AMENDMENT NO. 4
West Area Water Reclamation Facility Improvements
(City Project # 141525, Contract No. C-10844)

This Amendment No. 4 ("Amendment") to the Professional Services Agreement ("Agreement") is made this _____ day of _____, 2022, ("Effective Date"), by and between the City of Glendale, an Arizona municipal corporation ("City") and Arcadis U.S., Inc., A Delware Corporation authorized to do business in Arizona ("Contractor").

RECITALS

A. City and Arcadis U.S., Inc. ("Contractor") previously entered into Professional Services Agreement, Contract No. C-10844, dated May, 16,2016 ("Agreement"); and

B. The initial study phase of the work has been completed with recommendation on how to proceed with critical plant improvements.

C. GMP 1 construction (Headworks Improvements) has been completed. GMP2A design has been completed and is currently under construction (Primary Sedimentation Basin). Construction will be completed July 2022.

D. The Detailed design of GMP2B: "UV, RAS, and RSPS Rehabilitation"; will be completed May 2022. Construction is planned to begin late summer/fall 2022. Expanding the Scope of Work (attached as Exhibit B) under the original agreement will include construction administration services and post construction activity for GMP 2B.

E. The use of the term "Contractor" under this Amendment No. 4 is used interchangeably with the term "Consultant" defined under the Agreement and used throughout the attached exhibits.

F. This amendment includes revised billing rates that will be used henceforth and supersedes the billing rates of the original agreement.

G. City and Contractor wish to modify and amend the Agreement subject to and strictly in accordance with the terms of this Amendment.

AGREEMENT

In consideration of the mutual promises set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the City and Contractor hereby agree as follows:

1. **Recitals.** The recitals set forth above are not merely recitals but form an integral part of this Amendment.

2. **Term.** The term of the Agreement is extended for a one-year period from May 11, 2023 through May 10, 2024, unless otherwise terminated or canceled as provided by the Agreement. All other provisions of the Agreement except as set forth in this Amendment shall remain in their entirety.

3. **Scope of Work.** This project will provide professional engineering services to complete construction administration and post construction activities for GMP 2B, as described in Exhibit B.

4. **Compensation.** Including allowances, this original Contract C-10844 and Contract Amendments 1, 2, and 3 resulted in a previous compensation of $4,090,897.00. See Description of Project under Exhibit A for previous services breakdown. Including allowances, GMP 2B Construction Administration Services will result in an increase in compensation of $809,383.00, as shown in attached Exhibit D (for a total compensation of $4,900,280).

5. **Insurance Certificate**. Current certificate will expire on June 1, 2022 and a new certificate applying to the extended term must be provided prior to this date to Materials Management and the Contract Administrator.

6. **Non-discrimination.** Contractor must not discriminate against any employee or applicant for employment on the basis of race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity or expression, genetic characteristics, familial status, U.S. military veteran status or any disability. Contractor will require any Sub-contractor to be bound to the same requirements as stated within this section. Contractor, and on behalf of any subcontractors, warrants compliance with this section.

7. **No Boycott of Israel**. To the extent A.R.S § 35-393 through § 35-393.03 are applicable, the parties hereby certify that they are not currently engaged in, and agree for the duration of the Agreement to not engage in, a boycott of goods or services from Israel, as that term is defined in A.R.S § 35-393.

8. **Attestation of PCI Compliance.** When applicable, the Contractor will provide the City annually with a Payment Card Industry Data Security Standard (PCI DSS) attestation of compliance certificate signed by an officer of Contractor with oversight responsibility.

9. **Ratification of Agreement.** City and Contractor hereby agree that except as expressly provided herein, the provisions of the Agreement shall be, and remain in full force and effect and that if any provision of this Amendment conflicts with the Agreement, then the provisions of this Amendment shall prevail.

[Signatures on the following page.]

CITY OF GLENDALE, an Arizona
municipal corporation

_____
Kevin R. Phelps, City Manager

ATTEST:

_____
Julie K. Bower, City Clerk (SEAL)

APPROVED AS TO FORM:

_____
Michael D. Bailey, City Attorney

Arcadis U.S., Inc.,
A Delaware corporation

Brian J. Bubela

By: Brian J. Bubela, P.E.
Its: Vice President

EXHIBIT A
Professional Services Agreement

CITY OF GLENDALE
WEST AREA WATER RECLAMATION FACILITY IMPROVEMENTS
Amendment 4
Project No. 141525

Phase III – GMP2B WAWRF Improvements Project
UV, RAS, RSPS, and ALS Construction Administration (CA) Services

PROJECT

DESCRIPTION OF PROJECT:

The City of Glendale (City) West Area Water Reclamation Facility (WAWRF) provides Class A+ effluent with a rated capacity of 11.5 million gallons per day (MGD) for reuse and aquifer recharge. The effluent is used at various lakes within the City and for recharge at the West Area Aquifer Recharge Facility (ARF) and the New River Agua Fria Underground Storage Project (NAUSP). The City has experienced challenges with equipment related to several facilities both at the treatment plant and offsite facilities. Arcadis has previously evaluated these areas in 2018. Subsequent design and construction have occurred based on recommendations identified in the 2018 Facilities Evaluation Report. Previous designs have included improvements at the preliminary treatment facility (GMP1) and design of primary sedimentation facilities (GMP2A). The most recent design (GMP2B) for the WAWRF was for improvements at the Returned Activated Sludge (RAS) pump station, Ultra-Violet (UV) Disinfection Facility, Raw Sewage Pump Station (RSPS), and Airport Lift Station (ALS). Design and construction administration services for previous designs were included under separate amendments, as generally shown below:

- Original Contract – Facility Evaluation and Design of GMP1 Preliminary Treatment Facilities (Headworks)
- Amendment 1 – WAARF APP Assistance (GMP1A), Forcemains Assessment, Design of Primary Sedimentation Facilities (GMP2A), and Design of UV/RAS Pump Station/RSPS/ALS Improvements (GMP2B)
- Amendment 2 – Construction Administration (CA) services for GMP1 Preliminary Treatment Facilities (Headworks)
- Amendment 3 – Construction Administration (CA) services for GMP2A Primary Sedimentation Facilities, Solar PV Evaluation, and Design of HVAC Controls Networks Upgrades

This contract (Amendment 4) includes construction administration services for recommended design improvements at the UV, RAS, RSPS, and ALS facilities (GMP2B). The Scope of Work are defined in Exhibit B. The project delivery mechanism is Construction Manager at Risk (CMAR). Services will assume an appropriate level of detail for the CMAR to develop guaranteed maximum price (GMP) proposals and construction related services. The CMAR is assumed to provide pre-construction services during design and will perform all cost, maintenance of plant operations, and field-verification activities. The Consultant may assist City staff with review and coordination with City-selected CMAR if defined in Exhibit B, Scope of Work.

EXHIBIT B
Professional Services Agreement

CITY OF GLENDALE
WEST AREA WATER RECLAMATION FACILITY IMPROVEMENTS
Amendment 4
Project No. 141525

Phase III – GMP2B WAWRF Improvements Project
UV, RAS, RSPS, and ALS Construction Administration (CA) Services

SCOPE OF WORK

This Scope of Work describes Engineering Services to be provided by Arcadis U.S., Inc. (CONSULTANT) for the City of Glendale (CITY). The Engineering Services to be provided under this Scope of Work shall include services related to the construction, start-up, commissioning, and post-construction phases of the **West Area Water Reclamation Facilities UV Disinfection/RAS Pump Station/RSPS/ALS Improvements Project**. The Scope of Work to be performed consists of the following services:

1. Project Administration Services during Construction; Section 200
2. Engineering Services during Construction; Section 300
3. Observation Services during Construction; Section 400
4. Special Services; Section 500
5. Allowances; Section 600

Other SUBCONSULTANTS working with CONSULTANT shall include the following:

- Nabar Stanley Brown of Gannett Fleming
- Southwest Protective Coatings

The Engineering Services are predicated on the following assumptions:

1. The Construction Manager at Risk (CMAR) will construct the work in one construction package with an estimated 9-month construction duration and an anticipated Notice to Proceed date of June 2022.

2. The term "Contract Documents" as used herein refers to the combination of the CMAR's contract with the CITY and CONSULTANT's construction documents.

3. The CMAR will complete certain portions of the work in advance of the overall project substantial completion date defined in the Contract Documents. CONSULTANT shall schedule the inspection, training, and commissioning services as required to meet the substantial completion dates as defined in the CMAR project progress schedule.

4. All construction, programming/configuration (by others), start-up, and commissioning services will be complete by September 2023.

5. The 24-month post construction Warranty period to commence at Substantial Completion as defined in the Contract Documents.

6. The CMAR shall receive and transmit to and from the CONSULTANT all submittals, correspondence and necessary documentation from their suppliers and subcontractors. The CMAR will review these for completeness in accordance with the Contract Documents.

Engineering Services are to be provided throughout the duration of construction, start-up, commissioning, and post-construction phases of the project. The overall project duration is 15-months, with an anticipated Substantial Completion and final acceptance date as defined in the Contract Documents, plus a 24-month warranty period.

The Contract Documents are defined as the Agreement, General Conditions, Supplemental Conditions, Drawings, Standard Details, Specifications, Addendums, and executed change orders prepared for construction of the project.

SECTION 200 - PROJECT ADMINISTRATION SERVICES DURING CONSTRUCTION

Task 210 Representation on Behalf of CITY

The CONSULTANT shall consult with and advise CITY and act as its representative during construction. The extent and limitations of the duties, responsibilities and authority of CONSULTANT as assigned herein shall not be modified, except as CONSULTANT may otherwise agree, in writing.

The CONSULTANT will assist the CITY in issuing the CITY's instructions to CMAR; issue necessary interpretations and clarifications of the Contract Documents; have authority, as CITY'S representative, to require special inspection or testing of the work; act as initial interpreter of the requirements of the Contract Documents and evaluate the acceptability and completeness of the CMAR's work thereunder, and make decisions on claims as directed by the CITY, to the CMAR relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work. The CONSULTANT shall render all interpretations or decisions in good faith and in accordance with the requirements of the Contract Documents.

CONSULTANT shall not be responsible for the means, methods, techniques, sequences, or procedures of construction selected by CMAR (unless otherwise specified in the Contract Documents) or the safety precautions and programs incident to the work of CMAR.

CONSULTANT's efforts shall be directed toward advising the CITY whether the completed work of CMAR will conform to the Contract Documents, but CONSULTANT shall not be responsible for the failure of CMAR to perform the work in accordance with the Contract Documents.

On the basis of on-site examination of materials, equipment, and workmanship, CONSULTANT shall keep CITY informed of the progress of the work, shall endeavor to protect the CITY against defects and deficiencies in such work and may disapprove or reject work failing to conform to the Contract Documents. This task shall include the following subtasks:

210.1 Project Management: The CONSULTANT shall perform overall Project Management of the work, which consists of the administrative tasks necessary to maintain the overall project budget and schedule and includes the preparation of and assembly of the monthly reports and invoices. Under this task the CONSULTANT shall meet monthly with the CITY'S representative to discuss the services, the costs associated with the cash flow projections, and the schedule of services performed under this Scope of Work, and the overall status, progress, and issues on the project.

210.2 Construction Procedures and Communications: The CONSULTANT will utilize existing construction procedures and communications established under GMP1.

210.3 Attend Pre-Construction Conferences conducted by the CMAR: The CMAR shall conduct Pre-Construction Conference for the work. The conference will be held in accordance with the Contract Documents. At the conference, the CONSULTANT and CMAR shall identify field services to be provided by the CONSULTANT, CMAR and the CITY and discuss appropriate coordination procedures. The CMAR will conduct all conferences, and shall prepare and distribute all meeting minutes.

210.4 Provide Construction Administration, Quality Assurance, and Coordination: The CONSULTANT shall provide construction administration and quality assurance services during the course of the project to advise of the overall technical correctness of the work and construction services and that specified procedures are being followed and that the project schedule is being met. The CONSULTANT shall provide coordination functions during the construction phase as follows:

1. Hold required coordination meetings with CITY Representatives.
2. Coordinate the work of the CONSULTANT's specialty subconsultants assigned to the project.
3. Participate in weekly construction progress meetings, conducted by the CMAR.

210.5 Perform Regulatory Agency Coordination: The CONSULTANT shall work with the CITY's staff and the CMAR to coordinate with regulatory agencies involved in the final approval of this project; the following regulatory agencies are anticipated:

1. Maricopa County Environmental Services Department (MCESD)
2. Maricopa County Air Quality Department (MCAQD)

The CONSULTANT shall document all coordination and correspondence with the agencies. The CONSULTANT shall prepare and submit requests for approval of construction to MCESD for the work specified by the CITY under the Contract Documents. Per MCESD, each approval of construction will contain the following, at a minimum:

1. CONSULTANT'S Engineer's Certificate of Completion
2. Equipment/Piping Test Summary
3. Operations and Maintenance Manual (one hard copy and one electronic copy)
4. Record Drawings
5. CONSULTANT's Startup Plan and Commissioning

The CONSULTANT shall document all coordination and correspondence with the agencies. The CONSULTANT shall prepare and submit requests for Air Quality Permit for the Airport Lift Station's generator.

Any payments made to MCESD or MCAQD for permits will be paid through Allowance item Task 610.

210.6 Coordination with City Building Services Department: The CONSULTANT shall work with the CMAR and CITY staff to coordinate with the Building Services Department in the Completion of this project. This effort is based on the preparation of special inspection certificates, providing special structural and electrical inspections for the work, and preparing the required monthly reports.

210.7 Provide Project Documents: The CONSULTANT shall maintain and provide the following detailed project records and documentation during the construction phase:

1. The project records shall include schedules, submittal, test data, project data, payments, allowance requests, clarifications, digital control system documentation and other such documentation the CONSULTANT receives. Project records shall be delivered to the CITY upon completion of the project. Records shall be maintained as defined under Section 400 of this Scope of Work at the CMAR's field office or electronically through a collaboration website/software.

Task 215 Administer the Construction Schedule

Review the CMAR's As-Planned Progress Schedule Submittal: The CONSULTANT shall receive a schedule from the CMAR to review and critique the As-Planned Progress Schedule submittal specific to completion. The CONSULTANT shall in general examine the work sequence, durations, interim milestones and other appropriate scheduling features in accordance with the requirements of the Contract Documents. The CONSULTANT shall provide review comments and shall meet and discuss the schedule comments with the CMAR, Subcontractors, and the CITY. Review Monthly Progress Schedule Submittals: In accordance with the Contract Documents, the CONSULTANT shall review the monthly updates to the CMAR's Progress Schedule. The CONSULTANT shall perform a review of progress accomplished during the month and compare

it to the as-planned schedule and discuss significant discrepancies at the Construction Progress Meeting. CMAR and CONSULTANT shall establish, based on the data, the percent of completion of each element of the schedule.

Task 220 Perform Site Visits

The CONSULTANT's design staff will make periodic site visits appropriate for the type of construction at periods appropriate to the various stages of construction to observe, as an experienced and qualified professional, the progress and quality of the executed work and to determine in general if the work is proceeding in accordance with the design intent. No more than one site visits of two staff biweekly, excluding start up and testing efforts. The CONSULTANT's Construction Manager will attend the biweekly Construction Progress Meetings and make site visits to assist with field issues.

Task 230 Review Shop Drawings and Test Results

The CONSULTANT shall receive, review, evaluate, and distribute Shop Drawings, samples, test results, and other data which CMAR is required to submit. The CONSULTANT's review shall only be for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such review or other action shall not extend to means, methods, sequences, techniques, or procedures of construction selected by CMAR, or to safety precautions and programs incident thereto. Review by the CONSULTANT does not guarantee completeness of submitted information and does not remove responsibility of the CONTRACTOR to ensure proper fitment and conformance to Contract Documents unless specifically allowed in writing. The CONSULTANT shall receive and review (for general contents as required by the Contract Documents) maintenance and operating schedules and instructions, Operation and Maintenance Manuals, Lesson Plans, guarantees, bonds and certificates of inspection which are to be assembled by CMAR in accordance with the Contract Documents.

Task 235 Issue Interpretations and Clarifications

The CONSULTANT shall respond to the CMAR to clarify and/or interpret technical, design related questions. Routine technical interpretations shall be responded to under Task 400. The CONSULTANT shall assist the CITY, as required, in resolution of these issues. The CONSULTANT shall respond to issues raised during construction regarding interpretation and clarification of the contractual administrative and technical requirements of the Contract Documents. Interpretations – Request for Information (RFI) and Engineer's Clarifications (EC) shall be issued to the CMAR under Task 400.

Task 240 Review Requests for Alterations

The CONSULTANT shall respond to the CMAR's Request for Alterations (RFA's). Routine technical interpretations shall be responded to under Task 400. RFA's shall be responded to under this task. The CONSULTANT shall respond to requests for alterations requested by the CMAR during the construction phase.

Task 250 Certify Progress Payments

The CONSULTANT shall inform the CITY of approval of the CMAR's Schedule of Values, after any updates or adjustments have been made by the CMAR in accordance with the Contract Documents. The monthly Progress Schedule update in combination with the CONSULTANT's field observations and the progress schedule shall be used by the CONSULTANT to determine the appropriateness of the CMAR's Application for Payment.

Based on CONSULTANT'S on-site observations, as an experienced and qualified professional, and on review of Applications for Payment and any accompanying data and schedules required to review Applications for Payment, the CONSULTANT shall determine the amounts owed to the CMAR and recommend, in writing, that payments to the CMAR in such amounts be submitted by the CITY; such recommendations of payment will constitute a representation to the CITY, based on such observations and review, that the work has progressed to the point indicated, that, to the best of CONSULTANT's knowledge, information and belief, the quality of such work is in accordance with the Construction Documents (subject to an evaluation of such work as a functioning Project upon Substantial Completion, to the results of subsequent tests called for in the Construction Documents, and to qualifications stated in the recommendation), and that payment of the amount recommended from the review of the Application for Payment is due to the CMAR.

Task 260 Substantial Completion and Final Acceptance Inspection

Following notice from the CMAR, the CONSULTANT shall conduct an inspection to determine if the Project is substantially complete in accordance with the Contract Documents. If the CITY and the CONSULTANT considers the work substantially complete, the CONSULTANT shall deliver to the CITY and CMAR the Certificate of Substantial Completion and the punch list, the date for completion of the punch list, and recommend the division of responsibilities between the CITY and the CMAR.

Substantial Completion and Final Acceptance Inspection shall be done for the following construction elements:

A. Replacement of drain valves within the Secondary Sedimentation Basins.
B. Installation of the yard piping and UV drain pump station
C. Installation of new UV Disinfection equipment and area associated electrical and communication upgrades.
D. Installation of all RAS pumps, flow meters, VFDs, and area associated electrical and communication upgrades.
E. Installation of all RSPS pumps, flow meters, VFDs, and area associated electrical, site security, and communications upgrades.
F. Installation of ALS generator, electrical gear in new building, flow meter, bypass piping connection and other area associated electrical, site security, and communications upgrades.
G. Site wide painting of structures and piping
H. Services by the CMAR as described in SECTION 500 - SPECIAL SERVICES
I. All remaining work, site work, and site improvements

It is anticipated that the final punch list correction period shall occur during a thirty (30) day period immediately following the Substantial Completion Inspection associated with each construction element.

The CONSULTANT shall, upon completion of the punch list items, make final inspection to determine if the finished work has been completed to the standard required by the Contract Documents, and CMAR has fulfilled the obligations thereunder so that CONSULTANT may recommend, in writing, final payment to CMAR and may give written notice to CITY and the CMAR that the work is acceptable subject to conditions therein expressed.

CONSULTANT shall not be responsible for the acts or omissions of the CMAR or any of the CMAR's Subcontractor's, agents or employees or any other persons (except CONSULTANT'S own employees and agents) at the site or otherwise performing any of the CMAR's work; however, nothing contained in Tasks 210 through 260, inclusive, shall be construed to release CONSULTANT from liability for negligent acts, errors or omissions in the performance of CONSULTANT's duties in accordance with this Scope of Work.

SECTION 300 - ENGINEERING SERVICES DURING CONSTRUCTION

Task 310 Changes

The CONSULTANT shall perform services in connection with allowance requests to reflect changes requested by CITY or CMAR, for evaluating substitutions proposed by CMAR and making revisions to Drawings and Specifications, resulting from significant delays, performing services not accounted for or defined within this agreement, changes or price increases occurring as a direct or indirect result of material, labor, or equipment shortages. Changes and RFA's shall be limited to the scope of the Project as defined by the Contract Documents or additional work as may be requested by the CITY. The CONSULTANT shall prepare drawings, details and specifications needed to describe the change. The CONSULTANT shall prepare an estimate of the cost and time impact of the change and conduct negotiations with the CMAR in conjunction with the CITY.

Task 320 Material Testing

The CONSULTANT shall coordinate materials inspection and testing services as required to be performed by the CITY in the Contract Documents.

The CITY will provide the services of a Professional Construction Materials Inspection and Testing Laboratory that meets ASTM E 329 requirements. Inspection and testing shall be coordinated with the construction schedule. Testing and inspection services shall include placement inspection and testing of compacted select fill and backfill, ordinary backfill, paving base, pavement subgrade, and subgrade courses; asphaltic concrete pavement inspection and field density tests and concrete testing and inspection. Samples for testing shall be collected from the construction site and delivered to the on-site laboratory. The laboratory shall provide a

construction materials technician (technicians) to perform the field construction materials inspection and field-testing services herein outlined.

CONSULTANT shall review laboratory reports and reports of inspection and testing activities describing the tests and inspections made. Written reports of all testing results, which identify the required data and identify conformance or non-conformance with the Contract Document shall be summarized in weekly construction observation reports.

SECTION 400 - OBSERVATION SERVICES DURING CONSTRUCTION

The CONSULTANT shall provide appropriate personnel and expertise in order to observe performance of the work of the CMAR. Through increased on-site observations of the work in progress and field checks of materials and equipment by CONSULTANT staff, CONSULTANT shall endeavor to provide further protection for CITY against defects and deficiencies in the work of CMAR; but the furnishing of such representation will not make CONSULTANT responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions or programs, or for CMAR failure to perform the work in accordance with the Contract Documents.

CONSULTANT's onsite observers shall not:

A. Authorize any deviations from the Contract Documents or approve any substitute materials or equipment which may impact cost, time, or design intent without approval from the CITY.
B. Undertake the responsibilities of CMAR, Subcontractors or CMAR's superintendent, or expedite the work.
C. Advise on or issue directions relative to the means, methods, techniques, sequences, or procedures of construction unless such is specifically called for in the Contract Documents.
D. Advise on or issue directions as to safety precautions and programs in connection with the work. Advise the CITY to occupy and/or start-up equipment which may have been impacted by the Project in whole or in part, outside of the terms stated in Task 470 Substantial Completion.
E. Remain located permanently onsite. CONSULTANT staff will attend weekly meetings and inspections as required by Contract Documents. CONSULTANT will be on-site part-time for scheduled inspections and meetings only (this is not a full-time position, but periodic onsite observation for confirmation of compliance with the Contract Documents).
F. The CONSULTANT will not approve changes to any equipment or material for which the Contract Documents approved after acceptance of the CMAR's guaranteed maximum price unless approved by the CITY.
G. The CONSULTANT will not deliver to the CITY a set of indexed shop drawings.

CONSULTANT's dealings in matters pertaining to the on-site work shall in general be only with CITY and CMAR, and dealings with CMAR Subcontractors shall only be through or with the full knowledge of CMAR.

CONSULTANT shall be responsible for performing the following tasks:

Task 405 Schedules

As described under Task 215 CONSULTANT shall, review the Progress Schedule, schedule of CMAR's submittal and Schedule of Values prepared by CMAR, and consult with CITY concerning their acceptability.

Task 410 Meetings and Conferences

Attend Pre-Construction Conferences as described under Task 210.3. Attend biweekly Construction Progress Meetings.

Task 415 Liaison

A. Serve as CONSULTANT'S liaison with CMAR, working principally through CMAR's Project Manager and assist the Project Manager in understanding the intent of the Contract Documents. Serve as CITY'S liaison with CMAR, in support of CMAR's coordination of construction operations that affect CITY'S operations.

B. Assist in obtaining from CITY additional details or information, when required at the job site for proper execution of the work.

Task 420 Shop Drawings and Samples

A. Submittals which are furnished by CMAR shall be received and reviewed as defined in Task 230.

B. Advise CITY prior to the commencement of work requiring a Shop Drawing or sample submission if the submission has not been approved and inform the CMAR.

Task 425 Material Testing

A. Results of Material Tests furnished by the CMAR shall be received and reviewed as defined in Task 330.

Task 430 Review of Work, Rejection of Defective Work, Inspections and Tests

A. Conduct on-site observations of the work in progress to assist CONSULTANT in determining if the work is proceeding in accordance with the Contract Documents and that completed work conforms to the Contract Documents.

B. Report to CITY whenever it is believed that work is unsatisfactory, faulty, defective or does not conform to the Contract Documents, or does not meet the requirements of inspections, tests or approval required to be made, or has been damaged prior to final payment; and advise CITY in writing when it is believed work should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

C. Verify that tests, equipment, and systems start-up and operating and maintenance instructions are conducted as required by the Contract Documents and in presence of the required personnel, and that CMAR maintains required records thereof; observe, record and report to CONSULTANT appropriate details relative to the test procedures and start-ups. Conduct field checks to ensure that Shop Drawings have been approved for equipment that is being installed and verify that installers are using the approved Shop Drawings.

D. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the outcome of these inspections and report to CITY.

Task 435 Interpretation of Contract Documents

Receive and transmit all clarifications and interpretations of the Contract Documents, to/from the CMAR and CITY as described above.

Task 440 Field Alteration and Verification

Receive, review, and respond to the CMAR's RFA's and confirmation of Field Order agreements.

Task 445 Changes

Consider and evaluate CMAR's suggestions for changes in drawings or specifications, including Requests for Alterations as described under Task 240 and report them with recommendations to CITY. Notify the CITY's Representative of any changes or alterations believed to be in the CITY'S best interest.

Task 450 Records

A. Maintain orderly files for correspondence, reports of job conferences, Shop Drawings and samples submissions, reproductions of original Contract Documents including all Addenda, Allowance Requests, Field Orders, additional Drawings issued subsequent to the execution of the Contract, CONSULTANT's clarifications and interpretations of the Contract Documents, progress reports and other Project related documents.

B. Prepare observation reports recording CMAR and Subcontractors work performed on the job site, major construction equipment on-site, conditions, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, on-site equipment, Subcontractors on-site, observations in general and specific observations in detail as in the case of observing test procedures.

C. Record names, addresses and telephone numbers of the CMAR, subcontractors and major suppliers of materials and equipment.

D. Maintain notes to be capable of cross-referencing the CMAR's record drawing information

for accuracy and completeness.

E. Receive, review and process testing reports.

F. The CONSULTANT will maintain a weekly digital photo file of the progress of the construction activities throughout the duration of the project as required to capture key aspects of the CMAR's work. This photo file will consist of color digital photographs taken to document specific construction activities that may be of value to future modifications to the facility. The photographs will be labeled as to the subject and date of the photo and the photos will be kept in file folders, which have been formatted to represent the specific construction area of the project.

G. The CONSULTANT will inspect the CMAR's marked up record drawings weekly, to determine if the mark-ups are up to date and reflect the record condition of the Work. If deficiencies are evident, CONSULTANT will provide written notification of said deficiencies to CMAR and will recommend to the CITY the withholding of appropriate payments to the CMAR. It is assumed the CMAR will provide and maintain a readily available live electronic version for the CONSULTANT to view remotely using Bluebeam Software©, or equal.

Task 455 Reports

A. The CONSULTANT shall furnish the CITY a Job Status Report with the following items:

1. Important dates
2. Specific project issues
3. Identify pending meetings and their topics

B. CONSULTANT shall consult with CITY in advance of scheduled major tests, inspections or start of important phases of the work.

C. CONSULTANT shall report immediately to CITY upon the occurrence of any accident.

Task 460 Payment Application

Review applications for payment as described in Task 250 with CMAR for compliance with the established procedure for their submission and forward them with recommendations to CITY, noting particularly their relation to the Schedule of Values, work completed, and materials and equipment delivered at the site but not incorporated in the work.

Task 465 Certificates, Maintenance and Operation Manuals

During the course of the work, review and determine that certificates, Operation and Maintenance Manuals and other data required to be assembled and furnished by CMAR are applicable to the items actually installed; and deliver this material to CITY following CONSULTANT's review prior to final acceptance of the work. The CMAR will develop, with assistance from the CONSULTANT and CITY, an indexing and volume identification system for all Operation and

Maintenance Manuals.

Task 470 Substantial Completion and Final Acceptance

A. Before CONSULTANT issues a Certificate of Substantial Completion, submit to CMAR a list of observed items requiring completion or correction in accordance with the requirements of the Contract Documents.

B. After the CMAR has completed the work and upon request of the CMAR, the CONSULTANT shall conduct final inspection in the company of CITY and CMAR. Prepare a final list of items to be completed or corrected in accordance with the requirements of the Construction Documents.

C. After the CMAR has completed the work and upon written notice from the CMAR, review and determine that items on final list have been completed or corrected and make recommendations to CITY concerning acceptance.

SECTION 500 - SPECIAL SERVICES

Task 510 Warranty

The CONSULTANT will provide services after completion of the Construction Phase, such as inspections during the 24-month guarantee/warranty period, reporting observed discrepancies under guarantees called for in the Contract Documents, and provide assistance for resolution of defects to be corrected under warranty.

Task 520 Electronic Operations and Maintenance Manuals (EOMM)

Under this Scope of Services, the CONSULTANT will update existing West Area Water Reclamation Facility Electronic Operations and Maintenance Manuals (EOMM) content to reflect modifications to existing facilities.

The existing EOMM chapters to be updated include:

1. UV Disinfection
2. RAS Pump Station
3. Raw Sewage Pump Station
4. Airport Lift Station

Each chapter for the major systems will consist of the following sections:

- Background
- Theory
- Operating Strategies
- Equipment & Control Description
- Procedures
- Design Criteria
- Troubleshooting
- Safety
- Alarms
- Figures

The West Area Water Reclamation Facility EOMM will cover operational basics: design criteria, intended operation of the processes, start-up, shutdown, monitoring and troubleshooting procedures; alternate operations modes; and special process safety considerations. Standard monitoring procedures will be included to cover required monitoring for odor control effluent quality. These procedures will be field verified by the CONSULTANT with assistance from the Plant Staff.

The West Area Water Reclamation Facility EOMM will be developed for integration with the CITY's existing Lucity asset management database, per CITY requirements. The CONSULTANT will assist the CITY in developing methods to link information associated with the EOMM to the Lucity asset management database. The CITY will provide the asset management database requirements at the project kickoff meeting.

Up to two (2) workshops will be held with the CITY prior to content development activities to provide an overview of the content to be developed, to identify key CITY staff to review draft chapters, and to establish a review schedule. The CITY will be provided with interim deliverables of completed EOMM sections as the construction of major areas of the plant are completed. As each chapter is completed, the CONSULTANT will submit draft chapters to the City for their review and comment over a two-week period. The CITY will provide comments to the CONSULTANT for the CONSULTANT to incorporate into the final documents. The interim deliverables will be installed and operational on the CITY's server prior to start-up of these facilities. A schedule for the interim deliverables will be provided to the CITY at the start of the project.

Before submitting the final version of the EOMM and transferring to the CITY, the CONSULTANT will conduct a detailed final validation and field verification process. Through this critical quality control activity, the CONSULTANT will verify that:

1. Content has been field-verified and checked at the installation.
2. All photographs are current and are reflective of well-maintained and clean conditions.
3. All relevant documentation, such as scanned documents, figures and drawings are appropriately categorized for insertion into the database.
4. Standard Operating Procedures (SOPs) are accurate and reflect actual as-operated conditions.

The CONSULTANT will also assist in the installation and configuration of the EOMM on the CITY's server and conform to CITY standards for Lucity developed during the content development workshops.

Task 530 Training

The CONSULTANT shall review the CMAR's training plan and instruction materials for compliance with contract documents. The CMAR or manufacturer training presentations shall be scheduled and coordinated with CITY personnel and facility operation. CONSULTANT shall provide instruction to CITY personnel on the project objectives, design intent, and system

operational procedures.

Specific training services shall consist of the following:

A. CMAR's and Manufacturer's training.

1. CONSULTANT shall coordinate and monitor the CMAR's and Manufacturer's training of the CITY'S personnel.
   a. Discuss the preliminary course and lesson plan development with the CMAR and the manufacturer. One meeting shall be held with CITY's Staff and the CMAR for this discussion.
   b. Review and approve lesson plans and course materials.
   c. Liaison between CITY and CMAR.
   d. Monitor Training Sessions.
      1) Monitor attendance
      2) Evaluate course
      3) Assist classroom discussions
      4) Ensure Manufacturer's training hours are fulfilled
      5) Confirm delivery of Professional Development Hours are supplied to CITY's Staff by the Manufacturer.

Task 540 Commissioning

The CONSULTANT shall assist the CITY with commissioning of the facilities. (Commissioning is defined as the process in which the newly constructed facilities are placed into routine operation.) The commissioning process will include the CMAR's planned, systematic approach to verify that facility systems operate as intended and there is an orderly transition from construction through start-up to routine operation. The CONSULTANT shall witness CMAR equipment testing and performance testing; review CMAR's start-up planning, systems start-up, operation and troubleshooting; and monitor CMAR's transition support to CITY operations to ensure a properly operating and performing system at the completion of the commissioning process.

The Commissioning process progresses along three general phases, as follows:

1. Phase I - Equipment Testing and Systems Performance Testing
2. Phase II - Start-up and Transition Planning
3. Phase III - Start-up, Initial Operation and Transition of Major Systems by CMAR to CITY

The following equipment will be commissioned, once they are substantially completed by the CMAR:

1. RAS Pumps 1 and 2
2. RAS Pumps 3 and 4
3. RAS pumps 5, 6, and 7

4. RAS and WAS Facilities
5. UV Disinfection System and Drain Pump Station
6. RSPS 250 HP pumps and Electrical Improvements
7. ALS Electrical System and Generator

Once all newly constructed facilities are substantially completed by the CMAR, completed facilities will be commissioned by CMAR to demonstrate that the facility meets the design treatment capacity and effluent quality parameters established by the CONSULTANT during detailed design development.

The CONSULTANT shall provide operations and technical assistance during the commissioning process under the overall direction of the CITY. The CONSULTANT will act as the CITY's agent during the commissioning process under the direct guidance of CITY operations staff. The CMAR will be responsible for all equipment and systems maintenance during the commissioning process. The CITY shall assume full responsibility for compliance with all permits and other regulatory and policy requirements during the commissioning process. The CITY will provide all analytical testing and process chemicals.

Phase I - Equipment Operational Readiness Testing and Systems Performance Testing

The CONSULTANT shall witness equipment testing and performance testing by the CMAR for each system listed above. The CONSULTANT shall:

A. Observe and develop a detailed understanding of the operating characteristics of the equipment and systems.

B. Verify the testing process is conducted in accordance with intended operating practices during Commissioning and ensure CMAR testing covers the full function and alarms of equipment as supplied and specified in Contract Documents. Verify the CMAR has completed point to point testing of wiring, Integrated System Field Test, Operational Availability Demonstration, prior to Equipment Operational Readiness. CONSULTANT shall be available to assist the CMAR in troubleshooting and

C. Identify if specific operating and monitoring requirements are to be used during Start-up and initial operation.

The testing by CMAR will be provided to the CONSULTANT and CITY with detailed understanding of system performance characteristics, operating requirements, and monitoring needs during start-up and operation under the direction of the CITY.

Phase II - Start-up and Transition Planning

The CMAR, shall prepare a detailed start-up and transition plan to facilitate smooth and orderly placing of new facilities into service through their initial operation and successful transition to the CITY. The start-up and transition plan shall be developed with assistance from CONSULTANT and CITY staff. The start-up and transition plan shall include prestart-up checklists and required

conditions; identification of impacts to other processes; analytical testing and sampling requirements, start-up procedures; health and safety equipment requirements; monitoring equipment requirements; roles and responsibilities and staffing requirements of CITY and the CMAR. The start-up and transition plan shall also include training requirements, and an estimated timeline of the start-up, initial operation, and transition process.

Phase III - Start-Up, Initial Operation and Transition of Major Systems

The purpose of Phase III is for CMAR's start-up of new facilities and verification of their successful function in manual and computer-control modes. Phase III will consist of the following activities:

A. The CONSULTANT shall observe and verify that each process and its associated mechanical and control elements operates as specified under actual operating conditions. The CONSULTANT shall document the results of the commissioning process and issue a summary report to the CITY.

B. The CONSULTANT shall provide input to the CMAR who is responsible for equipment maintenance and repair and instrument calibration during the commissioning. The CONSULTANT shall document its concerns and promptly notify the CMAR of all warranty issues. The CONSULTANT will return after correction of concerns and repairs to confirm work is complete and equipment is in functioning order, as intended.

C. The CONSULTANT shall advise CITY operations staff as-needed on established procedures and monitoring requirements on new facilities.

D. Major system commissioning durations shall be as identified in Table 540-1

Table 540-1 Phase III Commissioning Durations

System	Duration[1]
RAS Pumps 1 and 2	2 days
RAS Pumps 3 and 4	2 days
RAS Pumps 5 and 6 and 7	2 days
RAS and WAS Facilities	5 days
UV Disinfection System and Drain Pump Station	10 days
RSPS 250 HP Pumps and Electrical Improvements	10 days
ALS Electrical System and Generator	10 days

1. Duration of System commissioning based on a 5 day work weeks period and assumes Systems will be tested individually as they become available.

Task 550 Record Documents

A. The CONSULTANT shall prepare Record Drawings for this Project. The Record Drawings shall be prepared as follows:

1. CONSULTANT shall coordinate with the CMAR to obtain CMAR's record construction work, including reviewing CMAR red-lined drawings, and incorporating project changes made through the progress of the work, on the Record Drawings. CONSULTANT shall make the revisions to the drawings electronically.

B. The CONSULTANT shall utilize the Record Drawings to assist the CITY in receiving County Approvals of Construction.

C. At the completion of the project, the CONSULTANT shall prepare two (1) flash drives with AutoCAD files and one (1) full size blackline copy and three (1) 11 x 17 copies of the Record Drawings will also be provided. The record specifications shall be conformed to reflect shop drawing submittals, substitutions, clarifications and change orders. One (1) hard copy and one (1) flash drive of record specifications will be prepared by the CONSULTANT and delivered to the CITY within 45 days from the end of the commissioning period.

SECTION 600 - ALLOWANCES

Task 610 Additional or Extended Services

The CONSULTANT will perform additional services as determined by the CITY. An allowance of **$34,980** has been established for this task.

Task 620 Services Involving Travel

Services involving travel shall require separate specific authorization by the CITY prior to performing the travel. Task 620 is for services requiring out-of-town travel required by the CONSULTANT to witness factory tests, visit, and inspect fabrication shops or to have experts from the CONSULTANT'S staff visit the plant site. The CONSULTANT will prepare a written report of the results from the tests and/or inspection and submit to the CITY. An allowance of **$3,000** has been established for this task.

Task 630 Special Paint/Coating Inspections

The CONSULTANT shall provide a SUBCONSULTANT that is ASTM and NACE certified to perform special paint/coating inspections at the WAWRF facilities and architectural structures as defined in the Contract Documents. Subconsultant will attend the pre-job meeting to coordinate with paint applicators and contractor. Inspections are anticipated for Architectural steel structures and canopies throughout the WAWRF and administration building, mechanical piping at the UV, RAS Pump Station, RSPS, and ALS. Inspection services will be as needed and will include: pre-construction surface evaluation; surface preparation and profiling; observation of applications; measurement of coating thickness; environmental monitoring; inspection of substrates between coats; and material sampling and testing. The CONSULTANT will review the CMAR's painting/coating schedule and have the SUBCONSULTANT onsite to observe applications and inspect any paintings or coatings performed by the CMAR. SUBCONSULTANT shall coordinate with CONTRACTOR's Safety Officer prior to entering the confined space for inspection.

The SUBCONSULTANT will verify the CMAR is applying successive coats of paint within the time recommended by the manufacturer based on the ambient conditions. Based upon the recommendation of the special paint/coating SUBCONSULTANT, the CONSULTANT shall recommend acceptance or rejection of the paint or coating application. An allowance of **$36,465** has been established for the special paint/coating SUBCONSULTANT. The presented allowance includes a 10% addition for coordination with and management of the SUBCONSULTANT.

Assumptions: The following assumption(s) were used to develop the level of effort for Task 630:

1. CMAR to perform all surface preparation work prior to surface evaluation.
2. CONSULTANT and SUBCONSULTANT to operate under the CMAR's Confined Space Entry permit.
3. CMAR to provide all Confined Space Entry equipment required to safely access work zone.

Task 640 Concrete Inspections

The CONSULTANT shall provide a SUBCONSULTANT that is a licensed structural professional engineer to perform concrete inspections on the UV Channel repair and wall construction and the foundation slab for electrical building at the ALS, as defined in the Contract Documents. Services also include review of CMAR material submittals. Inspection services will be as needed and will include: a minimum of (2) concrete inspection on the UV Channel and (1) concrete inspection on the ALS electrical building foundation. SUBCONSULTANT shall coordinate with CMAR's Safety Officer prior to entering the confined space for inspection. SUBCONSULTANT shall provide Special Structural Inspections as necessary for City Building Services Department.

An allowance of **$39,666** has been established for the concrete inspection SUBCONSULTANT. The presented allowance includes a 10% addition for coordination with and management of the SUBCONSULTANT.

Assumptions: The following assumption(s) were used to develop the level of effort for Task 640:

1. CONSULTANT and SUBCONSULTANT to operate under the CMAR's Confined Space Entry permit.
2. CMAR to provide all Confined Space Entry equipment required to safely access work zone.

Task 650 Arc Flash Hazard Analyses

The CONSULTANT will update the Arc Flash Hazard analysis for the WAWRF for the required 5 year update, which will include the new equipment installed by the CMAR. New hazard labels and laminated drawings will be provided. An allowance of **$21,144** has been established for this task.

The CONSULTANT will update the Arc Flash Hazard analysis for the Raw Sewage Pump

Station for the required 5 year update, which will include the new equipment installed by the CMAR. New hazard labels and laminated drawing(s) will be provided. An allowance of **$11,856** has been established for this task.

The CONSULTANT will update the Arc Flash Hazard analysis for the Airport Lift Station for the required 5 year update, which will include the new equipment installed by the CMAR. New hazard labels and laminated drawing(s) will be provided. An allowance of **$11,856** has been established for this task.

EXHIBIT C
Professional Services Agreement

WEST AREA WATER RECLAMATION FACILITY IMPROVEMENTS
Amendment 4
Project No. 141525

Phase III – GMP2B WAWRF Improvements Project
UV, RAS, RSPS, and ALS Construction Administration (CA) Services

SCHEDULE

Engineering services shall be provided in five major tasks in accordance with the approximate schedule listed below. Tasks will run concurrently, as completion times are all shown in weeks after Notice-to-Proceed.

Tasks	Approximate Completion[1] *(in weeks after Notice-to-Proceed)*
SECTION 200: PROJECT ADMINISTRATION SERVICES DURING CONSTRUCTION	66[2]
SECTION 300: ENGINEERING SERVICES DURING CONSTRUCTION	40
SECTION 400: OBSERVATION SERVICES DURING CONSTRUCTION	40[3]
SECTION 500: SPECIAL SERVICES	66[2]
SECTION 600: ALLOWANCES	66[2]

Notes:
1. Completion Schedule doesn't include 24-month Warranty period.
2. Completion Schedule for Sections 200, 500 and 600 account for additional time associated with Allowance Tasks.
3. Section 400 assumes 5 months of inspection at half time, and 5 months of inspection at quarter time.

EXHIBIT D
Professional Services Agreement

WEST AREA WATER RECLAMATION FACILITY IMPROVEMENTS
Amendment 4
Project No. 141525

Phase III – GMP2B WAWRF Improvements Project
UV, RAS, RSPS, and ALS Construction Administration (CA) Services

COMPENSATION

METHOD AND AMOUNT OF COMPENSATION

Compensation shall be based on an hourly billing rate plus reimbursable expenses for CONSULTANT and all SUBCONSULTANTS. Documentation for reimbursable expenses must be included with each payment application.

NOT-TO-EXCEED AMOUNT

The total amount of compensation paid to Arcadis U.S., Inc., for completion of Amendment No. 4 Work, for Phase III, must not exceed **$809,383**.

DETAILED PROJECT COMPENSATION

See Page D-2 for Task and Compensation Summary.

EXHIBIT D
Professional Services Agreement

CITY OF GLENDALE
WEST AREA WATER RECLAMATION FACILITY IMPROVEMENTS
Amendment 4
Project No. 141525

Phase III – GMP2B WAWRF Improvements Project
UV, RAS, RSPS, and ALS Construction Administration (CA) Services

Description / Task	Compensation
TASK 200 – PROJECT ADMINISTRATION SERVICES DURING CONSTRUCTION	
Task 210 Representation on Behalf of the City	$153,413
Task 215 Administer the Construction Schedule	$7,524
Task 220 Perform Site Visits	$18,464
Task 230 Review Shop Drawings and Test Results	$79,410
Task 235 Issue Interpretations and Clarifications	$19,335
Task 240 Review Requests for Alterations	$11,090
Task 250 Certify Progress Payments	$6,120
Task 260 Substantial Completion and Final Acceptance Inspection	$14,668
TASK 300 – ENGINEERING SERVICES DURING CONSTRUCTION	
Task 310 Changes	$28,040
Task 320 Material Testing	$8,160
TASK 400 – OBSERVATION SERVICES DURING CONSTRUCTION	
Task 400 Observation Services	$121,770
TASK 500 – SPECIAL SERVICES	
Task 510 Warranty	$19,688
Task 520 Electronic Operations and Maintenance Manuals (EOMM)	$42,458
Task 530 Training	$19,032
Task 540 Commissioning	$61,868
Task 550 Record Documents	$39,376
Subtotal Phase III GMP2B – UV/RAS/RSPS/ALS Construction Administration Basic Services	***$650,416***
TASK 600 – ALLOWANCES	
Task 610 Additional or Extended Services	$34,980
Task 620 Services Involving Travel	$3,000
Task 630 Special Paint/Coating Inspections	$36,465
Task 640 Concrete Inspections	$39,666
Task 650 Arc Flash Hazard Analyses	
Plant Wide Analysis	$21,144
RSPS Analysis	$11,856
ALS Analysis	$11,856
Subtotal Phase III GMP2B – UV/RAS/RSPS/ALS Section 600 Allowance Tasks	***$158,967***
GRAND TOTAL	
TOTAL PROFESSIONAL SERVICES FEE	***$809,383***