agrees to remit the remainder of the liability, THREE HUNDRED SEVENTY-SEVEN THOUSAND THREE HUNDRED NINETY-FOUR DOLLARS ($377,394), by check payable to the *State Water Resources Control Board Cleanup and Abatement Account,* within thirty (30) days of issuance of the Order. This paid amount includes the amount of $39,450 for the costs incurred by the Lahontan Water Board staff to investigate and prosecute the administrative civil liability enforcement action.

    The Settling Respondent shall indicate on the check the number of this Order. The Settling Respondent shall send the original signed check to Lauri Kemper, Assistant Executive Officer, Lahontan Regional Water Quality Control Board, 2501 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150 and shall send a copy to David Boyers, State Water Resources Control Board, Office of Enforcement, P.O. Box 100, Sacramento, CA 95812.

14. **SEP Definitions**

    a. "Designated Lahontan Water Board Representative" – the representative from the Lahontan Water Board responsible for oversight of the supplemental environmental project (SEP). The contact information for this representative will be determined by the Lahontan Water Board Executive Officer and will be transmitted to the Settling Respondent.

    b. "Enforcement Coordinator" – The person on the Lahontan Water Board staff who is responsible for enforcement coordination.

c. “Implementing Party” – An independent third party(ies) with whom the Settling Respondent has contracted or otherwise engaged to implement the SEP.

d. “SEP Completion Date” – The date in which the SEP will be completed in its entirety.

14.1. **Description of the SEP**

The SEP is the development of a regional Salt/Nutrient Management Plan (SMP) for the Mojave Water Agency (MWA) Integrated Regional Water Management (IRWM) Region. The SMP will identify and manage, on a regional basis, salts and nutrients from sources within the region for the purpose of maintaining regional water quality objectives and supporting beneficial uses. The intention is to involve surface water users, ground water users, and wastewater dischargers in the Mojave IRWM Region, as appropriate, to participate in efforts to protect these waters from accumulating concentrations of salt and nutrients that would degrade the quality of water supplies in the Mojave IRWM Region to the extent that it may limit their use.

The SMP area boundaries will include the MWA service area and its basins, as well as any contributors to salts and nutrients that occur outside the SMP area boundaries (e.g., sources of imported water supplies, discharges to the basins from upstream water uses, and headwaters to the Mojave River). The discreteness of the plan will depend on the amount and detail of water quality and land use data available.

The SMP area boundaries include the area impacted by VVWRA’s discharges identified in Section II of this Order. The discharges adversely impacted surface waters, and the discharges are presumed to have adversely impacted area ground waters when the discharged materials percolated through the ground.[1] The SEP will evaluate current water quality of the area ground water, and it will evaluate the assimilative capacity of the area ground water with respect to future planned discharges. The ultimate purpose of the SEP is to protect existing beneficial uses of the area ground water resources from future planned projects within the SMP project area, thereby mitigating the potential harm to ground water resources that may have resulted from VVWRA’s discharges.

The SEP meets the qualification criteria as specified in the State Water Board’s Policy on Supplemental Environmental Projects, February 3, 2009, as follows: The SEP amount is less than 50 percent of the total adjusted monetary assessment (total amount assessed minus the Lahontan Water Board’s investigative and enforcement costs). The Implementing Party, MWA, is legally and organizationally separate from the Settling Respondent. The SEP is not otherwise required of the Settling Respondent, as it is not a producer of recycled water and has no permit requirements for developing a salt and nutrient management plan, and the SEP is not mitigation to offset the impacts of the Settling Respondent’s projects. The SEP benefits ground water quality though characterization of salts and nutrients in the

[1] VVWRA disputes the presumption that the discharges impacted area ground waters but will not challenge the presumption as part of its effort to settle these matters.

ground water basins and development of a plan to manage salts and nutrients to assure attainment of water quality objectives and protection of beneficial uses. The SEP does not directly benefit the Lahontan Water Board, its members, its staff or family of members of staff.

The goals of the SEP are to:

- Manage salts and nutrients on a regional basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses.

- Prepare a SMP in a collaborative effort with stakeholders that meets the requirements for a SMP as described in the State Water Board's Recycled Water Policy (Resolution No. 2009-0011).

- Identify agencies responsible for managing current and future anthropogenic loads, and solicit participation by these agencies in the development of the SMP. Identify management actions and the agencies responsible for carrying out those management actions to achieve the water quality levels specified in the plan.

- Audit and leverage existing information and studies conducted within the Mojave IRWM Region in order to avoid duplication of efforts in preparing the SMP.

- Develop the SMP to be consistent with, and incorporated into, the IRWMP ultimately adopted by the Mojave Water Agency.

The attached SEP Project Description (Exhibit G) provides additional detail and budget for the following nine tasks to be completed:

1) Conduct Stakeholder Participation
2) Review/Assemble Data and Research
3) Update and Run Water Quality Model
4) Characterize Salt/Nutrients Within the Mojave IRWM Region and Groundwater Basins
5) Develop Monitoring and Reporting Plan
6) Identify and Recommend Implementation Measures
7) Identify Recycled Water and Storm Water Use/Recharge
8) Prepare Preliminary CEQA Analysis
9) Prepare and Submit SMP to Lahontan and Colorado River Water Boards (the Mojave IRWM area includes a small portion of ground water that is located in the Colorado River Region).

The SEP will be completed for a total budget of **$322,606**. The SMP will be completed and proposed to the Lahontan and Colorado Water Boards by **May 14, 2014**. However, the Water Boards may extend this deadline up to **May 14, 2016**, if the Water Boards find that the Implementing Party(ies) and stakeholders are unable to comply with the May 14, 2014 deadline, but are making substantial progress towards completing the plan. Any request for extending the May 14, 2014 deadline

must be received by the Water Boards no later than **February 14, 2014**. The request will provide the reason(s) the delay and an updated schedule for completing and presenting the plan.

14.2. **Representations and Agreements Regarding SEP**

a. Representation of the Implementing Party

As a material consideration for the Lahontan Water Board's acceptance of this Stipulation and Order, the Implementing Party(ies) represents that it will utilize the funds provided to it by the Settling Respondent to implement the SEP in accordance with the Schedule for Performance set forth in Exhibit G. The Implementing Party understands that its promise to implement the SEP, in its entirety and in accordance with the schedule for implementation, is a material condition of this settlement of liability between the Settling Respondent and the Prosecution Staff. The Implementing Party agrees that the Lahontan Water Board has the right to require the Implementing Party to implement the SEP in accordance with the terms of this Stipulation if it has received funds for that purpose from the Settling Respondent. The Implementing Party agrees to submit to the jurisdiction of the Lahontan Water Board to enforce the terms of this Stipulation and Order and the implementation of the SEP.

b. Agreement of Third-Party to Accept SEP Funds and Implement SEP

Each Implementing Party shall provide a written representation to the Lahontan Water Board by October 15, 2012 and before any funds from the SEP are spent that the recipient will 1) spend the SEP payment as described in the Stipulation; and 2) provide a certified, written report to the Lahontan Water Board consistent with the terms of this Stipulation detailing the implementation of the SEP. The Implementing Party agrees that the Lahontan Water Board has the right to require an audit of the funds provided to it by the Settling Respondent and expended by it to implement the SEP.

14.3. **Publicity Associated with SEP:** Whenever the Settling Respondent or its agents or subcontractors or the Implementing Party publicizes one or more elements of the SEP, they shall state in a **prominent manner** that the project is being undertaken as part of the settlement of an enforcement action by the Lahontan Water Board against the Settling Respondent.

14.4. **Submittal of Progress Reports:** Settling Respondent and/or the Implementing Party shall provide quarterly reports of progress to the Designated Lahontan Water Board Representative on the last day of the month following the end of the quarter, starting with January 31, 2013.

14.5. **Audits and Certification of Environmental Project**

a. Certification of Expenditures.

On or before 60 days after completion of the SEP, Settling Respondent shall submit a certified statement by responsible agency officials representing the Settling Respondent (and the Implementing Party) documenting the expenditures by Settling Respondent (and the Implementing Party) during the completion period for the SEP. The expenditures may be external payments to outside vendors or contractors implementing the SEP. In making such certification, the official may rely upon normal agency project tracking systems that capture employee time expenditures and external payments to outside vendors such as environmental and information technology contractors or consultants. Settling Respondent shall provide any additional information requested by the Lahontan Water Board staff that is reasonably necessary to verify Settling Respondent's SEP expenditures. The certification need not address any costs incurred by the Lahontan Water Board for oversight.

b. Certification of Performance of Work

On or before 60 days after completion of the SEP, the Settling Respondent (or the Implementing Party on behalf of the Respondent) shall submit a report, submitted under penalty of perjury, stating that the SEP has been completed in accordance with the terms of this Stipulation. Such documentation may include photographs, invoices, receipts, certifications, and other materials reasonably necessary for the Lahontan Water Board to evaluate the completion of the SEP and the costs incurred by the Settling Respondent.

c. Third Party Audit

If the Designated Lahontan Water Board Representative obtains information that causes the representative to reasonably believe that the Settling Respondent (or Implementing Party) has not expended money in the amounts claimed by the Settling Respondent (or Implementing Party), or has not adequately completed any of the work in the SEP Workplan, the Designated Lahontan Water Board Representative may require, and the Settling Respondent shall submit, at its sole cost, a report prepared by an independent third party(ies) acceptable to the Lahontan Water Board staff providing such party(ies)'s professional opinion that Settling Respondent (and the Implementing Party) has expended money in the amounts claimed by the Settling Respondent. In the event of such an audit, the Settling Respondent (and the Implementing Party) agree that they will provide the third-party auditor with access to all documents that the auditor requests. Such information shall be provided to the Designated Lahontan Water Board Representative within three (3) months of the completion of the Settling Respondent's SEP obligations. The audit need not address any costs incurred by the Lahontan Water Board for oversight.

14.6. **Lahontan Water Board Acceptance of Completed SEP:** Upon the Settling Respondent's satisfaction of its obligations under this Stipulation and Order, the completion of the SEP and any audits, the Designated Lahontan Water Board Representative, with notice to the Enforcement Coordinator, shall send the Settling Respondent a letter recognizing satisfactory completion of its obligations under the SEP. The letter shall terminate any further SEP obligations of the Settling Respondent and result in the permanent stay of the Suspended Liability.

14.7. **Failure to Expend All Suspended Administrative Civil Liability Funds on the Approved SEP:** In the event that Settling Respondent is not able to demonstrate to the reasonable satisfaction of the Lahontan Water Board staff that it (and/or the Implementing Party) has spent the entire SEP Amount for the completed SEP, Settling Respondent shall pay the difference between the Suspended Administrative Civil Liability and the amount Settling Respondent can demonstrate was actually spent on the SEP, as an administrative civil liability. The Settling Respondent shall pay the administrative liability within 30 days of its receipt of notice of the Lahontan Water Board Assistant Executive Officer's determination that the Settling Respondent has failed to demonstrate that the entire Suspended Liability has been spent to complete the SEP components.

14.8. **Failure to Complete the SEP:** If the SEP is not fully implemented within the SEP Completion Period required by this Stipulation and Order or if there has been a material failure to satisfy a Milestone Requirement, the Designated Lahontan Water Board Representative shall issue a Notice of Violation. As a consequence, Settling Respondent shall be liable to pay the entire Suspended Liability, or some portion thereof less the value of the completion of any Milestone Requirements, unless otherwise ordered. Settling Respondent shall not be entitled to any credit, offset, or reimbursement from the Lahontan Water Board for expenditures made on the SEP prior to the date of the "Notice of Violation" by the Lahontan Water Board, unless otherwised allowed. The amount of the Suspended Liability owed shall be determined via a "Motion for Payment of Suspended Liability" before the Lahontan Water Board. Upon a determination by the Lahontan Water Board of the amount of the Suspended Liability assessed, the amount owed shall be paid to the State Water Pollution Cleanup and Abatement Account within thirty (30) days after the service of the Lahontan Water Board's determination. In addition, the Settling Respondent shall be liable for the Lahontan Water Board's reasonable costs of enforcement, including but not limited to legal costs and expert witness fees. Payment of the assessed amount will satisfy the Settling Respondent's obligations to implement the SEP.

14.9. **Lahontan Water Board is Not Liable:** Neither the Lahontan Water Board members nor the Lahontan Water Board staff, attorneys, or representatives shall be liable for any injury or damage to persons or property resulting from acts or omissions by Settling Respondent (or the Implementing Party where applicable) its directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Stipulation and Order, nor shall the Lahontan Water Board, its members or staff be held as parties to or guarantors of any contract entered into by Settling Respondent, its directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Stipulation and Order.

The Settling Respondent covenants not to sue or pursue any administrative or civil claim or claims against any State Agency or the State of California, or their officers, employees, representatives, agents, or attorneys arising out of or relating to any matter expressly addressed by this Stipulation and Order or the SEP.

15. **Compliance with Applicable Laws:** The Settling Respondent understands that payment of administrative civil liability in accordance with the terms of this Stipulation and Order or compliance with the terms of this Stipulation and Order is not a substitute for compliance with applicable laws, and that continuing violations of the type alleged herein may subject it to further enforcement, including additional administrative civil liability.

16. **Attorney's Fees and Costs:** Except as otherwise provided herein, each Party shall bear all attorneys' fees and costs arising from the Party's own counsel in connection with the matters set forth herein.

17. **Matters Addressed by Stipulation:** Upon adoption by the Lahontan Water Board as an Order, this Stipulation represents a final and binding resolution and settlement of all claims, violations or causes of action alleged herein, or which could have been asserted against the Settling Respondent as of the date this Stipulation is signed, based on the specific facts alleged herein. The provisions of this Paragraph are expressly conditioned on the full payment of the administrative civil liability by the deadlines specified in Paragraph 13 and the Settling Respondents full satisfaction of the obligations described in Paragraphs 14 through 14.9.

18. **Public Notice:** The Parties agree that this Stipulation and Proposed Order will be noticed for a 30-day public comment period prior to being presented to the Lahontan Water Board for adoption. If the Lahontan Water Board Assistant Executive Officer or other Prosecution Staff receives significant new information that reasonably affects the propriety of presenting this Stipulation to the Lahontan Water Board for adoption as an Order by settlement, the Assistant Executive Officer may unilaterally declare this Stipulation void and decide not to present the Order to the Lahontan Water Board. Settling Respondent agrees that it may not rescind or otherwise withdraw its approval of this proposed Stipulation and Order.

19. **Addressing Objections Raised During Public Hearing:** The Parties agree that the procedure contemplated for adopting the Order by the Lahontan Water Board and review of this Stipulation by the public is lawful and adequate. In the event procedural objections are raised prior to the Order becoming effective, the Parties agree to meet and confer concerning any such objections, and may agree to revise or adjust the procedure as necessary or advisable under the circumstances.

20. **Interpretation:** This Stipulation and Order shall be construed as if the Parties prepared it jointly. Any uncertainty or ambiguity shall not be interpreted against any one Party. The Settling Respondent is represented by counsel in this matter.

21. **Modification:** This Stipulation and Order shall not be modified by any of the Parties by oral representation made before or after its execution. All modifications must be in writing, signed by all Parties and approved the Lahontan Water Board.

22. **If Order Does Not Take Effect:** In the event that this Order does not take effect because it is not approved by the Lahontan Water Board, or its delegate, or is vacated in whole or in part by the State Water Board or a court, the Parties acknowledge that they expect to proceed to a contested evidentiary hearing before the Lahontan Water Board to determine whether to assess administrative civil liabilities for the underlying alleged violations, unless the Parties agree otherwise. The Parties agree that all oral and written statements and agreements made during the course of settlement discussions will not be admissible as evidence in the hearing. The Parties agree to waive the following objections:

    a. Objections related to prejudice or bias of any of the Lahontan Water Board members or their advisors and any other objections that are premised in whole or in part on the fact that the Lahontan Water Board members or their advisors were exposed to some of the material facts and the Parties' settlement positions as a consequence of reviewing the Stipulation and/or the Order, and therefore may have formed impressions or conclusions prior to any contested evidentiary hearing in this matter; or

    b. Laches or delay or other equitable defenses based on the time period for administrative or judicial review to the extent this period has been extended by these settlement proceedings.

23. **Waiver of Hearing:** The Settling Respondent has been informed of the rights provided by California Water Code section 13323, subdivision (b), and hereby waives its right to an evidentiary hearing before the Lahontan Water Board prior to the adoption of the Order. The Stipulation and Order will be heard as a settlement agreement before the Lahontan Water Board, but the hearing will not be an evidentiary hearing.

24. **Waiver of Right to Petition:** The Settling Respondent hereby waives its right to petition the Lahontan Water Board's adoption of the Order for review by the State Water Board, and further waives its rights, if any, to appeal the same to a California Superior Court and/or any California appellate level court.

25. **Settling Respondent's Covenant Not to Sue:** The Settling Respondent covenants not to sue or pursue any administrative or civil claim(s) against any State Agency or the State of California, their officers, Board Members, employees, representatives, agents, or attorneys arising out of or relating to this Stipulation and Order.

26. **Necessity for Written Approvals:** All approvals and decisions of the Lahontan Water Board under the terms of this Order shall be communicated to the Settling Respondent in writing. No oral advice, guidance, suggestions or comments by employees or officials of the Lahontan Water Board regarding submissions or

notices shall be construed to relieve the Settling Respondent of its obligation to obtain any final written approval required by this Order.

27. **Authority to Bind:** Each person executing this Stipulation in a representative capacity represents and warrants that he or she is authorized to execute this Stipulation on behalf of and to bind the entity on whose behalf he or she executes the Stipulation.

28. **Effective Date**: The obligations under Paragraph 13 and Paragraphs 14 through 14.9 of this Stipulation are effective and binding only upon the entry of an Order by the Lahontan Water Board that incorporates the terms of this Stipulation.

29. **Severability:** This Stipulation and Order are severable; should any provision be found invalid the remainder shall remain in full force and effect.

(continued on next page)

30. **Denial of Liability:** In settling this matter, the Settling Respondent expressly denies the allegations described herein and makes no admission or representation as to the appropriateness of the liability determination under the Water Quality Enforcement Policy. Neither this Stipulation nor any payment pursuant to the Order shall constitute evidence of, or be construed as, a finding, adjudication, or acknowledgement of any fact, law or liability, nor shall it be construed as an admission of violation of any law, rule, or regulation. However, this Stipulation and/or any actions of payment pursuant to the Order may constitute evidence in actions seeking compliance with this Stipulation. This Order may be used as evidence of a prior enforcement action in future actions by the State Water Board or the Lahontan Water Board against the Settling Respondent.

31. **Counterpart Signatures:** This Stipulation may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one document.

**IT IS SO STIPULATED.**

California Regional Water Quality Control Board Prosecution Staff
Lahontan Region

By: Lauri Kemper
Lauri Kemper
Assistant Executive Officer

Date: August 29, 2012

Victor Valley Wastewater Reclamation Authority

By: _____
Logan Olds
General Manager

Date: _____

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**IT IS SO STIPULATED.**

California Regional Water Quality Control Board Prosecution Staff
Lahontan Region

By: _____
Lauri Kemper
Assistant Executive Officer

Date: _____

Victor Valley Wastewater Reclamation Authority

By: _____
for Logan Olds
General Manager

Date: August 29th, 2012

**Order of the Lahontan Water Board**

1. This Order incorporates the foregoing Stipulation.

2. In accepting the foregoing Stipulation, the Lahontan Water Board has considered, where applicable, each of the factors prescribed in California Water Code section 13385, subdivision (e). The Lahontan Water Board's consideration of these factors is based upon information obtained by the Lahontan Water Board staff in investigating Violations No. 1 through 5 or otherwise provided to the Lahontan Water Board. In addition to these factors, this settlement recovers the costs incurred by the staff of the Lahontan Water Board for this matter.

3. This is an action to enforce the laws and regulations administered by the Lahontan Water Board. The Lahontan Water Board finds that issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, sections 21000 et seq.), in accordance with section 15321(a)(2), title 14, of the California Code of Regulations.

Pursuant to California Water Code section 13323 and Government Code section 11415.60, **IT IS HEREBY ORDERED** on behalf of the Lahontan Regional Water Quality Control Board.

Patty Z. Kouyoumdjian
Executive Officer

Date: Sept. 20, 2012

Exhibits:

A. Administrative Civil Liability Methodology for Violation No. 1
B. Administrative Civil Liability Methodology for Violation No. 2
C. Administrative Civil Liability Methodology for Violation No. 3
D. Administrative Civil Liability Methodology for Violation No. 4
E. Administrative Civil Liability Methodology for Violation No. 5
F. Application of Steps 6-10 to Combined Total Base Liabilities Determined in Exhibits A Through E
G. SEP Description, Budget, and Schedule for Performance

**EXHIBIT A**

**LAHONTAN WATER BOARD PROSECUTION STAFF'S ALLEGATIONS AND WATER QUALITY ENFORCEMENT POLICY METHODOLOGY**

**FOR VIOLATION NO. 1**

## Synopsis

On June 18, 2010, VVWRA's Wastewater Reclamation Plant released 8,832 gallons of anaerobically digested sludge onto the plant grounds and into the facility storm drain. Of this amount, 8,602 gallons were contained and pumped back to the headworks of the treatment plant, and 230 gallons were discharged into a wetlands area located within the Mojave River.

A utility power failure caused one of the two gas blowers for Digester Nos. 4 and 5 to shut down. (The other gas blower for the digesters had been out of service for a month and was awaiting a new electrical motor.) The gas blower is needed to evacuate methane gas from the digester domes. While the gas blower was shut down, the pressure inside the digester dome increased, thereby causing an increase in flow of the sludge supernatant. The supernatant gravity flows to a sump where a centrifugal pump maintains a safe level within the sump. During the incident, the increased supernatant flow overwhelmed the centrifugal pump and 8,832 gallons of supernatant overflowed onto the plant grounds.

The discharged supernatant flowed into a facility storm drain and, eventually, into the storm drain wet well. The storm drain wet well is equipped with two dewatering pumps which pumps flows back to the headworks. However, the rate of the supernatant flow exceeded the pumps' capacity by 10 gallons per minute, resulting in a discharge of 230 gallons to a wetland area located within the floodplain area of the Mojave River.

The gas blower was offline for 27 minutes until VVWRA staff could restart the blower. The Variable Frequency Drives (VFD) to the gas blowers momentarily shut down until the backup generators started. The Programmable Logic Controller registered the VFD fault and stopped communicating with the VFD controlling the gas blower. The plant operator had to physically go to the digester building to reset the alarm, thereby allowing the gas blower to reinitialize its communication with the VFD. This system was corrected immediately after the spill incident so that the gas blower will re-start as soon as power to the VFD is restored.

Within an hour of when the spill occurred, VVWRA staff cut down vegetation in the proximity of the facility storm drain outfall into the wetland area. VVWRA staff vactored approximately 480 gallons of impacted waters from this area. VVWRA staff also sprinkled dry powdered chorine to disinfect the area.

Regardless, Total Coliform concentrations in the wetland area affected by the discharge persisted from June 18 (upstream concentration was 105 MPN per 100 ml, impacted area concentration was 1650 MPN per 100 ml) through June 21 (upstream

concentration was 255 MPN per 100 ml, impacted area concentration was 650 MPN per 100 ml). However, water within the wetland area was not actively flowing into the Mojave River during this time.

After the incident, VVWRA constructed an emergency overflow drain line from the supernatant sump to the treatment plant's emergency bypass basin. VVWRA modified its remote control panels to allow the gas blowers to be operated manually directly from the control panel without having to physically send staff to the digesters to reset and restart the blowers. Additionally, VVWRA now keeps a spare blower in its inventory to use in emergencies.

**Step 1 – Potential for Harm for Discharge Violations**

The "potential harm to beneficial uses" factor considers the harm to beneficial uses that may result from exposure to the pollutants in the discharge, while evaluating the nature, circumstances, extent, and gravity of the violation(s). A three-factor scoring system is used for each violation or group of violations: (1) the potential for harm to beneficial uses; (2) the degree of toxicity of the discharge; and (3) whether the discharge is susceptible to cleanup or abatement.

Factor 1: Harm or Potential Harm to Beneficial Uses.

A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm to beneficial uses is negligible (0) to major (5). For Violation No. 1, the potential harm to beneficial uses was determined to be minor (i.e., a score of **1**).

The designated beneficial uses of the Mojave River that could be impacted by the unauthorized discharge include municipal and domestic supply, agricultural supply, groundwater recharge, contact recreation (swimming, water skiing, wading, and fishing), non-contact recreation (picnicking, sunbathing, hiking, boating, kayaking, sightseeing, aesthetic enjoyment), warm and cold freshwater habitats, and wildlife habitat.

Sludge supernatant is similar to raw sewage in that they both contain high concentrations of nutrients, organic matter, and total coliforms. Discharges can pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

The discharge of 230 gallons of sludge supernatant on June 18, 2010, resulted in **minor harm** to the beneficial uses of the Mojave River. The Enforcement Policy defines minor as:

> *"Minor– low threat to beneficial uses (i .e. no observed impacts but potential impacts to beneficial uses with no appreciable harm)."*

The discharge occurred in a wetlands area located within the flood plain of the Mojave River. However, the active flow path of the river during the time of year the discharge occurred did not inundate the wetlands area. Therefore, the discharge did not enter the

active river flow and did not impact any area (and associated beneficial use) downstream from the point of discharge.

It is likely that the discharge resulted in no impacts to contact and non-contact recreation beneficial uses. The Lahontan Water Board is not aware of any complaints or other evidence of impact to such uses resulting from the spill.

However, the sludge supernatant does contain high bacterial concentrations that could potentially impact area groundwater wells that are used for municipal supply. In fact, the bacterial impact within the discharge area persisted for several days. Although the potential for impacts to such beneficial uses exists, no impacts were observed due to the small size of the spill and due to the fact that the discharge did not enter the active flow path of the Mojave River at the time of discharge.

Based on the circumstances described above, a score of **1** (one) is assigned to Factor 1 of the calculation methodology.

Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge.

A score between 0 and 4 is assigned based on a determination of the risk or threat of the discharged material. For Violation No. 1, a score of **3** was assigned. A score of 3 means that the chemical and/or physical characteristics of the discharged material poses an above-moderate risk or a direct threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material exceeds known risk factors and/or there is substantial concern regarding receptor protection).

The degree of toxicity of sludge supernatant (similar to raw sewage) cannot be accurately quantified. However, like raw sewage, sludge supernatant typically has elevated concentrations of biochemical oxygen demand (BOD), total suspended solids, high levels of viruses and bacteria, and toxic pollutants (such as heavy metals, pesticides, personal care products, and pharmaceuticals). These pollutants exert varying levels of impact on water quality and beneficial uses of receiving waters. High BOD reduces the amount of dissolved oxygen available fish habitat. Just one virus, bacterium or worm can reproduce to cause a serious infection, especially in individuals with impaired immune systems. These facts could suggest a significant risk for this factor.

Factor 3: Susceptibility to Cleanup or Abatement.

A score of 0 is assigned for this factor if 50 percent or more of the discharge is susceptible to cleanup or abatement. A score of 1 is assigned if less than 50 percent of the discharge is susceptible to cleanup or abatement. This factor is evaluated regardless of whether the discharge was actually cleaned up or abated by the discharger. For Violation No. 1, VVWRA recovered 8,602 gallons of the 8,832 gallons that initially spilled. Therefore, a factor of **0** is assigned.

Final Score – "Potential for Harm"

The scores of the three factors are added to provide a Potential for Harm score for each violation or group of violations. In this case, **a final score of 4** was calculated. The total score is then used in Step 2, below.

## Step 2 – Assessment for Discharge Violations

This step addresses penalties for the discharge based on both a per-gallon and a per-day basis. Water Code section 13385(c) allows civil liability to be assessed in an amount up to $10,000 per day of violation, and up to $10 per gallon discharged but not cleaned up in excess of 1,000 gallons.

1. Per Gallon Assessments for Discharge Violations

When there is a discharge, the Lahontan Water Board is to determine an initial liability amount on a per gallon basis using the Potential for Harm score and the Extent of Deviation from Requirement of the violation.

The Potential for Harm Score was determined in Step 1, and is 4.

The Extent of Deviation is considered Major. Section 301 of the Federal Water Pollution Control Act (33 U.S.C. § 1311) (Clean Water Act) and Water Code Section 13376 prohibit the discharge of pollutants to waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Lahontan Water Board Order No. R6V-2008-004 prescribes waste discharge requirements and NPDES Permit requirements for VVWRA's wastewater treatment plant facility.

> Discharge Prohibition III.A.4 of Order No. R6V-2008-004 prohibits the discharge of untreated sewage into surface waters.
>
> Discharge Prohibition III.A.5 of Order No. R6V-2008-004 prohibits the discharge of wastewater to the Mojave River except at authorized discharge points.
>
> Discharge Prohibition III.B of Order No. R6V-2008-004 prohibits the discharge, bypass, or diversion of raw or partially treated wastewater, wastewater biosolids, grease, or oils from the collection, transport, treatment, emergency storage, or disposal facilities to adjacent land areas or surface waters.

The calculation methodology defines a major deviation as,

> *"The requirement has been rendered ineffective (e.g., discharger disregards the requirement, and/or the requirement is rendered ineffective in its essential functions)."*

The sludge supernatant discharge rendered the prohibition on discharging pollutants to waters of the United States in violation of the NPDES permit ineffective in its essential functions. The prohibition would be effective only if no discharge had occurred.

Table 1 of the Enforcement Policy is used to determine a "per gallon factor" based on the Potential for Harm and Extent of Deviation. For Violation No. 1, the factor is **0.025**.

A total discharge volume of **0** gallons was determined based on the reported release of 230 gallons of sludge supernatant to the wetlands within the flood plain area of the Mojave River. This volume is less than the 1,000 gallon minimum volume for assessing civil liability for discharge amounts that are not cleaned up.

2. Per Day Assessments for Discharge Volumes

When there is a discharge, the Lahontan Water Board is to determine an initial liability amount on a per day basis using the same Potential for Harm score and the Extent of Deviation that were used in the per-gallon analysis. As described above, this factor is **0.025**.

**Violation No. 1 - Initial Liability Amount**

The initial liability amounts for the violations calculated on a per-gallon and per-day basis, are as follows:

Per Gallon Liability:

(0.025) x (0 gallons) x ($10/gallon) = $0

Per Day Liability:

(0.025) x (1 day) x ($10,000/day) = $250

Total Initial Liability = **$250**

**Step 3 – Per Day Assessment for Non-Discharge Violation**

This factor does not apply because Violation No. 1 is a discharge violation.

**Step 4 – Adjustment Factors**

There are three additional factors to be considered for modification of the amount of initial liability: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's compliance history.

Culpability

Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.5 and 1.5 is to be used, with a higher multiplier for negligent behavior. Even though an un-anticipated power outage was the root cause of the discharge, VVWRA was given a multiplier value of **1.1** because it had not implemented various measures that could have prevented such a discharge.

Had VVWRA installed a manual over-ride on the gas blowers when they were installed, the discharge could have been greatly reduced or prevented. Furthermore, had VVWRA installed an emergency overflow drain line, the discharge from the sludge digesters could have been collected and diverted back to the headworks, thereby circumventing a discharge off of the facility site into the adjacent wetlands and surface waters. Finally, had VVWRA repaired the second gas blower in a more timely fashion and kept a spare blower in its inventory, the discharge could have be reduced or prevented in its entirety.

Cleanup and Cooperation

This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used. A lower multiplier is for situations where there is a high degree of cleanup and/or cooperation and a higher multiplier is for situations where cleanup and/or cooperation is minimal or absent.

VVWRA was given a multiplier value of **0.75** because of its immediate response to the discharge event. VVWRA's actions prevented an additional 8,602 from being discharged into the wetlands area and, potentially, into the active flowing channel of the Mojave River. VVWRA immediately attempted to recover the 230 gallons that discharged into the wetlands area, and VVWRA immediately attempted to disinfect all affected areas. After the discharge occurred, VVWRA implemented control measures which prevented additional discharge events from occurring during subsequent power failure events.

History of Violations

This factor is to be used when there is a history of repeat violations. A minimum multiplier of 1.1 is to be used, and is to be increased as necessary. VVWRA was given a multiplier of **1.1**. A review of the California Integrated Water Quality System (CIWQS) and Lahontan Water Board files shows a limited history of unauthorized discharges from VVWRA's wastewater treatment plant.

**Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

**Violation No. 1 - Total Base Liability Amount**

($250) x (1.1) x (0.75) x (1.1) = $226.88

Total Base Liability = **$226.88**

**Steps 6 through 10**

Steps 6 through 10 apply to the Combined Total Base Liability Amount for all violations and are discussed in Exhibit F after the Total Base Liability Amounts have been determined for the remaining violations.

## EXHIBIT B

## LAHONTAN WATER BOARD PROSECUTION STAFF'S ALLEGATIONS AND WATER QUALITY ENFORCEMENT POLICY METHODOLOGY

## FOR VIOLATION NO. 2

### Synopsis

From August 22 through 28, 2010 (total of 6 days and 6 hours), VVWRA's Wastewater Reclamation Plant released 110,700 gallons of a mixture of chlorinated effluent and stormwater runoff into a wetland area of the Mojave River. The discharge was from the plant's storm drain system.

The storm drain pump station includes two pumps that discharge incidental flow to the plant headworks for re-treatment. In addition to storm water runoff flows from the plant facility grounds, non-storm incidental flows also discharge to the storm drain pump station from three separate sources. The three sources are the "basin in" and "basin out" analyzers at the chlorine residual instrumentation building, and the Sodium Bisulfite residual analyzers. Flow to the analyzers is supplied through constant speed sample pumps.

VVWRA determined that the pumps associated with the storm drain pump station failed on or around August 20, 2010, but was not discovered until August 28, 2010 because the high-level alarm switch had been disabled. VVWRA estimates that the discharge began on or around August 22, 2010.

The storm drain pump station is equipped with a high-level alarm. The alarm has a 3-position switch which allows it to be tested, turned off, or put into the normal mode. VVWRA's procedures at the time were to leave the switch in the normal mode except to test or reset the alarm. However, when the incident was discovered on August 28, 2010, the switch was found to be in the "off" position.

VVWRA's records indicate that the alarms associated with the storm drain pump station were previously tested on August 20, 2010. It is uncertain whether the plant operator who performed the tests that day forgot to return the high-level alarm switch to the normal operating mode. Additionally, the VVWRA maintenance technician who replaced the float switches reported that the high-level alarm float switch that was found in the "off" position was defective (along with two other float switches).

VVWRA staff collects readings from the two storm water pumps' hour meters during their daily rounds. The accumulated operating hours are recorded on the plant rounds sheet. From these readings, it was determined that the storm drain pump station pumps stopped working on August 22, 2010.

VVWRA's daily monitoring records indicate that the pump failure began on August 22, 2010, but its operations staff was unable to recognize that the pumps were not operating. During an internal post-incident investigation, the VVWRA staff persons who

collected the meter readings were asked why they didn't recognize that the hour meter had stopped and, subsequently, taken action to investigate why. Their response was that they didn't realize that the non-storm flow was being directed to the storm drain pump station, and they assumed that if it wasn't raining then the hour meter should not change. Further, when there were readings on the hour meter (during the days prior to the incident), they thought the pumps were operating due to an accumulation of incidental plant wash-down water.

VVWRA calculated the amount discharged based upon the constant flow rate from the three analyzers over the estimated 6.25-day period. The discharge volume was calculated to be 110,700 gallons, based upon a flow of 12.3 gallons per minute. The point of discharge was located approximately 20 feet upstream from the discharge point authorized by the NPDES permit for VVWRA's Wastewater Reclamation Plant.

VVWRA did collect samples of the discharge when it was occurring, but the lead operator on duty selected the wrong sampling kit to use. Therefore, many analyses were not conducted due to inadequate sample preservation.

Several hours after the incident occurred, another VVWRA operations staff member conducted pH and chlorine residual analyses. The pH was 7.85, which is within VVWRA's NPDES permit effluent limit range of 6.5 to 8.5 at VVWRA's authorized discharge point. The chlorine residual was 0.36 mg/l, which exceeds VVWRA's NPDES permit effluent limit of 0.003 mg/l at VVWRA's authorized discharge point. However, the discharge rate of 12.3 gallons per minute (17,700 gallons per day) is far less than the 7.9 million gallons per day authorized by VVWRA's NPDES permit. Therefore, the actual amount of chlorine discharged from the event (0.0502 pounds per day) is far less than VVWRA's NPDES permit limit of 0.35 pounds per day, and the discharge is assumed to have been de-chlorinated by the amount of residual sodium bisulfite in the authorized discharge point located 20 feet downstream from the spill discharge.

VVWRA did not initiate immediate clean-up efforts due to its perception of the effluent quality and quantity of the flow. The flow through the storm drain contained no appreciable solids as it consisted primarily of final effluent quality equal to the normal effluent quality of the treatment plant flow to the Mojave River (except for the residual chlorine concentrations).

However, VVWRA staff took immediate steps to stop the overflow once the discharge was discovered. All four float switches were immediately replaced on August 28, 2010. The high-level alarm control switch for the storm water pump station was replaced on September 3, 2010 with a two-position switch to prevent the alarm from being left in an "off" position. VVWRA provided formal instruction to its operations staff to perform checks of the storm water pump station switch panel and the storm drain outfall structure to the Mojave River once per shift and recorded in the Operations Log Book. All VVWRA staff received additional training on storm water collection procedures and the triggers for collecting samples. VVWRA modified its hourly meter reading recordation procedures in a manner that helps staff recognize the pattern for normal pump run times and to recognize deviations in run hours.

**Step 1 – Potential for Harm for Discharge Violations**

Factor 1: Harm or Potential Harm to Beneficial Uses.

For Violation No. 2, the potential harm to beneficial uses was determined to be minor (i.e., a score of **1**).

The designated beneficial uses of the Mojave River that could be impacted by the unauthorized discharge include municipal and domestic supply, agricultural supply, groundwater recharge, contact recreation (swimming, water skiing, wading, and fishing), non-contact recreation (picnicking, sunbathing, hiking, boating, kayaking, sightseeing, aesthetic enjoyment), warm and cold freshwater habitats, and wildlife habitat.

The discharge consisted primarily of final effluent quality equal to the normal effluent quality of the treatment plant flow to the Mojave River. However, the discharge contained residual chlorine concentrations that were more than 1000 times greater than the effluent limit concentration allowed by VVWRA's NPDES permit. Such concentrations can adversely impact aquatic life, thereby impacting associated beneficial uses.

It is noted that the discharge quantity was small, it was located approximately 20 feet upstream from VVWRA's permitted discharge point, and VVWRA's permitted discharge contained sufficient concentrations of sodium bisulfite to de-chlorinate the unauthorized discharge after an appropriate amount of mixing. Even so, the discharge of chlorinated effluent potentially impacted, at a minimum, aquatic life within a 20-foot stretch of the Mojave River.

It is likely that the discharge resulted in no impacts to contact and non-contact recreation beneficial uses. It is also likely that the discharge resulted in no impacts to cold and warm water habitats and associated wildlife. The Lahontan Water Board is not aware of any complaints or other evidence of impact to such uses resulting from the spill. Further, the total amount of chlorine discharged is less than one-seventh of the total daily discharge amount authorized by VVWRA's NPDES permit.

The discharge of 110,700 gallons of chlorinated effluent on August 22 through 28, 2010, resulted in **minor harm** to the beneficial uses of the Mojave River. The Enforcement Policy defines minor as:

*"Minor– low threat to beneficial uses (i.e. no observed impacts but potential impacts to beneficial uses with no appreciable harm)."*

Based on the circumstances described above, a score of **1** (one) is assigned to Factor 1 of the calculation methodology.

Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge.

For Violation No. 2, a score of **3** was assigned. A score of 3 means that the chemical and/or physical characteristics of the discharged material poses an above-moderate risk or a direct threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material exceed known risk factors and/or there is substantial concern regarding receptor protection).

Discharges of chlorine can be quite toxic to aquatic organisms, but the complexity of the reactions of chlorine makes it difficult to assess the impact of chlorine within any specific surface water environment. The US EPA's bulletin No. 440/5-84-030 published in January 1985 discusses the ambient aquatic life water quality criteria for chlorine. Generally, acute toxicity to freshwater species occurs at total residual chlorine concentrations ranging from 28 micrograms per liter to 710 micrograms per liter. However, all but one of the species tested has acute toxicity below total residual chlorine concentrations of 300 micrograms per liter, and a majority of the toxicity occurs at total residual chlorine concentrations less than 100 micrograms per liter. VVWRA's discharge contained a total residual chlorine concentration of 360 micrograms per liter which exceeds total residual chlorine concentrations where known risk factors have been documented.

Factor 3: Susceptibility to Cleanup or Abatement.

For Violation No. 2, the discharge persisted for more than six days before it was discovered, and the material was directly discharged into a wetland tributary to the Mojave River. Due to the volume discharged, the chlorinated effluent flowed directly into the Mojave River and is not susceptible to cleanup or abatement. A factor of **1** is assigned.

Final Score – "Potential for Harm"
The final "potential for harm" score for Violation No. 2, based on the considerations described above, is **5**.

## Step 2 – Assessment for Discharge Violations

1. Per Gallon Assessments for Discharge Violations

The Potential for Harm Score was determined in Step 1, and is **5**.

The Extent of Deviation is considered Moderate. This is based upon two conditions. First, the discharge location was approximately 20 feet upstream from VVWRA's authorized discharge point for the Mojave River. Therefore, Prosecution Staff asserts that while Discharge Prohibitions III.A.5 and III.B were not met, the effectiveness of these requirements was only partially compromised, given the very close proximity of the discharge location to VVWRA's authorized discharge point (approximately 20 feet).

Second, the discharge was primarily fully-treated wastewater, except that it had not been dechlorinated. It is likely that the discharge's quality would have complied with all NPDES Permit effluent limitations, except for chlorine residual concentration. The discharge's chlorine residual would have come into compliance shortly after being released and mixing with VVWRA's authorized discharge, which had a residual sodium biosulfate concentration capable of dechlorinating the discharge. Therefore, Prosecution Staff asserts that while Discharge Prohibition III.A.4 was not met, the requirement's effectiveness was only partially compromised, given the significant amount of treatment that had occurred and the short distance and relatively small area where the discharge quality would have likely exceeded only a single NPDES Permit effluent limitation (chlorine residual).

Table 1 of the Enforcement Policy is used to determine a "per gallon factor" based on the Potential for Harm and Extent of Deviation. For this particular case, the factor is **0.1**.

A total discharge volume of **109,700** gallons was determined based on the reported release of 110,700 gallons of treated effluent with elevated concentrations of total chlorine residual directly into the Mojave River. The volume used for calculating the initial liability accounts for the amount discharged over the 1,000-gallon minimum volume for discharge amounts that are not cleaned up.

2. Per Day Assessments for Discharge Volumes

When there is a discharge, the Lahontan Water Board is to determine an initial liability amount on a per day basis using on the same Potential for Harm score and the Extent of Deviation that were used in the per-gallon analysis. As described above, this factor is **0.1**. The discharge occurred over a 6.25-day period. For portion of a day that a violation occurred, the violation is considered to occur for that entire day period for the purpose of evaluation per day compliance. Therefore, a violation period of 7 days is determined.

**Violation No. 2 - Initial Liability Amount**

The initial liability amounts for the violations calculated on a per-gallon and per-day basis, are as follows:

Per Gallon Liability:

(0.1) x (109,700 gallons) x ($10/gallon) = $109,700

Per Day Liability:

(0.1) x (7 days) x ($10,000/day) = $7,000

Total Initial Liability = **$116,700**

**Step 3 – Per Day Assessment for Non-Discharge Violation**

This factor does not apply for because Violation No. 2 is a discharge violation.

**Step 4 – Adjustment Factors**

Culpability

VVWRA was given a multiplier value of 1.2 relative to Violation No. 2 because the high-level alarm switch for the storm drain pump station was negligently left in the "off" position. Additionally, VVWRA's operations staff (either due to active negligence or due to negligent training) were unable to interpret the storm drain pump station hour meter to recognize the pattern for normal pump run times and to recognize deviations in run hours.

Cleanup and Cooperation

VVWRA was given a multiplier value of 1 relative to Violation No. 2 to reflect a neutral consideration of this factor. VVWRA neither actively cleaned up the discharge, nor did VVWRA disregard its duty to stop the discharge and attempt to abate the effects of the discharge once it was discovered.

History of Violations

As described in Exhibit A, VVWRA has a history of violations and therefore a multiplier of 1.1 is appropriate.

**Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

**Violation No. 2 - Total Base Liability Amount**

($116,700) x (1.2) x (1.0) x (1.1) = $154,044

Total Base Liability = **$154,044**

**Steps 6 through 10**

Steps 6 through 10 apply to the Combined Total Base Liability Amount for all violations and are discussed in Exhibit F after the Total Base Liability Amounts have been determined for the remaining violations.

**EXHIBIT C**

**LAHONTAN WATER BOARD PROSECUTION STAFF'S ALLEGATIONS AND WATER QUALITY ENFORCEMENT POLICY METHODOLOGY**

**FOR VIOLATION NO. 3**

## Synopsis

On December 7, 2010, a sanitary sewer overflow (SSO) occurred from VVWRA's manhole No. 73, located near the intersection of "I" Avenue and Lemon Street in the City of Hesperia. 405,957 gallons of raw sewage were discharged during the event. Of this amount, 184,078 gallons were recovered either through pumping or captured in a downstream manhole, and the remaining 222,519 gallons of raw sewage were discharged into two dry sand washes, which eventually merge into a single wash. Although the sand washes are tributary to the Mojave River, the discharge infiltrated into the sand washes and did not flow into the Mojave River.

The spill occurred at approximately 4:30 pm when VVWRA's sewer line cleaning contractor, Innerline Engineering, was performing routine maintenance on a portion of its Hesperia Interceptor sewage line. The contractor was performing jet-rodding and basket cleaning activities when the catch debris basket being used in manhole No. 73 had wedged and became stuck on the downstream side of the manhole. The wedged basket created a plug, and the manhole surcharged and overflowed. 405,957 gallons of raw sewage discharged from the manhole.

The raw sewage flowed north on "I" Avenue and, eventually, into two sand washes, both of which are tributary to the Mojave River. By approximately 8:30 pm, VVWRA staff, working with local agency staffs, installed sand bags and diverted a portion of the flow from entering the downstream sand wash and into manhole No. 69 (located down gradient on "I" Avenue from manhole No. 73). By approximately 10:00 pm, the remaining amount of raw sewage that was flowing into the upgradient sand washed was also diverted downstream toward manhole No. 69 by constructing a dirt berm along the remaining portion of "I" Avenue. VVWRA estimated a total of 222,519 gallons had flowed into the two sand washes.

VVWRA stopped the entire sewage overflow by approximately 12:30 am on December 8, 2010. Once the flow to the sand washes had been stopped, VVWRA installed a portable pump and hose to divert flow around manhole No. 73 (flow was bypassed from manhole No. 74 to manhole No. 72). By 2:15 am, VVWRA was able to install an inflatable plug to completely isolate the flow from manhole No. 73, removed the stuck debris basket, and returned the interceptor line to normal operations.

The raw sewage flowed approximately 3500 feet through the sand washes before it completely infiltrated into the soil. The distance of the flow path was measured from the upgradient sand wash to a point beyond the confluence of the two sand washes. VVWRA disinfected the impacted sand washes with powdered chlorine. VVWRA also disinfected the affected dirt shoulder along "I" Avenue.

In order to prevent similar discharges from this area, VVWRA now requires its staff and contractors to install a temporary bypass of the portion of its interceptor that is to be cleaned. The bypass and cleaning activity will be scheduled during the hours of the lowest diurnal flow.

VVWRA had also been working proactively to avoid sewage overflows from the Hesperia "I" Avenue portion of its Interceptor. In early 2007, the City of Hesperia commissioned a study to evaluate its collection system. This effort was in response to a discharge event that occurred within this portion of the Interceptor, in addition to infiltration/inflow issues from the City of Hesperia's collection system. The study concluded that a second sewage interceptor line be constructed on Santa Fe Avenue (Santa Fe Bypass Interceptor) to alleviate sewage flow through the "I" avenue interceptor and to provide additional capacity.

Concurrently, VVWRA commissioned a study to re-evaluate its Capital Improvement Plan due to modeling inconsistencies contained in the plan that existed at that time. The results of the study commissioned by the City of Hesperia were incorporated into the revised Capital Improvement Plan, which was adopted by VVWRA in 2009. The Capital Improvement Plan identified the design and construction of the Santa Fe Bypass Interceptor as its highest priority, and funding for this project was immediately authorized.

The Santa Fe Bypass Interceptor could have been completed and operational prior to the December 7, 2010 discharge event. However, a 24-month delay occurred due to the need to negotiate an easement agreement with Southern California Edison to move a single power pole away from the proposed alignment. Once the agreement was finalized in late 2011, VVWRA quickly constructed the Santa Fe Bypass Interceptor, which is now completed.

**Step 1 – Potential for Harm for Discharge Violations**

Factor 1: Harm or Potential Harm to Beneficial Uses.

For Violation No. 3, the potential harm to beneficial uses was determined to be below moderate (i.e., a score of **2**).

The designated beneficial uses of the Mojave River that could be impacted by the unauthorized discharge include municipal and domestic supply, agricultural supply, groundwater recharge, contact recreation (swimming, water skiing, wading, and fishing), non-contact recreation (picnicking, sunbathing, hiking, boating, kayaking, sightseeing, aesthetic enjoyment), warm and cold freshwater habitats, and wildlife habitat.

Raw sewage contains high concentrations of nutrients, organic matter, and total coliforms. Discharges can pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

The discharge of raw sewage occurred within two dry washes, both of which are tributary to the Mojave River. The dry washes were dry at the time of the raw sewage discharge, and the entire amount of the discharge infiltrated into the sand washes. The raw sewage did not flow into active surface water, nor did the discharge enter the Mojave River.

It is likely that the discharge resulted in no impacts to contact and non-contact recreation beneficial uses. The Lahontan Water Board is not aware of any complaints or other evidence of impact to such uses resulting from the spill.

However, the discharge of raw sewage could potentially impact local groundwater resources. Further, impacts to recreational and wildlife resources from the discharge of the raw sewage along the 3500-foot length of its flow path within the sand washes may be reasonably expected.

The discharge of 222,519 gallons of raw sewage on December 7, 2010 resulted in **below moderate harm** to the beneficial uses of the Mojave River and its tributary sand washes. The Enforcement Policy defines below moderate as:

*"Below Moderate – less than moderate threat to beneficial uses (i.e., impacts are observed or reasonably expected, harm to beneficial uses is minor)."*

Based on the circumstances described above, a score of **2** (two) is assigned to Factor 1 of the calculation methodology.

Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge.

For Violation No. 3, a score of **3** was assigned. A score of 3 means that the chemical and/or physical characteristics of the discharged material poses an above-moderate risk or a direct threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material exceeds known risk factors and/or there is substantial concern regarding receptor protection).

The degree of toxicity of raw sewage cannot be accurately quantified. However, raw sewage typically has elevated concentrations of biochemical oxygen demand (BOD), total suspended solids, high levels of viruses and bacteria, and toxic pollutants (such as heavy metals, pesticides, personal care products, and pharmaceuticals). These pollutants exert varying levels of impact on water quality and beneficial uses of receiving waters. High BOD reduces the amount of dissolved oxygen available for fish habitat. Just one virus, bacterium or worm can reproduce to cause a serious infection, especially in individuals with impaired immune systems. These facts could suggest a significant risk for this factor.

Factor 3: Susceptibility to Cleanup or Abatement.

For Violation No. 3, VVWRA recovered 184,078 gallons of the 405,957 gallons that overflowed from manhole No. 73. Therefore, a factor of **1** is assigned.

Final Score – "Potential for Harm"

The final "potential for harm" score for Violation No. 3, based on the considerations described above, is **6**.

**Step 2 – Assessment for Discharge Violations**

1. Per Gallon Assessments for Discharge Violations

The Potential for Harm Score was determined in Step 1, and is 6.

The Extent of Deviation is considered Major because Section 301 of the Federal Water Pollution Control Act (33 U.S.C. § 1311) (Clean Water Act) and Water Code Section 13376 prohibit the discharge of pollutants to waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

Furthermore, State Water Board Order No. 2006-0003-DWQ, which is not an NPDES permit and which prescribes statewide general waste discharge requirements for sanitary sewer collection systems, prohibits SSOs that result in a discharge of untreated wastewater to waters of the United States.

The raw sewage discharge rendered the prohibitions on discharging pollutants to waters of the United States ineffective in their essential functions. The prohibitions would be effective only if no discharge had occurred.

Table 1 of the Enforcement Policy is used to determine a "per gallon factor" based on the Potential for Harm and Extent of Deviation. For this particular case, the factor is **0.22**.

A total discharge volume of **221,519** gallons was determined based on the reported release of 222,519 gallons of raw sewage directly into the sand wash tributaries of the Mojave River. The volume used for calculating the initial liability accounts for the amount discharged over the 1,000-gallon minimum volume for discharge amounts that are not cleaned up.

2. Per Day Assessments for Discharge Volumes

When there is a discharge, the Lahontan Water Board is to determine an initial liability amount on a per day basis using on the same Potential for Harm score and the Extent of Deviation that were used in the per-gallon analysis. As described above, this factor is **0.22**.

**Violation No. 3 - Initial Liability Amount**

The initial liability amounts for the violations calculated on a per-gallon and per-day basis, are as follows:

Per Gallon Liability:

(0.22) x (221,519 gallons) x ($10/gallon) = $487,341.80

Per Day Liability:

(0.22) x (1 day) x ($10,000/day) = $2,200

Total Initial Liability = **$489,541.80**

**Step 3 – Per Day Assessment for Non-Discharge Violation**

This factor does not apply for because Violation No. 3 is a discharge violation.

**Step 4 – Adjustment Factors**

Culpability

VVWRA was given a multiplier value of **1** relative to Violation No. 3 to reflect a neutral assessment for fault or negligence. VVWRA's contractor was exercising typical standard of care when it initiated the prescribed cleaning activities. VVWRA could not predict that the debris basket would get stuck within the interceptor and cause an SSO to occur.

A higher number was not assigned because VVWRA had previously commissioned a study and completed its Capital Improvement Plan that identified the construction of the Santa Fe Bypass line to the Hesperia "I" Avenue Interceptor as its highest priority. VVWRA acted with appropriate due diligence to quickly construct the bypass. In fact, VVWRA would have completed construction of the bypass in a time frame that would have prevented the SSO from occurring, but the easement negotiation with Southern California Edison caused a 24-month delay in the construction schedule.

A lower number was not assigned to reflect that the cleaning service was contracted by VVWRA, and VVWRA is ultimately responsible for the actions of its contractors.

Cleanup and Cooperation

VVWRA was given a multiplier value of **0.75** because of its immediate response to the SSO event. VVWRA's actions prevented an additional 184,078 gallons from being

discharged into the sand wash tributaries to the Mojave River. After the discharge occurred, VVWRA disinfected all affected areas along "I" Avenue and within the sand washes. Additionally, VVWRA now requires its staff and contractors to install a temporary bypass of the portion of its interceptor that is to be cleaned, and requires bypass and cleaning activities to be scheduled during the hours of the lowest diurnal flow.

History of Violations

As described in Exhibit A, VVWRA has a history of violations and therefore a multiplier of 1.1 is appropriate.

**Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

**Violation No. 3 - Total Base Liability Amount**

($489,541.80) x (1) x (0.75) x (1.1) = $275,367.26

Total Base Liability = **$403,871.99**

**Steps 6 through 10**

Steps 6 through 10 apply to the Combined Total Base Liability Amount for all violations and are discussed in Exhibit F after the Total Base Liability Amounts have been determined for the remaining violations.

**EXHIBIT D**

**LAHONTAN WATER BOARD PROSECUTION STAFF'S ALLEGATIONS AND WATER QUALITY ENFORCEMENT POLICY METHODOLOGY**

**FOR VIOLATION NO. 4**

## Synopsis

On December 22, 2010, a sanitary sewer overflow (SSO) occurred from VVWRA's Hesperia "I" Avenue Interceptor at Manhole Nos. 68 and 69, near the intersection of "I" and Lemon Avenues in the City of Hesperia. A total of 64,700 gallons of raw sewage discharged into a storm drain, into an actively flowing sand wash, and into the Mojave River.

The two discharges began at approximately 7:00 am during a heavy precipitation event. VVWRA estimated that 15,200 gallons of raw sewage discharged from Manhole No. 68 based upon an estimated discharge flow rate of 100 gallons per minute over a 152-minute period. VVWRA also estimated that 49,500 gallons of raw sewage discharged from Manhole No. 69 based upon an estimated discharge flow rate of 150 gallons per minute over a 330-minute period.

The entire 64,700-gallon discharge was unrecoverable. The raw sewage flowed into adjacent storm drain inlets and into the flowing sand washes. The amount of water flowing in the wash during this period was significant to such a degree that it posed a danger to VVWRA personnel. The sand wash is tributary to the Mojave River.

Prior to the storm event, VVWRA increased its inventory of temporary emergency equipment, staged temporary emergency equipment at the most vulnerable locations, ensured adequate maintenance staff were available, and contacted major temporary equipment providers in the event of a catastrophic failure.

VVWRA reported that the Hesperia "I" Avenue Interceptor was operating beyond its designed capacity. During the storm event, the entire 3.1 miles of underground interceptor pipeline and associated 40 manholes were surcharged. Between Manhole Nos. 68 and 69, the interceptor pipeline is reduced in size to create a siphon effect. This design has been the cause of prior SSOs in this area.

VVWRA staff inspected several manholes downgradient from the point of discharge to determine if any obstructions were present. Unobstructed flow was detected at all manholes inspected. Furthermore, all inspected manholes were surcharged. The extent of the surcharge precluded the deployment of temporary bypass piping.

VVWRA has been working proactively to avoid sewage overflows from the Hesperia "I" Avenue portion of its Interceptor. In early 2007, the City of Hesperia commissioned a study to evaluate its collection system. This effort was in response to a discharge event that occurred within this portion of the Interceptor, in addition to infiltration/inflow issues from the City of Hesperia's collection system. The study concluded that a second

sewage interceptor line be constructed on Santa Fe Avenue (Santa Fe Bypass Interceptor) to alleviate sewage flow through the "I" avenue interceptor and to provide additional capacity.

Concurrently, VVWRA commissioned a study to re-evaluate its Capital Improvement Plan due to modeling inconsistencies contained in the plan that existed at that time. The results of the study commissioned by the City of Hesperia were incorporated into the revised Capital Improvement Plan, which was adopted by VVWRA in 2009. The Capital Improvement Plan identified the design and construction of the Santa Fe Bypass Interceptor as its highest priority, and funding for this project was immediately authorized.

The Santa Fe Bypass Interceptor could have been completed and operational prior to the December 7, 2010 discharge event. However, a 24-month delay occurred due to the need to negotiate an easement agreement with Southern California Edison to move a single power pole away from the proposed alignment. Once the agreement was finalized in late 2011, VVWRA quickly constructed the Santa Fe Bypass Interceptor, which is now completed.

**Step 1 – Potential for Harm for Discharge Violations**

Factor 1: Harm or Potential Harm to Beneficial Uses.

For Violation No. 4, the potential harm to beneficial uses was determined to be moderate (i.e., a score of **3**).

The designated beneficial uses of the Mojave River that could be impacted by the unauthorized discharge include municipal and domestic supply, agricultural supply, groundwater recharge, contact recreation (swimming, water skiing, wading, and fishing), non-contact recreation (picnicking, sunbathing, hiking, boating, kayaking, sightseeing, aesthetic enjoyment), warm and cold freshwater habitats, and wildlife habitat.

Raw sewage contains high concentrations of nutrients, organic matter, and total coliforms. Discharges can pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

64,700 gallons of raw sewage discharged directly into an actively flowing wash and, eventually, into the Mojave River.

The discharge occurred during severe weather conditions, when it is reasonable to assume that no recreational users would be on or in the water. Thus, it is likely that the discharge resulted in few, if any, impacts to contact recreation beneficial uses. The Lahontan Water Board is not aware of any complaints or other evidence of impact to such uses resulting from the spill.

However, the discharge of raw sewage could potentially impact local groundwater resources. Further, impacts to recreational and wildlife resources from the discharge of the raw sewage may be reasonably expected.

The discharge of 64,700 gallons of raw sewage on December 22, 2010 resulted in **moderate harm** to the beneficial uses of the Mojave River and its tributary sand wash. The Enforcement Policy defines below moderate as:

*"Moderate –moderate threat to beneficial uses (i.e., impacts are observed or reasonably expected and impacts to beneficial uses are moderate and likely to attenuate without appreciable acute or chronic effects)."*

Based on the circumstances described above, a score of **3** (three) is assigned to Factor 1 of the calculation methodology.

Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge.

For Violation No. 4, a score of **3** was assigned. A score of 3 means that the chemical and/or physical characteristics of the discharged material poses an above-moderate risk or a direct threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material exceeds known risk factors and/or there is substantial concern regarding receptor protection).

The degree of toxicity of raw sewage cannot be accurately quantified. However, raw sewage typically has elevated concentrations of biochemical oxygen demand (BOD), total suspended solids, high levels of viruses and bacteria, and toxic pollutants (such as heavy metals, pesticides, personal care products, and pharmaceuticals). These pollutants exert varying levels of impact on water quality and beneficial uses of receiving waters. High BOD reduces the amount of dissolved oxygen available for fish habitat. Just one virus, bacterium or worm can reproduce to cause a serious infection, especially in individuals with impaired immune systems. These facts could suggest a significant risk for this factor.

Factor 3: Susceptibility to Cleanup or Abatement.

For Violation No. 4, all of the discharge flowed into adjacent storm drain inlets and into an actively flowing wash. The amount of water flowing in the wash during this period was significant to such a degree that it posed a danger to VVWRA personnel. The discharge was unrecoverable, and therefore a factor of **1** is assigned.

Final Score – "Potential for Harm"

The final "potential for harm" score for Violation No. 4, based on the considerations described above, is **7**.

**Step 2 – Assessment for Discharge Violations**

1. Per Gallon Assessments for Discharge Violations

The Potential for Harm Score was determined in Step 1, and is 7.

The Extent of Deviation is considered Major because Section 301 of the Federal Water Pollution Control Act (33 U.S.C. § 1311) (Clean Water Act) and Water Code Section 13376 prohibit the discharge of pollutants to waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

Furthermore, State Water Board Order No. 2006-0003-DWQ, which is not an NPDES permit and which prescribes statewide general waste discharge requirements for sanitary sewer collection systems, prohibits SSOs that result in a discharge of untreated wastewater to waters of the United States.

The raw sewage discharge rendered the prohibitions on discharging pollutants to waters of the United States ineffective in their essential functions. The prohibitions would be effective only if no discharge had occurred.

Table 1 of the Enforcement Policy is used to determine a "per gallon factor" based on the Potential for Harm and Extent of Deviation. For this particular case, the factor is **0.31**.

A total discharge volume of **63,700** gallons was determined based on the reported release of 64,700 gallons of raw sewage directly into the sand wash tributaries of the Mojave River. The volume used for calculating the initial liability accounts for the amount discharged over the 1,000-gallon minimum volume for discharge amounts that are not cleaned up.

2. Per Day Assessments for Discharge Volumes

When there is a discharge, the Lahontan Water Board is to determine an initial liability amount on a per day basis using on the same Potential for Harm score and the Extent of Deviation that were used in the per-gallon analysis. As described above, this factor is **0.31**.

**Violation No. 4 - Initial Liability Amount**

The initial liability amounts for the violations calculated on a per-gallon and per-day basis, are as follows:

Per Gallon Liability:

(0.31) x (63,700 gallons) x ($10/gallon) = $197,470

Per Day Liability:

(0.31) x (1 day) x ($10,000/day) = $3,100

Total Initial Liability = **$200,570**

**Step 3 – Per Day Assessment for Non-Discharge Violation**

This factor does not apply for because violation No. 4 is a discharge violation.

**Step 4 – Adjustment Factors**

Culpability

VVWRA was given a multiplier value of **1** relative to Violation No. 4 to reflect a neutral assessment for fault or negligence. VVWRA exercised typical standard of care by recognizing weak spots within its collection system and appropriately deploying emergency equipment at known weak spots during a significant storm event.

A higher number was not assigned because VVWRA had previously commissioned a study and completed its Capital Improvement Plan that identified the construction of the Santa Fe Bypass line to the Hesperia "I" Avenue Interceptor as its highest priority. VVWRA acted with appropriate due diligence to quickly construct the bypass. In fact, VVWRA would have completed construction of the bypass in a time frame that would have prevented the SSO from occurring, but the easement negotiation with Southern California Edison caused a 24-month delay in the construction schedule.

A lower number was not assigned to reflect that VVWRA is ultimately responsible for all discharges from its collection system.

Cleanup and Cooperation

VVWRA was given a multiplier value of 1 relative to Violation No. 4 to reflect a neutral consideration of this factor. VVWRA neither actively cleaned up the discharge, nor did VVWRA disregard its duty to attempt to avoid a discharge during a forecasted storm event.

History of Violations

As described in Exhibit A, VVWRA has a history of violations and therefore a multiplier of 1.1 is appropriate.

**Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

**Violation No. 4 - Total Base Liability Amount**

($200,570) x (1.0) x (1.0) x (1.1) = $220,627

Total Base Liability = **$220,627.00**

**Steps 6 through 10**

Steps 6 through 10 apply to the Combined Total Base Liability Amount for all violations and are discussed in Exhibit F after the Total Base Liability Amounts have been determined for the remaining violations.

## EXHIBIT E

## LAHONTAN WATER BOARD PROSECUTION STAFF'S ALLEGATIONS AND WATER QUALITY ENFORCEMENT POLICY METHODOLOGY

## FOR VIOLATION NO. 5

### Synopsis

From December 25, 2010 through January 9, 2011, a sanitary sewer overflow (SSO) of raw sewage occurred from VVWRA's Interceptor located under the river bed within the Upper Narrows section of the Mojave River. A total of approximately 42.9 million gallons of raw sewage discharged into the Mojave River.

Extreme winter storms occurred within the Mojave River watershed during the week of December 19, 2010. (Other areas of Southern California were also impacted by this strong Pacific storm). The extreme precipitation, coupled with emergency flow releases from upstream reservoirs, resulted in high flows in the Mojave River. As of December 22, 2010, the United States Geological Service (USGS) recorded river flow of 14,000 cubic feet per second (cfs, typical winter flows are less than 20 cfs), and the river height was over 18 feet. High river flows caused the USGS gage to stop functioning after the December 22nd reading. The US Federal Emergency Management Agency declared a federal emergency for all areas impacted by the December 2010/January 2011 winter storms, including the Mojave River watershed area.

On December 27, 2010, VVWRA operations staff observed lower than normal influent flows to its wastewater treatment plant. VVWRA immediately deployed staff to investigate the cause. A visual inspection of accessible portions of VVWRA's interceptor did not reveal signs of a breach, and VVWRA therefore determined that an abnormality may exist within the portion of the interceptor located under the river bed within the Upper Narrows section of the Mojave River. High river flows continued to preclude direct physical inspection of this section of pipe, and VVWRA conducted a dye test on December 29, 2010. The dye test confirmed the presence and location of the break in the interceptor in this area. The breach was located approximately 640 feet downstream of the intersection of the Apple Valley Interceptor with the main Interceptor carrying flows from County Service Area 64 and the Cities of Hesperia and Victorville.

The flow rate for the raw sewage discharge was estimated to be 2.86 million gallons per day. This estimate is based upon the decreased plant influent flow rates following the storm event that occurred the week of December 19th. VVWRA provided plant influent flow data for the days prior to and following the storm event. The influent flow data indicates that the breach most likely occurred as early as December 25, 2010. VVWRA determined that flow from the Mojave River did not enter the interceptor based upon an analysis of diurnal flows during the low-flow periods. Furthermore, the location of the interceptor beneath the river bed would preclude intrusion of river flows.

Upon discovery of the breach, VVWRA immediately developed and implemented plans to construct an emergency bypass. However, the bypass design originally described in VVWRA's Emergency Response Action Plan (November, 2008) did not contemplate a discharge event of this magnitude where both the Apple Valley Interceptor and the main Interceptor lined need to be bypassed.

Instead, VVWRA quickly altered the plan to design and install a temporary bypass. The constructed temporary bypass line involved the construction of 5000 feet of pipe, one crossing over the Mojave River, and associated pumps. Had VVWRA constructed the temporary bypass plan prescribed by its Emergency Response Action Plan, an additional 3000 feet of pipe, additional pumps, and an additional river crossing would have been required. Furthermore, the originally-prescribed temporary bypass plan would bypass flows into a City of Victorville line whose limited capacity would require flow restrictions on area residents and businesses until a permanent bypass could be constructed. VVWRA also estimated that constructing the originally-prescribed temporary bypass would have taken approximately seven additional days to complete. Given the estimated discharge rate of 2.86 million gallons per day, VVWRA prevented approximately 20 million gallons of raw sewage from being released into the Mojave River by quickly and effectively modifying the temporary bypass design.

As an interim measure while the temporary bypass was being constructed, VVWRA worked to bring an old pump station (CSA 64) back into operating condition. This action was taken to divert a portion of the raw sewage flow around the area of the breach. The volume bypassed through this temporary diversion was limited by the smaller size of the line than the size of the main Interceptor. Nevertheless, this interim diversion was implemented on January 2, 2011 until the temporary diversion bypass was completed.

VVWRA completed the construction and implementation of the temporary bypass on January 9, 2011. The total amount of raw sewage that discharged into the Mojave River during the 15 days the breach existed (December 25, 2010 through January 9, 2011) is estimated to be 42.9 million gallons.

After constructing the temporary bypass, VVWRA began planning and design work for a permanent bypass around the Upper Narrows section of the Mojave River. This effort coincided with studies which began in 2006 to address odor issues in Apple Valley and to address additional capacity needs for future growth. VVWRA initially studied several options, and it ultimately elected to replace the Interceptor located under the river bed in the Upper Narrows portion of the Mojave River with a new alignment. The new alignment will be tunneled through the Upper Narrows Formation around the Mojave River bed area. VVWRA has initiated the environmental review process for this project. An Initial Study in support of a mitigated negative declaration was completed in 2011, and the adoption hearing for the mitigated negative declaration was held on January 26, 2012. Additional studies and coordination with federal permitting are still needed, but VVWRA estimates project completion by June, 2013. In the meantime, VVWRA continues to operate and monitor its temporary bypass.

VVWRA immediately implemented a surface water quality monitoring program in accordance with its Emergency Response Action Plan. Surface water monitoring for most constituents occurred from December 29, 2010 through January 24, 2011, when most constituent concentrations had returned to background levels. Sampling continued for ammonia, fecal coliform, and total coliform through February 1, 2011 when these constituents had also returned to background levels. Although many constituents (most notably, total coliform) exceeded background levels, the following constituents exceeded water quality standards:

- Fecal Coliform (Basin Plan Exceedance)
- Ammonia (Basin Plan Exceedance)
- Total Dissolved Solids (TDS) (Basin Plan Exceedance)
- Temperature (Basin Plan Exceedance)
- Oil and Grease (Basin Plan Exceedance)
- Copper (California Toxicity Rule, acute and chronic exceedance)
- Iron (Secondary MCL exceedance)
- Manganese (Secondary MCL exceedance)
- Lead (California Toxicity Rule, chronic exceedance)
- Vanadium (California drinking water action level exceedance)
- Zinc (California Toxicity Rule, acute and chronic exceedance)
- Bis(2-ethylhexyl) phthalate (California Toxicity Rule, human health exceedance)

VVWRA also coordinated water quality sampling of private water supply wells located along the Mojave River channel following public notification of the discharge event. Based upon a comparison of historical sampling results to the results for groundwater samples collected from private wells located downstream of the spill site, slight impacts were noted due to nutrients and general minerals (total dissolved solids). However, VVWRA determined that no beneficial uses were affected by nutrients or general minerals associated with the discharge. One private well (Oro Grande Well No. 1) did sample positive for fecal coliform on January 10, 2011. However, three other wells located nearer to the spill site did not test positive for either fecal or total coliforms. It is generally assumed that the discharge did not adversely impact any of the wells.

**Step 1 – Potential for Harm for Discharge Violations**

Factor 1: Harm or Potential Harm to Beneficial Uses.

For Violation No. 5, the potential harm to beneficial uses was determined to be moderate (i.e., a score of **3**).

The designated beneficial uses of the Mojave River that could be impacted by the unauthorized discharge include municipal and domestic supply, agricultural supply, groundwater recharge, contact recreation (swimming, water skiing, wading, and fishing), non-contact recreation (picnicking, sunbathing, hiking, boating, kayaking, sightseeing, aesthetic enjoyment), warm and cold freshwater habitats, and wildlife habitat.

Raw sewage contains high concentrations of nutrients, organic matter, and total coliforms. Discharges can pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

42,900,000 gallons of raw sewage discharged directly into the Mojave River.

The discharge occurred during severe weather conditions, when it is reasonable to assume that no recreational users would be on or in the water. Thus, it is likely that the discharge resulted in few, if any, impacts to contact recreation beneficial uses. The Lahontan Water Board is not aware of any complaints or other evidence of impact to such uses resulting from the spill.

However, the discharge of raw sewage could potentially impact local groundwater resources. In fact, limited ground water impacts were observed due to elevated levels of nutrients and total dissolved solids. Further, impacts to recreational and wildlife resources from the discharge of the raw sewage may be reasonably expected.

The discharge of 42,900,000 gallons of raw sewage from December 25, 2010, resulted in **moderate harm** to the beneficial uses of the Mojave River. The Enforcement Policy defines below moderate as:

*"Moderate –moderate threat to beneficial uses (i.e., impacts are observed or reasonably expected and impacts to beneficial uses are moderate and likely to attenuate without apprecaiable acute or chronic effects)."*

Based on the circumstances described above, a score of **3** (three) is assigned to Factor 1 of the calculation methodology.

Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge.

For Violation No. 5, a score of **3** was assigned. A score of 3 means that the chemical and/or physical characteristics of the discharged material poses an above-moderate risk or a direct threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material exceeds known risk factors and/or there is substantial concern regarding receptor protection).

The degree of toxicity of raw sewage cannot be accurately quantified. However, raw sewage typically has elevated concentrations of biochemical oxygen demand (BOD), total suspended solids, high levels of viruses and bacteria, and toxic pollutants (such as heavy metals, pesticides, personal care products, and pharmaceuticals). These pollutants exert varying levels of impact on water quality and beneficial uses of receiving waters. High BOD reduces the amount of dissolved oxygen available for fish habitat. Just one virus, bacterium or worm can reproduce to cause a serious infection, especially in individuals with impaired immune systems. These facts could suggest a significant risk for this factor.

Factor 3: Susceptibility to Cleanup or Abatement.

For Violation No. 5, all of the raw sewage discharge flowed directly into the Mojave River. The discharge was unrecoverable, and therefore a factor of **1** is assigned.

Lahontan Water Board staff acknowledges that VVWRA had offered to install a hypochlorite station adjacent to the spill site. However, Lahontan Water Board staff advised against installing such a system (January 4, 2011 electronic mail).

Final Score – "Potential for Harm"

The final "potential for harm" score for Violation No. 5, based on the considerations described above, is **7**.

**Step 2 – Assessment for Discharge Violations**

1. Per Gallon Assessments for Discharge Violations

The Potential for Harm Score was determined in Step 1, and is 7.

The Extent of Deviation is considered Major because Section 301 of the Federal Water Pollution Control Act (33 U.S.C. § 1311) (Clean Water Act) and Water Code Section 13376 prohibit the discharge of pollutants to waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

Furthermore, State Water Board Order No. 2006-0003-DWQ, which is not an NPDES permit and which prescribes statewide general waste discharge requirements for sanitary sewer collection systems, prohibits SSOs that result in a discharge of untreated wastewater to waters of the United States.

The raw sewage discharge rendered the prohibitions on discharging pollutants to waters of the United States ineffective in their essential functions. The prohibitions would be effective only if no discharge had occurred.

Table 1 of the Enforcement Policy is used to determine a "per gallon factor" based on the Potential for Harm and Extent of Deviation. For this particular case, the factor is **0.31**.

A total discharge volume of **42,899,000** gallons was determined based on the reported release of 42,900,000 gallons of raw sewage directly into the Mojave River. The volume used for calculating the initial liability accounts for the amount discharged over the 1,000-gallon minimum volume for discharge amounts that are not cleaned up.

Lahontan Water Board staff acknowledges that this discharge volume was extremely large. Pursuant to the Enforcement Policy, a maximum amount of $2.00 per gallon is used to determine the per gallon amount of the initial liability.

2. Per Day Assessments for Discharge Volumes

When there is a discharge, the Lahontan Water Board is to determine an initial liability amount on a per day basis using on the same Potential for Harm score and the Extent of Deviation that were used in the per-gallon analysis. As described above, this factor is **0.31**.

**Violation No. 5 - Initial Liability Amount**

The initial liability amounts for the violations calculated on a per-gallon and per-day basis, are as follows:

Per Gallon Liability:

(0.31) x (42,899,000 gallons) x ($2/gallon) = $26,597,380

Per Day Liability:

(0.31) x (15 days) x ($10,000/day) = $46,500

Total Initial Liability = **$26,643,880**

**Step 3 – Per Day Assessment for Non-Discharge Violation**

This factor does not apply for because Violation No. 5 is a discharge violation.

**Step 4 – Adjustment Factors**

Culpability

VVWRA was given a multiplier value of **0.5** relative to Violation No. 5 to reflect circumstances that were beyond the control of VVWRA.

Extreme winter storm precipitation occurred within the Mojave River watershed during the week of December 19, 2010 prior to the breach in VVWRA's Interceptor. The extreme precipitation forced area water masters to implement emergency releases from several upstream reservoirs. Cedar Springs Dam was releasing flows of 2,000 cfs, and Mojave River Forks Dam was releasing flows of up to 23,000 cfs.

The combination of extreme precipitation and emergency reservoir releases created unprecedented flows within the Mojave River. Flows of up to 14,000 cfs were recorded before the extreme flows rendered the flow gage inoperable. The extreme flow event led to a federal emergency declaration for the area by the U.S. Federal Emergency Management Agency.

Previously, a significant storm event occurred in January, 1993, that damaged the portion of the Interceptor located within the Lower Narrows portion of the Mojave River. As a precaution at that time, VVWRA inspected the Interceptor located in the Upper Narrows section of the Mojave River. Although minor damage was observed, there was no evidence of a discharge from the Upper Narrows portion of the Interceptor. VVWRA repaired and reinforced the Upper Narrows Interceptor line at that time.

Furthermore, VVWRA completed an assessment of the integrity of its collection system in 2010 prior to the extreme storm and river flow event. The report did not identify any issues with the Interceptor located within the Upper Narrows portion of the Mojave River.

VVWRA could not have reasonably foreseen the occurrence of a federal emergency situation that would cause a breach within its interceptor line. VVWRA had acted proactively, and continues to act proactively, to ensure the integrity of its entire collection system.

Cleanup and Cooperation

VVWRA was given a multiplier value of **0.75** relative to Violation No. 5 because of its immediate response upon discovery to the discharge event.

Upon discovery of the breach, VVWRA immediately developed and implemented plans to construct an emergency bypass. Upon observing that the temporary bypass schematic outlined in its Emergency Response Action Plan (November, 2008) did not contemplate a discharge event of this magnitude, VVWRA immediately altered the plan. VVWRA's swift action to develop and construct an altered design shortened the time frame for completing a temporary emergency bypass by up to one week, thereby preventing an additional 20 million gallons of raw sewage from being released into the Mojave River. VVWRA also implemented a short term interim measure by bringing an old pump station back into operating condition to divert a portion of the raw sewage around the breach until the temporary diversion bypass was completed.

History of Violations

As described in Exhibit A, VVWRA has a history of violations and therefore a multiplier of 1.1 is appropriate.

**Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

**Violation No. 5 - Total Base Liability Amount**

($26,643,880) x (0.5) x (0.75) x (1.1) = $10,990,600.50

Total Base Liability = **$10,990,600.50**

**Steps 6 through 10**

Steps 6 through 10 apply to the Combined Total Base Liability Amount for all violations and are discussed in Exhibit F after the Total Base Liability Amounts have been determined for the remaining violations.

## Exhibit F

## Application of Steps 6-10 to Combined Total Base Liabilities Determined in Exhibits A through E

1. Step 6 – Ability to Pay and Ability to Continue in Business

The Enforcement Policy provides that if the Lahontan Water Board has sufficient financial information necessary to assess the violator's ability to pay the Total Base Liability or to assess the effect of the Total Base Liability on the violator's ability to continue in business, then the Total Base Liability Amount may be adjusted downward.

The Prosecution Staff has sufficient information to suggest that VVWRA does have the ability to pay the proposed final liability amount. This is based upon VVWRA's most recent available "Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2010 and 2009." Unrestricted assets were $5,385,879 in 2008, $5,465,649 in 2009, and $9,802,016 in 2010.

2. Step 7 – Other Factors As Justice May Require

The Enforcement Policy provides that if the Lahontan Water Board believes that the amount determined using the above factors is inappropriate, the liability amount may be adjusted under the provision for "other factors as justice may require," if express findings are made. In addition, the costs of investigation should be added to the liability amount according to the Enforcement Policy.

With respect to Violation No. 5, Lahontan Water Board staff believes the $10,990,600.50 base liability is extreme given the facts of the case. As noted in Exhibit E, the discharge occurred through no fault or negligence of VVWRA. Although the Enforcement Policy suggests a culpability factor of no less than 0.5, Lahontan Water Board staff believes that the facts warrant a culpability factor as close to zero as possible. To reiterate, VVWRA actively maintains the integrity of its collection line, VVWRA continues to analyze its collection system for appropriate upgrades, and VVWRA was not negligent in pursuing any needed repairs and/or upgrades. Furthermore, the discharge was caused solely by river flows so extreme that a federal emergency was declared for the area.

The Lahontan Water Board has incurred **$39,450** in investigative costs to date associated with all of the violations described in the Complaint. These costs should be added to the liability amount.

3. Step 8 – Economic Benefit

The Enforcement Policy directs the Lahontan Water Board to determine any economic benefit of the violations based on the best available information and suggests that the amount of the administrative civil liability should exceed this amount whether or not economic benefit is a statutory minimum.

Violation No. 1
The economic benefit of the violation No. 1 is negligible. VVWRA did not realize any benefit from the accidental release of 230 gallons of sludge supernatant.

Violation No. 2
The economic benefit of the violation No. 2 was estimated to be **$244**, based on estimated treatment costs of $2200 per million gallons of raw sewage for the discharge of 110,700 gallons of chlorinated effluent.

Violation No. 3
The economic benefit of the violation No. 3 was estimated to be **$490**, based on estimated treatment costs of $2200 per million gallons of raw sewage for the discharge of 222,519 gallons of raw sewage.

Violation No. 4
The economic benefit of the violation No. 4 was estimated to be **$142**, based on estimated treatment costs of $2200 per million gallons of raw sewage for the discharge of 64,700 gallons of raw sewage

Violation No. 5
The economic benefit of the violation No. 5 was estimated to be **$94,600**, based on estimated treatment costs of $2200 per million gallons of raw sewage for the discharge of 42,900,000 gallons of raw sewage.

The total economic benefit for all five violations is **$95,476**.

4. Step 9 – Maximum and Minimum Liability Amounts

The Enforcement Policy directs the Lahontan Water Board to consider maximum and minimum liability amounts set forth in the applicable statutes.

Pursuant to Water Code Section 13385, subdivision (c), the total maximum administrative civil liability that may be imposed for the violations alleged is **$433,189,190**, as shown in the table below:

| Violation No. | Description | Days of Violation | Maximum Potential Liability |
|---|---|---|---|
| 1 | Discharge of 230 gallons of anaerobically digested sludge supernatant to the Mojave River, a water of the United States, without authorization under NPDES Permit. | 1 | $10,000 |
| 2 | Discharge of 110,700 gallons of primarily chlorinated treated effluent (mixed with some storm water runoff) to the Mojave River, a water of the United States, without authorization under NPDES Permit. | 7 | $1,167,000 |
| 3 | Discharge of 222,519 gallons of raw sewage to two un-named washes (tributary to the Mojave River), each of which is a water of the United States, without authorization under NPDES Permit. | 1 | $2,225,190 |
| 4 | Discharge of 64,700 gallons of raw sewage to an un-named wash (tributary to the Mojave River), a water of the United States, without authorization under NPDES Permit. | 1 | $647,000 |
| 5 | Discharge of 42,900,000 gallons of raw sewage to the Mojave River, a water of the United States, without authorization under NPDES Permit. | 15 | $429,140,000 |
| | | TOTAL | $433,189,190 |

Water Code section 13385, subdivision (e) requires that liability be imposed, at a minimum, at a level that recovers the economic benefit resulting from the violations. As described above, the economic benefit resulting from the violations totals **$95,476**. It is noted that $94,600 is attributed solely to Violation No. 5, and at a minimum, this amount must be assessed to Violation No. 5 in accordance with the Enforcement Policy.

5. Step 10 – Final Liability Amount

The final liability amount consists of the added amounts for each violation, with any allowed adjustments, provided the amounts are within the statutory minimum and maximum amounts. The total base liabilities for Violations No. 1 through 4 are provided in Exhibits A through D. The base liability for Violation No. 5 was adjusted downward from $10,990,600.50 to recover only the economic benefit of $94,600. After adjusting the liability associated with Violation No. 5, the cumulative base liability for Violations Nos. 1 through 5 is $912,819.87.

The final liability amount calculation for the various violations was performed as follows:

(Total Base Liability Amount) + (Staff Costs) = (Initial Final Liability Amount)

Initial Final Liability Amount = ($873,369.87) + (39,450) = **$912,819.87**

## Exhibit G

## SEP Description, Budget, and Schedule For Performance

## SUPPLEMENTAL ENVIRONMENTAL PROJECT
## Proposed by Victor Valley Wastewater Reclamation Authority
## (to be conducted by Mojave Water Agency)

## Task 2: Salt/Nutrient Management Plan

***Purpose***

The purpose of this task is to develop a regional Salt/Nutrient Management Plan (SMP) for the Mojave Water Agency Integrated Regional Water Management (IRWM) Region that will identify and manage, on a regional basis, salts and nutrients from sources within the region, for the purpose of maintaining regional water quality objectives and supporting beneficial uses. The intention is to involve surface water users, groundwater users and wastewater dischargers in the Mojave IRWM Region, as appropriate, to participate in efforts to protect these waters from accumulating concentrations of salt and nutrients that would degrade the quality of water supplies in the Mojave IRWM Region to the extent that it may limit their use.

The SMP area boundaries will include the MWA service area and its basins, as well as any contributors to salts and nutrients that occur outside the SMP area boundaries (sources of imported water supplies, discharges to the basins from upstream water uses, and headwaters to the Mojave River). The discreteness of the plan will depend on the amount and detail of water quality and land use data available.

***Background***

On February 3, 2009, the State Water Resources Control Board (SWRCB) adopted a Recycled Water Policy (Policy) that addresses the concern for protecting the quality of California's groundwater basins. In response to this Policy, the Mojave Water Agency (MWA) and Victor Valley Wastewater Reclamation Authority (VVWRA), with support from Lahontan Regional Water Quality Control Board (Lahontan Water Board) and Colorado River Regional Water Quality Control Board (Colorado Water Board) staff, initiated efforts to organize a group to develop a regional SMP for the Mojave IRWM Region.

Per the Policy, the SMP shall be completed and proposed to the Lahontan and Colorado Water Boards by May 14, 2014. If the Water Boards find that the stakeholders are making substantial progress toward completion of the plan, the deadline, at the discretion of the Water Boards may extend the deadline till May 14, 2016. In no case shall the period for the completion of the plan exceed seven years from the date of the Policy.

***Goals***

- Manage salts and nutrients on a regional basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses.
- Prepare a Salt/Nutrient Management Plan, in a collaborative effort with stakeholders, which meets the requirements for a SMP as described in the SWRCB Policy.
- Identify agencies responsible for managing current and future anthropogenic loads, solicit participation by these agencies in the development of the SMP, including identification of management actions, and agencies responsible for carrying out those management actions, to achieve the water quality levels specified in the plan.
- Audit and leverage existing information and studies conducted within the Mojave IRWM Region in order to avoid duplication of efforts in preparing the SMP.
- Develop the Plan to be consistent with and incorporated into the IRWMP ultimately adopted by the MWA.

**Task 2.1: Stakeholder Participation**

Collaborate with Lahontan and Colorado Water Board staff and other stakeholders, receive and review stakeholder input. It is anticipated that most of the stakeholder participation will occur during meetings of the Technical Advisory Committee to the MWA, in the context of the IRWMP update. A primary initial outcome of this task will be to reach consensus regarding the stakeholder participants appropriate for this

planning effort and to identify ways to effectively involve as many of those stakeholders with the TAC as is practical.

***Deliverable:***

- Compile input from stakeholders and incorporate into development of the SMP

**Task 2.2: Review/Assemble Existing Data & Research**

Evaluate existing data and previously completed water quality management efforts to prepare an adequate SMP. An extensive amount of research and data collection has already occurred with respect to salts and nutrients in the Mojave IRWM Region. A Groundwater Quality Analysis[1] and associated STELLA Model was developed in 2007 that identified contributors to salt (specifically, TDS) within the Region, evaluated current and past trends in water quality, and modeled potential changes over time due to loading from various existing and anticipated sources under different scenarios. Existing information and research may need to be updated, but to the extent possible, new research should be minimized and existing information should be leveraged for inclusion within the SMP. At a minimum, the following sources should be reviewed:

- The 2007 Groundwater Quality Analysis
- Groundwater Quality Planning Model (STELLA Model) developed for the 2007 Groundwater Quality Analysis
- MWA's groundwater monitoring program and associated water quality database
- Site-specific monitoring data from GeoTracker or other data provided by the Water Boards, as appropriate
- MWA's 2004 RWMP, which includes a Groundwater Management Planning component, and associated EIR
- Potential for Ground-Water Contamination from Movement of Wastewater Through the Unsaturated Zone, Upper Mojave River Basin, California, 1993
- Technical Study to Evaluate a Long-Term Water Management Program Between MWA and Metropolitan Water District, and associated EIR, December 2005
- July 29, 2004 Memorandum Of Understanding between MWA, Lahontan Regional Water Quality Control Board, and High Desert Power Project, LLC.
- Antidegradation Studies for Discharges to Surface and Groundwater, Victor Valley Wastewater Reclamation Authority (VVWRA) 2009
- Mojave River Characterization Study, VVWRA 2010
- Cumulative Impact Analysis, VVWRA 2011
- Various U.S. Geological Survey studies

***Deliverable:***

- Prepare a brief memorandum summarizing the adequacy of existing data and information, and what additional work will need to be done to complete the SMP

**Task 2.3: Update and Run Water Quality Model**

This task will be completed by Schlumberger Water Services (SWS) using the existing STELLA model SWS developed for Mojave Water Agency in 2007. The model will be updated to include TDS data acquired since the original model run in 2007. Also, the model will be modified and run for Nitrate data. Data identified in *Task 2.2* that is appropriate to the model runs should be included. Planning scenarios and timeframes to be included in the model runs will be identified during the SMP development process.

***Deliverables:***

- Update STELLA Model with most recent available TDS data, Nitrate data, and appropriate planning scenarios based upon available planning information.
- Run the model to produce new outputs based upon data updates.

[1] Groundwater Quality Analysis Technical Memorandum/Phase 1 Between Mojave Water Agency and Schlumberger Water Services. May 7, 2007

**Task 2.4: Salt/Nutrient Characterization**

Characterize salt and nutrients within the Mojave IRWM Region and groundwater basins, utilizing the model runs conducted in *Task 2.3*. The Salt & Nutrient Characterization will include TDS and Nitrate, and will evaluate the following:

- Existing and background water quality.
- Current and projected sources of salts/nutrients. Review/update existing planning scenarios, including a map and database of current land uses contributing to salt/nutrients. Identify the quality and quantity of existing and projected wastewater/recycled water discharges to basins, imported water recharge, septic discharges, return flow from applied agricultural and dairy water, and other sources of salt/nutrients.
- The basins' assimilative capacity of salts/nutrients, to the extent possible with the current body of knowledge.
- The regional effects and loading estimates of salt/nutrients from existing and projected land uses and water management practices identified, to the extent possible with the current body of knowledge.
- Existing locations/areas of concern that present potential threats to the beneficial use of water resources within the study area (e.g. GIS maps)
- Potential short and long-term regional water quality impacts associated with implementing projects identified in the accompanying IRWMP consistent with the State Antidegradation Policy (Resolution No. 68-16).

***Deliverables:***

- Prepare a draft report for the stakeholders including data collected and results found in the salt/nutrient characterization.
- Prepare maps showing the results of data evaluation and modeling results.

**Task 2.5: Monitoring & Reporting Plan**

Review existing monitoring programs, identify data gaps, and recommend changes if needed, in order to comply with SMP requirements. Include in the SMP a Monitoring Plan that provides a reasonable means of determining whether the concentrations of salts, nutrients, and other constituents of concern are consistent with applicable water quality objectives. The monitoring plan should be designed to evaluate the long-term regional impacts to groundwater quality resulting from current and future land uses, as well as localized impacts in critical areas where appropriate, and should include the following:

- Recommendations for additional appropriate monitoring locations and frequencies that collectively would represent the regional-level water quality and changes in water quality for basins within the SMP. In addition, the monitoring program should identify critical localized areas where additional monitoring should be concentrated near water supply wells and areas proximate to large water recycling projects and groundwater recharge projects.
- Include a provision for identifying and monitoring Constituents of Emerging Concern.
- List stakeholders responsible for development of new monitoring sites/facilities, conducting, compiling, and reporting the monitoring data.
- Determine the cost of additional monitoring and possible funding sources.
- Data from the Monitoring Plan will be reported to the Lahontan and Colorado Water Boards every three (3) years by the appropriate collecting parties.

***Deliverables:***

- Identify stakeholders responsible for monitoring
- Draft monitoring plan

**Task 2.6: Implementation Measures**

Identify and recommend methods and regional Best Management Practices (BMP's) to manage salt and nutrient loadings on a sustainable basis. Development of implementation measure recommendations and BMP's should be of a regional nature and through a collaborative process with the stakeholders.

***Deliverable:***

- Figures, tables, and write-up summarizing implementation measures and agencies responsible for implementation

**Task 2.7: Recycled Water & Storm Water Use/Recharge**
Identify recycled water and storm water use/recharge goals and objectives.

***Deliverable:***

- Draft recycled water & storm water use/recharge section

**Task 2.8: Preliminary CEQA Analysis**
Prepare an Initial Study for the SMP pursuant to California Environmental Quality Act (CEQA) guidelines.

***Deliverable***

- Initial Study pursuant to CEQA guidelines

**Task 2.9: Prepare Plan for Submittal to Water Boards**
The SMP shall be completed and proposed to the Lahontan and Colorado Water Boards by May 14, 2014, unless the Water Boards find that the stakeholders are making substantial progress toward completion of the plan. In no case shall the period for the completion of the plan exceed seven years.

***Deliverables:***

- Draft Salt/Nutrient Management Plan
- Conduct up to four (4) meetings with Regional Water Boards to present the SMP
- Final Salt/Nutrient Management Plan

# Mojave Water Agency


Red Mountain
Atolia
Kramer Junction
Hinkley
58
395
Yermo
Mojave River
I 15
Lenwood
Barstow
Daggett
I 40
Newberry Springs
Helendale
I 15
El Mirage
Oro Grande
247
Adelanto
Apple Valley
Victorville
18
18
California Aqueduct
Mojave River
Pinion Hills
138
Phelan
Hesperia
Lucerne Valley
18
247
Oak Hills
Joshua Tree
62
Yucca Valley

N
W E
S

0 5 10 20 30 40
Miles

Mojave Water Agency

MWA Water Resources Department - Octpber 2004
Authors: Brian Hammer Sr

# BUDGET SUMMARY

**Mojave Water Agency Salt/Nutrient Management Plan**

| TASK/BUDGET CATEGORY | PROP 84 *OR SEP* FUNDS | OTHER SOURCES | TOTAL |
|---|---|---|---|
| **TASK 2: SALT/NUTRIENT MANAGEMENT PLAN** | | | |
| 2.1: Stakeholder participation | $33,488 | $1,763 | $35,250 |
| 2.2: Review/assemble existing data & research | $31,611 | $1,664 | $33,275 |
| 2.3: Update and Run Water Quality Model | $96,900 | $5,100 | $102,000 |
| 2.4: Salt/Nutrient Characterization | $48,735 | $2,565 | $51,300 |
| 2.5: Monitoring & reporting plan | $17,893 | $942 | $18,835 |
| 2.6: Implementation measures | $15,176 | $799 | $15,975 |
| 2.7: Recycled water & stormwater use/recharge | $21,826 | $1,149 | $22,975 |
| 2.8: Preliminary CEQA Analysis | $12,065 | $635 | $12,700 |
| 2.9: Prepare plan for submittal to Water Boards | $44,911 | $2,364 | $47,275 |
| **TOTALS** | | | |
| **GRAND TOTAL** | **$322,606** | **$16,979** | **$339,585** |

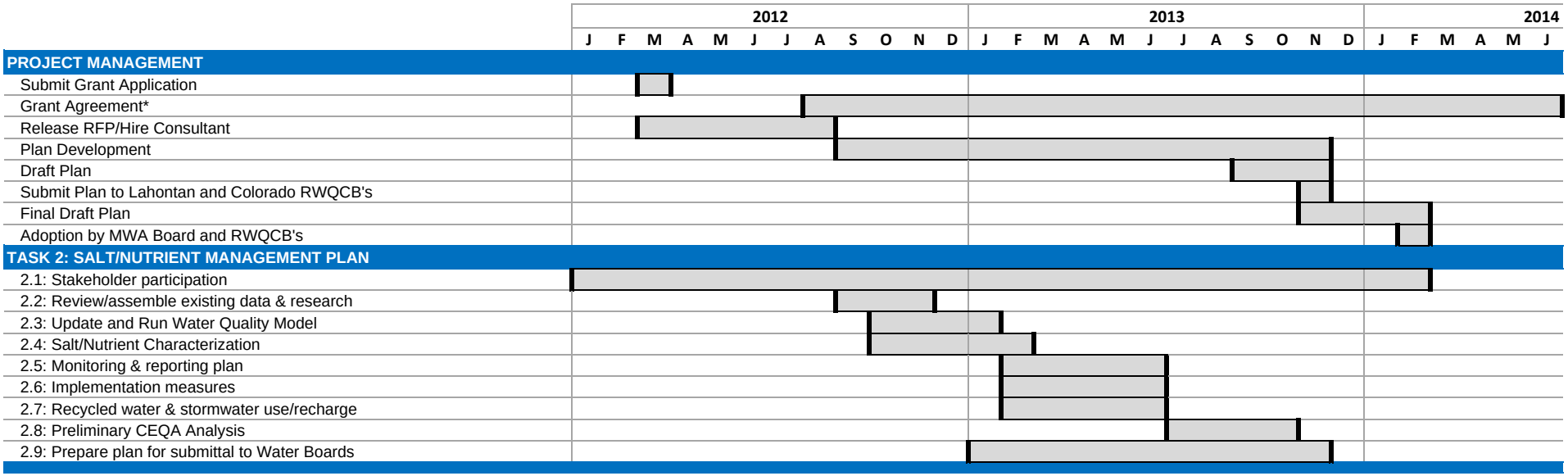
# BUDGET DETAIL

**Mojave Water Agency Salt/Nutrient Management Plan**

| TASK/BUDGET CATEGORY | Labor (Hours) | | | | | | | Other Direct Costs | Subtotal | TASK TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| | Principal | Project Manager | Project Engr/Sci | Graphics | Admin | Total Hours | Total Labor Costs | | | |
| | $235 | $195 | $175 | $125 | $125 | | | | | |
| **TASK 2: SALT/NUTRIENT MANAGEMENT PLAN** | | | | | | | | | | |
| **2.1: Stakeholder participation** | | | | | | | | | | **$35,250** |
| Compile input from stakeholders | 10 | 70 | 60 | 40 | 10 | 190 | $32,750 | $2,500 | $35,250 | |
| **2.2: Review/assemble existing data & research** | | | | | | | | | | **$33,275** |
| Prepare memorandum summarizing existing data & work needed | 5 | 30 | 150 | | | 185 | $33,275 | | $33,275 | |
| **2.3: Update and Run Water Quality Model** | | | | | | | | | | **$102,000** |
| Update STELLA Model with TDS and Nitrate data, and planning scenarios | 10 | 90 | 250 | | | 350 | $63,650 | | $63,650 | |
| Run model to produce new outputs based upon data updates | 10 | 50 | 150 | | | 210 | $38,350 | | $38,350 | |
| **2.4: Salt/nutrient characterization** | | | | | | | | | | **$51,300** |
| Prepare a draft report to stakeholders based upon modeling results | 10 | 80 | 80 | 20 | | 190 | $34,450 | $2,500 | $36,950 | |
| Prepare maps showing modeling results | 10 | | 40 | 20 | | 70 | $11,850 | $2,500 | $14,350 | |
| **2.5: Monitoring & reporting plan** | | | | | | | | | | **$18,835** |
| Identify stakeholders responsible for monitoring | 4 | 15 | 15 | | | 34 | $6,490 | | $6,490 | |
| Draft monitoring plan | 2 | 25 | 40 | | | 67 | $12,345 | | $12,345 | |
| **2.6: Implementation measures** | | | | | | | | | | **$15,975** |
| Figures, tables, and writeup summarizing implementation measures | 5 | 40 | 40 | | | 85 | $15,975 | | $15,975 | |
| **2.7: Recycled water & stormwater use/recharge** | | | | | | | | | | **$22,975** |
| Draft recycled water & stormwater use/recharge section | 5 | 40 | 80 | | | 125 | $22,975 | | $22,975 | |
| **2.8: Preliminary CEQA Analysis** | | | | | | | | | | **$12,700** |
| Prepare Initial Study/CEQA checklist | 5 | 20 | 40 | 5 | | 70 | $12,700 | | $12,700 | |
| **2.9: Prepare plan for submittal to Water Boards** | | | | | | | | | | **$47,275** |
| Draft Salt/Nutrient Management Plan | 8 | 30 | 70 | 30 | 5 | 143 | $24,355 | | $24,355 | |
| Conduct up to 4 meetings with Water Boards to present the SMP | 2 | 20 | 20 | 10 | 5 | 57 | $9,745 | $3,500 | $13,245 | |
| Final Salt/Nutrient Management Plan | 10 | 10 | 20 | 10 | 5 | 55 | $9,675 | | $9,675 | |
| **TOTALS** | | | | | | | | | | |
| **GRAND TOTAL** | **96** | **520** | **1,055** | **135** | **25** | **1,831** | **$328,585** | **$11,000** | | **$339,585** |

# PROJECT SCHEDULE

**Mojave Water Agency Salt/Nutrient Management Plan**




*Grant Agreement assumed to be effective beginning August 9, 2012 and ending August 8, 2014

Activity Occurring