

AGREEMENT FOR PROFESSIONAL SERVICES FOR CONDUCTING ANTIDegradation ASSESSMENT FOR RECYCLED WATER DISCHARGE

This agreement for professional services for conducting antidegradation assessment for recycled water discharge ("Agreement") is made and entered into this 2nd day of December, 2008 ("Effective Date"), by and between the City of Redlands, a municipal corporation ("City") and Wildermuth Environmental Inc. ("Consultant"). City and Consultant are sometimes individually referred to herein as a "Party" and, together, as the "Parties."

In consideration of the mutual promises contained herein, City and Consultant agree as follows:

ARTICLE 1 - ENGAGEMENT OF CONSULTANT

- 1.1 City hereby engages Consultant to provide professional services for conducting antidegradation assessment for recycled water discharge (the "Services").
- 1.2 The Services shall be performed by Consultant in a professional manner, and Consultant represents that it has the skill and the professional expertise necessary to provide the Services to City at a level of competency presently maintained by other practicing professional consultants in the industry providing like and similar types of Services.

ARTICLE 2 - SERVICES OF CONSULTANT

- 2.1 The Services which Consultant shall perform are more particularly described in Exhibit "A," entitled "Scope of Services," which is attached hereto and incorporated herein by this reference.
- 2.2 Consultant shall comply with all applicable Federal, State and local laws and regulations in the performance of this Agreement including, but not limited to, the Americans with Disabilities Act, the Fair Employment and Housing Act and prevailing wage laws.

ARTICLE 3 - RESPONSIBILITIES OF CITY

- 3.1 City shall make available to Consultant information in its possession that may assist Consultant in performing the Services.
- 3.2 City designates Chris Diggs as City's representative with respect to performance of the Services, and such person shall have the authority to transmit instructions, receive information, interpret and define City's policies and decisions with respect to performance of the Services.

ARTICLE 4 - PERFORMANCE OF SERVICES

- 4.1 Consultant shall perform the Services in a prompt and diligent manner and in accordance with the schedule set forth in Exhibit "B," entitled "Project Schedule."
- 4.2 At any time during the term of this Agreement, City may request that Consultant perform Extra Services. As used herein, "Extra Services" means any work which is determined necessary by City for the proper completion of the project or work for which the Services are being performed, but which the Parties did not reasonably anticipate would be necessary at the time of execution of this Agreement. Provided the Extra Services do not exceed twenty percent (20%) of the compensation to be paid by City to Consultant for the Services, such Extra Services may be agreed to by the Parties by written amendment to this Agreement, executed by City's City Manager. Consultant shall not perform, nor be compensated for, Extra Services without such written authorization from City.

ARTICLE 5 - PAYMENTS TO CONSULTANT

- 5.1 The total compensation for Consultant's performance of the Services shall not exceed the amount of Sixty-Four Thousand Dollars (\$64,000). City shall pay Consultant on a time and materials basis up to the not to exceed amount, in accordance with Exhibit "C" entitled "Project Costs," and based upon the hourly rates shown in Exhibit "D," entitled "Rate Schedule." Both Exhibits "C" and "D" are attached hereto and incorporated herein by this reference.
- 5.2 Consultant shall submit monthly invoices to City describing the work performed during the preceding month. Consultant's invoices shall include a brief description of the Services performed, the dates the Services were performed, the number of hours spent and by whom, and a description of reimbursable expenses, if any. City shall pay Consultant no later than thirty (30) days after receipt and approval by City of Consultant's invoice, provided (1) the Services reflected in the invoice were performed to the reasonable satisfaction of City in accordance with the terms of this Agreement, (2) that the number of hours of Services set forth in the invoice reflects the amount of time ordinarily expended for such Services by members of the profession currently practicing in the same locality under similar conditions, and (3) that all expenses, rates and other information set forth in the invoice are consistent with the terms and conditions of the Agreement.

- 5.3 All notices shall be given in writing by personal delivery or by mail. Notices sent by mail should be addressed as follows:

City

Chris Diggs
Municipal Utilities and Engineering Dept.
City of Redlands
35 Cajon Street, Suite 15A
PO Box 3005 (mailing)
Redlands, CA 92373

Consultant

Mark J. Wildermuth
Chairman
Wildermuth Environmental Inc.
23692 Birtcher Drive
Lake Forest, CA 92630

When so addressed, such notices shall be deemed given upon deposit in the United States Mail. Changes may be made in the names and addresses of the person to who notices and payments are to be given by giving notice pursuant to this section 5.3.

ARTICLE 6 - INSURANCE AND INDEMNIFICATION

- 6.1 Insurance; generally. All insurance required by this Agreement shall be maintained by Consultant for the duration of its performance of the Services. Consultant shall not perform any Services unless and until all required insurance listed below is obtained by Consultant. Consultant shall provide City with certificates of insurance and endorsements evidencing such insurance prior to commencement of the Services. All insurance policies shall include a provision prohibiting cancellation or modification of the policy except upon thirty (30) days prior written notice to City.
- 6.2 Workers' Compensation and Employer's Liability. Consultant shall secure and maintain Worker's Compensation and Employer's Liability insurance throughout the duration of its performance of the Services in accordance with the laws of the State of California, with an insurance carrier acceptable to City.
- 6.3 Hold Harmless and Indemnification. Consultant shall defend, indemnify and hold harmless City and its elected officials, employees and agents from and against any and all claims, losses or liability, including attorneys' fees, arising from injury or death to persons or damage to property occasioned by Consultant's and its officers', employees' and agents' sole negligent acts or omissions in performing the Services.
- 6.4 Assignment. Consultant is expressly prohibited from assigning any of the Services without the express prior written consent of City. In the event of agreement by the Parties to assign a portion of the Services, Consultant shall add the assignee as an additional insured and provide City with the insurance endorsements required by this Agreement prior to the performance of any Services by the assignee. Assignment does not include printing or other customary reimbursable expenses that may be provided for in this Agreement.
- 6.5 Comprehensive General Liability Insurance. Consultant shall secure and maintain in force throughout the term of this Agreement comprehensive general liability insurance with carriers acceptable to City. Minimum coverage of One Million Dollars (\$1,000,000) per

occurrence and Two Million Dollars (\$2,000,000) aggregate for public liability, property damage and personal injury is required. City shall be named as an additional insured. Such insurance shall be primary and non-contributing to any insurance or self-insurance maintained by City.

- 6.6 Professional Liability Insurance. Consultant shall secure and maintain professional liability insurance throughout the term of this Agreement in the amount of One Million Dollars (\$1,000,000) per claim made.
- 6.7 Business Auto Liability Insurance. Consultant shall have business auto liability coverage, with minimum limits of One Million Dollars (\$1,000,000) per occurrence, combined single limit for bodily injury liability and property damage liability. This coverage shall include all Consultant owned vehicles used in connection with Consultant's provision of the Services, hired and non-owned vehicles, and employee non-ownership vehicles. City shall be named as an additional insured. Such insurance shall be primary and non-contributing to any insurance or self insurance maintained by City.

ARTICLE 7 - CONFLICTS OF INTEREST

- 7.1 Consultant covenants and represents that it does not have any investment or interest in any real property that may be the subject of this Agreement or any other source of income, interest in real property or investment which would be affected in any manner or degree by the performance of Consultant's Services. Consultant further covenants and represents that in the performance of its duties hereunder, no person having any such interest shall perform any Services under this Agreement.
- 7.2 Consultant agrees it is not a designated employee within the meaning of the Political Reform Act because Consultant:
- A. Does not make or participate in:
- (i) the making or any governmental decisions regarding approval of a rate, rule or regulation, or the adoption or enforcement of laws;
 - (ii) the issuance, denial, suspension or revocation of permits, licenses, applications, certifications, approvals, orders or similar authorizations or entitlements;
 - (iii) authorizing City to enter into, modify or renew a contract;
 - (iv) granting City approval to a contract that requires City approval and to which City is a party, or to the specifications for such a contract;
 - (v) granting City approval to a plan, design, report, study or similar item;

- (vi) adopting, or granting City approval of, policies, standards or guidelines for City or for any subdivision thereof.

B. Does not serve in a staff capacity with City and in that capacity, participate in making a governmental decision or otherwise perform the same or substantially all the same duties for City that would otherwise be performed by an individual holding a position specified in City's Conflict of Interest Code under Government Code section 87302.

- 7.3 In the event City officially determines that Consultant must disclose its financial interests by completing and filing a Fair Political Practices Commission Form 700, Statement of Economic Interests, Consultant shall file the subject Form 700 with the City Clerk's office pursuant to the written instructions provided by the Office of the City Clerk.

ARTICLE 8 - GENERAL CONSIDERATIONS

- 8.1 Attorneys' Fees. In the event any action is commenced to enforce or interpret any of the terms or conditions of this Agreement the prevailing Party shall, in addition to any costs and other relief, be entitled to the recovery of its reasonable attorneys' fees, including fees for the use of in-house counsel by a Party.
- 8.2 Prohibition Against Assignment. Consultant shall not assign any of the Services, except with the prior written approval of City and in strict compliance with the terms, and conditions of this Agreement.
- 8.3 Documents and Records. All documents, records, drawings, designs, cost estimates, electronic data files, databases and other documents developed by Consultant in connection with its performance of the Services, and any copyright interest in such documents, shall become the property of City and shall be delivered to City upon completion of the Services, or upon the request of City. Any reuse of such documents, and any use of incomplete documents, shall be at City's sole risk.
- 8.4 Independent Contractor Status. Consultant is for all purposes under this Agreement an independent contractor and shall perform the Services as an independent contractor. Neither City nor any of its agents shall have control over the conduct of Consultant or any of Consultant's employees, except as herein set forth. Consultant shall supply all tools and instrumentalities required to perform the Services. All personnel employed by Consultant are for its account only, and in no event shall Consultant or any personnel retained by it be deemed to have been employed by City or engaged by City for the account of, or on behalf of City. Consultant shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent, nor shall Consultant have any authority, express or implied, to bind City to any obligation.

8.5 Termination.

A. Unless earlier terminated as provided for below, this Agreement shall terminate upon completion and acceptance of the Services by City.

B. This Agreement may be terminated by City, in its sole discretion, by providing thirty (30) days' prior written notice to Consultant (delivered by certified mail, return receipt requested) of City's intent to terminate.

C. If this Agreement is terminated by City, an adjustment to Consultant's compensation shall be made, but (1) no amount shall be allowed for anticipated profit or unperformed Services, and (2) any payment due Consultant at the time of termination may be adjusted to the extent of any additional costs to City occasioned by any default by Consultant.

D. Upon receipt of a termination notice, Consultant shall immediately discontinue its provision of the Services and, within five (5) days of the date of the termination notice, deliver or otherwise make available to City, copies (in both hard copy and electronic form, where applicable) of any data, design calculations, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by Consultant in performing the Services. Consultant shall be compensated on a pro-rata basis for Services completed up to the date of termination.

8.6 Books and Records. Consultant shall maintain any and all books, ledgers, invoices, accounts and all other records and documents evidencing costs and expenses related to the Services for a period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant pursuant to this Agreement. Such books shall be available at all reasonable times for examination by City at the office of Consultant.

8.7 Entire Agreement/Amendment. This Agreement, including the Exhibits incorporated herein by reference, represents the entire agreement and understanding between the Parties as to the matters contained herein, and any prior negotiations, written proposals or verbal agreements relating to such matters are superseded by this Agreement. Except as otherwise provided for herein, any amendment to this Agreement shall be in writing, approved by City and signed by City and Consultant.

8.8 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

8.9 Severability. If one or more of the sentences, clauses, paragraphs or sections contained in this Agreement is declared invalid, void or unenforceable by a court of competent jurisdiction, the same shall be deemed severable from the remainder of this Agreement and shall not affect, impair or invalidate any of the remaining sentences, clauses, paragraphs or sections contained herein, unless to do so would deprive a Party of a material benefit of its bargain under this Agreement.

IN WITNESS WHEREOF, duly authorized representatives of the City and Consultant have signed in confirmation of this Agreement.

CITY OF REDLANDS

Wildermuth Environmental Inc.

By: Jon Harrison
Jon Harrison, Mayor

By: Joseph P. LeClair for
Mark J. Wildermuth, Chairman

Attest:

Joan Rogers
City Clerk

Joseph P. LeClair
President

EXHIBIT A

SCOPE OF SERVICES

Background

The basin plan objectives for total dissolved solids (TDS) and nitrate-nitrogen (nitrate-N) are 330 mg/L and 7.3 mg/L respectively. The ambient TDS and nitrate concentrations, as of the most recent determination (completed in August 2008 for the year 2006), are 280 mg/L and 5.4 mg/L respectively: thus there exists about 50 mg/L of assimilative capacity for TDS and about 1.9 mg/L for nitrate. The Santa Ana Regional Water Quality Control Board (Regional Board) has complete discretion in allocating access to some or all of the available assimilative capacity to a discharger. The Regional Board requires an antidegradation analysis to evaluate the degradation that will occur from permitting discharges with TDS and nitrate concentrations that exceed current ambient concentrations. The intent of the analysis is to determine the amount of degradation that will occur from the proposed discharge and other existing discharges and to determine how much of the assimilative capacity will be expended. The Regional Board is currently drafting a new permit for the City's discharge. Without an acceptable antidegradation finding, the TDS and total inorganic nitrogen (TIN) concentrations in the new permit will be set at the basin plan objectives of 330 mg/L and 7.3 mg/L, respectively. Currently the TDS and TIN concentrations in the City's recycled water are higher than the basin plan objectives: the implication being that the City will have to go to advanced treatment of its recycled water to continue this discharge. An "acceptable" antidegradation finding would show that continuing the City's discharge at the current permit levels for TDS and TIN and projected hydraulic loading rates would not result in a significant increase in ambient TDS and nitrate concentrations in the Bunker Hill B Management Zone and would not encroach significantly into the available assimilative capacity. The terms "significant" and "significantly" are subjective qualifiers that will be defined by the Regional Board presumably when they review the antidegradation analysis.

Scope of Work

This letter contains our proposal to conduct an antidegradation assessment for the City's discharge of recycled water at its ponds located in the Bunker Hill B Management Zone. In addition to technical analyses, this effort will include meetings with the City and the Regional Board staffs to clearly articulate and interpret the results of the technical work. A draft and final letter report will be submitted to the Regional Board for their use in preparing a new permit for the City. The scope of work consists of the following five tasks.

Task 1 Meetings

Four meetings are planned. Two meetings will be held with the City staff to go over the data and planning assumptions, and to review the draft report. Two meetings will be held with the Regional Board staff to explain the planning and modeling assumptions and results, and to assist the Regional Board staff in interpreting the antidegradation results into the City's new permit.

Task 2 Collect, Compile and Review Data and Reports

The objectives of this task are twofold. First, pursuant to the Regional Board request in their July 15, 2008 letter, we will collect and update planning information related to the all the known projects and basin management activities that can influence water quality in the Bunker Hill B Management Zone. For this effort we will refer to the recently completed IRWMP compiled by the San Bernardino Valley Municipal Water District (SBVMWD), the pending water rights applications of SBVMWD and the San Bernardino Valley Water Conservation District (SBVWCD), and other planning efforts. The second objective is to collect and

compile the latest data available to update the WEI Constantly-Stirred Reactor (CSR) model.

Task 3 Develop Nitrogen-Loss Coefficients using Recent Data

The Regional Board's "default" nitrogen loss coefficient for use in the calculation of TIN effluent limitations is 25 percent. The July 15, 2008 Regional Board letter states, "Should the City request a bigger nitrogen loss coefficient based on the results of the lysimeter study, we would need to review recent monitoring results to confirm the propriety of the request." The previous study for the City (WEI, 2003) suggested that the apparent nitrogen loss coefficient for Ponds 2, 5, and 8 were 77, 19, and 53 percent, respectively. The relatively low nitrogen loss coefficient in Pond 5 may be an artifact of the way the ponds were filled and operated. Recall that WEI made the following recommendation in the January 2003 report:

The fill operations at Pond 5 should be modified to test whether the soils beneath the pond are sufficiently wetted to become anaerobic. To review, during normal operations Ponds 2, 5, and 8 are all filled directly. Ponds 8 and 2 spill over to Ponds 7 and 1, respectively (Figures 1-1 and 4-1), and therefore the lysimeters would be in the center of the recharge mound. Pond 5 spills over into Pond 4 and, hence, the Pond 5 lysimeters are at the edge of the recharge mound. It is possible that due to spatial variability and soil heterogeneity that portions of the soil do not become anaerobic during the fill cycle, resulting in less nitrogen loss. Pond 6 should be filled such that Pond 5 lysimeters (on the eastern edge of Pond 5) are more likely in the center of the recharge mound.

It is critical that the City be able to use a more realistic nitrogen loss coefficient (50 to 75 percent), rather than the 25 percent default value. We propose that the City collect lysimeter samples weekly for a six-month period. This data set should be robust enough to develop a planning-level nitrogen loss rate coefficient(s) that can be used in permitting, to establish nitrogen loss through soil aquifer treatment

- 1 We recommend the following steps: WEI will purge and "charge" – apply a vacuum – each of the 36 lysimeters that were installed in the prior study to assess which ones are still operable.
- 2 Assuming that enough of the lysimeters are functional, WEI would collect a weekly sample from the basin and the lysimeters in the basin that is currently being recharged. We recommend two months at each of the three basins; only collecting samples while the basins have standing water. The samples would be analyzed for electrical conductivity, nitrate-N, nitrite-N, ammonia, total Kjeldahl nitrogen, and total organic carbon. We assume that all of these tests would be done by the City's laboratory.
- 3 WEI will analyze the data and develop current, area-specific nitrogen loss coefficients.
- 4 WEI will characterize the nitrogen speciation in the samples, demonstrating that (i) nitrite is not present in appreciable concentrations, and (ii) that ammonia and organic nitrogen are not significantly transported through the vadose zone. This will address a concern about the model only addressing nitrate-N and not TIN.

Task 4 Evaluate TDS and Nitrate Impacts from the Discharge at the City's Ponds

The objective of this task is to project future ambient TDS and nitrate concentrations in the Bunker Hill B Management Zone. A range of future management scenarios will be evaluated, including: discharge conditions under the current permit levels for TDS and nitrogen and under conditions limited to the current (2006) ambient concentration for TDS and nitrogen. We will develop these projections with the CSR model used in our prior work for the City using updated information from Tasks 2 and 3.

Task 5 Prepare Report

We will prepare a draft and final report to document the work done in Tasks 1 through 4.

EXHIBIT B

PROJECT SCHEDULE

We can finish Tasks 1 through 4 and prepare a draft report (part of Task 5) within 7 to 8 months from notice to proceed. We cannot project with confidence the amount of time the Regional Board staff will require to review and comment on the draft report. For contracting purposes, WEI recommends that the duration of the contract be set at 12 months to allow for delays in review and processing of the draft report by the Regional Board staff.

EXHIBIT C

PROJECT COSTS

The estimated fee to complete Tasks 2 through 5 is about \$56,000. The estimated fee to complete Task 1 has been budgeted at about \$8,000 although it may increase if additional meetings with the Regional Board are required. For budgeting purposes we recommend the City budget \$64,000.

EXHIBIT D

RATE SCHEDULE

WEI Time and Material Rate Sheet for 2009 Hourly Rate

Principal Engineer/Scientist	\$190 - \$215
Associate Engineer/Scientist	\$180 - \$200
Senior Engineer/Scientist	\$130 - \$160
Staff Engineer/Scientist	\$120 - \$150
Database Manager	\$165 - \$195
Engineering Technician	\$85 - \$105
Field Technician	\$75 - \$85
Office Administrator	\$95 - \$110
Expert Witness ¹	\$380 - \$430

¹

a Mileage for passenger vehicles will be billed at the IRS rate.

Subject to annual adjustments.

b Other project-related travel costs will be passed through.

Preparation of testimonial material is billed at the normal hourly rate. Witness preparation, depositions, and testimony are billed at the expert witness rate - with a minimum charge of one day.