

**PROFESSIONAL SERVICES AGREEMENT  
FOR  
PROFESSIONAL ASSET MANAGEMENT SERVICES FOR  
PAVEMENT CONDITION ASSESSMENT**

This Agreement is entered into by and between the **City of San Antonio**, a Texas Municipal Corporation (“City”) acting by and through its City Manager, pursuant to Ordinance No. \_\_\_\_\_ passed and approved on the \_\_\_\_ day of \_\_\_\_\_, 2022 and **Applied Research Associates, Inc.** (“Consultant”), both of which may be referred to herein collectively as the “Parties”.

The Parties hereto severally and collectively agree, and by the execution hereof are bound, to the mutual obligations herein contained and to the performance and accomplishment of the tasks hereinafter described.

**I. DEFINITIONS**

As used in this Agreement, the following terms shall have meanings as set out below:

- 1.1 “City” is defined in the preamble of this Agreement and includes its successors and assigns.
- 1.2 “Consultant” is defined in the preamble of this Agreement and includes its successors.
- 1.3 “Director” shall mean the director of City’s Public Works Department.

**II. TERM**

- 2.1 this Agreement shall commence on the date of execution and will terminate one year after, unless terminated sooner in accordance with the provisions of this Agreement. The City shall have the option to renew with agreement for one additional one-year period subject to (a) the City’s receipt of additional funds sufficient to fund any renewal term; and (b) the Consultant satisfactorily meeting the performance requirements of this agreement, as solely determined by the Director.
- 2.2 If funding for the entire Agreement is not appropriated at the time this Agreement is entered into, City retains the right to terminate this Agreement at the expiration of each of City’s budget periods, and any additional contract period beyond the initial term set forth in 2.1 is subject to and contingent upon subsequent appropriation.

**III. SCOPE OF SERVICES**

- 3.1 Consultant, in consideration for the compensation herein provided, as outlined in Article IV. Compensation to Consultant, shall render the required professional services, and any and all services which would normally be required by law or common due diligent practice, in connection with the Project, as more specifically outlined in Exhibit 1, Scope of Services.

- 3.2 Consultant shall complete all Project work within the Scope of Services in compliance with this Agreement, and agrees to staff the Project with sufficient necessary, qualified personnel in order not to delay or disrupt the progress of the Program. Time is of the essence.
- 3.3 All services and work performed under this Agreement must be conducted in full conformance with the Texas Occupations Code. Persons retained by Consultant to perform work pursuant to this Agreement shall be employees or subcontractors of Consultant.
- 3.4 All work performed by Consultant hereunder shall be performed to the satisfaction of Director. The determination made by Director shall be final, binding and conclusive on all Parties hereto. City shall be under no obligation to pay for any work performed by Consultant which is not satisfactory to Director. City shall have the right to terminate this Agreement, in accordance with Article VII. Termination, in whole or in part, should Consultant's work not be satisfactory to Director; however, City shall have no obligation to terminate and may withhold payment for any unsatisfactory work, as stated herein, even should City elect not to terminate. City shall notify Consultant in writing of any decision to withhold payment. Should City elect to terminate, it will do so in accordance with the provisions for Defaults with Opportunity for Cure contained in this Agreement.

#### IV. COMPENSATION TO CONSULTANT

- 4.1 For and in consideration of the services to be rendered by Consultant, City shall pay Consultant the not to exceed fee set forth in this Article IV, Compensation to Consultant. All services shall be performed in accordance with the professional standard of care set forth in Article XVIII, Licenses/Certifications, herein and to City's satisfaction.
- 4.2 The total compensation for all work to be performed by Consultant as fully defined in the Scope of Services, to include all travel and other expenses, shall not exceed **ONE MILLION THREE HUNDRED AND THOUSAND AND 00/100 U.S. DOLLARS (\$1,300,000.00)**. Consultant acknowledges that such not to exceed fee shall be sufficient compensation for all services, travel and other expense to be performed pursuant to or associated with the Scope of Services.
  - 4.2.1 Total compensation for the scope of work contained in Exhibit 1 provides for a principal project cost of ONE MILLION TWO HUNDRED FORTY ONE THOUSAND SEVEN HUNDRED DOLLARS (\$1,241,700.000) and contingency budget of FIFTY-EIGHT THOUSAND THREE HUNDRED DOLLARS (\$58,300.00)
  - 4.2.2 Compensation for the principal project is determined by completion of tasks and milestones set forth in the scope of services as Exhibit 1.
  - 4.2.3 Compensation for any contingency services, is subject to the schedule of fees set forth in Exhibit 2, Standard Schedule of Consulting Fees.
- 4.3 Consultant shall bill all services on a percent complete basis in accordance with the tasks and milestones established in the work schedule set forth in Exhibit 1. If City requests, Consultant shall submit itemized invoices, with all required back-up, in PRIMELink. Consultant may submit

invoices no more than once monthly. Such invoices must be for work actually performed and actual travel and other expenses incurred and not previously invoiced and must show: a) the hours being billed delineated by task performed, employee name and position, b) a summary of the services performed during the period covered by the invoice, c) travel and other expenses with supporting documentation attached; and d) the total amount due for services, travel and expenses. Allowable travel and other expenses shall be invoiced at the actual cost incurred without markup. City reserves the right to request such additional information as the City deems necessary to support the invoiced charges. The final payment due hereunder shall not be paid until all reports, data and documents have been submitted, received, accepted and approved by City. City shall pay all undisputed amounts due under this Agreement within 30 days of receipt of a properly addressed invoice. Payment is deemed to be made on the date of mailing of the check or electronic fund transfer.

- 4.4 No additional fees or expenses of Consultant shall be charged by Consultant nor be payable by City. The parties hereby agree that all compensable expenses of Consultant have been provided for in the total payment to Consultant as specified in section 4.1 above. Total payments to Consultant cannot exceed that amount set forth in section 4.1 above, without prior approval and agreement of all parties, evidenced in writing and approved by the San Antonio City Council by passage of an ordinance therefor
- 4.5 Final acceptance of work products and services require written approval by City. The approving official shall be Director. Payment will be made to Consultant following written approval of the final work products and services by Director. City shall not be obligated or liable under this Agreement to any party, other than Consultant, for the payment of any monies or the provision of any goods or services.

## **V. OWNERSHIP OF DOCUMENTS**

- 5.1 Any and all writings, documents or information in whatsoever form and character produced by Consultant pursuant to the provisions of this Agreement is the exclusive property of City without limitation; and no such writing, document or information shall be the subject of any copyright or proprietary claim by Consultant.
- 5.2 Consultant understands and acknowledges that as the exclusive owner of any and all such writings, documents and information, City has the right to use all such writings, documents and information as City desires, without restriction.

## **V. RECORDS RETENTION**

- 6.1 Consultant and its subcontractors, if any, shall properly, accurately and completely maintain all documents, papers, and records, and other evidence pertaining to the services rendered hereunder (hereafter referred to as "documents"), and shall make such materials available to the City at their respective offices, at all reasonable times and as often as City may deem necessary during the Agreement period, including any extension or renewal hereof, and the record retention period established herein, for purposes of audit, inspection, examination, and making excerpts

or copies of same by City and any of its authorized representatives.

- 6.2 Consultant shall retain any and all documents produced as a result of services provided hereunder for a period of four (4) years (hereafter referred to as "retention period") from the date of termination of the Agreement. If, at the end of the retention period, there is litigation or other questions arising from, involving or concerning this documentation or the services provided hereunder, Consultant shall retain the records until the resolution of such litigation or other such questions. Consultant acknowledges and agrees that City shall have access to any and all such documents at any and all times, as deemed necessary by City, during said retention period. City may, at its election, require Consultant to return the documents to City at Consultant's expense prior to or at the conclusion of the retention period. In such event, Consultant may retain a copy of the documents at its sole cost and expense.
- 6.3 Consultant shall notify City, immediately, in the event Consultant receives any requests for information from a third party, which pertain to the documentation and records referenced herein. Consultant understands and agrees that City will process and handle all such requests.

## VII. TERMINATION

- 7.1 For purposes of this Agreement, "termination" of this Agreement shall mean termination by expiration of the Agreement term as stated in Article II, Term, or earlier termination pursuant to any of the provisions hereof.
- 7.2 Termination Without Cause. This Agreement may be terminated by City without cause upon fifteen (15) calendar days' written notice, which notice shall be provided in accordance with Article VIII, Notice.
- 7.3 Termination For Cause. Upon written notice, which notice shall be provided in accordance with Article VIII, Notice, City may terminate this Agreement as of the date provided in the notice, in whole or in part, upon the occurrence of one (1) or more of the following events, each of which shall constitute an Event for Cause under this Agreement:
- 7.3.1 The sale, transfer, pledge, conveyance or assignment of this Agreement without prior approval, as provided in Article XII, Assignment and Subcontracting; or
- 7.3.2 Any material breach of the terms of this Agreement, as determined solely by City.
- 7.4 Defaults With Opportunity for Cure. Should Consultant default in the performance of this Agreement in a manner stated in this section 7.4 below, same shall be considered an event of default. City shall deliver written notice of said default specifying such matter(s) in default. Consultant shall have 30 calendar days after receipt of the written notice, in accordance with Article VIII, Notice, to cure such default. If Consultant fails to cure the default within such 30 day cure period, City shall have the right, without further notice, to terminate this Agreement in whole or in part as City deems appropriate, and to contract with another consultant to complete the work required in this Agreement. City shall also have the right to offset the cost of said new

Agreement with a new consultant against Consultant's future or unpaid invoice(s), subject to the duty on the part of City to mitigate its losses to the extent required by law.

7.4.1 Bankruptcy or selling substantially all of company's assets;

7.4.2 Failing to perform or failing to comply with any covenant herein required; or

7.4.3 Performing unsatisfactorily.

7.5 Termination By Law. If any state or federal law or regulation is enacted or promulgated which prohibits the performance of any of the duties herein, or, if any law is interpreted to prohibit such performance, this Agreement shall automatically terminate as of the effective date of such prohibition.

7.6 Regardless of how this Agreement is terminated, Consultant shall effect an orderly transfer to City or to such person(s) or firm(s) as the City may designate, at no additional cost to City, all completed or partially completed documents, papers, records, charts, reports, and any other materials or information produced as a result of or pertaining to the services rendered by Consultant, or provided to Consultant, hereunder, regardless of storage medium, if so requested by City, or shall otherwise be retained by Consultant in accordance with Article VI. Records Retention. Any record transfer shall be completed within thirty (30) calendar days of a written request by City and shall be completed at Consultant's sole cost and expense. Payment of compensation due or to become due to Consultant is conditioned upon delivery of all such documents, if requested by City.

7.7 Within forty-five (45) calendar days of the effective date of completion, or termination or expiration of this Agreement, Consultant shall submit to City its claims, in detail, for the monies owed by City for services performed under this Agreement through the effective date of termination. Failure by Consultant to submit its claims within said forty-five (45) calendar days shall negate any liability on the part of City and constitute a **Waiver** by Consultant of any and all right or claims to collect moneys that Consultant may rightfully be otherwise entitled to for services performed pursuant to this Agreement.

7.8 Upon the effective date of expiration or termination of this Agreement, Consultant shall cease all operations of work being performed by Consultant or any of its subcontractors pursuant to this Agreement.

7.9 Termination not sole remedy. In no event shall City's action of terminating this Agreement, whether for cause or otherwise, be deemed an election of City's remedies, nor shall such termination limit, in any way, at law or at equity, City's right to seek damages from or otherwise pursue Consultant for any default hereunder or other action.

## VIII. NOTICE

Except where the terms of this Agreement expressly provide otherwise, any election, notice or communication required or permitted to be given under this Agreement shall be in writing and deemed to have been duly given if and when delivered personally (with receipt acknowledged), or three (3) days

after depositing same in the U.S. mail, first class, with proper postage prepaid, or upon receipt if sending the same by certified mail, return receipt requested, or upon receipt when sent by a commercial courier service (such as Federal Express or DHL Worldwide Express) for expedited delivery to be confirmed in writing by such courier, at the addresses set forth below or to such other address as either party may from time to time designate in writing.

If intended for City, to:

City of San Antonio  
Public Works Department  
P.O. Box 839966  
San Antonio, Texas 78283-3966

If intended for Consultant, to:

Applied Research Associates, Inc.  
8632 Fredericksburg Rd, Ste 200  
San Antonio, TX 78240

## **IX. NON-DISCRIMINATION**

Non-Discrimination. As a party to this contract, Consultant understands and agrees to comply with the Non-Discrimination Policy of the City of San Antonio contained in Chapter 2, Article X. of the City Code and further, shall not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, veteran status, age or disability, unless exempted by state or federal law, or as otherwise established herein.

## **X. INSURANCE**

- 10.1 Prior to the commencement of any work under this Agreement, Consultant shall furnish copies of all required endorsements and completed Certificate(s) of Insurance to the City's Public Works Department, which shall be clearly labeled "Professional Asset Management Services – Pavement Condition Assessment" in the Description of Operations block of the Certificate. The Certificate(s) shall be completed by an agent and signed by a person authorized by that insurer to bind coverage on its behalf. The City will not accept a Memorandum of Insurance or Binder as proof of insurance. The certificate(s) must have the agent's signature and phone number, and be mailed, with copies of all applicable endorsements, directly from the insurer's authorized representative to the City. The City shall have no duty to pay or perform under this Agreement until such certificate and endorsements have been received and approved by the City's Public Works Department. No officer or employee, other than the City's Risk Manager, shall have authority to waive this requirement.
- 10.2 The City reserves the right to review the insurance requirements of this Article during the effective period of this Agreement and any extension or renewal hereof and to modify insurance coverages and their limits when deemed necessary and prudent by City's Risk Manager based upon changes in statutory law, court decisions, or circumstances surrounding this Agreement. In no instance will City allow modification whereby City may incur increased risk.
- 10.3 A Consultant's financial integrity is of interest to the City; therefore, subject to Consultant's right

to maintain reasonable deductibles in such amounts as are approved by the City, Consultant shall obtain and maintain in full force and effect for the duration of this Agreement, and any extension hereof, at Consultant's sole expense, insurance coverage written on an occurrence basis, unless otherwise indicated, by companies authorized to do business in the State of Texas and with an A.M Best's rating of no less than A- (VII), in the following types and for an amount not less than the amount listed below:

TYPE	AMOUNTS
1. Workers' Compensation 2. Employers' Liability	\$ 1,000,000 E.L. each accident \$ 1,000,000 E.L. Disease - each employee \$ 1,000,000 E.L. Disease - policy limit
3. Commercial General Liability Insurance to include coverage for the following:  Premises/Operations Products/Completed Operations Personal/Advertising Injury Contractual Liability	For Bodily Injury and Property Damage of:  \$ 1,000,000 per occurrence; \$ 2,000,000 general aggregate, or its equivalent in umbrella or excess liability coverage must include per project aggregate.
4. Business Automobile Liability:  Owned/leased vehicles Non-owned vehicles Hired Vehicles	Combined Single Limit for Bodily Injury and Property Damage of:  \$ 1,000,000 per occurrence
5. Umbrella or Excess Liability Coverage	\$ 1,000,000 per occurrence combined limit Bodily Injury (including death) and Property Damage.
Additional Requirements:  Additional Requirement: Professional Liability \$1,000,000 per claim damages by reason of any act, malpractice, error, or omission in the professional service.	

10.4 Consultant agrees to require, by written contract, that all subcontractors providing goods or services hereunder obtain the same insurance coverages required of Consultant herein, and provide a certificate of insurance and endorsement that names the Consultant and the City as additional insureds. Consultant shall provide the City with said certificate and endorsement prior

to the commencement of any work by the subcontractor. This provision may be modified by City's Risk Manager, without subsequent City Council approval, when deemed necessary and prudent, based upon changes in statutory law, court decisions, or circumstances surrounding this agreement. Such modification may be enacted by letter signed by City's Risk Manager, which shall become a part of the contract for all purposes.

- 10.5 As they apply to the limits required by the City, the City shall be entitled, upon request and without expense, to receive copies of the policies, declaration page, and all endorsements thereto and may require the deletion, revision, or modification of particular policy terms, conditions, limitations, or exclusions (except where policy provisions are established by law or regulation binding upon either of the parties hereto or the underwriter of any such policies). Consultant shall be required to comply with any such requests and shall submit a copy of the replacement certificate of insurance to City at the address provided below within 10 days of the requested change. Consultant shall pay any costs incurred resulting from said changes.

City of San Antonio  
Attn: Public Works Department  
P.O. Box 839966  
San Antonio, Texas 78283-3966

- 10.6 Consultant agrees that with respect to the above required insurance, all insurance policies are to contain or be endorsed to contain the following provisions:
- Name the City, its officers, officials, employees, volunteers, and elected representatives as additional insureds by endorsement, as respects operations and activities of, or on behalf of, the named insured performed under contract with the City, with the exception of the workers' compensation and professional liability policies;
  - Provide for an endorsement that the "other insurance" clause shall not apply to the City of San Antonio where the City is an additional insured shown on the policy;
  - Workers' compensation, employers' liability, general liability and automobile liability policies will provide a waiver of subrogation in favor of the City.
  - Provide advance written notice directly to City of any suspension, cancellation, non-renewal or material change in coverage, and not less than ten (10) calendar days advance notice for nonpayment of premium.
- 10.7 Within five (5) calendar days of a suspension, cancellation or non-renewal of coverage, Consultant shall provide a replacement Certificate of Insurance and applicable endorsements to City. City shall have the option to suspend Consultant's performance should there be a lapse in coverage at any time during this Agreement. Failure to provide and to maintain the required insurance shall constitute a material breach of this Agreement.



- 10.8 In addition to any other remedies the City may have upon Consultant's failure to provide and maintain any insurance or policy endorsements to the extent and within the time herein required, the City shall have the right to order Consultant to stop work hereunder, and/or withhold any payment(s) which become due to Consultant hereunder until Consultant demonstrates compliance with the requirements hereof.
- 10.9 Nothing herein contained shall be construed as limiting in any way the extent to which Consultant may be held responsible for payments of damages to persons or property resulting from Consultant's or its subcontractors' performance of the work covered under this Agreement.
- 10.10 It is agreed that Consultant's insurance shall be deemed primary and non-contributory with respect to any insurance or self-insurance carried by the City of San Antonio for liability arising out of operations under this Agreement.
- 10.11 It is understood and agreed that the insurance required is in addition to and separate from any other obligation contained in this Agreement and that no claim or action by or on behalf of the City shall be limited to insurance coverage provided.
- 10.12 Consultant and any subcontractors are responsible for all damage to their own equipment and/or property.

## **XI. INDEMNIFICATION**

- 11.1 **CONSULTANT FULLY SHALL INDEMNIFY AND HOLD HARMLESS CITY AND ITS OFFICIALS, OFFICERS, AGENTS, EMPLOYEES, VOLUNTEERS, DIRECTORS AND REPRESENTATIVES (HEREAFTER REFERRED TO AS "INDEMNITEE" OR "INDEMNITEES" FROM AND AGAINST ANY AND ALL CLAIMS, DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY FEE AND DEFENSE COSTS, MADE UPON INDEMNITEE CAUSED BY OR RESULTING FROM AN ACT OF NEGLIGENCE, INTENTIONAL TORT, INTELLECTUAL PROPERTY INFRINGEMENT, OR FAILURE TO PAY A SUBCONTRACTOR OR SUPPLIER COMMITTED BY CONSULTANT OR ITS AGENT, CONSULTANT UNDER CONTRACT OR ANOTHER ENTITY OVER WHICH CONSULTANT EXERCISES CONTROL WHILE IN THE EXERCISE OF RIGHTS OR PERFORMANCE OF THE DUTIES UNDER THIS AGREEMENT. THIS INDEMNIFICATION SHALL NOT APPLY TO ANY LIABILITY RESULTING FROM INDEMNITEE'S NEGLIGENCE OR WILLFUL MISCONDUCT IN INSTANCES WHERE THE NEGLIGENCE OR WILLFUL MISCONDUCT CAUSES PERSONAL INJURY, BODILY INJURY, DEATH OR PROPERTY DAMAGE. IF A COURT OF COMPETENT JURISDICTION FINDS CONSULTANT AND CITY JOINTLY LIABLE, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.**

- 11.2 The provisions of this Article XI solely are for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity. Consultant shall advise City in writing within twenty four (24) hours of any claim or demand against City or Consultant known to Consultant related to or arising out of Consultant's activities under this Agreement.

## **XII. ASSIGNMENT AND SUBCONTRACTING**

- 12.1 Consultant shall supply qualified personnel as may be necessary to complete the work to be performed under this Agreement. Persons retained to perform work pursuant to this Agreement shall be the employees or subcontractors of Consultant. Consultant, its employees or its subcontractors shall perform all necessary work.
- 12.3 Any work or services subcontracted hereunder shall be subcontracted only by written contract and, unless specific waiver is granted in writing by the City, shall be subject by its terms to each and every provision of this Agreement. Compliance by subcontractors with this Agreement shall be the responsibility of Consultant. City shall in no event be obligated to any third party, including any subcontractor of Consultant, for performance of services or payment of fees. Any references in this Agreement to an assignee, transferee, or subcontractor, indicate only such an entity as has been approved by the City Council.
- 12.4 Except as otherwise stated herein, Consultant may not sell, assign, pledge, transfer or convey any interest in this Agreement, nor delegate the performance of any duties hereunder, by transfer, by subcontracting or any other means, without the consent of the City Council, as evidenced by passage of an ordinance. As a condition of such consent, if such consent is granted, Consultant shall remain liable for completion of the services outlined in this Agreement in the event of default by the successor Consultant, assignee, transferee or subcontractor.
- 12.5 Any attempt to transfer, pledge or otherwise assign this Agreement without said written approval, shall be void ab initio and shall confer no rights upon any third person. Should Consultant assign, transfer, convey, delegate, or otherwise dispose of any part of all or any part of its right, title or interest in this Agreement, City may, at its option, cancel this Agreement and all rights, titles and interest of Consultant shall thereupon cease and terminate, in accordance with Article VII. Termination, notwithstanding any other remedy available to City under this Agreement. The violation of this provision by Consultant shall in no event release Consultant from any obligation under the terms of this Agreement, nor shall it relieve or release Consultant from the payment of any damages to City, which City sustains as a result of such violation.

## **XIII. INDEPENDENT CONTRACTOR**

Consultant covenants and agrees that he or she is an independent contractor and not an officer, agent, servant or employee of City; that Consultant shall have exclusive control of and exclusive right to control the details of the work performed hereunder and all persons performing same, and shall be responsible for the acts and omissions of its officers, agents, employees, contractors, subcontractors and consultants; that the doctrine of "respondeat superior" shall not apply as between City and Consultant,

its officers, agents, employees, contractors, subcontractors and consultants, and nothing herein shall be construed as creating the relationship of employer-employee, principal-agent, partners or joint venturers between City and Consultant. The parties hereto understand and agree that the City shall not be liable for any claims which may be asserted by any third party occurring in connection with the services to be performed by the Consultant under this Agreement and that the Consultant has no authority to bind the City.

#### **XIV. EQUAL EMPLOYMENT OPPORTUNITY**

Consultant shall not engage in employment practices which have the effect of discriminating against any employee or applicant for employment, and, will take affirmative steps to ensure that applicants are employed and employees are treated during employment without regard to their race, color, religion, national origin, sex, sexual orientation, gender identity, veteran status, age, disability, or political belief or affiliation unless exempted by state or federal law, or as otherwise established herein. Specifically, Consultant agrees to abide by all applicable provisions of San Antonio City ordinance number 69403 on file in the City Clerk's office.

#### **XV. CONFLICT OF INTEREST**

- 15.1 The Charter of the City of San Antonio and the City of San Antonio Code of Ethics prohibit a City officer or employee, as those terms are defined in Section 2-52 of the Code of Ethics, from having a direct or indirect financial interest in any contract with the City. An officer or employee has a "prohibited financial interest" in a contract with the City or in the sale to the City of land, materials, supplies or service, if any of the following individual(s) or entities is a party to the contract or sale:
- a City officer or employee; his or her spouse, sibling, parent, child or other family member within the first degree of consanguinity or affinity;
  - an entity in which the officer or employee, or his or her parent, child or spouse directly or indirectly owns (i) 10 percent or more of the voting stock or shares of the entity, or (ii) 10 percent or more of the fair market value of the entity; or
  - an entity in which any individual or entity listed above is (i) a subcontractor on a City contract, (ii) a partner or (iii) a parent or subsidiary entity.
- 15.2 Pursuant to the subsection above, Consultant warrants and certifies, and this Agreement is made in reliance thereon, that by contracting with the City, Consultant does not cause a City employee or officer to have a prohibited financial interest in the Contract. Consultant further warrants and certifies that it has tendered to the City a Contracts Disclosure Statement in compliance with the City's Ethics Code.

## **XVI. AMENDMENTS**

Except where the terms of this Agreement expressly provide otherwise any alterations, additions, or deletions to the terms of this Agreement shall be effected by amendment, in writing, executed by City and Consultant. The Director shall have the authority to execute amendments that require up to FIFTY-EIGHT THOUSAND THREE HUNDRED DOLLARS (\$58,300.00) in increased cost on behalf of the City without further action by the San Antonio City Council, subject to appropriation of funds for the increase in cost. Any other change will require approval of the City Council by passage of an ordinance therefore.

## **XVII. SEVERABILITY**

If any clause or provision of this Agreement is held invalid, illegal or unenforceable under present or future federal, state or local laws, including but not limited to the City Charter, City Code, or ordinances of the City of San Antonio, Texas, then and in that event it is the intention of the parties hereto that such invalidity, illegality or unenforceability shall not affect any other clause or provision hereof and that the remainder of this Agreement shall be construed as if such invalid, illegal or unenforceable clause or provision was never contained herein; it is also the intention of the parties hereto that in lieu of each clause or provision of this Agreement that is invalid, illegal, or unenforceable, there be added as a part of the Agreement a clause or provision as similar in terms to such invalid, illegal or unenforceable clause or provision as may be possible, legal, valid and enforceable.

## **XVIII. LICENSES/CERTIFICATIONS**

Consultant warrants and certifies that Consultant and any other person designated to provide services hereunder has the requisite training, license and/or certification to provide said services, and meets all competence standards promulgated by all other authoritative bodies, as applicable to the services provided herein. Consultant further warrants that the services required under this Agreement shall be performed with the same degree of professional skill and care that are ordinarily exercised by similar consulting professionals performing similar services in Bexar County, Texas.

## **XIX. COMPLIANCE**

Consultant shall provide and perform all services required under this Agreement in compliance with all applicable federal, state and local laws, rules and regulations.

## **XX. NONWAIVER OF PERFORMANCE**

Unless otherwise specifically provided for in this Agreement, a waiver by either Party of a breach of any of the terms, conditions, covenants or guarantees of this Agreement shall not be construed or held to be a waiver of any succeeding or preceding breach of the same or any other term, condition, covenant or guarantee herein contained. Further, any failure of either Party to insist in any one or more cases upon the strict performance of any of the covenants of this Agreement, or to exercise any option herein contained, shall in no event be construed as a waiver or relinquishment for the future of such covenant or option. In fact, no waiver, change, modification or discharge by either party hereto of any provision of

this Agreement shall be deemed to have been made or shall be effective unless expressed in writing and signed by the party to be charged. In case of City, such changes must be approved by the City Council, as described in Article XVI. Amendments. No act or omission by a Party shall in any manner impair or prejudice any right, power, privilege, or remedy available to that Party hereunder or by law or in equity, such rights, powers, privileges, or remedies to be always specifically preserved hereby.

#### **XXI. LAW APPLICABLE & LEGAL FEES**

- 21.1 **THIS AGREEMENT SHALL BE CONSTRUED UNDER AND IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND ALL OBLIGATIONS OF THE PARTIES CREATED HEREUNDER ARE PERFORMABLE IN BEXAR COUNTY, TEXAS.**
- 21.2 Any legal action or proceeding brought or maintained, directly or indirectly, as a result of this Agreement shall be heard and determined in the City of San Antonio, Bexar County, Texas.
- 21.3 The Parties hereto expressly agree that, in the event of litigation, each party hereby waives its right to payment of attorneys' fees.

#### **XXII. LEGAL AUTHORITY**

The signer of this Agreement for Consultant represents, warrants, assures and guarantees that he has full legal authority to execute this Agreement on behalf of Consultant and to bind Consultant to all of the terms, conditions, provisions and obligations herein contained.

#### **XXIII. PARTIES BOUND**

This Agreement shall be binding on and inure to the benefit of the parties hereto and their respective heirs, executors, administrators, legal representatives, and successors and assigns, except as otherwise expressly provided for herein.

#### **XXIV. CAPTIONS**

The captions contained in this Agreement are for convenience of reference only, and in no way limit or enlarge the terms and/or conditions of this Agreement.

#### **XXV. INCORPORATION OF EXHIBITS**

Each of the Exhibits listed below is an essential part of the Agreement, which governs the rights and duties of the parties, and shall be interpreted in the order of priority as appears below, with this document taking priority over all exhibits:

- |           |                                   |
|-----------|-----------------------------------|
| Exhibit 1 | Scope of Services                 |
| Exhibit 2 | Fee Schedule for Contingency work |

## **XXVI. ENTIRE AGREEMENT**

This Agreement, together with its authorizing ordinance and its exhibits, if any, constitute the final and entire agreement between the parties hereto and contain all of the terms and conditions agreed upon. No other agreements, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind the parties hereto, unless same be in writing, dated subsequent to the date hereto, and duly executed by the parties, in accordance with Article XVI. Amendments.

## **XXVII. PROHIBITION ON CONTRACTS WITH COMPANIES BOYCOTTING ISRAEL**

- 27.1 Texas Government Code §2270.002 provides that a governmental entity may not enter into a contract with a company for goods or services, unless the contract contains a written verification from the company that it:
- (1) does not boycott Israel; and
  - (2) will not boycott Israel during the term of the contract.
- 27.2 "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.
- 27.3 "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of those entities or business associations that exists to make a profit.
- 27.4 By submitting an offer to or executing contract documents with the City of San Antonio, Company hereby verifies that it does not boycott Israel, and will not boycott Israel during the term of the contract. City's hereby relies on Company's verification. If found to be false, City may terminate the contract for material breach.

## **XXVIII. PROHIBITION ON CONTRACTS WITH COMPANIES ENGAGED IN BUSINESS WITH IRAN, SUDAN, OR FOREIGN TERRORIST ORGANIZATION**

Texas Government Code §2252.152 provides that a governmental entity may not enter into a governmental contract with a company that is identified on a list prepared and maintained under Texas Government Code §§2270.0201 or 2252.153. Consultant hereby certifies that it is not identified on such a list and that it will notify City should it be placed on such a list while under contract with City. City hereby relies on Consultant's certification. If found to be false, or if Consultant is identified on such list during the course of its contract with City, City may terminate this Agreement for material breach.

## **XXIX. PROHIBITION ON CONTRACTS WITH COMPANIES BOYCOTTING CERTAIN ENERGY COMPANIES**

Texas Government Code §2274 provides that a governmental entity may not enter into a contract with a company for goods or services, unless the contract contains a written verification from the company that it: (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of the contract.

"Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (B) does business with a company described in (A).

By submitting an offer to or executing contract documents with the City of San Antonio, Company hereby verifies that it does not boycott energy companies and will not boycott energy companies during the term of the contract. City hereby relies on Company's verification. If found to be false, City may terminate the contract for material breach.

## **XXX. PROHIBITION ON CONTRACTS WITH COMPANIES THAT DISCRIMINATE AGAINST FIREARM AND AMMUNITION INDUSTRIES**

Texas Government Code §2274 provides that a governmental entity may not enter into a contract with a company for goods or services, unless the contract contains a written verification from the company that it: (1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of the contract against a firearm entity or firearm trade association.

"Discriminate against a firearm entity or firearm trade association": (A) means, with respect to the entity or association, to: (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association.

By submitting an offer to or executing contract documents with the City of San Antonio, Company hereby verifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and will not discriminate during the term of the contract against a firearm entity or firearm trade association. City hereby relies on Company's verification. If found to be false, City may terminate the contract for material breach.

## **XXXI. PROHIBITED CONTRIBUTIONS**

31.1 Consultant acknowledges that City Code Section 2-309 provides that any person acting as a legal signatory for a proposed contractual relationship that applies for a "high-profile"


discretionary contract, as defined by the City of San Antonio Contracting Policy and Process Manual, may not make a campaign contribution to any councilmember or candidate at any time from the time the person submits the response to the Request for Proposal (RFP) or Request for Qualifications (RFQ) until 30 calendar days following the contract award. Consultant understands that if the legal signatory entering the contract has made such a contribution, the city may not award the contract to that contributor or to that contributor's business entity. Any legal signatory for a proposed high-profile contract must be identified within the response to the RFP or RFQ, if the identity of the signatory will be different from the individual submitting the response.

- 31.2 Consultant acknowledges that the City has identified this Agreement as high profile.
- 31.3 Consultant warrants and certifies, and this Agreement is made in reliance thereon, that the individual signing this Agreement has not made any contributions in violation of City Code section 2-309, and will not do so for 30 calendar days following the award of this Agreement. Should the signor of this Agreement violate this provision, the City Council may, in its discretion, declare this Agreement void.

**EXECUTED** and **AGREED** to as of the dates indicated below.

**CITY OF SAN ANTONIO**

**Applied Research Associates, Inc.**

<hr/> <i>(Signature)</i>	 <hr/> <i>(Signature)</i>
Printed Name: _____	Printed Name: <u>Jennifer Di Gregorio</u>
Title: _____	Title: <u>VP, Contracts and Procurement</u>
Date: _____	Date: <u>August 31, 2022</u>

Approved as to Form:

\_\_\_\_\_  
Assistant City Attorney



# Exhibit 1

# **Scope of Services**

## **1 SCOPE OF SERVICES**

### **1.1 TASK 1: PROJECT MANAGEMENT**

The objective of this task is to ensure the scope of work, data collection protocol, quality control/quality assurance, project schedule, traffic control plan, jurisdictional contacts, reporting requirements, and other project-specific requirements are adhered to throughout the project. In addition to the kick-off meeting and regular e-mail and telephone communications, up to nine (9) additional meetings will occur throughout the project at completion of major tasks and to review the results of this study at key milestones. Applied Research Associates, Inc. ("Consultant" or "ARA") anticipates an average of one on-site meeting per month.

### **1.2 TASK 2: INVENTORY REVIEW AND ROUTING**

#### *1.2.1 Inventory Review*

An important step of this project that will take place prior to the data collection is an evaluation of the City's current roadway and pavement management inventory datasets to efficiently plan data collection. The City will need to provide the following information to facilitate the analyses to be performed by ARA:

- Pavement management database
- Shape files / geodatabase of road centerlines
- Other supporting shape files such as council districts, city limits, etc.

This task is continuous throughout the project, incorporating inventory discrepancies that may be found in later stages of the project based on actual field conditions. This full vetting of the City's inventory will start before data collection begins and continue until all final analyses and reporting are complete.

#### **Inventory Review Process**

#### *1.2.2 Routing*

Once inventory records have been reconciled, ARA will then "route" our collection plan. ARA's route-optimization programs minimize data collection times in the field and facilitate data processing once data has been submitted to the office. Based on our preliminary review of the City's roadway inventory, we estimate an upper estimate of approximately 5,225 test miles representing 4,267 centerline miles of roadway. This estimate is based on one collection pass on each local roadway and two collection passes on principal arterial, minor arterial, and collector roadways. The actual test miles may be slightly less due to divided roadways, where only one collection pass per road segment will be necessary.

#### **San Antonio Street Network Breakdown**

<b>Functional Class</b>	<b>CLM</b>	<b>Test Passes</b>	<b>Test Miles</b>
<b>Local</b>	3,308	1	3,308
<b>Collector</b>	309	2	619
<b>Minor</b>	443	2	887
<b>Principal</b>	206	2	411
<b>Total</b>	4,267	--	5,225

Within the City limits, there are also approximately 182 miles of “Private” roadways that the City may consider including for PCI evaluation only. Pricing for adding these optional roadways is provided in the pricing section of this proposal.

### **1.3 TASK 3: DATA COLLECTION**

ARA proposes to provide automated data collection using the ARA Digital Survey Vehicle (DSV) equipped with a 3D Laser Crack Measurement System (LCMS), profile bar, and ladybug 360 camera. During data collection, this vehicle is driven at posted speed limits (up to 60 mph.) ARA does not anticipate any traffic control requirements. Consultant’s DSV is equipped with appropriate flashing lights and sign markings for additional safety. Additionally, all vans used for collection are marked with the company name.

#### *1.3.1 Sample Data Collection*

To ensure that the methods, processes, and procedures are providing the intended deliverables at the expected level of quality, ARA proposes to perform a sample survey on a portion of the City’s network. This sample survey will include approximately 25 miles of roads (½ to 1 day of collection) with the main objective of refining processes and ensuring that the City’s expectations are met. ARA would prefer to collect data during the processing of the Sample Data Collection. Prior to performing the Sample Data Collection, all equipment will be calibrated, and pre-collection control sites will be set-up and tested to ensure that all sensors are operating properly and accurately.

#### *1.3.2 Full Network Data Collection*

Full network data collection will consist of collecting pavement condition inspections on all 4,267 centerline miles of City streets. The data collection will consist of an automated data collection survey. Details of the data collection system are provided in a separate section. ARA will collect data on all local streets in one lane only and in two directions on arterial and collector streets. Consultant estimates a total of approximately 5,225 test miles based on the multi-pass requirements.

### **1.4 TASK 4: DISTRESS RATING & DATA PROCESSING**

#### *1.4.1 Data Processing & Distress Rating*

The following steps are taken as part of this task:

- 1) Database Setup – rating database is setup and configured (once per project)

- 2) Data Import – raw data files loaded into rating database
- 3) Matching – raw data files match to GIS inventory
- 4) Autorate – distresses are automatically rated by the analysis software
- 5) Quality Control (QC) and Markup – raters review 100% of the “Autorated” results, add patching & pothole distresses, adjust false positive/false negative cracking distresses, and manually rate any roads that are Portland Cement Concrete (PCC).
- 6) Reporting – Distress summary results, IRI results, Rutting results exported and are now ready to prepare Cartegraph OMS upload files.

If City wants ARA to match previous sampled areas for calculating the PCI as opposed to using the full-lane data collected, City will provide GIS files showing the sample locations.

The “Autorate” and “QC and Markup” tasks will be performed on 100% of the files. Consultant will perform the full lane rating, and review and perform quality control on each individual file.

Any files that are corrupt will be flagged for recollection and communicated to the data collection team for reacquisition. Consultant will do all clean up at the end of the project as to keep the field crews working in the same area to maintain productivity.

Data acquired with the Laser Imaging system allows the automated detection/identification of various types of distresses including all types of cracking, rutting, raveling, potholes, edge drop-off, sealed cracks, lane markings, and macrotexture. However, it should be noted that for PCI calculation purposes, the ASTM D 6433 standard includes 20 distress types for both asphalt and concrete surface types. Due to the complexity of separating all distresses into the 20 distress types, ARA will follow a two-step approach for distress rating, where a combination of fully automated computer-based crack type determination and a semi-automated rating process performed by an experienced pavement inspector. ARA will determine the most suitable approach to ensure quality results for the City.

Quality control (QC) and quality assurance (QA) are an integral part of ARA’s methodology. ARA incorporates QA/QC measures in all aspects of data collection, verification, analyses and reporting. During data collection, all data streams are verified on a daily basis as part of a comprehensive QA/QC program to ensure that all required data elements are being collected. It also serves to ensure that no segment is left untested, unless for a reason beyond AA control at the time of data collection (ex. road closures or construction activity).

All acquired data will be analyzed through distress rating software ICC Connect. Distresses will be categorized by type, severity, and quantity the results including location and extent.

International Roughness Index (IRI) values will also be reported for each roadway segment. IRI quantifies the ride quality (rough or smooth) that the traveling public experiences on the roadway. A 0 to 100 ride condition index will be calculated for each road segment based on the IRI values. The rutting measurements on each roadway are measured by the 3D-LCMS camera and will be reported individually as well as included as part of the Pavement Condition Index calculation. IRI will be converted to a Ride Index for upload to Cartegraph.

## **1.5 TASK 5: CARTEGRAPH UPLOAD**

ARA will coordinate with Cartegraph for this task. This task will require the assistance of Cartegraph to ensure the integrity of the Cartegraph database.

ARA will subcontract with Cartegraph subject to City approval.

ARA will take the summarized distresses, IRI, and asset inventory (see Task 9 for details on asset inventory) data from the processing and extraction tasks and format the results for provision to Cartegraph to perform the upload. We will streamline this process during the “Sample Study” to ensure all future uploads in the “Full Network” collection and upload run smoothly and are error-free.

## **1.6 TASK 6: PAVEMENT CONDITION INDEX CALCULATION**

A Pavement Condition Index (PCI) score in accordance with the ASTM D6433 Standard for each City-maintained roadway block-to-block segment will be calculated. ARA will utilize the Cartegraph OMS software to calculate the PCI scores, which are often classified into various condition categories (customizable)

## **1.7 TASK 7: VIEWING TOOL AND GIS DELIVERABLES**

### *1.7.1 Viewing Tool*

ARA has developed a Google Earth based viewing tool that can be provided to the City. The Google Earth based solution is extremely intuitive to use and requires minimal training and resources on the City’s end to use. There is no license fee and no special software installation is required (other than GoogleEarth) to utilize this tool. ARA coordinate with the City to define which elements to include and the graphical layout of the tool to be provided. ARA coordinate with the City to determine if this is a viable viewing solution for the City. Consultant has other options that can be provided to the City as a viewing solution such as ArcGIS online or other custom ARA software. The ARA team will work out the specifications and requirements of this viewing tool while the data collection tasks are being performed as to have the tool ready to receive the processed images and pavement condition data once processing is complete.

### *1.7.2 ESRI Database Delivery*

As required by the City, ARA will deliver an ESRI personal geodatabase containing relevant pavement condition inspection data, segment identifiers (Cartegraph IDs), OCI data, and other pertinent information. The geodatabase will be referenced to the latest State of Texas (South Central) Plane Coordinate System (ex. NAD 1983 State Plane Texas S Central FIPS 4204), North American Datum (NAD 1983) and the North American Vertical Datum 1988 (NAVD 88). ARA anticipates providing the following feature classes in the geodatabase:

- Street centerlines including all pertinent pavement inventory attributes
- Pavement Condition Index (PCI) and Overall Condition Index (OCI) scores
- International Roughness Index (IRI) scores

- Rut index score
- Detailed pavement distress locations, types, severities, and quantities
- Pavement marking locations (for mileage added)
- Traffic sign locations (for mileage added)
- Guardrail/handrail locations (for mileage added)

ARA will provide GIS specialists and programmer support to customize the geodatabase as requested by the City.

### **1.8 TASK 8: ASSET INVENTORY**

New assets are to be inventoried as a part of this task. At least 102 centerline miles of roadway are to be included as part of this task. For estimating purposes, we have assumed that 70% of these roadways are local roadways only needing one collection pass and 30% are arterial/collector roadways, requiring two collection passes. This task will be performed using a LiDAR system. It should be noted that the LiDAR can be used for additional survey-grade surveying requests that the City may need.

Assets to be collect include:

- Pavement width of each new street segment (if not in City's inventory already)
- Pavement marking inventory for every segment (block to block) for mileage added to the street network inventory from previous pavement assessment
  - Marking length and width of each type
  - Lane configurations (i.e., lane striping)
  - Reflectors installed down the centerline of roads
- Sign for mileage added to the street network inventory from previous pavement assessment
  - Type of sign
  - Type of support
- Provide geospatially referenced JPEGs of the City's network, complete with header information (video data collection), which are directly linked or hyperlinked to the Asset Management Software, and which can be reviewed directly within the Asset Management Software
- Guardrail/Handrails within every segment (block to block)

### **1.9 TASK 9: PAVEMENT MANAGEMENT SYSTEM OPTIMIZATION**

This task will consist of the configuration, set-up, analysis with, and optimization of the City's Cartegraph OMS pavement management system.

The ultimate deliverable from this task will be a comprehensive report that will include the following elements from subtasks performed during the optimization:

- **Phase 1** (due 6 months from notice to proceed; less depended on new PCI results)
  - Updated Performance Curves
    - Review of geotechnical/geology in San Antonio
    - Develop soil groups for performance curves
    - Mine Cartegraph database for historic PCI data and identify trends and anomalies for development of performance families
    - Set-up performance curves based on functional class, soil groups, and trends from historic PCI scores
    - Review past maintenance/repair history to determine if new pavement types with corresponding performance curves need to be created.
    - Considerations on whether the age (initial) construction warrants making separate performance families.
  - Updated Decision Trees
    - Review current decision trees
    - Evaluate how other indices can be included (e.g., ride index)
    - Evaluate how other right-of-way asset information can be incorporated
    - Review validity of treatments based on geographic location/soil maps
    - Adjust based on performance of treatments
    - Adjust based on new performance families, if necessary
    - Review roadways requiring frequent repairs and determine if this is a decision tree issue.
  - Prioritization of Projects (initial procedure)
    - Develop methods for improved prioritization of project selection
- **Phase 2** (due after completion of condition assessment to incorporate PCI results)
  - Overall Citywide PCI
  - District level analysis – Average PCI by District
  - Update Performance Curves
    - Validate and adjust findings of draft report based on the new PCI scores
  - Update Decision Trees
    - Validate and adjust recommendations of draft report based on the new PCI scores
  - Prioritization or Projects (finalize procedure)
    - Validate and adjust recommendations after incorporating the new PCI scores

- Identification of Work Requirements
  - After PCI Scores are obtained, determine work requirements for every road segment in the City
- Budget Analyses
  - Evaluate multi-constraint analyses options within Cartegraph OMS
  - Utilize Critical Maintenance analysis to determine annual funding allocations
  - Perform budget scenarios based on City-defined criteria for multiple budget and budget distribution options.
  - Standard other analyses to be performed:
    - Do Nothing Analysis
    - Deferred Maintenance Analysis
    - Unlimited Budget Analysis
  - Forecast to Year 2030
  - Recommended funding level analysis for City stated Goals for Year 2030
- Create Detailed Workplan (FY 2023 - FY2027)
  - Five-year forecast with approved IMP (FY 2023 - FY 2027)
  - Will be included in the final report for the PMS Optimization
- Create 8-year Plan through FY 2030 utilizing the adopted FY 2023 - FY 2027 IMP
  - Recommend project limits and/or application refinements to FY 2024 - FY 2027
  - Develop project list for FY 2028, FY 2029, and FY 2030.

The Phase 2 report will be considered the final PMS Optimization report. The Executive Summary will incorporate elements from this report, but not the same level of detail.

The City will either provide or have already performed the following:

- 1) Update Work History – completed maintenance has already been entered into Cartegraph
- 2) Update Unit Costs – City will provide current unit costs for maintenance
- 3) New inventory added – all inventory will be added by City personnel only and there will be a one-to-one match to the City's Esri GIS database

The Parties expect that this will be a cooperative effort with regular communication to ensure the end product meets or exceeds the expectations of the City.

## **1.10 TASK 10: EXECUTIVE SUMMARY**



This task involves preparing an Executive Summary Report that will document all fieldwork, ride statistics, distress information, and the maintenance and rehabilitation recommendations. This Executive Summary will include a summary of fieldwork, summary of network condition, detailed outline of the work plans developed, recommended practical management plan project groupings and with recommendation repair activities with estimated costs, and GIS exhibits. This will include tables, graphics, and a descriptive narrative for City personnel to utilize. ARA anticipates that the Executive Summary will address the following at a minimum:

- Recommend improvements to Maintenance and Rehabilitation Strategies.
- Identify Repair Recommendations:
- Identify streets that require immediate maintenance to address safety concerns,
- Identify streets that are good candidates for pavement preservation treatments such as chip seals, microsurfacing, or slurryseals,
- Identify streets that are good candidates for rehabilitation/new paving
- Estimate all maintenance, rehabilitation, and reconstruction costs for configuration in the software through coordination with City staff.
- Summarize budget analyses for short- and long-term planning.
- Outline methodologies applied for improvement to performance curves, decision trees, and budget analyses performed.
- Recommend improvements for the City's overall business process and systems integration for the Pavement Management Program.
- Recommended practical management plan project groupings and with recommendation repair activities with estimated costs.

### **1.11 ADDITIONAL SERVICES**

ARA can provide additional pavement engineering services that include, but are not limited to the following:

- Falling Weight Deflectometer Testing – pavement structural capacity
  - Project level testing on F-streets to optimize overlay thicknesses & evaluate other rehabilitation options
  - Project level testing on F-streets to confirm project selection
  - On-call FWD testing
- 2D Ground Penetrating Radar Testing – pavement layer thicknesses, moisture variation (limited)
  - Support FWD testing, or stand alone
- 3D Ground Penetrating Radar Testing – pavement layer thicknesses, moisture variation, utility locating, bridge deck scanning

- Support FWD testing, or stand alone
- Pavement Profile Testing – ride quality (IRI) testing of pavement; often done post-construction to determine quality of construction/repairs
- Pavement Friction Testing – skid resistance of roadways
- Manual/Walking PCI surveys
- On-call automated distress surveys – can be performed after repairs or as needed on specific roadways
- Lane Striping Retroreflectivity
- Geotechnical engineering services (through subconsultant)
- Additional asset inventory and asset management services (through subconsultants)
- Sidewalk and ramp ADA inspections
- Sustainability planning
- Pavement design services including rehabilitation, reconstruction, and new designs
- Advanced Configuration / Optimization of Pavement Management Program
  - Additional analyses outside of Cartegraph OMS framework Please note that FWD and GPR testing may require traffic control.

## **2 QUALITY ASSURANCE / QUALITY CONTROL**

A Quality Management Plan will be prepared and provided to the City for approval within one- month after the kick-off meeting. QA/QC is a vital part of all tasks on this project.

## **3 PROJECT SCHEDULE**

Completion of the project will take approximately 10 months from notice to proceed for substantial completion of work. Consultant anticipates that there we will still need to support the City with additional reporting and presentation support until budget season is over. Key dates in the City’s schedule include:

- April 2023 – Council Goal Setting Meeting
- June 2023 – Trial Budget
- July 2023 – Department Meetings with City Manager
- August 2023 – Budget Presentation
- September 2023 – Budget Approval

Consultant’s goal is to have an early warning system for the Public Works Department based on how the results of this survey are trending. This will help facilitate early communication and prevent “surprises” for City personnel regarding pavement conditions, budgets, and recommendations.

Schedule in Microsoft Project format provided separately.

#### 4 DELIVERABLES

ARA will provide the following deliverables:

<b>Deliverable</b>	<b>Due Date</b>
<b>Asset Inventory</b>	5 months from NTP
<b>Draft Pavement Optimization Report</b>	6 months from NTP
<b>PCI Scores</b>	7 months from NTP
<b>Esri Databases with PCI Scores</b>	7.5 months from NTP
<b>Preliminary Budget Analysis</b>	8.5 months from NTP
<b>Viewing Solution</b>	9 months from NTP
<b>Final Pavement Optimization Report</b>	9.5 months from NTP
<b>Executive Summary</b>	9.5 months from NTP

#### 5 PROJECT PRICE

ARA will provide the services noted in this proposal on a firm fixed price basis. The initial contract value shall be **\$1,241,700.00** (without contingency).

<b>Tasks</b>	<b>Fee</b>
Task 1 - Project Management	\$84,000.00
Task 2 - Inventory Review & Routing	\$37,400.00
Task 3 - PMS Data Collection	\$555,100.00
Task 4 - Distress Rating & Processing	\$174,300.00
Task 5 - Cartegraph Upload	\$32,100.00
Task 6 - PCI Calculation	\$10,700.00
Task 7 - Viewing Tool	\$25,000.00
Task 8 - Asset Inventory	\$109,200.00
Task 9.0 - Optimization Report (Draft & Final)	\$36,400.00
Task 9.1 - Update Performance Curves	\$39,500.00
Task 9.2 - Update Decision Trees	\$5,400.00
Task 9.3 - Prioritize Projects	\$10,700.00
Task 9.4 - Work Requirements	\$21,300.00
Task 9.5 - Budget Analysis (FY 2023 - FY 2027)	\$21,300.00
Task 9.6 - 8-year Plan through FY 2030	\$29,200.00
Task 10 - Executive Summary	\$26,600.00
Task 11 - Private Roadway PCI - 182 miles	\$31,000.00
<b>Total</b>	<b>\$1,241,700.00</b>

<b>Optional Tasks</b>	<b>Fee</b>
Contingency Budget and/or Additional Services	\$58,300.00
<b>Total</b>	<b>\$58,300.00</b>

ARA will invoice monthly on a percent complete basis for payment to be made within 30 days of receipt of invoice (Net 30). Contingency budget is to account of any additional analyses that may be requested.

For all tasks that involve field work, analysis or reporting, it is assumed that all information provided by the City is correct, current, and will only have minor changes, if any, and will have little to no impact on fee or schedule. If significant changes are made to City-provided information (that require GIS file editing, re-planning, recollection, or reprocessing of the data), Consultant will charge this work at an hourly rate based on the standard fee schedule on the following pages.

# Exhibit 2

## Standard Schedule of Consulting Fees

The following schedule of fees, terms, and conditions are for engineering consulting and expert services provided on an hourly basis by Applied Research Associates, Inc. (ARA) as part of any contingency work referenced in Exhibit 1. All rates are given in US currency and are updated annually on January 1.

### SECTION 1 – PRICING SCHEDULE LABOR PRICING

Reimbursement for professional, technical, and administrative staff will be made at the rates provided in the following table.

Project Role	Hourly Rate	Project Role	Hourly Rate
Aide	\$50.00	Staff Engineer 1	\$98.00
Administrative Assistant	\$65.00	Staff Engineer 2	\$118.00
Senior Administrator	\$115.00	Senior Engineer 1	\$140.00
Staff Mar-Com Specialist	\$97.00	Senior Engineer 2	\$167.00
Senior Mar-Com Specialist	\$121.00	Principal Engineer 1	\$215.00
Principal Mar-Com Specialist	\$167.00	Principal Engineer 2	\$275.00
Editor	\$118.00	Junior Software Engineer	\$96.00
Junior Technician	\$48.00	Staff Programmer	\$115.00
Staff Technician 1	\$60.00	Senior Programmer	\$168.00
Staff Technician 2	\$68.00	Principal Programmer	\$203.00
Senior Technician 1	\$80.00	SME	\$216.00
Senior Technician 2	\$100.00	Principal SME	\$285.00
Lead Technician	\$130.00	Engineering Director	\$295.00

ARA will increase the labor rates above by 3% beginning January 1 of each calendar year.

### OTHER DIRECT COSTS

#### *Travel Expenses*

Travel costs are direct project expenses for meals, incidentals, motels, airfare, mileage, rental car, parking, and other travel costs. While ARA employees attempt to travel under US government guidelines, travel and per diem expense rates for non-government projects are not regularly available. Travel and per diem expenses are not limited to government per diem.

#### *ARA Equipment & Specialty Software*

ARA owns and operates a comprehensive fleet of pavement testing equipment. A schedule of prices for selected items is provided in the following table. These rates do not include engineering time, operator time, travel, or per diem costs during mobilization or field testing.

Equipment Item	Commercial Rate	Units
Falling Weight Deflectometer	\$1,580.00	Day
Heavy Weight Deflectometer	\$1,580.00	Day

Pavement Friction Tester		\$2,100.00	Day
Runway Friction Tester		\$2,500.00	Day
Pavement Core Truck		\$660.00	Day
Pavement Marking Retroreflector		\$660.00	Day
Pavement Survey Vehicle with LCMS	(daily use including mobilization)	\$1,910.00	Day
Pavement Survey Vehicle with LCMS	(10,000+ mile effort)	\$55.00	Mile
Pavement Survey Vehicle with LCMS	(500 to 10,000 mile effort)	\$60.00	Mile
Pavement Survey Vehicle with LCMS	(up to 500 mile effort)	\$65.00	Mile
Pavement Survey Vehicle		\$1,320.00	Day
High Speed Profiler		\$1,320.00	Day
Ground Penetrating Radar (Air/Ground Coupled Single Antenna)		\$660.00	Day
Ground Penetrating Radar (3D Radar 6' wide)		\$3,280.00	Day
Pavement Sound (Onboard Sound Intensity)		\$1,580.00	Day
MIT SCAN		\$660.00	Day
Rolling Inclinometer		\$660.00	Day
LCMS Analysis Workstation		\$10.50	Hour
Geolocation and Survey Workstation		\$270.00	Day
PaVision Hardware Usage		\$1970.00	Day
PaVision Data Processing		\$53.00	Mile
Pavement Testing Work Vehicle		\$1.40	Mile
Company Vehicle (@ GSA Mileage Rate)		\$0.56	Mile
Computer (Standard Use)		\$4.00	Hour
Computer (Development & Analysis Surcharge)		\$3.30	Hour
Computer (Marketing & Communications Standard)		\$6.60	Hour
Computer (Marketing & Communications Graphics)		\$10.90	Hour
Video Production Studio/Laboratory		\$29.60	Hour

*Other Direct Expenses*

All direct job expenses will be charged at the direct cost.

**PURCHASES & SUBCONTRACTS**

Charges for purchases, subconsultants, and subcontractors will be at invoice plus 15 percent.