

## PROFESSIONAL CONSULTANT SERVICES AGREEMENT

### IMC CONSULTING, LLC

City of Riverside Water Quality Control Plant  
Tertiary Filter System Facility Assessment Study – RFP NO. 1888

THIS PROFESSIONAL CONSULTANT SERVICES AGREEMENT (“Agreement”) is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2019 (“Effective Date”), by and between the CITY OF RIVERSIDE (“City”), a California charter city and municipal corporation and IMC CONSULTING, LLC, a Texas limited liability company authorized to do business in California (“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 Water Quality Control Plant Tertiary Filter System Facility Assessment Study – RFP No. 1888 (“Project”).

2. **Term.** This Agreement shall be effective on the date first written above and shall remain in effect for (6) six months from effective date, unless otherwise terminated pursuant to the provisions herein.

3. **Compensation/Payment.** Consultant shall perform the Services under this Agreement for the total sum not to exceed Three Hundred One Thousand Five Hundred Twenty-Six Dollars and Twenty-Five Cents (\$301,526.25) 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

City of Riverside  
Public Work Dept – Wastewater Division  
Attn: Usha Kurgund  
5950 Acorn Street  
Riverside, CA 92504

To Consultant

IMC Consulting, LLC  
Attn: Natasha Zwanziger  
9400 Olde Tuscany Rd.  
Oklahoma City, OK 73169

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.** Prior to City's execution of this Agreement, Consultant shall obtain, and shall thereafter maintain during the term of this Agreement, errors and omissions professional liability insurance in the minimum amount of \$1,000,000 to protect the City from claims resulting from the Consultant's activities.

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

IMC CONSULTING, LLC  
a Texas limited liability company  
authorized to do business in California

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

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

Natasha Zwanziger  
[Printed Name]  
President & sole member  
[Title]

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


Certified as to Availability of Funds:

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

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

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

Approved as to Form:

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

## ATTACHMENT 1

### SCOPE OF SERVICES

This study shall provide a complete Filter assessment study for all 16 Tertiary filters at the Water Quality Control Plant (WQCP) in accordance with the scope of work provided below and attached Record Drawings. Attachment 1 - T-13 - 1978 - Tertiary Filtration Plant Record Drawings. Attachment 2 - T26 - WQCP 1990 Tertiary Expansion Record Drawings.

The selected firm shall provide a complete Filter assessment study for all 16 Tertiary filters at the Water Quality Control Plant (WQCP) to determine all issues associated with efficient operation of the filters and required measures to optimize their operation efficiency and reduce operation and maintenance costs.

The selected firm shall perform tasks as described in the Scope of Work of this Request for Proposals (RFP). The City intends to select the most qualified firm for the project. Proposals shall be evaluated by City's Screening and Selection Committee on the basis of experience of the firm on projects of similar scope and size, past work, qualifications and experience of staff proposed to work on the project.

#### A. General

1. General visual filter inspection, including interior wall cleanliness and mud ball formation.
2. Visual inspection of media for mounding and any depressions/holes that may indicate an underdrain problem.
3. Check filter bed expansion.
4. Perform surface mapping of support gravel beds, to indicate any displacement.
5. Check freeboard measurements.
6. Coring of media to facilitate appropriate testing.
  - Flocculation Retention Testing
  - Sieve Analysis for Sand, Anthracite or Carbon
7. Record sand and Anthracite media bed depths.
8. Record interface between filter media.
9. Backwash filter and check for rooster tailing, media boiling or other characteristics.
10. Perform Backwash Turbidity Profile Sampling.
11. Visual inspection of Surface Wash.
12. Visual inspection of valves.
13. Pipe gallery inspection.
14. Measurement of pipe thickness to indicate any corrosion.
15. Provide a complete report based on the findings of the inspection.
16. Provide removal and packaging of media from 2 filters and perform full filter inspection including:
  - Filter media mudball and migration mapping
  - Underdrain inspection
  - Concrete condition
  - Distribution testing

**The selected firm shall provide:**

1. Qualified manpower:
  - a. Onsite Supervisor/Environmental Technician/Hole Watch
  - b. Certifications in Forklift/Reach Lift, Crane Operator, Confined Space & Rescue, and First Aid/CPR/AED
2. Equipment and PPE:
  - a. High-power industrial vacuum system
  - b. Ventilation fan for air circulation
  - c. Four gas monitors for pre-entry and continuous LEL testing
  - d. Air-purifying respirators (supplied air respirators available if required)
3. Safety Regulations:
  - a. Confined Space:
    - Tripod/winch for emergency evacuation
    - Fall arrest harnesses with safety lanyards for all men
    - Permit-required confined space entry permits as applicable
    - Daily monitoring log
  - b. 2-Way radios for communication with in-tank personnel
  - c. Cellular phone as an emergency response tool

**City shall provide:**

1. Two drained filters without backwashing (Filter 5 on East side and filter 16 on West side) to be inspected.
2. Plant Operators on site to perform operational functions as required.
3. Access to as many off line filters as possible and indicate that number when obtaining quotes for inspection

**EXHIBIT "A"**

**SCOPE OF SERVICES**

## **SCOPE OF SERVICES**

This study shall provide a complete Filter assessment study for all 16 Tertiary filters at the Water Quality Control Plant (WQCP) in accordance with the scope of work provided below and attached Record Drawings. Attachment 1 - T-13 - 1978 - Tertiary Filtration Plant Record Drawings. Attachment 2 - T26 - WQCP 1990 Tertiary Expansion Record Drawings.

The selected firm shall provide a complete Filter assessment study for all 16 Tertiary filters at the Water Quality Control Plant (WQCP) to determine all issues associated with efficient operation of the filters and required measures to optimize their operation efficiency and reduce operation and maintenance costs.

The selected firm shall perform tasks as described in the Scope of Work of this Request for Proposals (RFP). The City intends to select the most qualified firm for the project. Proposals shall be evaluated by City's Screening and Selection Committee on the basis of experience of the firm on projects of similar scope and size, past work, qualifications and experience of staff proposed to work on the project.

### **A. General**

1. General visual filter inspection, including interior wall cleanliness and mud ball formation.
2. Visual inspection of media for mounding and any depressions/holes that may indicate an underdrain problem.
3. Check filter bed expansion.
4. Perform surface mapping of support gravel beds, to indicate any displacement.
5. Check freeboard measurements.
6. Coring of media to facilitate appropriate testing.
  - Flocculation Retention Testing
  - Sieve Analysis for Sand, Anthracite or Carbon
7. Record sand and Anthracite media bed depths.
8. Record interface between filter media.
9. Backwash filter and check for rooster tailing, media boiling or other characteristics.
10. Perform Backwash Turbidity Profile Sampling.
11. Visual inspection of Surface Wash.
12. Visual inspection of valves.
13. Pipe gallery inspection.
14. Measurement of pipe thickness to indicate any corrosion.
15. Provide a complete report based on the findings of the inspection.
16. Provide removal and packaging of media from 2 filters and perform full filter inspection including:
  - Filter media mudball and migration mapping
  - Underdrain inspection
  - Concrete condition
  - Distribution testing

**The selected firm shall provide:**

1. Qualified manpower:
  - a. Onsite Supervisor/Environmental Technician/Hole Watch
  - b. Certifications in Forklift/Reach Lift, Crane Operator, Confined Space & Rescue, and First Aid/CPR/AED
2. Equipment and PPE:
  - a. High-power industrial vacuum system
  - b. Ventilation fan for air circulation
  - c. Four gas monitors for pre-entry and continuous LEL testing
  - d. Air-purifying respirators (supplied air respirators available if required)
3. Safety Regulations:
  - a. Confined Space:
    - Tripod/winch for emergency evacuation
    - Fall arrest harnesses with safety lanyards for all men
    - Permit-required confined space entry permits as applicable
    - Daily monitoring log
  - b. 2-Way radios for communication with in-tank personnel
  - c. Cellular phone as an emergency response tool

**City shall provide:**

1. Two drained filters without backwashing (Filter 5 on East side and filter 16 on West side) to be inspected.
2. Plant Operators on site to perform operational functions as required.
3. Access to as many off line filters as possible and indicate that number when obtaining quotes for inspection



## **ATTACHMENT NO. 1**

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**2012 – MWH Technical Memorandum  
for Tertiary Filter Backwash Valves  
T-13 - 1978 - Tertiary Filtration  
Plant Record Drawings**

# TECHNICAL MEMORANDUM



---

**To:** Gary Valladao  
**From:** John Ciccotelli  
Suzanne Huang  
**Through:** Usha Kurgund  
**c.c:** Richard Pallante, Debbie  
Crehan, Dennis James, Alan  
Bosia  
**Subject:** Tertiary Filter Backwash Valves

**Date:** October 25, 2012  
**Reference:** 1343122/7.20.1  
**CoR Contract:** 0801922  
**Document No.** TM-010 DRAFT

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## INTRODUCTION

The Riverside Regional Water Quality Control Plant (RWQCP) tertiary filtration system consists of sixteen dual-media filter basins. The sixteen basins were constructed in three phases: Filters No. 1 through 8 were built in 1978; Filters No. 9 and 10 were built in 1982; and Filters 11 through 16 were built in 1990.

Filters No. 1 through 10 are housed in the east filter building, whereas Filter No. 11 through 16 are housed in the west filter building. The backwash piping system splits into the east and west filter buildings with a manifold piping arrangement, which also provides the capability of isolating the backwash system between the two filter buildings. Each filter basin is fitted with a 30-in butterfly valve in the backwash piping system. The backwash piping system is presented in **Figure 1**.

The filters are in various states of disrepair and maintenance requires access into the filters to carry out urgent repairs. Plant operations have difficulty in isolating each filter from the filter system due to leaking valves which allow either Backwash Water or Filtered Effluent to leak past valving into the filter being isolated.

In 2011, the waste backwash valves on Filters 1 to 8 were replaced which solved the issue of secondary effluent leaking into the filter basins. The project required a moderate degree of coordination between the contractor and operations staff. The next phase in this project is to replace the leaking backwash valves.

The purpose of this Technical Memorandum (TM) is to document which valves require attention to facilitate isolation of the backwash piping system, which valves require attention to facilitate isolation of each filter, whether the plant should use refurbished or new valves, and to make recommendation on new valve types and specifications.

## BACKWASH SYSTEM OVERVIEW

The tertiary filter backwash system was substantially upgraded in 1990 when the west filter building was added. This expansion added a manifold system that controls backwash water to the east and west buildings. This manifold contains seven (7) isolation valves, two (2) flow control valves and one (1) drain valve.

The manifold controls backwash water flow to the filters. When a filter backwash is required, the filter's effluent valve closes, the adjacent backwash valve opens and the east or west flow control valve opens to deliver backwash water at the operator determined flow set-point and duration.

The manifold valves are 22-years old. The backwash valves on Filters 1 to 8 are 34-years old.

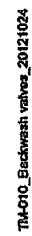
## MANIFOLD ISOLATION VALVES

There are nine main butterfly valves in the manifold as shown in the enlarged plan of **Figure 2** and the corresponding valve information in **Table 1**. Seven (7) are isolation valves and two (2) are flow control valves. Six (6) of the seven isolation valves are normally open and the seventh valve, 080000267, is normally closed. The flow control valves are mostly closed and open only for a backwash sequence.

In order to replace the backwash valves of Filter No. 1 through 8, it is pertinent to be able to isolate the filter building. In order to isolate the filter building, at least two of the four 20-in isolation valves 080000263, 080000262, 080000264, and 080000261 will need to provide a positive seal, in conjunction with the 30-in isolation valve 080000267.

**Table 1 – Valve Information of the Manifold Valves**

ID	Component ID	Valve Size	Description	Reported Leakage
1	080000267	30-in	DeZURIK Butterfly Valve	Very Minor
2	080000263	20-in	DeZURIK Butterfly Valve	Minor – manageable
3	080000262	20-in	DeZURIK Butterfly Valve	Minor – manageable
4	080000265	20-in	DeZURIK Automated Butterfly Valve, Limitorque Controlled	None – new
5	080000266	20-in	DeZURIK Automated Butterfly Valve, Limitorque Controlled	None – new
6	080000264	20-in	DeZURIK Butterfly Valve	Minor – manageable
7	080000261	20-in	DeZURIK Butterfly Valve	Minor – manageable
8	080000260	20-in	DeZURIK Butterfly Valve	Unknown
9	080000259	20-in	DeZURIK Butterfly Valve	Unknown





The plant recently worked on the flow control valves. Valve 080000266 was replaced in full and valve 080000265 replaced the actuator only. Isolation was provided by the upstream and downstream isolation valves to complete this work, but the leakage flow did required special consideration and the shutdown duration was very short.

The replacement of the manifold valves can be divided into three phases depending on the shutdown schedule:

1. Valves 080000263 and 080000262

Since the upstream control valves (080000265 and 080000266) and downstream isolation valve (080000267) show none to very minor leakage, these two 20-in butterfly valves can be isolated for replacement by closing the upstream and downstream isolation valves, without shutting down the backwash piping system. Once these isolation valves are replaced and provide double isolation, the east filter building can then be isolated for backwash valves replacement.

2. Valve 080000267

Although valve 080000267 shows very minor leakage, the City may consider replacing the 30-in valve with new seat material to provide positive seal, especially because this valve is critical to the isolation between the two filter buildings. It can be replaced in conjunction with valves 080000263 and 080000262 by maintaining the 30-in backwash line dry for the duration of the work by draining via the 10-in line.

3. Valves 080000261 and 080000264

These two valves are crucial in isolating the flow control valves, but these do not need to be replaced in order to isolate the filter buildings. Therefore the City may consider replacing these two valves in conjunction with or after the replacement of valves 080000263 and 080000262. Since the upstream isolation valves of valve 080000261 are the butterfly valves at the backwash water storage tanks, a complete shutdown of the backwash piping system is needed in order to replace valve 080000261. Valve 080000264 may also need complete shutdown of the backwash piping system if valves 080000259 and 080000260 have significant leakage.

4. Valves 080000259 and 080000260

The reported leakage is unknown for these two valves. Similar to valves 080000261 and 080000264, a complete shutdown of the backwash piping system is needed in order to replace these two valves. Therefore the City may consider replacing these two valves during the same shutdown as valve 080000261 and 080000264.

In order to replace the backwash valves at each filter on the east side, the 30-in backwash line must remain dry for the duration of the work. As a first step, the manifold valves need to provide positive isolation to allow the east side to be separated from the west side.

The City can replace the manifold valves with similar valves, upgraded valves, or new valves altogether with the same or different seat material. The following sections discuss the different options available to the City.

### **Butterfly Valves**

Butterfly valves control flow by using a circular disc or vane with its pivot axis at right angles to the direction of flow in the pipe. The butterfly valve is used for both isolation and flow control purposes.

Butterfly valves are typically utilized in large line sizes in chemical services, waste and water treatment application and fire protection system. The butterfly valve is considered a high recovery valve, since only the disc obstructs the valve flow path.

Due to the valve design with a small face-to-face dimension and lower weight than most valve types, the butterfly valve is an economical choice for large line sizes (i.e. 8-in and above). Additional advantages include standard face to face dimensions, relatively high coefficient of flow and their availability in chemically resistant materials.

Disadvantages of the butterfly valve are lack of cleanliness and inability to handle slurry or fibrous applications. Butterfly valves are generally not rated as bubble tight, although some high-performance butterfly valves may meet ASME Class VI leakage ratings. The cavities and leak paths around the disc stem where the stem attaches to the body are potential entrapments for fluids and slurries.

### **Gate Valves**

There are two types of gate valves: metal seated and resilient seated gate valves. Gate valves are often used in the petroleum industry and water utility applications. Gate valves are used where a minimum pressure drop is important.

Advantages of the gate valve include minimal fluid resistance, small face-to-face dimensions and large line size availability. Gate valves are capable of achieving ASME Class VI rating making them efficient isolation valves.

Gate valves are not suitable for throttling as flow characteristics do not facilitate accurate and consistent flow control. Gate valves may be damaged by the high velocity across the seats when partially open. Therefore, they function best fully open or fully closed. Gate valves are much heavier than butterfly valves.

### **Knife Gate Valves**

Knife gate valves are primarily used in three applications: 1) non-abrasive slurry services such as in the pulp and paper industry; 2) abrasive slurry applications as found in mining industry; and 3) large diameter water services in wastewater systems.

Advantages of the knife gate valve include the ability to cut through slurries, scale and surface build ups, unobstructed flow paths, small face-to-face dimensions and large line size availability. Therefore, knife gate valve is an excellent choice for abrasive and slurry applications.

Disadvantages of a knife gate valve are relatively low pressure limitation, lack of cleanliness and general inability to provide bubble-tight shut-off. The knife gate valve contains cavities which promote contamination. Therefore, knife gate valve is not recommended for high purity applications. Due to the uni-directional flow path and metal seats, most knife gate valves are not capable of achieving ASME Class VI ratings.

### **Seat Material**

The seat material for the existing valve is NBR (Acrylonitrile Butadiene), which is one of the standard seat materials for valves. NBR can stand fluid temperatures to approximately 90 °C on continuous basis and higher temperatures intermittently. It is mainly used where there are petrol or oil residues in the fluid. It has good resistance to petroleum, oil, alcohol and many acids but poor resistance to ozone, acetone, chlorinated hydrocarbons, ethers and esters.

Besides NBR, Ethylene Propylene Diene Monomer (EPDM) is another standard seat material. It is well suited for use with hot water due to EPDM's excellent resistant to heat, but it is unsuitable for use with most oils and fuels. It has good resistance to ozone, oxidizing chemicals, up to medium concentration acids, alkalis, ketones and alcohols, but poor resistance to most oils, fuels, halogenated solvents and concentrated acids.

The normal design life of the seat material is approximately 15 to 20 years. The Plant experiencing sealing issues of these valves sooner than expected is partly due to the age of the seat material and possible deterioration from an old practice of dosing chlorine into the backwash line for algae control in the filters. A new sodium hypochlorite dosing system will be in place as part of the Plant Expansion project. Since the backwash water will be constantly lightly chlorinated, it is beneficial for the seat material to have good resistance to chlorinated water to maximize its design life. Therefore, it is recommended to use EPDM instead of NBR as the seat material if the City decides to replace or refurbish valves within the backwash system.

### **Valves Comparison**

The advantages and disadvantages, as well as the unit price of butterfly valve, gate valve and knife gate valve are summarized in Table 2.

Knife gate valve is primarily used for fluids with high solid content and low pressure and is not recommended for the backwash water system.



Both butterfly valves and gate valves can serve similar purpose with the application. Both butterfly valves and resilient seated gate valves will require refurbishing the seat material every 15 to 20 years. Metal seated gate valves have a very long design life and minimal maintenance required but it will not provide bubble-tight shutoffs. However, for the purpose of isolating valves for the backwash system, Class VI leakage ratings are not essential.

Gate valves are usually 10 to 20 inches wider than butterfly valves. If the City would like to install metal seated gate valves to minimize maintenance effort, the pipe between valves 080000261 and 080000264 and their respective flow meters would need to be replaced to accommodate the added width of the gate valves. Refer to **Figure 3** and **Figure 4**. Additional pipe supports will be needed to accommodate the added gate valve weight. The associated pipe work will add approximately \$30,000.

If the City would like to retain the same maintenance requirement, it is more economical to refurbish or replace the existing valves with butterfly valves than replacing them with gate valves.

**Table 2 – Valves Comparison**

	<b>Butterfly Valve</b>	<b>Gate Valve</b>	<b>Knife Gate Valve</b>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Small face-to-face dimension</li> <li>• Lower weight than most valve types</li> <li>• Relatively high coefficient of flow</li> <li>• Availability in chemically resistant materials</li> </ul>	<ul style="list-style-type: none"> <li>• Small face-to-face dimensions</li> <li>• Large line size availability</li> <li>• Minimal fluid resistance</li> <li>• Capable of achieving ASME Class VI rating</li> </ul>	<ul style="list-style-type: none"> <li>• Small face-to-face dimensions</li> <li>• Large line size availability</li> <li>• Ability to cut through slurries, scale and surface build ups, unobstructed flow paths</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Not capable of achieving ASME Class VI ratings</li> <li>• Lack of cleanliness</li> <li>• Inability to handle slurry applications</li> </ul>	<ul style="list-style-type: none"> <li>• Not suitable for throttling</li> <li>• May be damaged by the high velocity across the seats when partially open</li> </ul>	<ul style="list-style-type: none"> <li>• Not capable of achieving ASME Class VI ratings</li> <li>• Relatively low pressure limitation</li> <li>• Lack of cleanliness</li> <li>• Contains cavities which promote contamination.</li> </ul>
<b>Unit Price (20-in valve)</b>	\$3,200 <sup>1</sup>	\$12,000	\$6,000

<sup>1</sup>The listed unit price is for butterfly valve with EPDM seat material included at \$200 extra per valve.

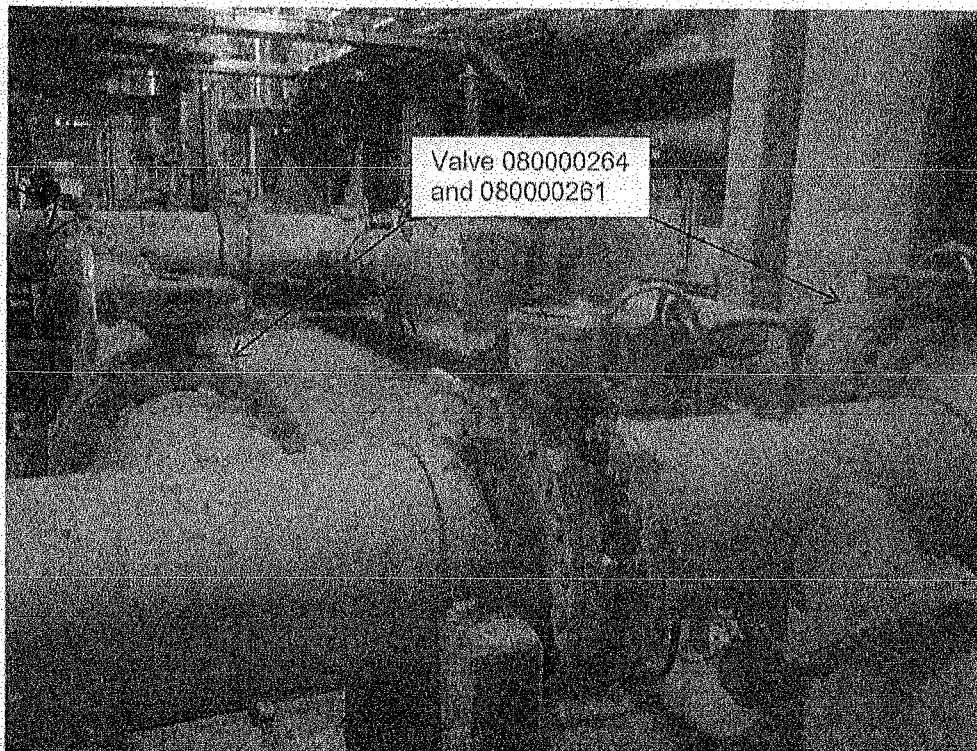


Figure 3 – Isolation Valves 080000261 and 080000264

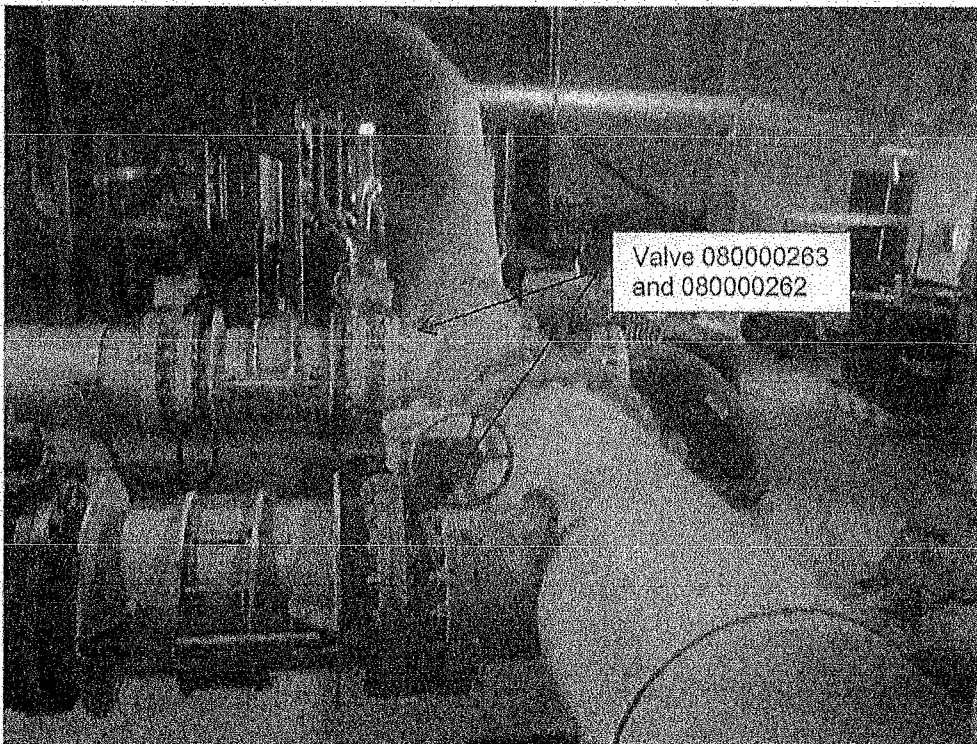


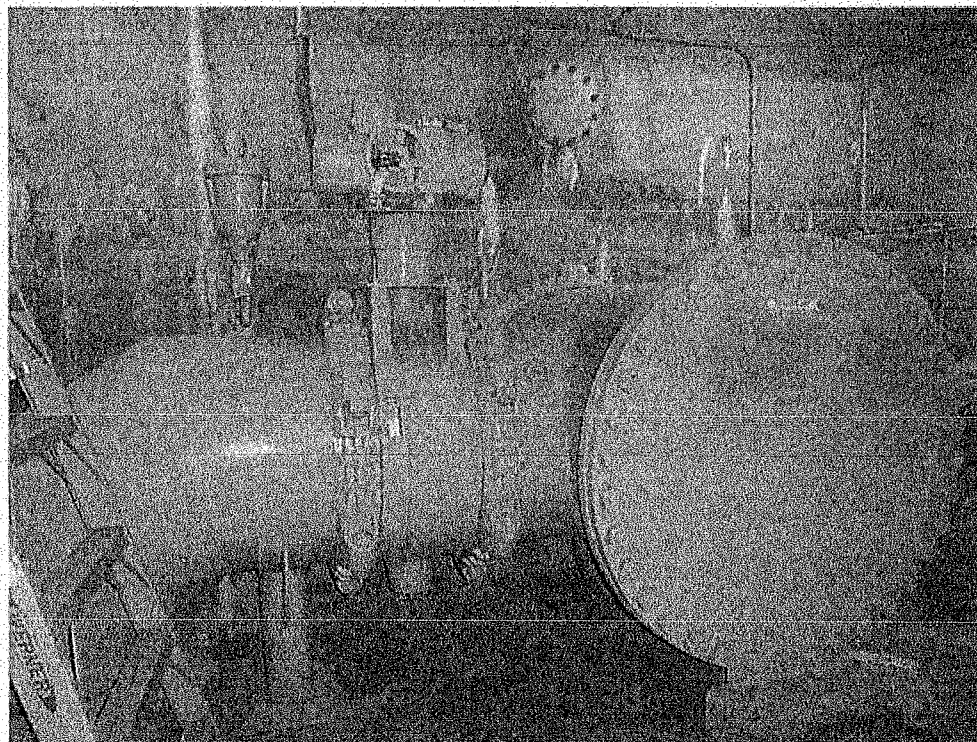
Figure 4 – Isolation Valves 080000262 and 080000263

## BACKWASH VALVES

The reported leakage of backwash valves of the filter basin No. 1 through 8 is listed in **Table 3**. Filter basins No. 1 through 8 are fitted with BIF butterfly valves with victaulic couplings as shown in **Figure 5**, whereas Filters No. 9 through 16 (newer design) are fitted with DeZURIK valves with flanged fittings. The backwash valves of Filter No. 1 through 8 were constructed in 1978 and show considerable leakage as would be expected from valves 34 years old. These eight valves need repair.

**Table 3 – Reported Leakage of the Backwash Valves**

Filter No.	Reported Leakage
1	No visible water above the anthracite after washing other filter.
2	Filled up 2 ft above the anthracite after washing other filter.
3	Filled up 1.5 ft above the anthracite after washing other filter.
4	Filled up 1 ft above the anthracite after washing other filter.
5	Filled up 18 in above the anthracite after washing other filter.
6	Filled up 18 in above the anthracite after washing other filter.
7	Water filled up over the trough after washing other filter.
8	Water filled up over the trough after washing other filter.

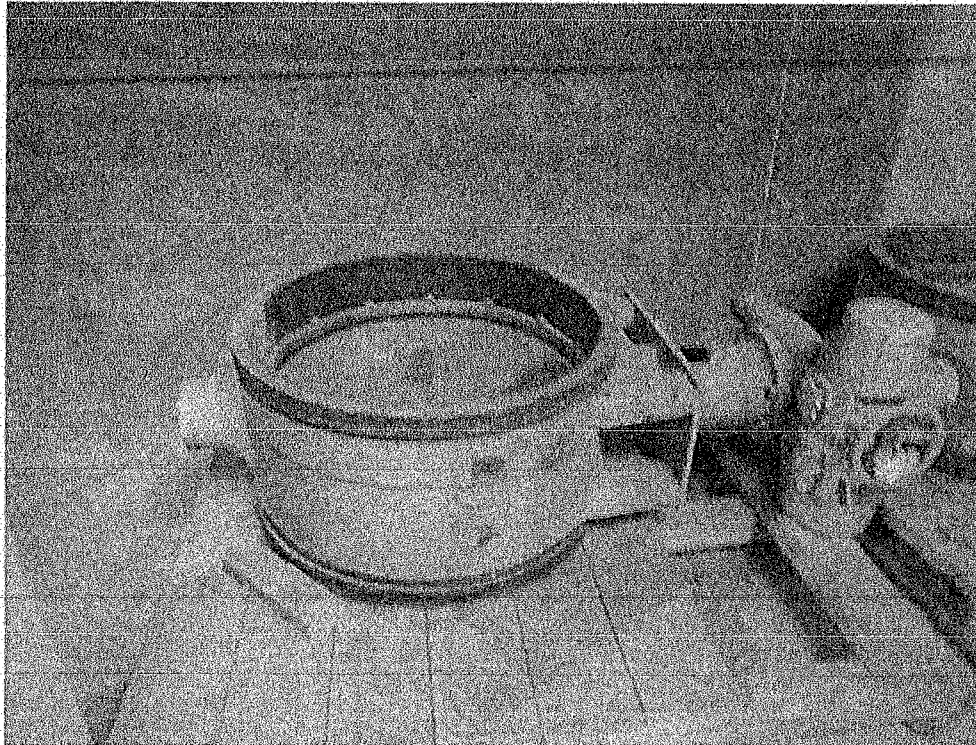


**Figure 5 – Backwash Valve (Filter No. 1 through 8)**

In 2009, the City replaced eight 30-inch butterfly valves in the waste backwash piping system (see **Figure 6**), which are the same type of valves as the backwash valve of Filter No. 1 through 8, with custom valves from DeZURIK valves. Since the manufacturer (BIF) of the existing backwash valves is no longer in business, it is



recommended to refurbish the spare 30-in butterfly valves from the waste backwash piping system with new seat material and replace the backwash valves with these refurbished butterfly valves.



**Figure 6 – Spare 30-in Butterfly Valve**

Unlike the isolation valves, it is not recommended to replace the backwash valves with gate valves. The cast-in steel piping would require significant modification to accept a flange mounted gate valve, new actuators would be required and the lack of head room make this exercise extremely challenging.

Similar to the manifold isolation valves, the seat material of the existing backwash valves is NBR. Since the backwash water has been and will be chlorinated in the future, it is beneficial for the seat material to have good resistance to chlorinated water. It is recommended to replace the existing backwash valves with the refurbished spare 30-in butterfly valves with EPDM seat.

## **CONSTRUCTION SEQUENCING**

### **Manifold Valves**

If the City continues the use of butterfly valves, it would be more cost effective to purchase new valves and replace them over one small and one large shutdown. Refurbishing the valve would require twice the number of shutdowns to first remove and install spools and then to reinstall the refurbished valve. In order to isolate the backwash header and allow future maintenance on the control valves, isolation valves 080000261, 080000262, 080000264 and 080000263 should be replaced prior to the replacement of

the backwash valves of Filter No. 1 through 8. The following construction sequence is based on double isolation of both upstream and downstream piping where possible.

Valve 080000262

*Close:* 080000267, 080000261, 080000266, all backwash valves on east filters

*Operate:* All filters, backwash west filters only.

*Drain:* BW header through 10" FDP.

Valve 080000263

*Close:* 080000267, 080000264, 080000265, all backwash valves on west side.

*Operate:* All filters, backwash east filters only.

*Drain:* BW header through 18" drain/overflow line (Figure 7).

Valves 080000261, 080000264, 080000260, 080000259

*Close:* 080000262, 080000266, 080000263, 080000265, backwash tank valves.

*Operate:* All filters, backwash not available at this time.

*Drain:* Water upstream of valves through the 18" backwash pipe to the backwash pump station, temporary connect 14" line below pump 2 isolation valve to 10" FDP.

Valve 080000267

*Close:* 080000262, 080000266, 080000263, 080000265, all backwash valves on east and west filters.

*Operate:* All filters, backwash not available at this time.

*Drain:* BW header through 10" FDP and 18" drain/overflow line.

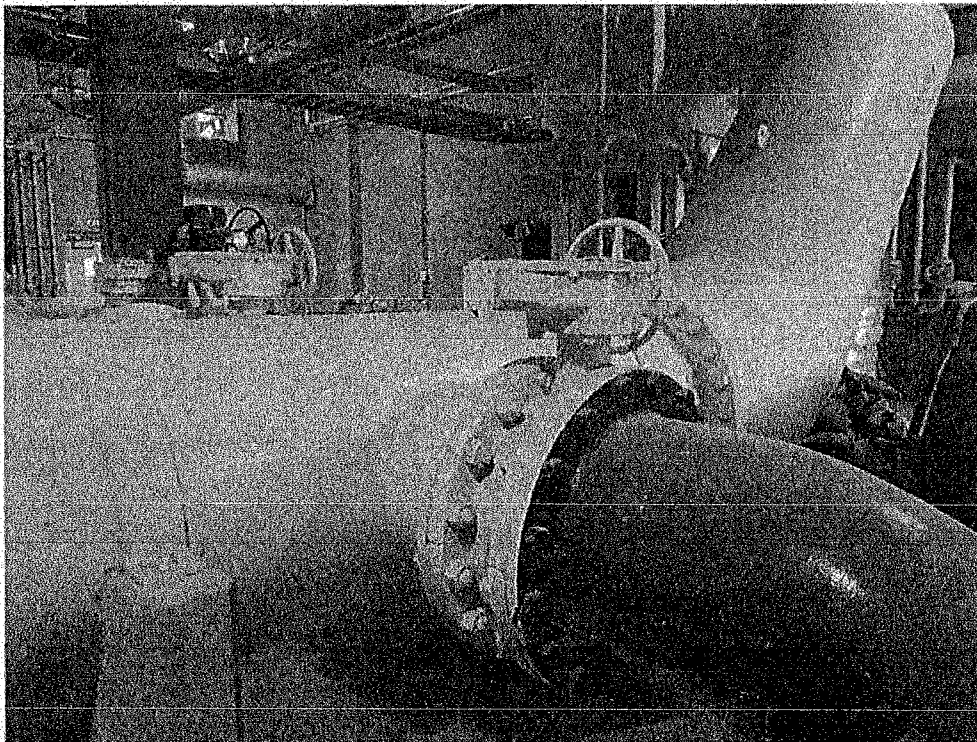


Figure 7 – 18" Drain/Overflow Line

**Backwash Valves**

The backwash system to Filter No. 1 through 10 can be isolated from Filter 11 through 16 after the isolation valves are replaced. Once the backwash system is isolated, the backwash line can be drained via the 10-in drain line adjacent to Filter No. 1 and 5, as shown in **Figure 1**. The off-line filter will be drained through its 10-in drain line.

Operations report that the filtered effluent valves do not provide 100% isolation when closed (CCB 1 water level is at 697-ft while the 30-in backwash Tee is at 687.5-ft). In order to work on the backwash valve, a balloon can be inserted within the throat of the flow meter using the ¾" instrument connection.

**Backwash Valves**

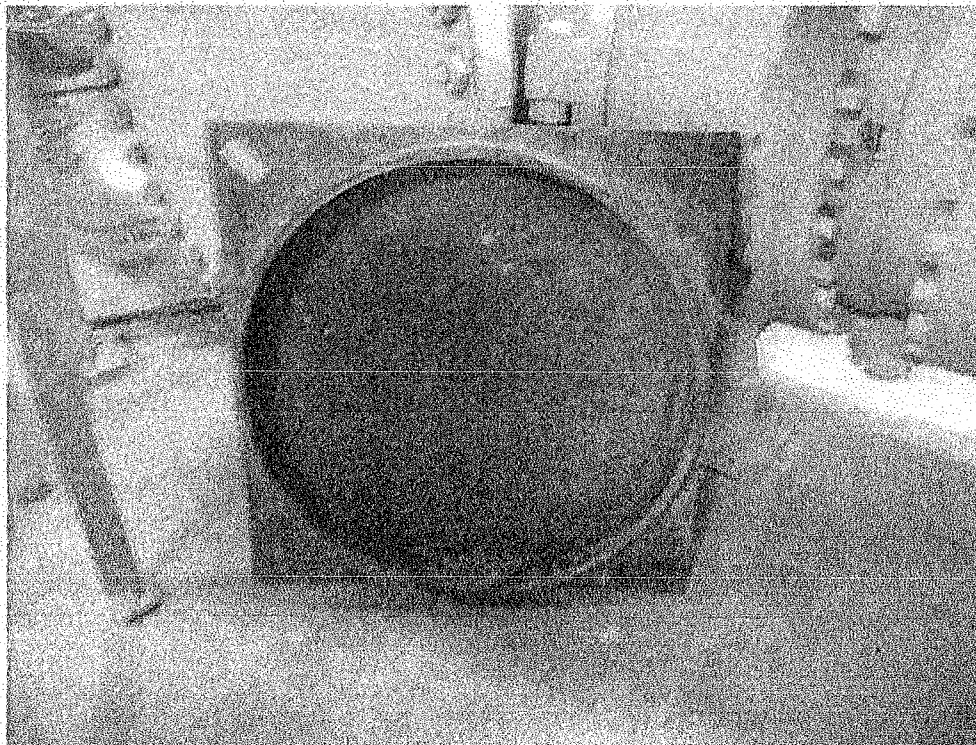
*Close:* 080000267, 080000262, backwash valve at filter, filtered effluent control valve. Place balloon into filtered effluent meter throat.

*Operate:* All on-line filters, backwash west filters only.

*Drain:* BW header through 10" FDP.

*Install:* Refurbished waste backwash valve.

A flange (**Figure 8**) can be used to provide short-term isolate of the backwash line if the contractor is unable to finish the valve replacement during the shutdown period nominated by Operations. Once the flange is installed, the backwash system on the east side can be re-commissioned for any needed filter washing.



**Figure 8 – Flange for Backwash Valve**

**RECOMMENDATIONS**

Based on the valve comparison, the four 20-inch manifold valves 080000261, 080000262, 080000263 and 080000264, can be replaced with either new butterfly valves with EPDM seat material or new metal seated gate valves, depending on the City's preference. Gate valves will require the addition of pipe supports and modifications to the piping, increasing shut-downtime and material costs. The remaining manifold isolation valves should be replaced at the same time to take advantage of the shutdowns.

The backwash valves for Filter No. 1 through 8 are recommended to be replaced with the refurbished 30-in waste backwash valves with EPDM seat material. The refurbishment of the old waste backwash valves cost around \$8,000 per valve and a lead time of 12 weeks. The City can include the refurbishment effort as part of the replacement contract or refurbish the valves themselves and free-issue them to the contractor.

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**ATTACHMENT NO. 2**

**T-13 - 1978 - Tertiary Filtration  
Plant Record Drawings**



CITY OF RIVERSIDE, CALIFORNIA  
DEPARTMENT OF PUBLIC WORKS

# TERTIARY FILTRATION PLANT

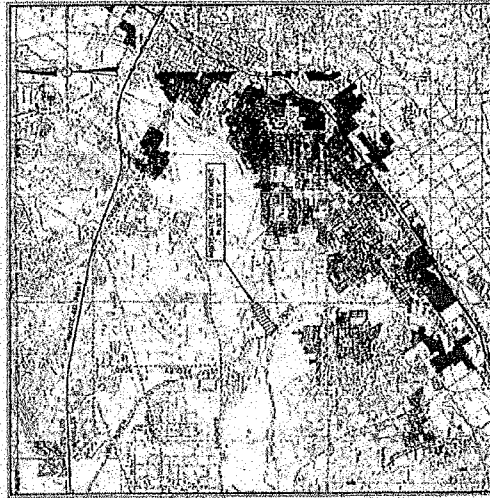
**MAYOR**  
AB BROWN

**CITY COUNCIL MEMBERS**

ERNEST FINTOR  
ED SHEPARD  
ARDEN P. ANDERSON  
BOB BOWERS  
DEN LORENZI  
SAM A. DECATI  
JIM MANNING

**CITY MANAGER**  
WILLIAM F. CORNETT, JR.

**DIRECTOR OF PUBLIC WORKS  
AND CITY ENGINEER**  
ROBERT C. WALES



LOCATION MAP  
SCALE IN MILES



CDM INC, ENVIRONMENTAL ENGINEERS • PASADENA • WALNUT CREEK, CALIFORNIA

**RECORD DRAWING**

7-13





## SECTION A. – COVER LETTER

IMC Consulting is pleased to submit this response to a request for proposal for the City of Riverside. We are confident that we will fulfill all tasks successfully and to the satisfaction of the City. With a team that has over two decades of experience in filter evaluation, the City can feel confident that all elements defined in the scope of services will be achieved.

### **INTENT TO PERFORM SERVICES**

IMC Consulting intends to perform the services presented in the Scope of Services to include a study that "shall provide a complete Filter assessment study for all 16 Tertiary filters at the Water Quality Control Plant (WQCP) in accordance with the scope of work provided [below] AND ATTACHED Record Drawings."

### **CONFIRMATION THAT ELEMENTS HAVE BEEN REVIEWED & UNDERSTOOD**

All elements in RFP No. 1888 have been read, reviewed and understood. IMC Consulting will "provide a complete filter assessment study for all 16 Tertiary filters at the Water Quality Control Plant (WQCP) to determine all issues associated with efficient operation of the filters and required measures to optimize their operation efficiency and reduce operation and maintenance costs." There are not any concerns that could preclude us the ability to accommodate the scope of service criterion.

### **BRIEF SUMMARY OF PROPOSER'S QUALIFICATIONS**

IMC Consulting and its agents have been performing filter evaluations since 2008, although most of the personnel has been in the water industry far longer. The specialized knowledge that the agents retain have been perfected only through years of on the job observations and performance. IMC Consulting possesses a patent in "Cleaning Systems for Filter Beds," US 9,802,141 B1. Any filter media cleaning/rehabilitation project always begins with a filter evaluation. Over 100 projects have been successfully completed in which the scope of services integral to RFP No. 1888 have been achieved.

### **PROPOSER'S WILLINGNESS TO ENTER INTO A CONTRACT**

IMC Consulting is willing to enter into the contract as set forth in RFP No. 1888.

### **CONTRACT PERSON DURING RFP REVIEW PROCESS**

The contact person for the review process of RFP No. 1888 is Natasha Zwanziger. She can be contacted via phone and/or text at 405/343-0237, by fax at 888/739-3830 and/or by email at [Natasha@IMCConsulting.org](mailto:Natasha@IMCConsulting.org)

**CLARIFICATION :** This RFP includes the revised pricing (on page 9) to include media removal and media installation of two (2) filters and to provide gravel. This line item is based on the original RFP and Quotation No. 3308 submitted to the City of Riverside on 4/27/2019. IMC Consulting is not responsible for providing anthracite. The anthracite is to be provided by the City.



## **SECTION B. – STATEMENT OF UNDERSTANDING & APPROACH**

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IMC Consulting is certain that we will be able to perform the scope of services and will provide positive results to the City of Riverside by providing a complete filter assessment study for all 16 tertiary filters at the Water Quality Control Plant (WQCP). Our background and knowledge will enable us to determine any "issues associated with efficient operation of the filters and required measures to optimize their operation efficiency and reduce operation and maintenance costs", as the City requests. Below is a description demonstrating that we have the capabilities to follow through with the scope of work.

### **SAFETY**

IMC Consulting is dedicated to the safety of its agents and of the personnel at the Water Quality Control Plant (WQCP) in Riverside, CA. Therefore, numerous safety programs are strictly adhered to in order to address health and safety issues that may be of concern to agents and/or potential clients. IMC Consulting believes in prevention, and all attempts are made to reduce the possibility of accidents. We recognize that a safe environment can be established and sustained only through a united effort by all personnel involved. Our commitment to each person's safety and well-being is paramount. All programs are in accordance with OSHA safety standards and a significant portion has been extrapolated directly from the specified training programs. Certain programs have been augmented to ensure that the necessary information and procedures that are related to our specific industry have been addressed. Coupled with our own safety policies, we will also fully comply with the City of Riverside's safety programs. Any safety program, policy, and/or manual is available upon request.

### **APPROACH**

IMC Consulting's approach will be to follow the guidelines as outlined in the Scope of Services of RFP No. 1888. In order to limit this response to ten pages, each line item found in Section A, items 1-16, will not be listed. However, each item has been thoroughly reviewed, researched, and deemed to be acceptable. These tasks are our normal business operations and are tasks that we have executed copious times. In addition, IMC Consulting always follows the AWWA standards in filter evaluations and assessments.

### **ORGANIZATION**

#### ***Mobilization***

If IMC Consulting is awarded the contract and receives a notice to proceed, mobilization will begin. IMC Consulting will procure a valid City of Riverside business license and maintain that license throughout the term of the contract. A performance bond will be obtained if necessary. A Certificate of Insurance (COI) can be found in the appendix that verifies we maintain the insurance limits as required. Please note the City of Riverside is not currently named on the COI, as this is merely a representation to validate we possess the insurance limits required. If we are awarded the project, a COI will be submitted with the City of Riverside's information. All equipment, equipment rentals, supplies, travel costs and the like will be coordinated and finalized before beginning work at the WQCP. Once the project commences, IMC Consulting would then begin setting up all equipment, supplies, and any other necessary items. Once the project is complete, IMC agents will remove everything that has been brought in and will ensure a final cleaning of the project area is thoroughly conducted.



### ***Laboratory Work***

Samples will be taken by coring the media. Samples will be placed into properly labeled Zip Lock bags during collection. Samples are taken by digging and coring into the media layers down to the gravel. If desired, an agent from the WQCP is invited to be present to witness the sampling procedure. Samples will be used for the sieve analysis to ensure accurate results. All samples collected can be stored for one year after the sampling date if requested by the city.

A flocculation retention test and a sieve analyses for sand, anthracite, or carbon will be performed by the independent laboratory, Red River Laboratories, the lab that we have utilized for over ten years. These results will be a part of the final comprehensive report that the City of Riverside will receive. Red River Labs are an excellent source of knowledge and consistently provide accurate and impartial information about samples, as well as conducting all tests in accordance with EPA Standard 6010.

### ***Report***

IMC Consulting will provide a comprehensive report that includes all elements within the scope of services and also include, photos; measurement table(s); laboratory information and certificates of analyses for defined criterion; media bed diagrams; media bed specifications; project description; system specifics; history of the treatment plant; and other salient information. In addition, a final summary and recommendations page will furnish the City with valuable information to aid in making decisions with their filters at the current time or in the future.

### **STAFFING**

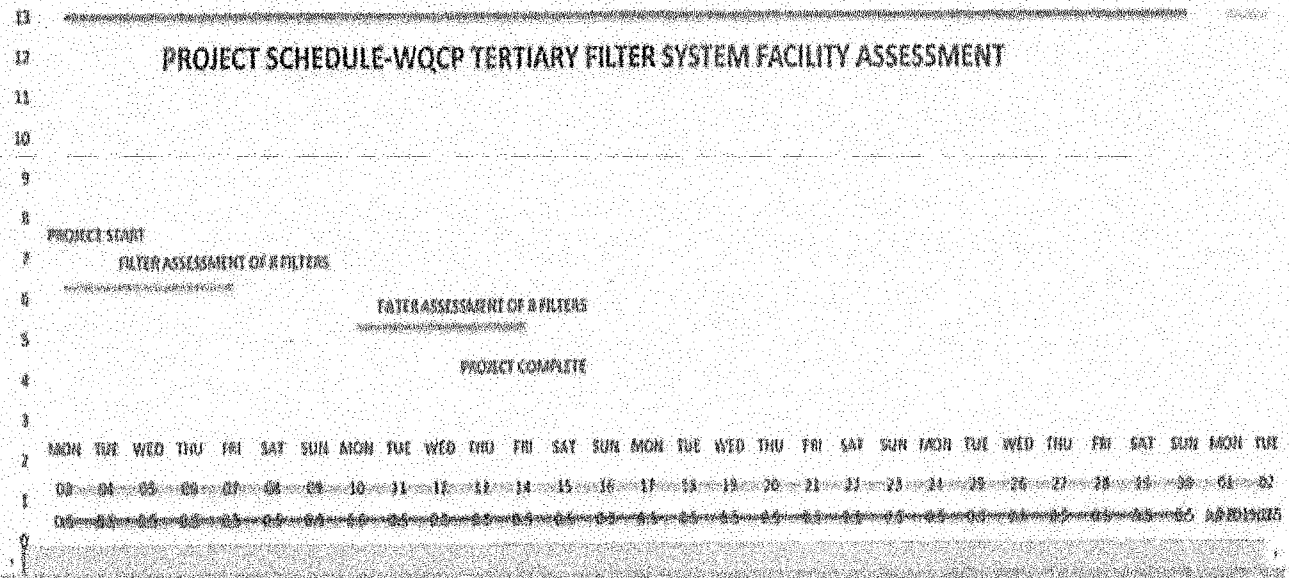
IMC Consulting always ensures enough agents are at a project in order to effectively and safely fulfill a contractual agreement. Wolfgang Zwanziger, the project manager and supervisor, is always on site during projects. He is always accompanied by a minimum of two other IMC agents. The City can be confident that enough staff will be on site to accomplish the goals as set forth in the scope of services.



## SECTION H. – PROJECT SCHEDULE

The project schedule below is a simple illustration of the ten day period that IMC Consulting would be on the job. The start date of June 3, 2019 was merely utilized as a nominal start date to demonstrate that 8 filters would be assessed in week 1 and the remaining 8 filters would be assessed in week 2. All elements included in Section A., "General" of the Scope of Services will be performed for each filter, with the exception of item #16, filter media removal from 2 filters. Should the City decide to proceed with this task, this portion would also be performed in conjunction with the ten day period and a new and updated project schedule can be drafted.

### PROJECT TIMELINE

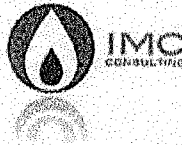


ENTER START DATE: 6/3/2019

ACTIVITY	START	END	NOTES
Project Start	6/3/2019		
Filter Assessment of 8 Filters	6/3/2019	6/7/2019	
Filter Assessment of 8 Filters	6/10/2019	6/14/2019	
Project Complete	6/14/2019	6/14/2019	

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





## SECTION G. – PRICING

Pricing is based on all of the tasks in the Scope of Services being completed within ten (10) business days. If the assessment has not been completed within the ten days and additional trips become necessary at the City's request, there will be an additional mobilization fee of \$7,500.00 per trip (see Line Item G) and the additional fee of labor and expenses **per day** (see Line Item H.).

In order to avoid any confusion, the filter media removal portion (Line Item F.) has been listed as its own task. We are separating this because in the Q&A, question #3 was posed, "It is our understanding that the City would like to have the media removed out of two filters and stored in super sacs. Is this correct?" The response was, "the proposal only requires an assessment study to be completed at the present time." This response created confusion as line #16 in Section A, "General," clearly identifies this task as a specific item to be performed as part of the overall agreement. In order to furnish the City with an option to either proceed or remove this option, we have delineated this task. Additionally, IMC is under the assumption that both of these filters would be removed and packaged within the same trip/time frame. If the filters could not both be removed at the same time, during the same trip, an additional mobilization fee will be charged. Lastly, IMC Consulting will inspect the underdrains as written in the scope. If the underdrains prove to have extensive issues, we can contact a manufacturer's representative to inspect it more thoroughly. This cost to obtain a manufacturer's rep would be a direct cost passed to the City and any additional work (if the underdrains have more considerable issues), will also be passed to the City as a direct expense in which IMC is not responsible.

In summary, there are **TWO** different final prices in order to accommodate any changes the City of Riverside may like to make. Option 1 is for line items A-E only at a total cost \$82,000. Option 2 is for line items A-F, which includes Option 1 plus the filter media removal for 2 filters at the same time at a total cost of \$301,526.25. For IMC Consulting, either of these options are acceptable.

Line Item	Service	Description	Amount
A.	Initial Mobilization	business license, insurance, ordering equipment and supplies, organizing equipment rental, deliveries, shipping, etc.	\$18,500.00
B.	Labor Allocation	(excluding the hourly rate sched), pre and post job preparations, composing of report, evaluation of results, executive functions	\$11,000.00
C.	Expense Items	travel, rental car, sustenance, fuel, etc.	\$6,000.00
D.	Laboratory Work	sieve analysis, iron, manganese, dry weight loss, acid solubility, turbidity, and flocculation retention testing	\$32,000.00
E.	Hourly Rate Schedule	prevailing wage for 3-4 agents for ten (10) days	\$14,500.00
F.	Media Removal & Installation per quote #3308 dated 4/27/2019	media removal from 2 filters, installation of 2 filters, & gravel. City to provide anthracite. This price is valid for one single mobilization	\$219,526.25
G.	Additional Mobilization	mobilization to exceed the ten (10) days	\$7,500.00
H.	Additional Labor & Expense	fee <b>per day</b> if project exceeds ten (10) days	\$3,500.00

**OPTION 1: Scope of services**

**Total (line item A-E) \$82,000.00**

**OPTION 2: Scope including media removal & installation of 2 filters & providing gravel. (no anthracite)**

**Total (line items A-F) \$301,526.25**



**EXHIBIT "C"**

**KEY PERSONNEL**



## SECTION D. – PROPOSER PERSONNEL

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A resume of each key personnel individual can be found in the appendix. This section contains all elements as requested in the Proposal Format and Content.

### **IMC CONSULTING PERSONNEL**

#### **President & Sole Member, all executive functions, Natasha Zwanziger**

Contact Number: 405/343-0237

Fax Number: 888/739-3830

Email Address: [Natasha@IMCConsulting.org](mailto:Natasha@IMCConsulting.org)

Licenses & Certifications: Inventor for United States Patent No. US 9,802,141 B1 dated October 31, 2017; California Contractors License A, General Engineering, License # 1039179

Women Owned Business Certification through the Womens' Business Enterprise National Council (WBENC) (Certificate No. 2005118548) and as a Women Business Enterprise (WBE) with the Supplier Clearinghouse (Certificate No. 9LS00057;

American Water Works Association (AWWA) Member (ID No.00981142)

Description of Experience – please see Natasha Zwanziger's resume on page 7-8 in the appendix (separate document) for more details.

#### **Senior Consultant, Project Manager, all foreman/supervisory duties, Wolfgang Zwanziger**

Contact Number: 405/823-0967

Fax Number: 888/739-3830

Email Address: [Wolfgang@IMCConsulting.org](mailto:Wolfgang@IMCConsulting.org)

Licenses & Certifications: Inventor for United States Patent No. US 9,802,141 B1 dated October 31, 2017; California Contractors License A, General Engineering, License # 1039179;

Forklift Certification; Confined Space Certification

Description of Experience – please see Wolfgang Zwanziger's resume on page 5-6 in the appendix (separate document) for more details.

#### **Consultant, Project Manager, assistant to foreman, Matt Smith**

Contact Number: 405/397-1983

Fax Number: 888/739-3830

Email Address: [Matt@IMCConsulting.org](mailto:Matt@IMCConsulting.org)

Licenses & Certifications: Inventor for United States Patent No. US 9,802,141 B1 dated October 31, 2017;

Forklift Operator Certification; Confined Space Certification

Description of Experience – please see Matt Smith's resume on page 9 in the appendix (separate document) for more details.



Assistant to foreman/supervisor, Yitzhak Gilon

Contact Number: 408/512-4438

Fax Number: 888/739-3830

Email Address: [YGRunner@gotnet.net](mailto:YGRunner@gotnet.net)

Licenses & Certifications: Confined Space Certification; California Wastewater Plant Operator, Grade 3, 7956; California Water Plant Operator, Grade T3, 15514; California Water Distribution Systems Operator, Grade D4, D-9535;

American Water Works Association (AWWA) Member

Description of Experience – please see Yitzhak Gilon's resume on page 10-11 in the appendix (separate document) for more details.

#### **POTENTIAL SUBCONTRACTOR**

Company: Activated Carbon

Contact Name: Dale Kerr, Project Manager

Contact Number: 310/418-2430

Secondary Contact Number: 562/415-2161

Email Address: [Dalek@Activatedcarbon.com](mailto:Dalek@Activatedcarbon.com)

Licenses & Certifications: California Contractor's License No. 842091

Dale Kerr, with Activated Carbon, would become a subcontractor in a joint effort with us if and/or when removal and packaging of media from 2 filters found on Item #16 of Section A, "General" of the Scope of Services in "Exhibit A" would need to be provided.

IMC Consulting has had a positive working relationship with Dale Karr and Activated Carbon for approximately three (3) years.