

PROFESSIONAL CONSULTANT SERVICES AGREEMENT

JON LEE DBA PUMP CHECK

[Pump Efficiency Testing and Water Meter Testing RFP No. 2232]

THIS PROFESSIONAL CONSULTANT SERVICES AGREEMENT ("Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2023 ("Effective Date"), by and between the CITY OF RIVERSIDE, a California charter city and municipal corporation ("City"), and JON LEE, a sole-proprietor doing business as PUMP CHECK ("Consultant").

1. **Scope of Services.** City agrees to retain and does hereby retain Consultant and Consultant agrees to provide the services more particularly described in Exhibit "A," "Scope of Services" ("Services"), attached hereto and incorporated herein by reference, in conjunction with Pump Efficiency Testing and Water Meter Testing RFP No. 2232 ("Project").

2. **Term.** This Agreement shall be effective on the date first written above and shall remain in effect until through February 1, 2025, unless otherwise terminated pursuant to the provisions herein. The term may be extended for an additional two-year period, upon mutual written agreement of the parties.

3. **Compensation/Payment.** Consultant shall perform the Services under this Agreement for the total sum not to exceed Three Hundred Thousand Dollars (\$300,000), payable in accordance with the terms set forth in Exhibit "B." Said payment shall be made in accordance with City's usual accounting procedures upon receipt and approval of an itemized invoice setting forth the services performed. The invoices shall be delivered to City at the address set forth in Section 4 hereof.

4. **Notices.** Any notices required to be given, hereunder shall be in writing and shall be personally served or given by mail. Any notice given by mail shall be deemed given when deposited in the United States Mail, certified and postage prepaid, addressed to the party to be served as follows:

To City

Riverside Public Utilities - Water  
City of Riverside  
Attn: Jon C. Colon  
3900 Main Street  
Riverside, CA 92522

To Consultant

Pump Check  
Attn: Jon Lee  
P.O. Box 5646  
Riverside, CA 92517

5. **Prevailing Wage.** If applicable, Consultant and all subcontractors are required to pay the general prevailing wage rates of per diem wages and overtime and holiday wages determined by the Director of the Department of Industrial Relations under Section 1720 et seq. of the California Labor Code and implemented by Resolution No. 13346 of the City Council of the City of Riverside. The Director's determination is available on-line at [www.dir.ca.gov/dlsr/DPreWageDetermination.htm](http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm) and is referred to and made a part hereof; the wage rates therein ascertained, determined, and specified are referred to and made a part hereof as though fully set forth herein.

6. **Contract Administration.** A designee of the City will be appointed in writing by the City Manager or Department Director to administer this Agreement on behalf of City and shall be referred to herein as Contract Administrator.

7. **Standard of Performance.** While performing the Services, Consultant shall exercise the reasonable professional care and skill customarily exercised by reputable members of Consultant's profession practicing in the Metropolitan Southern California Area, and shall use reasonable diligence and best judgment while exercising its professional skill and expertise.

8. **Personnel.** Consultant shall furnish all personnel necessary to perform the Services and shall be responsible for their performance and compensation. Consultant recognizes that the qualifications and experience of the personnel to be used are vital to professional and timely completion of the Services. The key personnel listed in Exhibit "C" attached hereto and incorporated herein by this reference and assigned to perform portions of the Services shall remain assigned through completion of the Services, unless otherwise mutually agreed by the parties in writing, or caused by hardship or resignation in which case substitutes shall be subject to City approval.

9. **Assignment and Subcontracting.** Neither party shall assign any right, interest, or obligation in or under this Agreement to any other entity without prior written consent of the other party. In any event, no assignment shall be made unless the assignee expressly assumes the obligations of assignor under this Agreement, in a writing satisfactory to the parties. Consultant acknowledges that any assignment may, at the City's sole discretion, require City Manager and/or City Council approval. Consultant shall not subcontract any portion of the work required by this Agreement without prior written approval by the responsible City Contract Administrator. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement, including without limitation, the insurance obligations set forth in Section 12. The Consultant acknowledges and agrees that the City is an intended beneficiary of any work performed by any subcontractor for purposes of establishing a duty of care between any subcontractor and the City.

10. **Independent Contractor.** In the performance of this Agreement, Consultant, and Consultant's employees, subcontractors and agents, shall act in an independent capacity as independent contractors, and not as officers or employees of the City of Riverside. Consultant acknowledges and agrees that the City has no obligation to pay or withhold state or federal taxes or to provide workers' compensation or unemployment insurance to Consultant, or to Consultant's employees, subcontractors and agents. Consultant, as an independent contractor, shall be responsible for any and all taxes that apply to Consultant as an employer.

11. **Indemnification.**

11.1 **Design Professional Defined.** For purposes of this Agreement, "Design Professional" includes the following:

- A. An individual licensed as an architect pursuant to Chapter 3 (commencing with Section 5500) of Division 3 of the Business and Professions Code, and a business entity offering architectural services in accordance with that chapter.
- B. An individual licensed as a landscape architect pursuant to Chapter 3.5 (commencing with Section 5615) of Division 3 of the Business and Professions Code, and a business entity offering landscape architectural services in accordance with that chapter.
- C. An individual registered as a professional engineer pursuant to Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code, and a business entity offering professional engineering services in accordance with that chapter.
- D. An individual licensed as a professional land surveyor pursuant to Chapter 15 (commencing with Section 8700) of Division 3 of the Business and Professions Code, and a business entity offering professional land surveying services in accordance with that chapter.

11.2 **Defense Obligation For Design Professional Liability.** Consultant agrees, at its cost and expense, to promptly defend the City, and the City's employees, officers, managers, agents and council members (collectively the "Parties to be Defended") from and against any and all claims, allegations, lawsuits, arbitration proceedings, administrative proceedings, regulatory proceedings, or other legal proceedings to the extent the same arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of Consultant, or anyone employed by or working under the Consultant or for services rendered to the Consultant in the performance of the Agreement, notwithstanding that the City may have benefited from its work or services and whether or not caused in part by the negligence of an Indemnified Party. Consultant agrees to provide this defense immediately upon written notice from the City, and with well qualified, adequately insured and experienced legal counsel acceptable to City. Consultant will reimburse City for reasonable defense costs for claims arising out of Consultant's professional negligence based on the percentage of Consultant's liability. This obligation to defend as set forth herein is binding on the successors, assigns and heirs of Consultant and shall survive the termination of Consultant's Services under this Agreement.

11.3 **Indemnity For Design Professional Liability.** When the law establishes a professional standard of care for Consultant's services, to the fullest extent permitted by law, Consultant shall indemnify, protect and hold harmless the City and the City's employees, officers, managers, agents, and Council Members ("Indemnified Parties") from and against any and all claim for damage, charge, lawsuit, action, judicial, administrative, regulatory or arbitration proceeding, damage, cost, expense (including counsel and expert fees), judgment, civil fines and penalties,

liabilities or losses of any kind or nature whatsoever to the extent the same arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of Consultant, or anyone employed by or working under the Consultant or for services rendered to the Consultant in the performance of the Agreement, notwithstanding that the City may have benefited from its work or services and whether or not caused in part by the negligence of an Indemnified Party.

**11.4 Defense Obligation For Other Than Design Professional Liability.**

Consultant agrees, at its cost and expense, to promptly defend the City, and the City's employees, officers, managers, agents and council members (collectively the "Parties to be Defended") from and against any and all claims, allegations, lawsuits, arbitration proceedings, administrative proceedings, regulatory proceedings, or other legal proceedings which arise out of, or relate to, or are in any way connected with: 1) the Services, work, activities, operations, or duties of the Consultant, or of anyone employed by or working under the Consultant, or 2) any breach of the Agreement by the Consultant. This duty to defend shall apply whether or not such claims, allegations, lawsuits or proceedings have merit or are meritless, or which involve claims or allegations that any or all of the Parties to be Defended were actively, passively, or concurrently negligent, or which otherwise assert that the Parties to be Defended are responsible, in whole or in part, for any loss, damage or injury. Consultant agrees to provide this defense immediately upon written notice from the City, and with well qualified, adequately insured and experienced legal counsel acceptable to City. This obligation to defend as set forth herein is binding on the successors, assigns and heirs of Consultant and shall survive the termination of Consultant's Services under this Agreement.

**11.5 Indemnity For Other Than Design Professional Liability.** Except as to the sole negligence or willful misconduct of the City, Consultant agrees to indemnify, protect and hold harmless the Indemnified Parties from and against any claim for damage, charge, lawsuit, action, judicial, administrative, regulatory or arbitration proceeding, damage, cost, expense (including counsel and expert fees), judgment, civil fine and penalties, liabilities or losses of any kind or nature whatsoever whether actual, threatened or alleged, which arise out of, pertain to, or relate to, or are a consequence of, or are attributable to, or are in any manner connected with the performance of the Services, work, activities, operations or duties of the Consultant, or anyone employed by or working under the Consultant or for services rendered to Consultant in the performance of this Agreement, notwithstanding that the City may have benefited from its work or services. This indemnification provision shall apply to any acts, omissions, negligence, recklessness, or willful misconduct, whether active or passive, on the part of the Consultant or anyone employed or working under the Consultant.

**12. Insurance.**

**12.1 General Provisions.** Prior to the City's execution of this Agreement, Consultant shall provide satisfactory evidence of, and shall thereafter maintain during the term of this Agreement, such insurance policies and coverages in the types, limits, forms and ratings required herein. The rating and required insurance policies and coverages may be modified in writing by the City's Risk Manager or City Attorney, or a designee, unless such modification is prohibited by law.

**12.1.1 Limitations.** These minimum amounts of coverage shall not constitute any limitation or cap on Consultant's indemnification obligations under Section 11 hereof.

12.1.2 **Ratings.** Any insurance policy or coverage provided by Consultant or subcontractors as required by this Agreement shall be deemed inadequate and a material breach of this Agreement, unless such policy or coverage is issued by insurance companies authorized to transact insurance business in the State of California with a policy holder's rating of A or higher and a Financial Class of VII or higher.

12.1.3 **Cancellation.** The policies shall not be canceled unless thirty (30) days' prior written notification of intended cancellation has been given to City by certified or registered mail, postage prepaid.

12.1.4 **Adequacy.** The City, its officers, employees and agents make no representation that the types or limits of insurance specified to be carried by Consultant pursuant to this Agreement are adequate to protect Consultant. If Consultant believes that any required insurance coverage is inadequate, Consultant will obtain such additional insurance coverage as Consultant deems adequate, at Consultant's sole expense.

12.2 **Workers' Compensation Insurance.** By executing this Agreement, Consultant certifies that Consultant is aware of and will comply with Section 3700 of the Labor Code of the State of California requiring every employer to be insured against liability for workers' compensation, or to undertake self-insurance before commencing any of the work. Consultant shall carry the insurance or provide for self-insurance required by California law to protect said Consultant from claims under the Workers' Compensation Act. Prior to City's execution of this Agreement, Consultant shall file with City either 1) a certificate of insurance showing that such insurance is in effect, or that Consultant is self-insured for such coverage, or 2) a certified statement that Consultant has no employees, and acknowledging that if Consultant does employ any person, the necessary certificate of insurance will immediately be filed with City. Any certificate filed with City shall provide that City will be given ten (10) days' prior written notice before modification or cancellation thereof.

12.3 **Commercial General Liability and Automobile Insurance.** Prior to City's execution of this Agreement, Consultant shall obtain, and shall thereafter maintain during the term of this Agreement, commercial general liability insurance and automobile liability insurance as required to insure Consultant against damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from or which may concern operations by anyone directly or indirectly employed by, connected with, or acting for or on behalf of Consultant. The City, and its officers, employees and agents, shall be named as additional insureds under the Consultant's insurance policies.

12.3.1 Consultant's commercial general liability insurance policy shall cover both bodily injury (including death) and property damage (including, but not limited to, premises operations liability, products-completed operations liability, independent contractor's liability, personal injury liability, and contractual liability) in an amount not less than \$1,000,000 per occurrence and a general aggregate limit in the amount of not less than \$2,000,000.

12.3.2 Consultant's automobile liability policy shall cover both bodily injury and property damage in an amount not less than \$1,000,000 per occurrence and an aggregate limit of not less than \$1,000,000. All of Consultant's automobile and/or commercial general liability

insurance policies shall cover all vehicles used in connection with Consultant's performance of this Agreement, which vehicles shall include, but are not limited to, Consultant owned vehicles, Consultant leased vehicles, Consultant's employee vehicles, non-Consultant owned vehicles and hired vehicles.

12.3.3 Prior to City's execution of this Agreement, copies of insurance policies or original certificates along with additional insured endorsements acceptable to the City evidencing the coverage required by this Agreement, for both commercial general and automobile liability insurance, shall be filed with City and shall include the City and its officers, employees and agents, as additional insureds. Said policies shall be in the usual form of commercial general and automobile liability insurance policies, but shall include the following provisions:

It is agreed that the City of Riverside, and its officers, employees and agents, are added as additional insureds under this policy, solely for work done by and on behalf of the named insured for the City of Riverside.

12.3.4 The insurance policy or policies shall also comply with the following provisions:

- a. The policy shall be endorsed to waive any right of subrogation against the City and its sub-consultants, employees, officers and agents for services performed under this Agreement.
- b. If the policy is written on a claims made basis, the certificate should so specify and the policy must continue in force for one year after completion of the services. The retroactive date of coverage must also be listed.
- c. The policy shall specify that the insurance provided by Consultant will be considered primary and not contributory to any other insurance available to the City and Endorsement No. CG 20010413 shall be provided to the City.

12.4 **Errors and Omissions Insurance.** Intentionally omitted.

12.5 **Subcontractors' Insurance.** Consultant shall require all of its subcontractors to carry insurance, in an amount sufficient to cover the risk of injury, damage or loss that may be caused by the subcontractors' scope of work and activities provided in furtherance of this Agreement, including, but without limitation, the following coverages: Workers Compensation, Commercial General Liability, Errors and Omissions, and Automobile liability. Upon City's request, Consultant shall provide City with satisfactory evidence that Subcontractors have obtained insurance policies and coverages required by this section.

13. **Business Tax.** Consultant understands that the Services performed under this Agreement constitutes doing business in the City of Riverside, and Consultant agrees that Consultant will register for and pay a business tax pursuant to Chapter 5.04 of the Riverside Municipal Code and keep such tax certificate current during the term of this Agreement.

14. **Time of Essence.** Time is of the essence for each and every provision of this Agreement.

15. **City's Right to Employ Other Consultants.** City reserves the right to employ other Consultants in connection with the Project. If the City is required to employ another consultant to complete Consultant's work, due to the failure of the Consultant to perform, or due to the breach of any of the provisions of this Agreement, the City reserves the right to seek reimbursement from Consultant.

16. **Accounting Records.** Consultant shall maintain complete and accurate records with respect to costs incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

17. **Confidentiality.** All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other materials either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant, except as otherwise directed by City's Contract Administrator. Nothing furnished to Consultant which is otherwise known to the Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use City's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production, website, or other similar medium without the prior written consent of the City.

18. **Ownership of Documents.** All reports, maps, drawings and other contract deliverables prepared under this Agreement by Consultant shall be and remain the property of City. Consultant shall not release to others information furnished by City without prior express written approval of City.

19. **Copyrights.** Consultant agrees that any work prepared for City which is eligible for copyright protection in the United States or elsewhere shall be a work made for hire. If any such work is deemed for any reason not to be a work made for hire, Consultant assigns all right, title and interest in the copyright in such work, and all extensions and renewals thereof, to City, and agrees to provide all assistance reasonably requested by City in the establishment, preservation and enforcement of its copyright in such work, such assistance to be provided at City's expense but without any additional compensation to Consultant. Consultant agrees to waive all moral rights relating to the work developed or produced, including without limitation any and all rights of identification of authorship and any and all rights of approval, restriction or limitation on use or subsequent modifications.

20. **Conflict of Interest.** Consultant, for itself and on behalf of the individuals listed in Exhibit "C," represents and warrants that by the execution of this Agreement, they have no interest, present or contemplated, in the Project affected by the above-described Services. Consultant further

warrants that neither Consultant, nor the individuals listed in Exhibit "C" have any real property, business interests or income interests that will be affected by this project or, alternatively, that Consultant will file with the City an affidavit disclosing any such interest.

21. **Solicitation.** Consultant warrants that Consultant has not employed or retained any person or agency to solicit or secure this Agreement, nor has it entered into any agreement or understanding for a commission, percentage, brokerage, or contingent fee to be paid to secure this Agreement. For breach of this warranty, City shall have the right to terminate this Agreement without liability and pay Consultant only for the value of work Consultant has actually performed, or, in its sole discretion, to deduct from the Agreement price or otherwise recover from Consultant the full amount of such commission, percentage, brokerage or commission fee. The remedies specified in this section shall be in addition to and not in lieu of those remedies otherwise specified in this Agreement.

22. **General Compliance With Laws.** Consultant shall keep fully informed of federal, state and local laws and ordinances and regulations which in any manner affect those employed by Consultant, or in any way affect the performance of services by Consultant pursuant to this Agreement. Consultant shall at all times observe and comply with all such laws, ordinances and regulations, and shall be solely responsible for any failure to comply with all applicable laws, ordinances and regulations. Consultant represents and warrants that Consultant has obtained all necessary licenses to perform the Scope of Services and that such licenses are in good standing. Consultant further represents and warrants that the services provided herein shall conform to all ordinances, policies and practices of the City of Riverside.

23. **Waiver.** No action or failure to act by the City shall constitute a waiver of any right or duty afforded City under this Agreement, nor shall any such action or failure to act constitute approval of or acquiescence in any breach thereunder, except as may be specifically, provided in this Agreement or as may be otherwise agreed in writing.

24. **Amendments.** This Agreement may be modified or amended only by a written agreement and/or change order executed by the Consultant and City.

25. **Termination.** City, by notifying Consultant in writing, shall have the right to terminate any or all of Consultant's services and work covered by this Agreement at any time. In the event of such termination, Consultant may submit Consultant's final written statement of the amount of Consultant's services as of the date of such termination based upon the ratio that the work completed bears to the total work required to make the report complete, subject to the City's rights under Sections 15 and 26 hereof. In ascertaining the work actually rendered through the termination date, City shall consider completed work, work in progress and complete and incomplete reports and other documents only after delivered to City.

25.1 Other than as stated below, City shall give Consultant thirty (30) days' prior written notice prior to termination.

25.2 City may terminate this Agreement upon fifteen (15) days' written notice to Consultant, in the event:



25.2.1 Consultant substantially fails to perform or materially breaches the Agreement; or

25.2.2 City decides to abandon or postpone the Project.

26. **Offsets.** Consultant acknowledges and agrees that with respect to any business tax or penalties thereon, utility charges, invoiced fee or other debt which Consultant owes or may owe to the City, City reserves the right to withhold and offset said amounts from payments or refunds or reimbursements owed by City to Consultant. Notice of such withholding and offset, shall promptly be given to Consultant by City in writing. In the event of a dispute as to the amount owed or whether such amount is owed to the City, City will hold such disputed amount until either the appropriate appeal process has been completed or until the dispute has been resolved.

27. **Successors and Assigns.** This Agreement shall be binding upon City and its successors and assigns, and upon Consultant and its permitted successors and assigns, and shall not be assigned by Consultant, either in whole or in part, except as otherwise provided in paragraph 9 of this Agreement.

28. **Venue.** Any action at law or in equity brought by either of the parties hereto for the purpose of enforcing a right or rights provided for by this Agreement shall be tried in the Superior Court, County of Riverside, State of California, and the parties hereby waive all provisions of law providing for a change of venue in such proceedings to any other county. In the event either party hereto shall bring suit to enforce any term of this Agreement or to recover any damages for and on account of the breach of any term or condition of this Agreement, it is mutually agreed that each party will bear their own attorney's fees and costs.

29. **Nondiscrimination.** During Consultant's performance of this Agreement, Consultant shall not discriminate on the grounds of race, religious creed, color, national origin, ancestry, age, physical disability, mental disability, medical condition, including the medical condition of Acquired Immune Deficiency Syndrome (AIDS) or any condition related thereto, marital status, sex, genetic information, gender, gender identity, gender expression, or sexual orientation, military and veteran status, in the selection and retention of employees and subcontractors and the procurement of materials and equipment, except as provided in Section 12940 of the California Government Code. Further, Consultant agrees to conform to the requirements of the Americans with Disabilities Act in the performance of this Agreement.

30. **Severability.** Each provision, term, condition, covenant and/or restriction, in whole and in part, of this Agreement shall be considered severable. In the event any provision, term, condition, covenant and/or restriction, in whole and/or in part, of this Agreement is declared invalid, unconstitutional, or void for any reason, such provision or part thereof shall be severed from this Agreement and shall not affect any other provision, term, condition, covenant and/or restriction of this Agreement, and the remainder of the Agreement shall continue in full force and effect.

31. **Authority.** The individuals executing this Agreement and the instruments referenced herein on behalf of Consultant each represent and warrant that they have the legal power, right and actual authority to bind Consultant to the terms and conditions hereof and thereof.

32. **Entire Agreement.** This Agreement constitutes the final, complete, and exclusive statement of the terms of the agreement between the parties pertaining to the subject matter of this Agreement, and supersedes all prior and contemporaneous understandings or agreements of the parties. Neither party has been induced to enter into this Agreement by and neither party is relying on, any representation or warranty outside those expressly set forth in this Agreement.

33. **Interpretation.** City and Consultant acknowledge and agree that this Agreement is the product of mutual arms-length negotiations and accordingly, the rule of construction, which provides that the ambiguities in a document shall be construed against the drafter of that document, shall have no application to the interpretation and enforcement of this Agreement.

33.1 Titles and captions are for convenience of reference only and do not define, describe or limit the scope or the intent of the Agreement or any of its terms. Reference to section numbers, are to sections in the Agreement unless expressly stated otherwise.

33.2 This Agreement shall be governed by and construed in accordance with the laws of the State of California in effect at the time of the execution of this Agreement.

33.3 In the event of a conflict between the body of this Agreement and Exhibit "A" - Scope of Services hereto, the terms contained in Exhibit "A" shall be controlling.

34. **Exhibits.** The following exhibits attached hereto are incorporated herein to this Agreement by this reference:

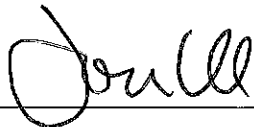
- Exhibit "A" - Scope of Services
- Exhibit "B" - Compensation
- Exhibit "C" - Key Personnel

IN WITNESS WHEREOF, City and Consultant have caused this Agreement to be duly executed the day and year first above written.

CITY OF RIVERSIDE, a California  
charter city and municipal corporation

JON LEE, a Sole-Proprietor doing business as  
PUMP CHECK

By: \_\_\_\_\_  
City Manager

By:  \_\_\_\_\_  
Jon Lee

\_\_\_\_\_  
[Printed Name]  
Owner  
\_\_\_\_\_  
[Title]

Attest: \_\_\_\_\_  
City Clerk

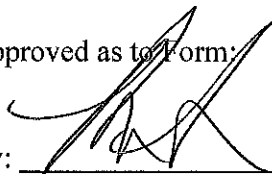
Certified as to Availability of Funds:

By: \_\_\_\_\_

By:  \_\_\_\_\_  
for Chief Financial Officer

\_\_\_\_\_  
[Printed Name]  
\_\_\_\_\_  
[Title]

Approved as to Form:

By:  \_\_\_\_\_  
Ruthann M. Salera  
Deputy City Attorney

**EXHIBIT "A"**

**SCOPE OF SERVICES**

## Scope of Work

The Pump Check shall complete all tests as specified by the City of Riverside.

Prior to performing pump efficiency tests, Pump Check shall perform a preliminary inspection at each facility to be tested. The Pump Check shall briefly visually inspect each pump to be tested, and determine if the pumps are ready for testing. Pump Check shall inform City staff of any preparatory work that needs to be done by the City prior to testing, to ensure that tests can proceed smoothly at Pump Check's next visit. Preparatory work might include installation of taps for attaching pressure gauges or other tasks.

According to the California Energy Commission, "moving water around the state takes up to 19 percent of the total energy supply." With energy costs skyrocketing and concerns about greenhouse gas emissions growing, finding ways to optimize the efficiency of our water conveyance infrastructure can provide real benefits in terms of costs and environmental effects.

Since 2010, Pump Check has helped the City of Riverside save a total of **4,563,696 kWhs**.

Pump Check through testing, identified pumps that were inefficient and recommended them for repair. This savings number was after the City repaired or replaced the pumps with new pumps, properly designed. The pumps were retested to verify the savings.

Since 2010 this equates to a reduction of **4,221.4** tons of Green House CO<sub>2</sub> gases annually.

*(National average emissions factor for electricity is 1.85 pounds CO<sub>2</sub> per kilowatt-hour. Source: Energy Information Administration, Electric Generator Report 2013, Table 8.2, [www.eia.doe.gov](http://www.eia.doe.gov)).*

And enough energy saved (kWh's) to power **434.6** average households for one year.

*(National average for electricity consumed per household 10,500 kWh's per year. Source: U.S. Department of Energy, Table 1.5 Energy Consumption, Expenditures and Emissions Indicators, 2012, [www.energy.gov](http://www.energy.gov)).*

Pump Check's program is designed to show how your pumps are performing and what steps can be taken to reduce operating costs.

We conduct a standard Field or Index Test. We measure the flow in gallons per minute, the total head or lift, and the power requirement for each pump. For well pumps, the static and pumping levels are measured and the specific yield of the well is determined. The overall plant efficiency (wire to water) and kWh per acre foot for electric driven units are then calculated.

We also test and provide similar results for natural gas and diesel driven units. We make a test under the normal operating condition and one or two throttle points to get an idea of how the pump is suited to the existing condition.

In pump stations with multiple pumps, we look at the resulting pump performance as other pumps are added.

A pumping cost analysis is provided based on the operating characteristics of each pump. If the pump curve is available we will plot the test results on the curve also. The cost is calculated based on the pump production and energy rate applicable to that account. If, in our opinion, the pump efficiency can be improved, we calculate the savings that can be achieved from that improvement and include it with the test results.

The pump test determines if a pump is in need of attention and the dollar value of repairs or changes in operation. It provides current information about water levels and specific yields as well as trends over time. The test also provides information about system pressure and lifts for pump design. The test can be used as a primary tool for prioritized pumping.

The water meters are tested with multiple test runs and the accuracy averaged. If the accuracy is not acceptable the water meter calibration is adjusted and the water meter is retested to confirm the desired accuracy was achieved.

All test results are delivered as paper hard copy and in a .pdf electronic format.

Our fees are flat rate per pump or meter with a daily minimum and are dependent on the extent of service you require. We can modify the standard field test to accommodate some of your special needs. We are willing to work with you to make the service as beneficial as possible.

Based on historical testing with the City of Riverside we have held every other Thursday and Friday in 2023 open exclusively for the City of Riverside. We are extremely confident we can complete the requested testing with these reserved days. Rhonda keeps track of our progress with an .xlsx program she created and we keep the City up to date on our progress.

### Water Meter Testing

We conduct a standard Field or Index Test following the American Water Works Association practices set forth in M6. We measure the flow in gallons per minute, and make a comparison with your production water meter. The flow test will be performed one of three ways.

First: Using a Comparative water meter. The flow is measured using a calibrated comparison water meter.

Second: Using a Pitot tube. The flow is measured with a velocity head differential tool.

Third: Using an Ultra Sonic flow meter. The flow is measured with a transit time sound wave correlation tool.

Each one of these techniques can provide the desired results. The decision to use one tool over the other may be based on many factors including but not limited to; pressure, gpm, flooding, erosion, existing piping configuration, de-chlorination, discharge permits, end user inconvenience and customer preference.

We specialize in Water Specialties and McCrometer flow meters.

If a water meters accuracy is found out of acceptable tolerance, Pump Check will make the required adjustment to the water meter and a retest will be performed to confirm the desired accuracy has been achieved. Water meters needing an external communicator for recalibration may require your instrument technician or a sub-contractor.

City of Riverside will be responsible the following support:

- \* Operation of pumps and valves as necessary.
- \* Responsibility for all environmental concerns and compliance.
- \* Responsibility for all required permits, legal fees and fines.
- \* Take necessary reads and in general ensure any discharged water is in compliance with NPDES and/or any other permit(s).
- \* Removal and installation of complete meters as necessary.
- \* Provide traffic control at flooded intersections and streets as necessary.

A pretest inspection may be necessary to confirm the water meters are ready to test. This may require the installation of valves, fittings and piping by your maintenance crew.

**On arrival**

1. Determine pumps to be tested; normal operation of the pumps; source and destination of water. Determine test points, i.e. number of points and head or capacity. Can pumps operate long enough to complete tests?
2. Complete pump test data sheet.

**Test set up****Flow measurement**

1. Determine appropriate location for pitot tube.
2. Isolate and depressurize pipe.
3. Drill and tap appropriate size hole for pitot tube.
4. Measure pipe inside diameter.
5. Install pitot tube and connect manometer.

**Pressure/head measurement** (Datum is center line of pump discharge)

1. Locate appropriate location for pressure gauge cocks.
2. Utilize existing pressure gauge cocks if possible.
3. If necessary, drill and tap hole for pressure gauge cocks if possible.
4. If necessary, have customer install pressure gauge cocks in proper locations.

**Energy input measurement to motor**

1. Determine appropriate location and method to measure kW input.
  - a. Utility billing meter.
  - b. Portable kW meter.
  - c. Power quality analyzer.
2. Open appropriate electrical panels for inspection.

**Pump speed measurement**

1. Install reflective tape for electronic tachometer operation.

**Preparation for operation**

1. Open all valves.
2. Open electrical panels.
3. Clear area and make final safety check.

**Begin test****Adjustments**

1. Start pump and allow to stabilize.
2. Bleed pressure gauge cocks, install pressure gauges and check operation.
3. Set valves for proper head.
3. Bleed and set pitot tube and manometer.

**Head measurement**

1. Verify head and record pressures.

**Flow measurement**

1. Read manometer and record reading.

**Energy measurement**

1. Time utility billing meter and record, or:
2. Take kW readings at appropriate location by the single phase method and record.
3. Measure running voltage and record.
4. Measure running current and record.
5. Note any unusual voltage or current conditions.



Pump speed measurement

1. Measure pump speed with electronic photo tachometer and record.

Calculations

1. Calculate total lift and convert to feet.
2. Calculate flow in gallons per minute.
3. Calculate kW input to motor and convert to input horsepower.
4. Determine wire to water efficiency.
5. Calculate kVA and power factor.

Additional test points

The same procedure is repeated for each additional test point as determined in advance. Voltage and current readings may be omitted in subsequent test points if electrical operation is satisfactory.

Pump tests are conducted in accordance with Hydraulic Institute test standards 1.6, 2.6 & 11.6 to the extent that the pumping plant physical installation allows.

**FLOW MEASUREMENT**

Hall pitot tubes and manometer 2" through 85"	1.5%
GE Panametric ultrasonic 2" through 64"	1.5%
6" Master Meter turbine meter	2.0%
3" Master Meter turbine meter	2.0%
1" Master Meter turbine meter	2.0%
¾" Master Meter nutating disc meter	2.0%

**PIPE ID MEASUREMENT**

ID Sticks Dry & Wet 2" through 80"	± .0625
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**ENERGY MEASUREMENT**

Fluke 434 power quality analyzer	0.5 %
Fluke 435 power quality analyzer	0.5%
Exteck kW, Volt, Amp meter	1.5%
Fluke 1736 Power Logger	1.2%
Fluke 325 True RMS Clamp Meter	2.0%

**PRESSURE MEASUREMENT**

U.S. Gauge test gauge set, 0 to 1000 PSI	0.5%
0-30, 0-60, 0-100, 0-200, 0-300	0.5%
0-500, 0-600, 0-1000	0.5%
U.S. Gauge vacuum gauge, 0 to 30"	0.5%

**SPEED MEASUREMENT**

Exteck photo tachometer	1.0%
Fluke LED tachometer	0.5%

**WATER LEVEL MEASUREMENT**

Electric well sounder single wire	0.25% total length
Electric well sounder double wire	0.25% total length

**SAND CONTENT MEASUREMENT**

Roscoe Moss Rossum Sand Tester	1 PPM
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**THERMAL MEASUREMENT**

FLIR E6	± 2.0 <sup>o</sup> f
FLIR E50	± 2.5 <sup>o</sup> f
FLIR TG165	± 2.7 <sup>o</sup> f

**VIBRATION MEASUREMENT**

Exteck 407860	1.0%
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**WEIR MEASUREMENT**

Pump Check Custom Built	± .005
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**HOT TAP**

2LBIN LJ1-25	¾" – 2"
Mueller B-101	½" – 2½"

**EXHIBIT "B"**  
**COMPENSATION**

Potable Water

Line Item 1 Standard pump test \$255.00 per pump

Line Item 2 Diesel or Natural Gas driven pumps \$271.00 per pump.

Line Item 3 Sand Content test \$177.00 per pump

Non Potable Water (completely different equipment is used)

Line Item 4 Tertiary water standard pump test \$300.00 per pump

Line Item 5 WAS / RAS / Secondary pump test \$315.00 per pump

Line Item 6 Lift Station pump test \$350.00 per pump

Line Item 7 Diesel or Natural Gas driven pumps Add \$96.00 per pump.

Motor Control Panel

Line Item 8 Infrared Imaging of Panel \$140.00 per panel at the same time as a pump test, or by quote.

Production Water Meter 4" through 18"

Line Item 9 Production Water Meter Test \$232.00 per water meter.

At the same time as a pump test on the same pump.

Line Item 10 Production Water Meter Test \$245.00 per water meter.

Line Item 11 Water meters and water meter parts. Manufactures List Price

Line Item 12 Labor rate. \$180.00 per man hour.

Production Water Meter Over 18" and other custom testing

Line Item 13 Production Water Meter Test Over 18" Specific bid per project.

Line Item 14 Non Standard pump test Specific bid per project.

Hot Tapping Only 1" – 2"

Line Item 15 \$225.00 per tap, includes ball valve.

Minimum Day Fees

Line Item 16 Minimum Daily Fee - Potable. \$727.00 per day.

Line Item 17 Minimum Daily Fee – Non Potable. \$1,190.00 per day.

Line Item 18 Minimum Daily Fee – Potable Tapping. \$727.00 per day.

The daily minimum is satisfied with completion of more than three tests per day, then charged on a per test basis.

Special or Custom Projects

Line Item 19 Special or Custom Projects Specific bid per project.

Sub-Contractors

Line Item 20 Sub-Contractors (if necessary) Cost + 10%.

The incurred cost of any additional fees, non-standard insurance requirements and/or bonds levied on us will be passed thru.

**EXHIBIT "C"**

**KEY PERSONNEL**

## Pump Check

**California**

Pump Check  
14427 Meridian Parkway  
Suite i  
March Air Resere Base, CA 92518

Main Contact: Jon Lee  
[jon@pumpcheck.com](mailto:jon@pumpcheck.com)  
951-653-1910 office  
951-653-1950 fax  
909-214-1869 mobile

**Mailing address for all correspondence**

Pump Check  
PO Box 5646  
Riverside, CA 92517

**New Mexico**

Pump Check  
384 Sedillo Road  
Tijeras, NM 87059

Contact: Rhonda Steward  
[rhonda@pumpcheck.com](mailto:rhonda@pumpcheck.com)  
951-684-9801 office  
888-691-3315 fax  
505-270-3934 mobile

**Utah**

Pump Check  
PO Box 602  
New Harmony, Utah 84757

Contact: Jon Lee  
[jon@pumpcheck.com](mailto:jon@pumpcheck.com)  
951-653-1910 office  
951-653-1950 fax  
909-214-1869 mobile

**Additional Contacts**

Chad Smith  
[chad@pumpcheck.com](mailto:chad@pumpcheck.com)  
951-653-1910 office  
951-653-1950 fax  
909-225-4077 mobile

Tyler Jernigan  
[tyler@pumpcheck.com](mailto:tyler@pumpcheck.com)  
951-653-1910 office  
951-653-1950 fax  
951-505-1540 mobile

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City of Riverside Business Tax Certificate		#0128781
California Division of Measurement Standards		#31042, 31049, 31056