

PROFESSIONAL SERVICES AGREEMENT

City Wide Water System Analysis

Project No. 151613

This Professional Services Agreement ("Agreement") is entered into and effective between CITY OF GLENDALE, an Arizona municipal corporation ("City") and Primattech, LLC, an Arizona limited liability company, ("Consultant") as of the _____ day of _____, 2017 ("Effective Date").

RECITALS

- A. City intends to undertake a project for the benefit of the public and with public funds that is more fully set forth in **Exhibit A**, Project (the "Project");
- B. City desires to retain the professional services of Consultant to perform certain specific duties and produce the specific work as set forth in the attached **Exhibit B**, Project Scope of Work ("Scope");
- C. Consultant desires to provide City with professional services ("Services") consistent with best consulting or architectural practices and the standards set forth in this Agreement, in order to complete the Project; and
- D. City and Consultant desire to memorialize their agreement with this document.

AGREEMENT

The parties hereby agree as follows:

1. Key Personnel; Other Consultants and Subcontractors.

1.1 Professional Services. Consultant will provide all Services necessary to assure the Project is completed timely and efficiently consistent within Project requirements, including, but not limited to, working in close interaction and interfacing with City and its designated employees, and working closely with others, including other consultants or contractors, retained by City.

1.2 Project Team.

a. Project Manager.

- (1) Consultant will designate an employee as Project Manager with sufficient training, knowledge, and experience to, in the City's opinion, complete the project and handle all aspects of the Project such that the work produced by Consultant is consistent with applicable standards as detailed in this Agreement; and
- (2) The City must approve the designated Project Manager.

b. Project Team.

- (1) The Project Manager and all other employees assigned to the Project by Consultant will comprise the "Project Team."
- (2) Project Manager will have responsibility for and will supervise all other employees assigned to the Project by Consultant.

c. Discharge, Reassign, Replacement.

- (1) Consultant acknowledges the Project Team is comprised of the same persons and roles for each as may have been identified in **Exhibit A**.
- (2) Consultant will not discharge, reassign, replace or diminish the responsibilities of any of the employees assigned to the Project who have been approved by City without City's prior written consent unless that person leaves the employment of Consultant, in which event the substitute must first be approved in writing by City.

- (3) Consultant will change any of the members of the Project Team at the City's request if an employee's performance does not equal or exceed the level of competence that the City may reasonably expect of a person performing those duties, or if the acts or omissions of that person are detrimental to the development of the Project.
 - d. Subcontractors.
 - (1) Consultant may engage specific technical contractors (each a "Subcontractor") to furnish certain service functions.
 - (2) Consultant will remain fully responsible for Subcontractor's services.
 - (3) Subcontractors must be approved by the City.
 - (4) Consultant will certify by letter that all contracts with Subcontractors have been executed incorporating requirements and standards as set forth in this Agreement.
2. **Schedule.** The Services will be undertaken in a manner that ensures the Project is completed timely and efficiently in accordance with the Project.
3. **Consultant's Work.**
 - 3.1 **Standard.** Consultant must perform Services in accordance with the standards of due diligence, care, and quality prevailing among consultants having substantial experience with the successful furnishing of Services for projects that are equivalent in size, scope, quality, and other criteria under the Project and identified in this Agreement.
 - 3.2 **Licensing.** Consultant warrants that:
 - a. Consultant and its Subconsultants or Subcontractors will hold all appropriate and required licenses, registrations and other approvals necessary for the lawful furnishing of Services ("Approvals"); and
 - b. Neither Consultant nor any Subconsultant or Subcontractor has been debarred or otherwise legally excluded from contracting with any federal, state, or local governmental entity ("Debarment").
 - (1) City is under no obligation to ascertain or confirm the existence or issuance of any Approvals or Debarments, or to examine Consultant's contracting ability.
 - (2) Consultant must notify City immediately if any Approvals or Debarment changes during the Agreement's duration. The failure of the Consultant to notify City as required will constitute a material default under the Agreement.
 - 3.3 **Compliance.**
 - a. Services will be furnished in compliance with applicable federal, state, county and local statutes, rules, regulations, ordinances, building codes, life safety codes, and other standards and criteria designated by City.
 - b. Consultant 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. Consultant will require any Sub-contractor to be bound to the same requirements as stated within this section. Consultant, and on behalf of any subcontractors, warrants compliance with this section.
 - 3.4 **Coordination; Interaction.**
 - a. For projects that the City believes requires the coordination of various professional services, Consultant will work in close consultation with City to proactively interact with

any other professionals retained by City on the Project ("Coordinating Project Professionals").

- b. Consultant will meet to review the Project, Schedule and in-progress work with Coordinating Project Professionals and City as often and for durations as City reasonably considers necessary in order to ensure the timely work delivery and Project completion.
- c. For projects not involving Coordinating Project Professionals, Consultant will proactively interact with any other contractors when directed by City to obtain or disseminate timely information for the proper execution of the Project.

3.5 Work Product.

- a. Ownership. Upon receipt of payment for Services furnished, Consultant grants to City, and will cause its Subconsultants or Subcontractors to grant to the City, the exclusive ownership of and all copyrights, if any, to evaluations, reports, drawings, specifications, project manuals, surveys, estimates, reviews, minutes, all "architectural work" as defined in the United States Copyright Act, 17 U.S.C § 101, *et seq.*, and other intellectual work product as may be applicable ("Work Product").
 - (1) This grant is effective whether the Work Product is on paper (e.g., a "hard copy"), in electronic format, or in some other form.
 - (2) Consultant warrants, and agrees to indemnify, hold harmless and defend City for, from and against any claim that any Work Product infringes on third-party proprietary interests.
- b. Delivery. Consultant will deliver to City copies of the preliminary and completed Work Product promptly as they are prepared.
- c. City Use.
 - (1) City may reuse the Work Product at its sole discretion.
 - (2) In the event the Work Product is used for another project without further consultations with Consultant, the City agrees to indemnify and hold Consultant harmless from any claim arising out of the Work Product.
 - (3) In such case, City will also remove any seal and title block from the Work Product.

4. Compensation for the Project.

- 4.1 Compensation. Consultant's compensation for the Project, including those furnished by its Subconsultants or Subcontractors will not exceed \$284,251.82 as specifically detailed in **Exhibit D** ("Compensation").
- 4.2 Change in Scope of Project. The Compensation may be equitably adjusted if the originally contemplated Scope as outlined in the Project is significantly modified.
 - a. Adjustments to Compensation require a written amendment to this Agreement and may require City Council approval.
 - b. Additional services which are outside the Scope of the Project contained in this Agreement may not be performed by the Consultant without prior written authorization from the City.
 - c. Notwithstanding the incorporation of the Exhibits to this Agreement by reference, should any conflict arise between the provisions of this Agreement and the provisions found in the Exhibits and accompanying attachments, the provisions of this Agreement shall take priority and govern the conduct of the parties.
- 4.3 Allowances. An "Allowance" may be identified in **Exhibit D** only for work that is required by the Scope and the value of which cannot reasonably be quantified at the time of this Agreement.

- a. As stated in Sec. 4.1 above, the Compensation must incorporate all Allowance amounts identified in **Exhibit D** and any unused allowance at the completion of the Project will remain with City.
 - b. Consultant may not add any mark-up for work identified as an Allowance and which is to be performed by a Subconsultant.
 - c. Consultant will not use any portion of an Allowance without prior written authorization from the City.
 - d. Examples of Allowance items include, but are not limited to, subsurface pothole investigations, survey, geotechnical investigations, public participation, radio path studies and material testing.
- 4.4 Expenses. City will reimburse Consultant for certain out-of-pocket expenses necessarily incurred by Consultant in connection with this Agreement, without mark-up (the "Reimbursable Expenses"), including, but not limited to, document reproduction, materials for book preparation, postage, courier and overnight delivery costs incurred with Federal Express or similar carriers, travel and car mileage, subject to the following:
- a. Mileage, airfare, lodging and other travel expenses will be reimbursable only to the extent these would, if incurred, be reimbursed to City of Glendale personnel under its policies and procedures for business travel expense reimbursement made available to Consultant for review prior to the Agreement's execution, and which policies and procedures will be furnished to Consultant;
 - b. The Reimbursable Expenses in this section are approved in advance by City in writing; and
 - c. The total of all Reimbursable Expenses paid to Consultant in connection with this Agreement will not exceed the "not to exceed" amount identified for Reimbursable Services in the Compensation.

5. **Billings and Payment.**

5.1 Applications.

- a. Consultant will submit monthly invoices (each, a "Payment Application") to City's Project Manager and City will remit payments based upon the Payment Application as stated below.
- b. The period covered by each Payment Application will be one calendar month ending on the last day of the month.

5.2 Payment.

- a. After a full and complete Payment Application is received, City will process and remit payment within 30 days.
- b. Payment may be subject to or conditioned upon City's receipt of:
 - (1) Completed work generated by Consultant and its Subconsultants and Subcontractors; and
 - (2) Unconditional waivers and releases on final payment from all Subconsultants and Subcontractors as City may reasonably request to assure the Project will be free of claims arising from required performances under this Agreement.

5.3 Review and Withholding. City's Project Manager will timely review and certify Payment Applications.

- a. If the Payment Application is rejected, the Project Manager will issue a written listing of the items not approved for payment.

- b. City may withhold an amount sufficient to pay expenses that City reasonably expects to incur in correcting the deficiency or deficiencies rejected for payment.

6. Termination.

6.1 For Convenience. City may terminate this Agreement for convenience, without cause, by delivering a written termination notice stating the effective termination date, which may not be less than 15 days following the date of delivery.

- a. Consultant will be equitably compensated for Services furnished prior to receipt of the termination notice and for reasonable costs incurred.
- b. Consultant will also be similarly compensated for any approved effort expended, and approved costs incurred, that are directly associated with Project closeout and delivery of the required items to the City.

6.2 For Cause. City may terminate this Agreement for cause if Consultant fails to cure any breach of this Agreement within seven days after receipt of written notice specifying the breach.

- a. Consultant will not be entitled to further payment until after City has determined its damages. If City's damages resulting from the breach, as determined by City, are less than the equitable amount due but not paid Consultant for Services furnished, City will pay the amount due to Consultant, less City's damages, in accordance with the provision of Sec. 5.
- b. If City's direct damages exceed amounts otherwise due to Consultant, Consultant must pay the difference to City immediately upon demand; however, Consultant will not be subject to consequential damages more than \$1,000,000 or the amount of this Agreement, whichever is greater.

7. **Conflict.** Consultant acknowledges this Agreement is subject to A.R.S. § 38-511, which allows for cancellation of this Agreement in the event any person who is significantly involved in initiating, negotiating, securing, drafting, or creating the Agreement on City's behalf is also an employee, agent, or consultant of any other party to this Agreement.

8. **Insurance.** For the duration of the term of this Agreement, Consultant shall procure and maintain insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of all tasks or work necessary to complete the Project as herein defined. Such insurance shall cover Consultant, its agent(s), representative(s), employee(s) and any subcontractors.

8.1 **Minimum Scope and Limit of Insurance.** Coverage must be at least as broad as:

- a. Commercial General Liability (CGL): Insurance Services Office Form CG 00 01, including products and completed operations, with limits of no less than \$1,000,000 per occurrence for bodily injury, personal injury, and property damage. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
- b. Automobile Liability: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than \$1,000,000 per accident for bodily injury and property damage.
- c. Professional Liability. Consultant must maintain a Professional Liability insurance covering errors and omissions arising out of the work or services performed by Consultant, or anyone employed by Consultant, or anyone for whose acts, mistakes, errors and omissions Consultant is legally liability, with a liability insurance limit of \$1,000,000 for each claim and a \$2,000,000 annual aggregate limit.
- d. Worker's Compensation: Insurance as required by the State of Arizona, with Statutory Limits, and Employers' Liability insurance with a limit of no less than \$1,000,000 per accident for bodily injury or disease.

8.2 Indemnification.

- a. To the fullest extent permitted by law, Consultant must defend, indemnify, and hold harmless City and its elected officials, officers, employees and agents (each, an "Indemnified Party," collectively, the "Indemnified Parties") for, from, and against any and all claims, demands, actions, damages, judgments, settlements, personal injury (including sickness, disease, death, and bodily harm), property damage (including loss of use), infringement, governmental action and all other losses and expenses, including attorneys' fees and litigation expenses (each, a "Demand or Expense" collectively "Demands or Expenses") asserted by a third-party (i.e. a person or entity other than City or Consultant) and that arises out of or results from the breach of this Agreement by the Consultant or the Consultant's negligent actions, errors or omissions (including any Subconsultant or Subcontractor or other person or firm employed by Consultant), whether sustained before or after completion of the Project.
- b. This indemnity and hold harmless provision applies even if a Demand or Expense is in part due to the Indemnified Party's negligence or breach of a responsibility under this Agreement, but in that event, Consultant will be liable only to the extent the Demand or Expense results from the negligence or breach of a responsibility of Consultant or of any person or entity for whom Consultant is responsible.
- c. Consultant is not required to indemnify any Indemnified Parties for, from, or against any Demand or Expense resulting from the Indemnified Party's sole negligence or other fault solely attributable to the Indemnified Party.

8.3 **Other Insurance Provisions.** The insurance policies required by the Section above must contain, or be endorsed to contain the following insurance provisions:

- a. **The City, its officers, officials, employees and volunteers are to be covered as additional insureds** of the CGL and automobile policies for any liability arising from or in connection with the performance of all tasks or work necessary to complete the Project as herein defined. Such liability may arise, but is not limited to, liability for materials, parts or equipment furnished in connection with any tasks, or work performed by Consultant or on its behalf and for liability arising from automobiles owned, leased, hired or borrowed on behalf of the Consultant. General liability coverage can be provided in the form of an endorsement to the Consultant's existing insurance policies, provided such endorsement is at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 23 37, if later revisions are used.
- b. For any claims related to this Project, the **Consultant's insurance coverage shall be primary insurance** with respect to the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees or volunteers shall be in excess of the Consultant's insurance and shall not contribute with it.
- c. Each insurance policy required by this Section shall provide that coverage shall not be canceled, except after providing notice to the City.

8.4 **Acceptability of Insurers.** Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII, unless the Consultant has obtained prior approval from the City stating that a non-conforming insurer is acceptable to the City.

8.5 **Waiver of Subrogation.** **Consultant hereby agrees to waive its rights of subrogation which any insurer may acquire** from Consultant by virtue of the payment of any loss. Consultant agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. The Workers' Compensation Policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Consultant, its employees, agent(s) and subcontractor(s).

- 8.6 **Verification of Coverage.** Within 15 days of the Effective Date of this Agreement, Consultant shall furnish the City with original certificates and amendatory endorsements, or copies of any applicable insurance language making the coverage required by this Agreement effective. All certificates and endorsements must be received and approved by the City before work commences. Failure to obtain, submit or secure the City's approval of the required insurance policies, certificates or endorsements prior to the City's agreement that work may commence shall not waive the Consultant's obligations to obtain and verify insurance coverage as otherwise provided in this Section. The City reserves the right to require complete, certified copies of all required insurance policies, including any endorsements or amendments, required by this Agreement at any time during the Term stated herein.
- Consultant's failure to obtain, submit or secure the City's approval of the required insurance policies, certificates or endorsements shall not be considered a Force Majeure or defense for any failure by the Consultant to comply with the terms and conditions of the Agreement, including any schedule for performance or completion of the Project.
- 8.7 **Subcontractors.** Consultant shall require and shall verify that all subcontractors maintain insurance meeting all requirements of this Agreement.
- 8.8 **Special Risk or Circumstances.** The City reserves the right to modify these insurance requirements, including any limits of coverage, based on the nature of the risk, prior experience, insurer, coverage or other circumstances unique to the Consultant, the Project or the insurer.
9. **E-verify, Records and Audits.** To the extent applicable under A.R.S. § 41-4401, the Consultant warrant their compliance and that of its subconsultants with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under A.R.S. § 23-214(A). The Consultant or subconsultant's breach of this warranty shall be deemed a material breach of the Agreement and may result in the termination of the Agreement by the City under the terms of this Agreement. The City retains the legal right to randomly inspect the papers and records of the other party to ensure that the other party is complying with the above-mentioned warranty. The Consultant and subconsultant warrant to keep their respective papers and records open for random inspection during normal business hours by the other party. The parties shall cooperate with the City's random inspections, including granting the inspecting party entry rights onto their respective properties to perform the random inspections and waiving their respective rights to keep such papers and records confidential.
10. **No Boycott of Israel.** The Parties agree that they are not currently engaged in, and agree that for the duration of the Agreement they will not engage in, a boycott of Israel, as that term is defined in A.R.S. §35-393.
11. **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.
12. **Notices.**
- 12.1 A notice, request or other communication that is required or permitted under this Agreement (each a "Notice") will be effective only if:
- a. The Notice is in writing; and
 - b. Delivered in person or by overnight courier service (delivery charges prepaid), certified or registered mail (return receipt requested).
 - c. Notice will be deemed to have been delivered to the person to whom it is addressed as of the date of receipt, if:
 - (1) Received on a business day before 5:00 p.m. at the address for Notices identified for the Party in this Agreement by U.S. Mail, hand delivery, or overnight courier service; or
 - (2) As of the next business day after receipt, if received after 5:00 p.m.

- d. The burden of proof of the place and time of delivery is upon the Party giving the Notice.
- e. Digitalized signatures and copies of signatures will have the same effect as original signatures.

12.2 Representatives.

- a. Consultant. Consultant's representative (the "Consultant's Representative") authorized to act on Consultant's behalf with respect to the Project, and his or her address for Notice delivery is:

Primattech, LLC
Shi-En Shiau, P.E., Principal
120 N. 44th Street, Suite 400
Phoenix, AZ 85034

- b. City. City's representative ("City's Representative") authorized to act on City's behalf, and his or her address for Notice delivery is:

City of Glendale
c/o Tom Kazmorowski
5850 W Glendale Ave
City of Glendale Engineering Dept., Rm 315
Glendale, Arizona 85301

With required copy to:

City Manager
City of Glendale
5850 West Glendale Avenue
Glendale, Arizona 85301

City Attorney
City of Glendale
5850 West Glendale Avenue
Glendale, Arizona 85301

- c. Concurrent Notices.
 - (1) All notices to City's representative must be given concurrently to City Manager and City Attorney.
 - (2) A notice will not be deemed to have been received by City's representative until the time that it has also been received by the City Manager and the City Attorney.
 - (3) City may appoint one or more designees for the purpose of receiving notice by delivery of a written notice to Consultant identifying the designee(s) and their respective addresses for notices.
- d. Changes. Consultant or City may change its representative or information on Notice, by giving Notice of the change in accordance with this section at least ten days prior to the change.

13. **Financing Assignment.** City may assign this Agreement to any City-affiliated entity, including a non-profit corporation or other entity whose primary purpose is to own or manage the Project.

14. **Entire Agreement; Survival; Counterparts; Signatures.**

14.1 Integration. This Agreement contains, except as stated below, the entire agreement between City and Consultant and supersedes all prior conversations and negotiations between the parties regarding the Project or this Agreement.

- a. Neither Party has made any representations, warranties or agreements as to any matters concerning the Agreement's subject matter.
- b. Representations, statements, conditions, or warranties not contained in this Agreement will not be binding on the parties.

- c. Inconsistencies between the solicitation, any addenda attached to the solicitation, the response or any excerpts attached as **Exhibit A**, and this Agreement, will be resolved by the terms and conditions stated in this Agreement.

14.2 Interpretation.

- a. The parties fairly negotiated the Agreement's provisions to the extent they believed necessary and with the legal representation they deemed appropriate.
- b. The parties are of equal bargaining position and this Agreement must be construed equally between the parties without consideration of which of the parties may have drafted this Agreement.
- c. The Agreement will be interpreted in accordance with the laws of the State of Arizona.

14.3 Survival. Except as specifically provided otherwise in this Agreement, each warranty, representation, indemnification and hold harmless provision, insurance requirement, and every other right, remedy and responsibility of a Party, will survive completion of the Project, or the earlier termination of this Agreement.

14.4 Amendment. No amendment to this Agreement will be binding unless in writing and executed by the parties. Electronic signature blocks do not constitute execution for purposes of this Agreement. Any amendment may be subject to City Council approval.

14.5 Remedies. All rights and remedies provided in this Agreement are cumulative and the exercise of any one or more right or remedy will not affect any other rights or remedies under this Agreement or applicable law.

14.6 Severability. If any provision of this Agreement is voided or found unenforceable, that determination will not affect the validity of the other provisions, and the voided or unenforceable provision will be reformed to conform with applicable law.

14.7 Counterparts. This Agreement may be executed in counterparts, and all counterparts will together comprise one instrument.

15. **Term.** The term of this Agreement commences upon the Effective Date and continues for a one (1) year initial period. The City may, at its option and with the approval of the Consultant, extend the term of this Agreement an additional year, renewable on an annual basis. Consultant will be notified in writing by the City of its intent to extend the Agreement period at least thirty (30) calendar days prior to the expiration of the original or any renewal Agreement period. Price adjustments will only be reviewed during the Agreement renewal period and will be a determining factor for any renewal. There are no automatic renewals of this Agreement.

16. **Dispute Resolution.** Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall be settled by arbitration administered according to the American Arbitration Association's Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

17. **Exhibits.** The following exhibits, with reference to the term in which they are first referenced, are incorporated by this reference.

Exhibit A	Project
Exhibit B	Scope of Work
Exhibit C	Schedule
Exhibit D	Compensation

(Signatures appear on the following page.)

The parties enter into this Agreement effective as of the date shown above.

City of Glendale,
an Arizona municipal corporation

By: Kevin R. Phelps
Its: City Manager

ATTEST:

Julie K. Bower (SEAL)
City Clerk

APPROVED AS TO FORM:

Michael D. Bailey
City Attorney

Primatech, LLC,
an Arizona Limited Liability Company



By: Shi-En Shiau
Its: Principal

EXHIBIT A
Professional Services Agreement

PROJECT

City of Glendale's Water Service Department (WSD) has selected Primattech from the City's On-Call list to perform water distribution system pressure and analysis for optimal pressure management. WSD staff has experience operational issues within the City's water distribution system as follows:

1. High and low pressure issues within the distribution systems.
 2. Some Pressure Reducing Valves (PRV) could not close properly; aged Primary Logic Controllers (PLC) and other control systems need to be updated or replaced at nine (9), of the eleven (11), PRV stations that regulate flow control to four pressure zones across the City.
 3. Lack of adequate pressure readings from the distribution system to monitor effectiveness of operation strategies. Difficulty in properly operating Zone 2/Zone 3 zone split valves.
- Evaluation of the existing system, more specifically described in the Scope of Work (SOW), will include the following locations of existing PRV stations:

- | | |
|---|------------|
| a) 67 TH AVE. & BEARDSLEY RD. | (ZSV-67B) |
| b) 64 TH AVE. & UNION HILLS DR. | (ZSV-64UH) |
| c) 51 ST AVE. & GROVERS AVE. | (ZSV-51G) |
| d) 67 TH AVE. & SWEETWATER AVE. | (ZSV-67S) |
| e) 77 TH AVE & GLENDALE AVE. | (G&77) |
| f) 75 TH AVE. & BETHANY HOME RD. | (BH&75) |
| g) 75 TH AVE. & CAMELBACK RD. | (ZSV-75C) |
| h) ZONE 2/3 PCF (N. 67TH AVE) | (Z23) |
| i) 80 TH DR & NORTHERN AVE | (N&81) |
| j) 55 TH AVE & BECKER LN | (ZSV1) |
| k) 59 TH AVE & DESERT COVE RD | (ZSV2) |

Primattech will coordinate with the City project manager and staff to collect existing water distribution system data for review. Input data from previous work by others will be utilized to develop an updated city wide water distribution system model compatible with other City projects. Analysis of existing facilities will help verify and identify existing system deficiencies using a water system model of larger main truck lines, greater than 8". Results will be presented to the City project manager, as a technical memorandum, for City review and comment. Primattech will recommend system monitoring and methods to optimize current and future operational controls. Fire hydrant flow test data, collected at strategic locations within each pressure zone, will help identify and verify problem areas. Primattech will work closely with City staff to design alternative system improvements to mitigate system distribution issues. An electrical engineering and control system sub-consultant will assist with evaluation of upgrades to existing SCADA systems to improve operational controls for each PRV station. Standard PRV station improvements will be provided using three typical configurations. Plans and specifications for construction, installation, and maintenance of each standard configuration will be created for an optimized system used for planning construction of future design expansion. Written procedures created for standard and emergency operation of PRVs, wells, and booster stations, will include fire hydrants and valves within areas that are susceptible to low and high surge pressures. Dead end pipe locations will be reviewed with procedures for a flushing program. Public materials will be distributed in specific areas to address zone specific water quality issues. City staff will review results and alternative designs delivered as a draft study report. A final report will present all findings, with recommendations and City's review comments incorporated. Additional analysis and study for water infrastructure improvement options near Loop 101 and Beardsley Rd will be included as a fast tracked independent analysis, after existing system model is functional.

EXHIBIT B
Professional Services Agreement

SCOPE OF WORK

See attached

EXHIBIT B

CITY OF GLENDALE

SCOPE OF WORK

City Wide Water System Analysis

CITY PROJECT NO. 151613

PRIMATECH PROJECT NO. GLE033a

DATE: APRIL 20, 2017

THE PROJECT

The City of Glendale Water Service Department has experienced some operational challenges within its water distribution systems. Operational issues within the City's water distribution system were identified by the City as follows:

1. High and low pressure issues within the distribution systems.
2. Some Pressure Reducing Valves (PRV) could not close properly; aged Primary Logic Controllers (PLC) and other control systems need to be updated or replaced at nine (9) PRV stations.
3. Lack of adequate pressure readings from the distribution system to monitor effectiveness of operation strategies. Difficulty in properly operating Zone 2/Zone 3 zone split valves.

The Water Services Department has selected Primatech from the City's On-Call list to perform water distribution system pressure and surge analysis for optimal pressure management. The scope of work will include the following:

100. PROJECT MANAGEMENT

- 101** Project kick-off meeting with City.
- 102** Monthly coordination meetings and workshops with City. Consultant shall prepare agenda and meeting minutes for all meetings for the duration of the project.
- 103** Project Management:
 - Provide and submit the project schedule monthly.
 - Project updates via email and/or telephone to discuss budget, schedule, and project issues.
 - Conduct an effective quality assurance and quality control program.
 - Monthly report summarizing progress to date, pending action items, project budget, and updated schedule.
 - Presentations to City staff as indicated in each task to discuss the project, construction schedule, costs, and constraints.
 - All correspondence, submittals, and deliverables (preliminary and final) shall be submitted to the City electronically (CAD, smart pdf, word, excel, and original file formats on CD).
 - Create an FTP site available on the internet for ease of data transfer for large digital files and use as a current information source.

200. DATA COLLECTION AND REVIEW

- 201.** Primatech will review master plans in 2003 and 2008 and other recent reports prepared by Black & Veatch for water and groundwater systems.
- 202.** Coordinate with Black & Veatch for water supply sources and mass balance within each zone.
- 203.** Acquire data from the City
- Primatech will provide the City with a list of required data for analysis and prepare the scope of work
 - The city will provide detail records for each PRV station that include manufacturer, model #s, and install dates.
 - The city provides operational records and as-built data for each of the following PRV stations:

LOCATIONS OF CITY PRV STATIONS (see attached map)

PRV #	LOCATION	MAP ID
1	67TH AVE. & BEARDSLEY RD.	ZSV-67B
2	64TH AVE. & UNION HILLS DR.	ZSV-64UH
3	51ST AVE. & GROVERS AVE.	ZSV-51G
4	67TH AVE. & SWEETWATER AVE.	ZSV-67S
5	77TH AVE & GLENDALE AVE.	G&77
6	75TH AVE. & BETHANY HOME RD.	BH&75
7	75TH AVE. & CAMELBACK RD.	ZSV-75C
8	ZONE 2/3 FCF (N. 67TH AVE)	Z23
9	80TH DR & NORTHERN AVE	N&81
10	55TH AVE & BECKER LN (N OF PEORIA)	ZSV1
11	59TH AVE & DESERT COVE RD	ZSV2

- Black & Veatch will coordinate with Primatech on the “Backup Supply Redundancy Project”

- Schedule field trip with the city staff to visit 11 PRV stations, booster stations, and reservoirs over a two-day period.
- Evaluate current Control Center operations and strategy using current City GIS data.
- The city will complete the PLC and SCADA information forms provided by Primattech.

300. PREPARATION OF WATER SYSTEM MODEL

- 301.** Use 2008 Master Plan and discuss the current and future supply and demand with Black & Veatch. City will request that Black & Veatch provide Primattech with all available data pertaining to the water system for use with the new model. Format of the basic skeleton model is required to be read by current EPA NET engine.
- 302.** Develop a georeferenced skeleton model of the City's water system, based on GIS components of a spatial geometric network, using a KY Pipe model, or equivalent, for water design modules used for system analysis.
 - 6799 pipes that are 12" and larger.
 - 7 tanks
 - 15 wells
 - 9 booster stations
 - 11 PRV stations
- 303.** Determine the extent of available City recorded data and if there is sufficient data to effectively calibrate a water system model. Identify missing/lacking complete data and define limitations placed on the water system model.

400. FACILITIES ANALYSIS AND DEFICIENCY IDENTIFICATION

- 401.** System Supply and Demand, mass balance
 - Define and review diurnal curve data that City selects as a representative sample period
 - Establish demand node locations and quantities using zoning land use maps for future buildout.
- 402.** System Pressure Analysis
 - Perform hydraulic modeling to optimize PRV pressure settings at City's PRV stations.
 - Develop pressure maps with high and low pressure contours; identify high and low pressure areas.

Scope of Work

April 20, 2017

- Determine model deficiencies to develop a list of focus areas to aid City planning of improvements.
- Consider pressure and flow distribution through system for winter and summer months using primary system components that include:
 - Groundwater well sites
 - Reservoirs
 - Booster stations
 - Main line supply and distribution connections

403. System pressure deficiencies and mitigation alternatives

403.1. Identify primary system deficiencies, using information at known problem areas, briefly described below:

- PRV could not close properly; aged PLC and other control systems need to be updated or replaced at nine (9) PRV stations.
- PRV failures occurred from installations made in 2001.
- Some PRVs that are set at 5 psi differentials will not fully close to no drip conditions.
- Some valves that are not used often, require conditioning before working properly.
- Manual valve operations near pump stations created system problems. (Butterfly valve operation, BFV21)
- Use pressure monitoring installed within the distribution systems to verify the modeling findings and confirm the vulnerability of the areas determined to be susceptible to low and negative pressure transients via modeling.
- Identify locations for adding pressure reading sensors to monitor effectiveness of operations strategies.
- Data collection transducers are limited in some areas; provide a list of areas where additional transducers are required for compiling data from existing areas in problem zones
- High pressure zones 1&4 in south City areas are lacking pressure transducers
- Almost all PRVs are set at 40psi downstream low pressure side

- 59th and Peoria; Varies considerably during school sessions; Peak flow generally occurs prior to school beginning, about mid-morning.
 - 51st Ave and Tonopah; Feeds reservoir; 101 and 51st Ave loop not closed (line dead ends); Several medical offices north and south of freeway
 - 51st Ave and Grover; Low pressure issues
 - 64th and Union Hills; Pressure issues at BFP; 100 psi at lower Zone 3 not uncommon that blowing water softeners, ice makers, etc
 - 51st and Acoma; Possible connection alternative to 12" line (Black & Veatch doing water quality study and may provide system data to coordinate model development); also to consider other connection scenarios
 - High pressure areas along city's south boundary in Zone 1 have only a few pressure monitoring sites
 - 81st Ave and Bethany Home area.
 - Evaluate the function and relocation of the PRV station located at 81st Avenue and Northern Avenue.
 - Assess the feasibility of using a smaller CLA valve during low demand period and use a large CLA valve during the peak demand time at all PRV stations
 - Evaluate interconnection with City of Phoenix at 107th Ave and Bethany
- 403.2.** Prepare conceptual layout of proposed improvements at PRV stations, booster station, wells, etc.
- 403.3.** Prepare cost estimates for the recommended conceptual layout.
- 404.** Review of monitoring and Operational Control Strategy with recommendations
- Evaluate the best available pressure monitoring technologies and recommend optimal remote pressure monitoring systems and locations for long term water distribution system pressure management.
 - Review the SCADA monitoring, and an operational control strategy including suggestions to accommodate the City's operational requirements.
 - Prepare written procedures for the operations of PRVs, wells, booster stations as well as those fire hydrants and valves at the areas that are susceptible to low and negative pressure (surge) within the water distribution system.

405. Facility Recommendations

405.1. Develop PRV design modifications and specifications to use as general guidelines all PRVs based on typical usage and rating system. (see attached map for locations)

- Flow bypass
- Size of PRV
- PRV distribution scheme
- Remote pilot control system
- Evaluate SCADA data collection methods and instrumentation requirements (also see Sub-consultant Delta System Scope of work Attached)
- Develop standard specifications for all sites
- City will provide boiler plate specifications

405.2. Preparation of four standard templates to use for PRV station improvements.

- Primatech will show the existing PRV layout with components and elevations of stations missing as-built data. Confined space entry certified personnel are required to access PRV sites for verification of existing components.
- Create existing and proposed Process Flow Diagrams (PFD) for each PRV station.
- Prepare plan and specifications for PRV mechanical improvement recommended.

405.3. Prepare written procedures for the operations of PRVs, wells, booster stations as well as those fire hydrants and valves at the areas that are susceptible to low and negative pressure (surge) within the water distribution system

405.4. Develop written flushing program and public materials to address zone specific water quality issues

406. Utility Service to Loop 101 Properties

406.1 Provide an analysis of the City's water infrastructure near the Loop 101 Freeway between Union Hills Drive and Beardsley Road (Maricopa County Assessor's parcels 200-30-983B, 200-30-979A and 200-30-010Q)

- Analyze existing pressures in area within upper portion of water pressure Zone 2 to determine the most feasible tie-in locations.
- Review proposed plans provided by the developer to assess the most economical route that provides a closed loop for proposed maximum day plus fire flow demand loading based on development zoning.
- Create overlay exhibits of proposed alternatives showing valve and fitting required. Identify ROW limits and design restrictions. Exhibits will be included in a preliminary report and used for design layout. Exhibits will not be used as final approved drawings and are conceptual only.
- Evaluate a timely alternative to efficiently serve all three parcels through various stages of development. Expected issues with coordination due to the proximity of flood plain, incomplete plans, and zoning amendments. Proximity to bank of New River and construction within ADOT ROW may also be considered

406.2 Prepare a separate report fast tracked for this portion of the City water system analysis.

- Prepare a preliminary analysis of results from model runs using each conceptual design alternative, created with plans available at time of study. Presentation of results will include recommendation of optimum design selection.
- Conduct a final analysis using City approved development plans with selected water system option incorporated into the final design. Present the results of final analysis to City for use as an independent report with exhibits for planning purposes. Incorporate final design into overall water system analysis.

500. STUDY REPORT

501. Prepare a draft report for the City to review and comment

502. Prepare final report with City's review comments incorporated.

EXHIBIT C
Professional Services Agreement

SCHEDULE

The analysis services duration will be based upon notice to proceed to the subconsultant until the final documents are delivered to the City of Glendale. The analysis schedule is 360 calendar days.

Exhibit D
Professional Services Agreement

Compensation
City of Glendale
Water Services Department
City Wide Water System Analysis
Project No. 151613

METHOD AND AMOUNT OF COMPENSATION

Compensation shall be on a time and material basis plus allowable reimbursable expenses.

NOT-TO-EXCEED AMOUNT

The total amount of compensation paid to the Consultant for full completion of all work required by the Project during the entire term of the Project must not exceed \$284,251.82.

DETAILED PROJECT COMPENSATION

(refer to Exhibit B - Scope of Work for more detailed task descriptions)

Task No.	Task	Task Fee
100	PROJECT MANAGEMENT	
	Kick-off meeting	\$ 1,672.00
	Monthly meeting	\$ 5,016.00
	Project Management	<u>\$ 5,016.00</u>
	Total	<u>\$11,704.00</u>
200	DATA COLLECTION AND REVIEW	
201	Review 2003 and 2008 master plans	\$ 5,328.00
202	Coordinate with Black & Veatch for water supply sources and mass balance within each zone	\$ 3,412.00
203	Acquire and review data obtained from the City	\$ 8,672.00
204	Field investigation	<u>\$ 7,232.00</u>
	Total	<u>\$24,644.00</u>
300	PREPARATION OF WATER SYSTEM MODEL	
301	Current and future sources and demand requirements	\$ 4,456.00
302	Georeferenced water network skeleton model development	\$ 4,648.00
303	Model calibration and limitation	<u>\$ 7,312.00</u>
	Total	<u>\$16,416.00</u>
400	FACILITIES ANALYSIS AND DEFICIENCY IDENTIFICATION	
401	System Supply and Demand, mass balance	\$ 7,312.00
402	System Pressure Analysis	\$18,480.00
403	System pressure deficiencies and mitigation alternatives	
403.1	Identify primary system deficiencies	\$18,480.00
403.2	Prepare conceptual layout of proposed improvements	\$20,640.00
403.3	Prepare cost estimates for recommended design concepts	\$ 8,656.00
404	Review of monitoring and Operational Control Strategy with recommendations	\$ 5,328.00
405	Facility Recommendations	
405.1	Develop PRV design modifications and specifications	\$16,768.00
405.2	Preparation of standard template for PRV station improvements.	\$24,256.00
405.3	Prepare written procedures for the operations of PRVs, wells, & booster stations	\$ 5,328.00

Exhibit D
Professional Services Agreement

Compensation
City of Glendale
Water Services Department
City Wide Water System Analysis
Project No. 151613

Task No.	Task	Task Fee
405.4	Develop written flushing program and public outreach strategies to address specific water quality issues	\$ 7,568.00
406	Utility Service to Loop 101 Properties	
406.1	Provide an analysis of the City's water infrastructure near the Loop 101 Freeway between Union Hills Drive and Beardsley Road	\$ 22,296.00
406.2	Prepare a separate report fast tracked for this portion of the City water system analysis.	\$ 13,424.00
	(See Note below for additional items)	
	Total	<u>\$168,536.00</u>
500	STUDY REPORT	
501	Draft Study Report	\$ 6,528.00
502	Final Study Report	<u>\$ 6,528.00</u>
	Total	<u>\$13,056.00</u>
	Sub Total - Base Fee	<u>\$234,356.00</u>
600	REIMBURSABLE	
	Printing, delivery and mileage	\$ 900.00
700	SUBCONSULTANT	
	Electrical Engineering Subconsultant	\$23,995.82
800	OWNERS ALLOWANCE FOR CONSTRUCTION	<u>\$25,000.00</u>
	CONTINGENCY	
	Subtotal	<u>\$49,895.82</u>
	Grand Total	<u>\$284,251.82</u>