

AGREEMENT
BETWEEN
CITY OF FULLERTON
AND
ORANGE COUNTY WATER DISTRICT
FUTURE SUPPLY ACTIONS FUNDING PROGRAM

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THE CITY OF FULLERTON
AGREEMENT WITH ORANGE COUNTY WATER DISTRICT
FOR FUTURE SUPPLY ACTIONS FUNDING PROGRAM

This Agreement is between the CITY OF FULLERTON, a general law city of the State of California, organized and existing under the Constitution of the State of California, hereinafter referred to as City, and ORANGE COUNTY WATER DISTRICT, hereinafter referred to as OCWD.

Explanatory Recitals

1. City is a local municipal agency created under the Constitution of the State of California.

2. This Agreement is entered into between City and OCWD, a special act district duly organized and existing in the State of California pursuant to the Orange County Water District Act ("OCWD Act").

3. The Metropolitan Water District ("Metropolitan") is a public agency of the State of California, organized and existing under The Metropolitan Water District Act, hereinafter referred to as Metropolitan. City is a member agency of Metropolitan.

4. On August 28, 2018, City, working together with OCWD, responded and submitted a proposal in response to a 2018 Request for Proposals ("RFP") associated with Metropolitan's Future Supply Actions Funding Program ("FSA Funding Program"), dated July 6, 2018. The City's proposal sought to obtain funding from Metropolitan to conduct studies and research under the FSA Funding Program as approved by Metropolitan in Board Letter 8-6 dated April 10, 2018.

5. Metropolitan, through its FSA Funding Program, provides funding to member agencies for technical studies or pilot projects that reduce barriers to future production of recycled water, stormwater, seawater desalination, and groundwater resources. Metropolitan convened a technical review panel that reviewed and scored each proposal submitted by Metropolitan member agencies in accordance with the criteria and weight identified in the RFP. Metropolitan Board Letter 9-2, dated December 11, 2018, describes the final Metropolitan RFP selection process. City's proposal to study virus log removal in cooperation with OCWD was selected through this RFP process. Metropolitan and City entered into an agreement dated _____, referenced herein as the "FSA Agreement," which establishes terms and conditions for Metropolitan's funding of the City's proposal, which was entitled **DEMONSTRATING VIRUS LOG REMOVAL IN POTABLE REUSE TO INCREASE REGULATORY CONFIDENCE**, hereinafter referred to as the "Study."

6. OCWD is not a Metropolitan member agency but has significant expertise studying and implementing programs pertaining to recycled water, stormwater, seawater desalination, and groundwater resources and assisted the City in developing the proposal for the Study. Thus, OCWD has the expertise, facilities, equipment, and technical expertise needed to conduct the

Study on behalf of City in accordance with the FSA Agreement and all other applicable requirements.

7. City desires OCWD to perform the Study, as the Study is described in the Scope of Work, Costs, and Schedule attached hereto and incorporated herein as Exhibit A, and OCWD desires to conduct the Study in conformance with Metropolitan's requirements and grant conditions. The Study governed by this Agreement is of mutual interest to OCWD and City, and furthers City's goals of conducting technical studies or pilot projects that reduce barriers to future production of recycled water, stormwater, seawater desalination, and groundwater resources.

8. City desires to enter into this agreement with OCWD, and OCWD desires to perform the Study according to the terms set forth hereinafter.

9. Therefore, in reliance on the commitments and obligations set forth herein, and with the intention of being legally bound hereby, the parties agree as follows:

Terms of Agreement

1. Scope of Work

a. City hereby engages OCWD as a sub-recipient and consultant to perform the Study, as such work is described in detail in the Scope of Work, Costs, and Schedule attached hereto as Exhibit A.

b. OCWD shall provide Study deliverables according to the schedule set forth in Exhibit A. Each task identified in Exhibit A shall have a clearly defined deliverable, date for completion of task, and associated cost for each task.

c. To the extent authorized by City's FSA Agreement with Metropolitan, OCWD may adjust task descriptions, task budget amounts, and task schedules in Exhibit A, from time to time, upon written notice to and approval by City; however, OCWD must certify that any such adjustments do not materially change the basic scope of work, the scheduled final Study completion date, the Maximum Cost to City as identified in this Agreement.

d. OCWD shall be responsible for verifying completion of a consultant or sub-consultant's work in accordance with Exhibit A.

2. Time and Term

Time is of the essence in the performance of services under this Agreement. This Agreement is in effect from January 8, 2019 through December 31, 2021, subject to earlier termination pursuant to Section 26 Termination below.

3. Agreement Administrators

a. In performing the work under this Agreement, OCWD shall coordinate all contact related to the Study with Metropolitan's Agreement Administrator unless otherwise directed by City. For purposes of this Agreement, Metropolitan's Agreement Administrator is Mr. Don Bentley or such

other person as Metropolitan designates per the FSA Agreement. For purposes of this Agreement, OCWD designates Dr. Megan Plumlee, Ph.D., P.E. as the Agreement Administrator for OCWD. OCWD reserves the right to change this designation upon written notice to City.

4. Independent Contractor

OCWD agrees, as sub-recipient or participating entity to the City, to complete the Study detailed in the Scope of Work in the capacity of an independent contractor, and neither OCWD and its participating entities, consultants, and sub-consultants nor any of their employees shall be considered to be an employee or agent of City or Metropolitan.

5. Consultants, Sub-consultants, and Sub-recipients

a. OCWD shall be responsible to City for all work to be performed under this Agreement. All consultants, sub-consultants, and sub-recipients of OCWD, and their billing rates, shall be approved by OCWD and shall be reflected in consultant, sub-consultant, and sub-recipient invoices submitted by OCWD to City for transmittal to Metropolitan. OCWD will prepare applicable invoices for City to submit to Metropolitan for reimbursement per the requirements of the FSA Agreement. OCWD shall be liable and accountable for any and all payments or other compensation to all consultants, sub-consultants, and sub-recipients performing services under any OCWD agreement that is necessary and applicable to the performance and completion of this Agreement, which governs the Metropolitan funded components of the Study.

b. OCWD's contracts with consultants, sub-consultants, and sub-recipients related to conduct of the Study shall, where determined appropriate by OCWD, include the same insurance requirements as those specified in section 18 of this Agreement, and shall also include provisions governing the intellectual property, nonuse of intellectual property of third parties, the auditing process, appropriate indemnity provisions, and applicable equal opportunity and affirmative action policies.

c. Where applicable, OCWD and its consultants, sub-consultants, and sub-recipients shall adhere to the requirements of Metropolitan's Business Outreach Program.

6. City's Maximum Amount Payable and Reimbursement Procedure

a. OCWD shall act as City's Sub-recipient and Consultant for purposes of performing work approved by Metropolitan in the FSA Agreement, and shall coordinate the overall Study, to include the MWD funded and non MWD funded portions of the Study. The Study has an anticipated total cost of approximately \$300,000. OCWD shall be reimbursed by City for its expenditures on the Study per the procedures of this paragraph, up to one half of the total cost of the work approved by Metropolitan as memorialized in the FSA Agreement. City's aforementioned obligation to reimburse shall not exceed the total of eligible reimbursable costs submitted by OCWD nor the City's total grant from Metropolitan under the FSA Agreement. City's payment from Metropolitan for the study is not to exceed **\$150,000** or fifty (50%) of the total cost expended per task as established in Exhibit A, whichever is less. OCWD, through other grant funding received by OCWD, shall be responsible for all costs of performing the Study in excess of the City's grant from Metropolitan.

b. OCWD agrees to reimburse City up to \$3,000 for the City's legal review and processing of this Agreement and the FSA Agreement. OCWD also agrees to reimburse City for the

cost of any additional insurance City is required to obtain in order to comply with the insurance mandates of the FSA Agreement.

c. OCWD must include documentation in the quarterly invoices provided to City that OCWD did reimburse or otherwise compensate responsible parties for eligible costs incurred during the invoice period. The invoice should include a cover letter with a brief summary of the work completed under the costs invoiced and a discussion of any milestones reached or problems encountered during the period invoiced.

d. OCWD shall provide each month to City a draft invoice and draft cover letter for City to submit to Metropolitan's Agreement Administrator on City's behalf. The draft cover letter shall be on the City's letterhead with any other markings necessary to identify the invoice and cover letter as having been submitted by the City to Metropolitan per the requirements of the FSA Agreement.

e. For each eligible invoice, City will reimburse OCWD for eligible reimbursable costs. OCWD shall promptly notify the City's Agreement Administrator, in writing, when fees and expenses incurred under this Agreement by OCWD have reached **\$112,500** (75% of Metropolitan's maximum amount allowable).

f. In-kind services provided by OCWD staff are not eligible for reimbursement under the FSA Agreement, and therefore are ineligible for reimbursement under this Agreement and shall not be included in invoices that OCWD prepares for City to submit to Metropolitan. In-kind services include, but are not limited to, work performed by staff of City, OCWD, and employees of any participating entity, as well as related expenses for such agency staff (e.g., travel, overhead, etc.).

g. Eligible costs include work starting no earlier than January 8, 2019, which is in compliance with the requirements of this Agreement and within scope of the Study approved by Metropolitan in the FSA Agreement.

h. All invoices related to the Study must be submitted by OCWD to City sufficiently in advance to allow City to submit all invoices pertaining to the Study to Metropolitan on or before July 31, 2021. OCWD acknowledges that invoices submitted to Metropolitan after August 31, 2021, will not be paid unless Metropolitan, in its sole discretion, grants City, in writing, an extension of time to complete the work and submit OCWD's invoices.

7. Billings and Payments

a. OCWD shall submit quarterly invoices to City per the requirements of paragraph 6 of this Agreement and per Paragraphs 6 and 7 of the FSA Agreement in a format that will readily facilitate City's submission of the City's quarterly invoice and cover letter to Metropolitan. OCWD's Agreement Administrator, or his/her designee, shall sign and certify each invoice submitted to City to be true and correct to the best of their knowledge. OCWD's invoices shall be submitted quarterly to City and shall include all applicable information required by Section 7.b of the FSA Agreement.

b. City may reject incomplete and inaccurate OCWD invoices and will return such invoices to OCWD within 30 days after the date of the invoice. In such cases of rejected invoices,

OCWD will submit a new, corrected invoice with a new invoice number and new date. OCWD invoices submitted 90 days after completion of work, may be delayed or not paid to City by Metropolitan.

c. The final invoice submitted following completion of the Study shall be clearly marked “FINAL INVOICE” by City. It shall be submitted to Metropolitan by City after the final report from the Study is accepted by Metropolitan and should include a request by City for the release of the 25 percent retention.

8. Reporting Requirements

a. OCWD shall draft and submit to City all documents and reports necessary for City to comply with section 8 of the FSA Agreement and to meet all timelines established in Exhibit A of the FSA Agreement. The City will submit these reports to Metropolitan per the FSA Agreement after preparation by OCWD. OCWD shall prepare all reports and associated materials required by this section, and such reports shall be accompanied by an appropriate draft cover letter on City letterhead that the City can submit to Metropolitan with any required reports in accordance with pertinent milestones required by the FSA Agreement and Exhibit A thereto.

b. OCWD shall prepare and deliver a presentation on behalf of City on the findings of the study during a concluding symposium to be scheduled and organized by Metropolitan.

c. Failure of OCWD to submit deliverables within the timeframes established in Exhibit A and the FSA Agreement, or any extension of time authorized by Metropolitan, may delay or eliminate OCWD’s ability to obtain reimbursement of otherwise eligible costs associated with the Study.

9. Business Outreach Program

a. It is the policy of Metropolitan to solicit participation in the performance of all construction, professional services, procurement contracts, supplies, and equipment procured by Metropolitan by all individuals and businesses, including but not limited to small businesses, locally owned businesses, women, minorities, disabled veterans, and economically disadvantaged enterprises. In performing services under this Agreement, City, and therefore OCWD, shall endeavor to further this policy whenever practicable.

10. Successors and Assignment

This Agreement covers professional services of a specific and unique nature. Except as otherwise provided herein, OCWD, including its participating entities, consultants, and sub-consultants, shall not assign or transfer its interest in this Agreement without first obtaining the written consent of City and Metropolitan.

11. Use of Materials

City will make available to OCWD such materials City obtains from Metropolitan as may be required by OCWD to perform services under this Agreement. Such materials shall remain the property of Metropolitan while in OCWD’s possession. Upon termination of this Agreement and payment of outstanding invoices of OCWD, or completion of work under this Agreement, OCWD shall turn over to City and/or Metropolitan any property of Metropolitan in OCWD’s possession and any calculations,

notes, reports, electronic files, or other materials prepared by OCWD in the course of performing the services under this Agreement.

12. Intellectual Property

a. All intellectual property produced by OCWD or City pursuant to this Agreement in the performance of the Study shall be owned by City, which has granted Metropolitan and its member public agencies a perpetual, nonexclusive license, at no cost, to use the intellectual property developed in the course of the work performed under this Agreement by City or any contractor and consultant working on the Study as the Study is described in Exhibit A. As used herein, Metropolitan directs that the term “intellectual property” includes, but is not limited to, all inventions, patents, copyrightable subject matter, copyrights, test data, trade secrets, other confidential information and software created or prepared pursuant to this agreement.

b. City and OCWD agree that all results produced in the performance of this Agreement may be released to the public.

c. City and OCWD agree that Metropolitan may utilize any material prepared or utilize work created by the City or OCWD pursuant to this Agreement, including non-proprietary computer software, in any manner which Metropolitan deems proper without additional compensation to City or OCWD. City shall have no responsibility or liability for any revisions, changes, or corrections made by Metropolitan, or any use or reuse pursuant to the paragraph unless City accepts such responsibility in writing.

d. All intellectual property developed pursuant to this Agreement is owned by City. As used herein, the term ‘intellectual property’ includes, but is not limited to, all inventions, patents, copyrightable subject matter, copyrights, test data, trade secrets, other confidential information and software created as a result of the Study authorized herein.

e. City recognizes that the results of the work performed under this Agreement may be published by OCWD. City agrees that OCWD employees engaged in work for the Exhibit A scope will be free to present at symposia or professional meetings, and to publish in journals, theses or dissertations, or otherwise of their own choosing, methods and results of the work performed under this Agreement. Upon written request by City, copies of proposed manuscripts will be furnished to City for review prior to publication. In no event will OCWD delay publication for more than thirty (30) days from date of submittal of manuscript for City review.

f. City shall promptly notify Metropolitan, in writing, of all intellectual property developed in the course of City’s work for Metropolitan under this Agreement.

13. Nonuse of Intellectual Property of Third Parties

OCWD and City agree not to use, disclose or copy any intellectual property of any third parties in connection with work carried out under this Agreement, except for intellectual property for which OCWD, City or their consultants/subconsultants have a license or other legal permission to use. OCWD shall indemnify and hold City and Metropolitan harmless against all claims raised against City based upon allegations that OCWD has wrongfully used intellectual property of others in performing the work authorized by this Agreement.

14. Representations

Each Party represents that it is represented by legal counsel, that it has reviewed this Agreement and agrees that:

- a. This Agreement is legally enforceable;
- b. Payments made by City to OCWD pursuant to this Agreement are a legal use of City's funds and Metropolitan's funds; and,
- c. To the best of City's and OCWD's understanding, Metropolitan may legally recover the costs incurred by City pursuant to this Agreement in the water rates charged to Metropolitan's Member Agencies.

15. Legal Requirements

OCWD shall secure and maintain all licenses or permits required by law and shall comply with all ordinances, laws, orders, rules, and regulations pertaining to the work authorized by this Agreement.

16. Guarantee and Warranty

- a. OCWD guarantees and warrants that, to the best of its understanding, the work OCWD and/or its consultants/subconsultants perform shall be performed and completed in accordance with generally accepted industry standards, practices, and principles applicable to the work.
- b. City and OCWD agree that Metropolitan's representatives shall at all times have access to the work funded by the FSA Agreement for purposes of inspecting same and determining that the work is being performed in accordance with the terms of this Agreement and the FSA Agreement.

17. Indemnity

- a. OCWD assumes all risk of injury to its employees, agents, consultants, sub-consultants, and contractors, including loss or damage to property, in the performance of this Agreement, except for those losses due to City's or Metropolitan's negligence, recklessness or willful misconduct.
- b. OCWD shall defend, indemnify, and hold harmless City, its City Council, officers, employees, and agents from and against all claims, suits, or causes of action for injury to any person or damage to any property to the proportionate extent arising out of, pertaining to, or related to OCWD's and its participating entities', consultants', and sub-consultants' negligence, recklessness or willful misconduct in the performance of this Agreement. In addition, in the event that OCWD or any employee, agent, or subcontractor of OCWD providing services under this Agreement claims or is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of the City, OCWD shall indemnify, defend, and hold harmless City for the payment of any employee and/or employer contributions for PERS benefits on behalf of OCWD or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

18. Insurance

a. OCWD will obtain all such insurance as Metropolitan may reasonably direct OCWD to carry, if any, as a consultant and/or participating entity of City for purposes of preparing the Study approved and authorized by the FSA Agreement. OCWD further agrees to reimburse City for the costs of any additional insurance coverage City is required to obtain or carry in order to satisfy the insurance obligations of City under the FSA Agreement between City and Metropolitan.

19. Audit

a. OCWD shall be responsible for ensuring the accuracy and propriety of all billings and shall maintain all supporting documentation for the period specified below.

b. City will have the right to audit OCWD's invoices and all supporting documentation for purposes of compliance with this Agreement during the term of this Agreement and for a period of three years following completion of services under this Agreement.

c. OCWD shall be responsible for maintaining the supporting documentation for a period of three years following completion of services under this agreement.

d. Upon reasonable notice from City, OCWD shall cooperate fully with any audit of its billings conducted by City and shall permit access to its books, records and accounts as may be necessary to conduct such audits.

20. Equal Employment Opportunity, Affirmative Action, and Notification of Employee Rights Under the NLRA

City is an equal opportunity employer and a federal contractor. **Consequently, the parties agree that, as applicable, they will abide by the requirements of 41 CFR 60-1.4(a), 41 CFR 60-300.5(a), and 41 CFR 60-741.5(a) and that these regulations are incorporated herein by reference. These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, or national origin. These regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status, or disability.** The parties additionally agree that, as applicable, they will abide by the written affirmative action program requirements of 41 CFR 60-1.40, 41 CFR 60-300.40, and 41 CFR 60-741.40. The parties also agree that, as applicable, they will abide by the requirements of Executive Order 13496 (29 CFR Part 471, Appendix A to Subpart A), relating to the notice of employee rights under federal labor laws. The parties further agree that, as applicable, they will abide by the requirements of Federal Acquisition Regulation Clauses 52.222-26 (Equal Opportunity), 52.222-35 (Equal Opportunity for Veterans), 52.222-36 (Affirmative Action for Workers with Disabilities), and 52.222-40 (Notification of Employee Rights Under the National Labor Relations Act) and that these regulations are incorporated herein by reference. OCWD agrees to submit to City evidence of compliance with this section, as applicable, within 30 days of a request by City or Metropolitan.

21. Prohibited Relationships with Sanctioned Countries and Persons

OCWD represents and warrants that both 1) OCWD, and 2) to OCWD's knowledge, its directors, officers, employees, subsidiaries, participating entities, consultants, and sub-consultants, are not engaged in any business transactions or other activities prohibited by any laws, regulations or executive orders relating to terrorism, trade embargoes or money laundering ("Anti-Terrorism Laws"), including Executive Order No. 13224 on Terrorist Financing, effective September 24, 2001 (the "Executive Order"), the Patriot Act, and the regulations administered by the Office of Foreign Assets Control ("OFAC") of the U.S. Department of Treasury, including those parties named on OFAC's Specially Designated Nationals and Blocked Persons List. OCWD is in compliance with the regulations administered by OFAC and any other Anti-Terrorism Laws, including the Executive Order and the Patriot Act. In the event of any violation of this section, City shall be entitled to immediately terminate this Agreement and take such other actions as are permitted or required to be taken under law or in equity.

22. Conflict of Interest and Gift Restrictions

a. OCWD represents that it has advised City in writing prior to the date of signing of this Agreement of any known relationships with a third party and the Metropolitan Board and/or Metropolitan employees which would: (1) present a conflict of interest with the work performed under this Agreement; (2) prevent OCWD or City from performing the terms of this Agreement, or (3) present a significant opportunity for the disclosure of confidential information.

b. OCWD, as a public agency, shall comply with all applicable requirements of the California Political Reform Act ("PRA") and regulations of the Fair Political Practices Commission ("FPPC") as well as all other applicable ethical standards or limitations promulgated by Metropolitan and/or the City. OCWD agrees not to provide any prohibited compensation, reward or gift to any Metropolitan Board member, officer or employee, or to any City Council member, officer or employee.

23. Use of Metropolitan's Name

City, OCWD, and their participating entities, consultants, and sub-consultants shall not publish or use any advertising, sales promotion, or publicity in matters relating to services, equipment, products, reports, and material furnished by City and its participating entities, consultants, and sub-consultants in which Metropolitan's name is used, or its identity implied without Metropolitan's Agreement Administrator's prior written approval. **This provision survives the termination of this Agreement.**

24. Termination

a. Either party may at any time terminate this Agreement by giving the other party not less than thirty (30) days prior written notice. In the event of termination, City shall remain responsible for payment of fees and expenses incurred by OCWD in conformity with this Agreement and for invoices submitted by OCWD for work performed on the Study prior to the date of termination.

25. Force Majeure Events

a. Excuse to Performance: In addition to specific provisions of the Agreement, lack of performance by any Party shall not be deemed to be a breach of this Agreement, where delays or

defaults are due to acts of God, or the elements, casualty, strikes, lockouts, or other labor disturbances, acts of the public enemy, orders or inaction of any kind from the government of the United States, the State of California, or any other governmental, military or civil authority (other than City, or another party to this Agreement), war, insurrections, riots, epidemics, landslides, lightning, droughts, floods, fires, earthquakes, civil disturbances, freight embargoes, or any other inability of any Party, whether similar or dissimilar to those enumerated or otherwise, which are not within the control of the Party claiming such inability or disability, which such Party could not have avoided by exercising due diligence and care and with respect to which such Party shall use all reasonable efforts that are practically available to it in order to correct such condition (such conditions being herein referred to as “Force Majeure Events”).

b. Responding to Force Majeure Events: The Parties agree that in the event of a Force Majeure Event which substantially interferes with the implementation of this Agreement, the Parties will use their good faith efforts to negotiate an interim or permanent modification to this Agreement which responds to the Force Majeure Event and maintains the principles pursuant to which this Agreement was executed.

26. Notices

Any notice or communication given under this Agreement shall be effective when deposited, postage prepaid, with the United States Postal Service and addressed to the contracting parties or delivered via overnight courier as follows:

City of Fullerton	Mail:
City of Fullerton	Orange County Water District
Attention: Tiffany Foo	Post Office Box 8300
303 W. Commonwealth Ave.	Fountain Valley, CA 92728-8300
Fullerton, CA 92832	Attention: Dr. Megan Plumlee, Ph.D.
	Overnight Courier:
	Orange County Water District
	18700 Ward Street
	Fountain Valley, CA 92708
	Attention: Dr. Megan Plumlee, Ph.D.

Either party may change the address to which notice or communication is to be sent by providing advance written notice to the other party.

27. Severability

If any provision of this Agreement shall be held illegal, invalid, or unenforceable, in whole or in part, such provision shall be modified to the minimum extent necessary to make it legal, valid, and enforceable, and the legality, validity, and enforceability of the remaining provisions shall not be affected thereby.

28. Jurisdiction and Venue

This Agreement shall be deemed a contract under the laws of the State of California and for all purposes shall be interpreted in accordance with such laws. Both parties hereby agree and consent to the exclusive jurisdiction of the courts of the State of California and that the proper venue of any action brought thereunder is and shall be Orange County, California.

29. Waiver

No delay or failure by either party to exercise or enforce at any time any right or provision of this Agreement shall be considered a waiver thereof or of such party's right thereafter to exercise or enforce each and every right and provision of this Agreement. A waiver to be valid shall be in writing but need not be supported by consideration. No single waiver shall constitute a continuing or subsequent waiver. Waiver by either party of any breach or default of any clause of this Agreement by the other party will not operate as a waiver of any previous or future default or breach of the same or different clause of this Agreement

30. Entire Agreement

This writing contains the entire agreement of the parties relating to the subject matter hereof; and the parties have made no agreements, representations, or warranties either written or oral relating to the subject matter hereof which are not set forth herein. Except as provided herein, this Agreement may not be modified or altered without formal amendment thereto.

31. Dispute Resolution

In the event of any dispute, claim, question, or disagreement arising from or relating to this Agreement or a breach thereof, the parties hereto will use reasonable efforts to settle the dispute, claim, question, or disagreement. The parties will consult and negotiate with each other in good faith and in recognition of their mutual interests, and make an attempt to strive for an equitable solution which will satisfy both parties.

32. Service Marks and Trademarks

Neither party will use any service marks, registered trademarks, logos or other marks of the other party without the express written approval of the other party.

33. Joint Drafting

Both parties have participated in the drafting of this Agreement.

/////

Signature Page

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement as of the date last written below.

Orange County Water District

By:

Name: Michael R. Markus, P.E.

Title: General Manager

Date: _____

By:

Name: Vicente Sarmiento

Title: Board President

Date: _____

CITY OF FULLERTON

By:

Name:

Title: _____

Date: _____

By:

Name:

Title: _____

Date: _____

Approved as to form:

Jeremy N. Jungreis, General Counsel

Date: _____

Exhibit A- Scope of Work

a.

Demonstrating Virus Log Removal in Potable Reuse to Increase Regulatory Confidence

1.0 Study Objective

The objective of this study is to demonstrate virus removal for potable reuse to increase regulatory credit (log removal values) by 1) appropriately crediting the engineered wastewater treatment process that precedes advanced treatment and 2) deploying improved reverse osmosis process integrity monitoring as part of advanced water treatment.

2.0 Background Information

The City of Fullerton is one of 19 major retailers in the Orange County Water District (OCWD) service area, serving a population of approximately 140,000. As a groundwater producer in the OCWD service region, the City of Fullerton relies upon OCWD's management of the Orange County groundwater basin and is a strong supporter of the OCWD Groundwater Replenishment System (GWRS), currently the world's largest potable reuse facility.

OCWD and the Orange County Sanitation District (OCSD) facilities are the test sites for the proposed study. Log removal value (LRV) credits, which are credits assigned by the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW), represent the degree of pathogen removal and are assigned to potable reuse facilities such as the OCWD GWRS. The DDW requires 12 LRV credits, or 12-log removal (99.9999999999%), for virus removal from raw wastewater source to finished water. Currently, the OCSD wastewater treatment facility receives zero virus LRV credits while the GWRS treatment process only receives 8 virus LRV credits. For this reason, finished product water from the GWRS requires four months of underground travel time to obtain an additional 4 LRV credits to meet the 12 LRV credit requirement for virus removal. Increasing LRV credits assigned to the GWRS project would allow a wider range of groundwater recharge/injection and extraction sites to be considered, including within the City of Fullerton, such that the project's output can be maximized via increased basin management flexibility for OCWD.

The proposed project in partnership with MWD will serve as a notable case study for obtaining virus LRV credit for the potable reuse treatment process, for use by MWD member agencies and facilities around the world seeking to increase the viability of potable reuse. Improving reuse viability is important because potable reuse is a critical alternative for arid regions to meet local water needs. The proposal team consisting of OCWD, OCSD, Michigan State University, and Trussell Technologies has significant experience in this topic, including several published research studies.

3.0 Study Description

The proposed study will evaluate appropriate regulatory crediting to the current wastewater treatment processes at the OCSD that precedes advanced treatment, as well as test novel reverse osmosis integrity monitoring approaches as a part of advanced water treatment. The goal is to increase the 8 virus LRV credits (99.999999%) granted to the OCWD GWRS treatment process, which includes microfiltration (MF), reverse osmosis (RO), and ultraviolet-advanced oxidation process (UV-AOP), to 10 LRV credits (99.99999999%), a 100-fold increase in percent removal, to include the OCSD wastewater treatment process. Specifically, the study will 1) evaluate virus removal in wastewater treatment via a comprehensive sampling study at OCSD Plant No. 1 (P1) and Plant No. 2 (P2) wastewater treatment facilities, each featuring distinct secondary treatment processes; and 2) evaluate newly-developed, cutting-edge methods for real-time monitoring of water quality in the RO feed and permeate at the OCWD GWRS facility that could serve to continuously document the integrity of the membrane barrier.

The data and experience obtained from this study will address the following gaps in the current field of knowledge where there is a recognized paucity of information. These gaps include virus concentrations in raw wastewater, virus removal by conventional wastewater treatment processes, and strategies for continuously demonstrating RO integrity with real-time methods.

Finally, the proposed study will also increase future local supply potential by improving regulatory confidence in potable reuse, improve the viability and planning efforts of potable reuse, and improve public confidence in the potable reuse process.

Participating Entities and Supporting Entities

Entities participating in the project are: Orange County Water District (OCWD), Orange County Sanitation District (OCSD), Michigan State University, and Trussell Technologies. Stakeholders who are not participating but provided support letters agreeing with the need for the work are the Municipal Water District of Southern California (MWDOC) and West Basin Municipal Water District (WBMWD).

4.0 Description of Tasks

Task 1. Project Management and Technical Planning

The project team will hold monthly meetings to discuss sampling progress, data interpretation, deliverables, and project outcomes. Specifically, this task includes project administration, MWD-required semi-annual progress reporting as well as management of the project budget and schedule.

The project team will develop separate test plans for the wastewater virus removal study and RO integrity study. These will be submitted as Technical Memoranda. Technical Memorandum 1 (TM1) will present the test plan for the wastewater virus removal study described in Task 2. Technical Memorandum 2 (TM2) will present the test plan for the RO integrity study that is also

described in Task 2. TM1 will include a description of OCSD wastewater treatment plants that will be sampled, OCSD water quality and operational key parameters that will be tracked, and the proposed sampling locations, target microbial parameters, and analysis methods. TM2 will review historical water quality data from OCWD AWPf and use this information along with recent industry knowledge to identify the list of most promising membrane integrity surrogates for project evaluation. The presumed surrogates are noted below in Task 2 but will be confirmed as part of technical planning and TM development completed under Task 1.

As a part of Task 1 and provided as part of the USBR grant scope of work (funding cash match), the project team will develop a voluntary project advisory committee on RO integrity monitoring approaches with expertise in RO integrity and/or potable reuse to peer-review key deliverables.

Task 2. Virus / Surrogate Monitoring During Wastewater and RO Treatment

The project team will conduct a year-long virus monitoring campaign at OCSD's two wastewater treatment plants, OCSD Plant No. 1 (P1) and Plant No. 2 (P2), which receive different proportions of industrial and municipal wastewater. Virus log removal will be characterized for each wastewater treatment process including trickling filter treatments at P1 and P2, in addition to activated sludge processes at P1, providing a unique opportunity to ascertain the performance variability for each process. The sampling plan will be informed by microorganisms, techniques, and procedures followed in a recent virus log removal study carried out in San Diego for the North City Water Reclamation Plant (Trussell Technologies 2017). A key aspect of the proposed study will be the large quantity of data: samples will be collected from raw to secondary effluent for each process for a duration of one (1) year at a frequency of approximately two (2) sampling events per month. Enteric virus concentrations as well as other virus targets will be measured by both EPA Method 1615, a culture-based infectivity assay and using molecular methods. In addition, male-specific (MS) and somatic coliphage (as enteric virus surrogates), and total and fecal coliform (commonly used indicator organisms) will also be measured. OCSD operational data will be reviewed to confirm that the wastewater treatment process operated in a routine, representative fashion during the course of the virus sampling program.

This task will also investigate methods for RO integrity monitoring during advanced treatment. Since direct real-time detection methods of virus particles or other microbial pathogens are not feasible, this study will explore the use of four promising and novel surrogates to investigate real-time or near real time monitoring of RO performance. The basis for using chemical compounds as surrogates for virus removal is that they are much smaller than viruses; thus, removal of viruses is expected to be greater than the demonstrated removal of the chemical (i.e., via online monitoring or grab samples) for treatment technologies like RO that purify water based on size-exclusion. Using this approach, the 2 LRV credits currently granted to RO systems like in the OCWD GWRS is based on online monitoring showing 2-log (99%+) removal of total organic carbon (TOC). For the alternative surrogates evaluated in this study, monitoring will be conducted via sensor/instrumentation installation and long-term testing at the OCWD GWRS facility within the RO building. Initial installation, commissioning, and optimization will be required for each of the online monitors. The surrogates measured in RO feed and permeate will consist of:

- Automated Online Fluorescence Spectroscopy: Fluorescence indicates the presence of various dissolved chemicals. Online Cyclops 7 CDOM sensors to measure a key signal (Peak C) within the fluorescence spectrum. Online measurements will be compared to periodic benchtop full-spectrum fluorescence analysis using a Horiba Aqualog benchtop fluorometer.
- Automated Online ATP Monitoring: Adenosine triphosphate (ATP) is a small molecule utilized by metabolically active organisms and found in treated wastewater (i.e., in RO feed water). Online EZ-ATP analyzers will be installed to continuously measure ATP. Online analysis will be compared periodically to benchtop analysis using a benchtop ATP analysis kit.
- Automated Detection of Nanoparticles by DLS: An online nanoparticle analyzer, NanoSight NS500 (Malvern) will be installed to detect nanoparticles sized from 10 to 2,000 nm in diameter, depending on the instrument configuration and sample type. Using this analyzer, removal of particles smaller than typical sizes of viruses can be measured.
- Automated Online Sulfate/Phosphate Monitoring: While online monitors exist for sulfate and phosphate, they may not be available to this project due to cost or availability. If this is the case upon project startup, high frequency grab samples for the selected ion will be used in lieu of an online meter. The results will be compared to fluorescence, ATP, and nanoparticles in this study to identify the most suitable virus surrogate(s).

Testing will continue for three to six months to develop a long-term dataset for the RO process at the OCWD GWRS and evaluate diurnal variability in both the concentrations and the resulting surrogate LRVs (i.e., removal values of each surrogate target observed by RO treatment). Any high degree of variability in the dataset for any of the target constituents will warrant monitoring for an additional three to six months. The project team will summarize and report the Task 2 findings in Technical Memorandum 3 (TM3).

Task 3. Data Analysis and Final MWD Report

Data analysis will be completed for all data acquired from Task 2. OCWD will prepare a Draft and Final Report containing study results, major findings, and recommendations for future action for review by City and MWD. The final report is expected to be highly useful to MWD member agencies and non-member agencies including those in California and worldwide that are considering evaluations of virus occurrence in their wastewater treatment systems and/or seeking to obtain log removal credit for potable reuse.

Additionally, a separate report written for DDW will describe the wastewater virus evaluation and propose a regulatory LRV for the OCSD treatment processes, to be reviewed by DDW and revised by OCWD accordingly. This report will be attached or incorporated into the Final City/MWD Report.

5.0 Deliverables

Task/Subtask	Deliverables	Submittal Due Date to MWD
Task 1	Technical Memorandum 1 (TM1) – OCSD wastewater virus study test plan	November 2019
Task 1	Semi-Annual Progress Report 2019 No. 1 (January 2019 – December 2019)	February 15, 2020
Task 1	Technical Memorandum 2 (TM2) – OCWD RO integrity study test plan	February 2020
Task 2	Semi-Annual Progress Report 2020 No. 1 (January 2020 – June 2020)	August 15, 2020
Task 2	Semi-Annual Progress Report 2020 No. 2 (July 2020 – December 2020)	February 15, 2021
Task 2	Technical Memorandum 3 (TM3) – Preliminary Findings	April 2021
Task 3	Draft Final Report	May 2021
Task 3	Final Report	July 2021
Task 3	Presentation at Concluding Symposium	Fall 2021

6.0 Cost Estimate

The total study cost, including the MWD-required funding match (USBR grant), is shown below.

Task No.	Task Description	Total Study Cost	Requested Metropolitan Funding Match
Task 1	Project Management / Technical Planning	N/A	N/A
Task 2	Virus / Surrogate Monitoring During Wastewater and RO Treatment	\$300,000	\$150,000
Task 3	Data Analysis and Final MWD Report	N/A	N/A
Totals		\$300,000	\$150,000

7.0 Schedule

The following illustrates the expected quarterly progress schedule per task.

		Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
		2019		2020				2021		
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Task	Task Name									
1	Technical Planning									
1	Semi-Annual Progress Reports									
2	Virus / Surrogate Monitoring									
3	Data Analysis and Final Reporting									

Reporting Schedule for MWD

- Semi-Annual Progress Report 2019 No. 1* (Jul 2019 – Dec 2019). February 15, 2020
- Semi-Annual Progress Report 2020 No. 1 (Jan 2020 – Jun 2020) August 15, 2020
- Semi-Annual Progress Report 2020 No. 2 (Jul 2020 – Dec 2020) February 15, 2021
- Draft Final Report May 31, 2021
- **Final Report**..... **July 31, 2021**
- Agency presentation on study findings at concluding symposium..... Fall 2021

*Semi-Annual Progress Report 2019 No.1 will also include a summary of any work conducted on or after January 8, 2019 through June 30, 2019.

Exhibit B- Sample Invoice

BILL TO		INVOICE	
City of Fullerton 303 W. Commonwealth Ave. Fullerton, CA 92832 AnnB@ci.fullerton.ca.us			
AGENCY NAME	INVOICE DATE	INVOICE NUMBER	INVOICE PERIOD
ADDRESS		STUDY NAME	
CONTACT		CONTACT PHONE	AGREEMENT NUMBER
MAXIMUM AWARD AMOUNT	AMOUNT PREVIOUSLY INVOICED	AWARD AMOUNT REMAINING	
ITEMIZED EXPENSES			
TASK	DETAILED DESCRIPTION (e.g., consultant costs and hours, materials and supplies, lab costs, etc.)		COST
TOTAL COSTS			
TOTAL ELIGIBLE COSTS (UP TO 50% OF TOTAL COSTS)			
RETENTION (25% of total eligible reimbursable costs)			
TOTAL ELIGIBLE REQUEST - RETENTION			
BY SIGNING THIS INVOICE, OCWD CERTIFIES THAT WORK DESCRIBED HEREIN IS AN ACCURATE AND CORRECT RECORD OF SERVICES PERFORMED FOR CITY UNDER THIS AGREEMENT AND THIS WORK HAS NOT BEEN BILLED ON ANY OTHER CLIENT OR STUDY PARTNER INVOICES.			
STUDY MANAGER			

Exhibit B - Sample Invoice

BILL TO:

City of Fullerton
303 W. Commonwealth Ave.
Fullerton, CA 92832
Attn: Ann Bradley

**BUDGET
Tracking**

STUDY NAME	INVOICE PERIOD
	AGREEMENT NUMBER

A	B	C	D	E	F	G
TASK NUMBER AND NAME	TOTAL COSTS PAID BY MEMBER AGENCY FOR CURRENT INVOICE	ELIGIBLE REIMBURSABLE COSTS FOR CURRENT INVOICE (UP TO 50% OF B)	CUMULATIVE ELIGIBLE REIMBURSABLE COSTS (INCLUDING CURRENT INVOICE)	TOTAL AWARD AMOUNT PER EXHIBIT A SCOPE OF WORK	REMAINING AWARD BALANCE (E – D)	PERCENT COMPLETE (D/E x100%)
TOTAL						

CUMULATIVE WITHHOLDING (INCLUDING CURRENT INVOICE)	
CUMULATIVE REIMBURSABLE REQUEST (INCLUDING CURRENT INVOICE)	

Exhibit C – Semi-annual Progress Reports

OCWD shall include, at minimum, the following items in the Semi-Annual Progress Reports.

1. Cover Letter

Provide a brief description of the submittal, including the amount invoiced in the respective invoice period, a list of items being submitted, and contact information. The letter must be signed and include the following language:

“I am informed and believe that the information contained in this report is true and that the supporting data is accurate and complete.”

2. Semi-Annual Progress Report

2.1 Study Status

- (a) Describe work performed during the semi-annual period, by task.
- (b) Describe major accomplishments, such as:
 - (i) Tasks achieved
 - (ii) Milestones met and deliverables completed
 - (iii) Meetings held or attended
 - (iv) Press release, etc.
- (c) Where applicable, describe how the activities carried out differed from the plans outlined in the Study Scope of Work. Identify any problems encountered in the performance of the work under this Agreement, and how these matters were addressed.
- (d) If the semi-annual period’s objectives were not met, explain why and how these goals will be approached for the next reporting period.

2.2 Cost Information

- (a) Identify costs incurred during the quarter by OCWD and each partnering/supporting entity working on the Study.
- (b) Discuss how the actual budget is progressing in comparison to the latest Study budget. Describe any differences that occurred, identifying budget impacts and/or problems encountered, and describe how these matters will be addressed for the next reporting period.
- (c) Provide a revised budget, by task, if changed from the latest Study budget.

2.3 Schedule Information

- (a) Provide a Study schedule showing actual progress versus planned progress from the latest schedule.
- (b) Discuss how the actual schedule is progressing in comparison to the latest Study schedule. Justify any differences that occurred, identifying schedule impacts and/or problems encountered, and describe how these matters will be addressed for the next reporting period.
- (c) Provide a revised schedule, by task, if changed from the latest Study schedule.

Exhibit D – Final Report Format

OCWD shall include, at minimum, the following items in the Final Report.

1. Cover Letter

Provide a brief description of the submittal, including the total amount of funds disbursed, a list of items being submitted, and contact information. The letter must be signed and include the following language:

“I am informed and believe that the information contained in this report is true and that the supporting data is accurate and complete.”

2. Final Report

2.1 Executive Summary

- (a) Briefly summarize the content of the main report.

2.2 Introduction

- (a) Provide an overview of the work performed and accomplishments achieved throughout the duration of the Study.
- (b) Briefly describe the findings of the study.
- (c) Describe the role/involvement of each partnering/supporting entity and their relationship to the Study.

2.3 Cost Summary

- (a) Include a summary of the costs incurred and of funds disbursed throughout the duration of the Study.
- (b) Provide a comparison between the planned budget in the Agreement and the actual budget. Justify any differences that occurred, identifying budget impacts and/or problems encountered, and how these matters were addressed.

2.4 Schedule Summary

- (a) Include a summary of all tasks accomplished throughout the duration of the Study.
- (b) Provide a comparison between the planned schedule in the Agreement and the actual schedule. Justify any differences that occurred, identifying schedule impacts and/or problems encountered, and how these matters were addressed.

2.5 Study Results and Analysis

- (a) Describe and provide an analysis of the Study results and findings in detail.
- (b) Were the Study goals and objectives as proposed achieved? Explain.
- (c) Discuss any major problems that occurred in meeting the Study goals and objectives, including how, and if, they were resolved.
- (d) Explain how the findings of the Study can be applied to other areas of the region. What types of obstacles, if any, would be anticipated before implementation/application can occur, and how could these matters be addressed?

2.6 Conclusion

- (a) Describe lessons learned.
- (b) Describe the next steps of the Study (e.g., applicability of the results, topics that may require additional research, new programs that should be developed, policy amendments).