

**EXHIBIT**  
**"A"**



**CITY OF ROUND ROCK**  
**CONTRACT FOR ENGINEERING SERVICES**  
**FOR DAM 101 – 30% DESIGN**

**FIRM:** AECOM Technical Services ("Engineer")  
**ADDRESS:** 9400 Amberglen Boulevard, Austin, Texas 78729

**THE STATE OF TEXAS** §  
§  
**COUNTY OF WILLIAMSON** §

THIS CONTRACT FOR ENGINEERING SERVICES ("Contract") is made and entered into to be effective on \_\_\_\_\_, 2016 by and between the CITY OF ROUND ROCK, a Texas home-rule municipal corporation, whose offices are located at 221 East Main Street, Round Rock, Texas 78664-5299, (hereinafter referred to as "City"), and Engineer, and such Contract is for the purpose of contracting for professional engineering services.

**RECITALS:**

WHEREAS, V.T.C.A., Government Code §2254.002(2)(A)(vii) under Subchapter A entitled "Professional Services Procurement Act" provides for the procurement by municipalities of services of professional engineers; and

WHEREAS, City and Engineer desire to contract for such professional engineering services; and

WHEREAS, City and Engineer wish to document their agreement concerning the requirements and respective obligations of the parties;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable considerations, and the covenants and agreements hereinafter contained to be kept and performed by the respective parties hereto, it is agreed as follows:

## **CONTRACT DOCUMENTS**

The Contract Documents consist of this Contract and any exhibits attached hereto (which exhibits are hereby incorporated into and made a part of this Contract) and all Supplemental Contracts (as defined herein in Article 13) which are subsequently issued. These form the entire contract, and all are as fully a part of this Contract as if attached to this Contract or repeated herein.

### **ARTICLE 1 CITY SERVICES**

City shall perform or provide services as identified in Exhibit A entitled "City Services."

### **ARTICLE 2 ENGINEERING SERVICES**

Engineer shall perform Engineering Services as identified in Exhibit B entitled "Engineering Services."

Engineer shall perform the Engineering Services in accordance with a Work Schedule to be agreed upon between City and Engineer as part of the Work Authorization provided in Article 7 herein, "Work Authorization." Such Work Schedule shall contain a complete schedule so that the Engineering Services included in the Work Authorization may be accomplished within the specified time and at the specified cost. The Work Schedule shall provide specific work sequences and definite review times by City and Engineer of all Engineering Services. Should the review times or Engineering Services take longer than shown on the Work Schedule, through no fault of Engineer, Engineer may submit a timely written request for additional time, which shall be subject to the approval of the City Manager.

### **ARTICLE 3 CONTRACT TERM**

(1) **Term.** This Agreement shall be from the date hereof and shall terminate at the close of business on the 30<sup>th</sup> day of the month of August, 2017, or as otherwise terminated as provided in Article 20 entitled "Termination." Any Engineering Services performed or costs incurred after the date of termination shall not be eligible for reimbursement. Engineer shall notify City in writing as soon as possible if he/she/it determines, or reasonably anticipates, that the Engineering Services will not be completed in accordance with the Work Schedule.

(2) **Work Schedule.** Engineer acknowledges that the Work Schedule is of critical importance, and agrees to undertake all necessary efforts to expedite the performance of Engineering Services required herein so that the services will be commenced and completed as scheduled. In this regard, and subject to adjustments in the Work Schedule as provided in Article 2 herein, Engineer shall proceed with sufficient qualified personnel and consultants necessary to fully and timely accomplish all Engineering Services required under this Contract in a professional manner.

**(3) Work Authorization.** After execution of this Contract, Engineer shall not proceed with Engineering Services until authorized in writing by City to proceed as provided in Article 7.

#### **ARTICLE 4** **COMPENSATION**

City shall pay and Engineer agrees to accept the amount shown below as full compensation for all engineering services performed and to be performed under this Contract.

Engineer shall be paid on the basis of actual hours worked by employees performing work associated with this Contract, in accordance with the Fee Schedule attached hereto as Exhibit C. Payment of monies due for the Engineer's subconsultant's services, if any, shall be based on the actual amount billed to the Engineer by the subconsultant.

The maximum amount payable under this Contract, without modification of this Contract as provided herein, is the sum of Nine Hundred Twenty-Two Thousand Eight Hundred Sixty-Six and No/100 Dollars (\$922,866.00). Engineer shall prepare and submit to City monthly progress reports in sufficient detail to support the progress of the work and to support invoices requesting monthly payment. Any preferred format of City for such monthly progress reports shall be identified in Exhibit B entitled "Engineering Services". Satisfactory progress of work shall be an absolute condition of payment.

The maximum amount payable herein may be adjusted for additional work requested and performed only if approved by written Supplemental Agreement.

#### **ARTICLE 5** **METHOD OF PAYMENT**

Payments to Engineer shall be made while Engineering Services are in progress. Engineer shall prepare and submit to City, not more frequently than once a month, an invoice showing Engineering Services performed. This submittal shall also include a progress assessment report in a form acceptable to City.

Payments shall be made by City based upon Engineering Services actually provided and performed. Upon timely receipt and approval of each statement, City shall make a good faith effort to pay the amount which is due and payable within thirty (30) days. City reserves the right to withhold payment pending verification of satisfactory Engineering Services performed. Engineer has the responsibility to submit proof to City, adequate and sufficient in its determination, that Engineering Services were completed.

The certified statements shall show the total amount earned to the date of submission and shall show the amount due and payable as of the date of the current statement. Final payment does not relieve Engineer of the responsibility of correcting any errors and/or omissions resulting from his/her/its negligence.

**ARTICLE 6**  
**PROMPT PAYMENT POLICY**

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Engineer will be made within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which City receives a correct invoice for services, whichever is later. Engineer may charge a late fee (fee shall not be greater than that which is permitted by Texas law) for payments not made in accordance with this prompt payment policy; however, this policy does not apply in the event:

- A. There is a bona fide dispute between City and Engineer concerning the supplies, materials, or equipment delivered or the services performed that causes the payment to be late; or
- B. The terms of a federal contract, grant, regulation, or statute prevent City from making a timely payment with federal funds; or
- C. There is a bona fide dispute between Engineer and a subcontractor or between a subcontractor and its supplier concerning supplies, materials, or equipment delivered or the Engineering Services performed which causes the payment to be late; or
- D. The invoice is not mailed to City in strict accordance with instructions, if any, on the purchase order, or this Contract or other such contractual agreement.

City shall document to Engineer the issues related to disputed invoices within ten (10) calendar days of receipt of such invoice. Any non-disputed invoices shall be considered correct and payable per the terms of Chapter 2251, V.T.C.A., Texas Government Code.

**ARTICLE 7**  
**WORK AUTHORIZATION**

The Engineer shall not proceed with any task listed on Exhibit B until the City has issued a written Work Authorization regarding such task. The City shall not be responsible for work performed or costs incurred by Engineer related to any task for which a Work Authorization has not been issued.

**ARTICLE 8**  
**PROJECT TEAM**

City's Designated Representative for purposes of this Contract is as follows:

Alysha Girard  
Project Manager  
2008 Enterprise Drive  
Round Rock, TX 78664  
Telephone Number (512) 218-6646  
Fax Number (512) 218-5536  
Email Address [agirard@roundrocktexas.gov](mailto:agirard@roundrocktexas.gov)

City's Designated Representative shall be authorized to act on City's behalf with respect to this Contract. City or City's Designated Representative shall render decisions in a timely manner pertaining to documents submitted by Engineer in order to avoid unreasonable delay in the orderly and sequential progress of Engineering Services.

Engineer's Designated Representative for purposes of this Contract is as follows:

Darrell L. Jones, PE  
9400 Amberglen Boulevard  
Austin, TX 78729  
Telephone Number (512) 419-5897  
Fax Number (512) 454-8807  
Email Address [darrell.jones@accom.com](mailto:darrell.jones@accom.com)

## **ARTICLE 9**

### **PROGRESS EVALUATION**

Engineer shall, from time to time during the progress of the Engineering Services, confer with City at City's election. Engineer shall prepare and present such information as may be pertinent and necessary, or as may be requested by City, in order for City to evaluate features of the Engineering Services. At the request of City or Engineer, conferences shall be provided at Engineer's office, the offices of City, or at other locations designated by City. When requested by City, such conferences shall also include evaluation of the Engineering Services.

Should City determine that the progress in Engineering Services does not satisfy the Work Schedule, then City shall review the Work Schedule with Engineer to determine corrective action required.

Engineer shall promptly advise City in writing of events which have or may have a significant impact upon the progress of the Engineering Services, including but not limited to the following:

- (1) Problems, delays, adverse conditions which may materially affect the ability to meet the objectives of the Work Schedule, or preclude the attainment of Engineering Services units by established time periods; and such disclosure shall be accompanied by statement of actions taken or contemplated, and City assistance needed to resolve the situation, if any; and
- (2) Favorable developments or events which enable meeting the Work Schedule goals sooner than anticipated.

## **ARTICLE 10**

### **SUSPENSION**

Should City desire to suspend the Engineering Services, but not to terminate this Contract, then such suspension may be effected by City giving Engineer thirty (30) calendar days' verbal notification followed by written confirmation to that effect. Such thirty-day notice may be waived in writing by agreement and signature of both parties. The Engineering Services may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from City to resume the Engineering Services. Such sixty-day notice may be waived in writing by agreement and signature of both parties. If this Contract is suspended for more than thirty (30) days, Engineer shall have the option of terminating this Contract.

City assumes no liability for Engineering Services performed or costs incurred prior to the date authorized by City for Engineer to begin Engineering Services, and/or during periods when Engineering Services is suspended, and/or subsequent to the contract completion date.

## **ARTICLE 11**

### **ADDITIONAL ENGINEERING SERVICES**

If Engineer forms a reasonable opinion that any work he/she/it has been directed to perform is beyond the scope of this Contract and as such constitutes extra work, he/she/it shall promptly notify City in writing. In the event City finds that such work does constitute extra work and exceeds the maximum amount payable, City shall so advise Engineer and a written Supplemental Contract will be executed between the parties as provided in Article 13. Engineer shall not perform any proposed additional work nor incur any additional costs prior to the execution, by both parties, of a written Supplemental Contract. City shall not be responsible for actions by Engineer nor for any costs incurred by Engineer relating to additional work not directly associated with the performance of the Engineering Services authorized in this Contract or any amendments thereto.

## **ARTICLE 12**

### **CHANGES IN ENGINEERING SERVICES**

If City deems it necessary to request changes to previously satisfactorily completed Engineering Services or parts thereof which involve changes to the original Engineering Services or character of Engineering Services under this Contract, then Engineer shall make such revisions as requested and as directed by City. Such revisions shall be considered as additional Engineering Services and paid for as specified under Article 11.

Engineer shall make revisions to Engineering Services authorized hereunder as are necessary to correct errors appearing therein, when required to do so by City. No additional compensation shall be due for such Engineering Services.

**ARTICLE 13**  
**SUPPLEMENTAL CONTRACTS**

The terms of this Contract may be modified by written Supplemental Contract if City determines that there has been a significant change in (1) the scope, complexity or character of the Engineering Services, or (2) the duration of the Engineering Services. Any such Supplemental Contract must be duly authorized by the City. Engineer shall not proceed until the Supplemental Contract has been executed. Additional compensation, if appropriate, shall be identified as provided in Article 4.

It is understood and agreed by and between both parties that Engineer shall make no claim for extra work done or materials furnished until the City authorizes full execution of the written Supplemental Contract and authorization to proceed. City reserves the right to withhold payment pending verification of satisfactory Engineering Services performed.

**ARTICLE 14**  
**USE OF DOCUMENTS**

All documents, including but not limited to drawings, specifications and data or programs stored electronically, (hereinafter referred to as "Instruments of Service") prepared by Engineer and its subcontractors are related exclusively to the services described in this Contract and are intended to be used with respect to this Contract. However, it is expressly understood and agreed by and between the parties hereto that all of Engineer's designs under this Contract (including but not limited to tracings, drawings, estimates, specifications, investigations, studies and other documents, completed or partially completed), shall be the property of City to be thereafter used in any lawful manner as City elects. Any such subsequent use made of documents by City shall be at City's sole risk and without liability to Engineer, and, to the extent permitted by law, City shall indemnify, defend and hold harmless Engineer from all claims, damages, losses and expenses, including but not limited to attorneys fees, resulting therefrom.

By execution of this Contract and in confirmation of the fee for services to be paid under this Contract, Engineer hereby conveys, transfers and assigns to City all rights under the Federal Copyright Act of 1976 (or any successor copyright statute), as amended, all common law copyrights and all other intellectual property rights acknowledged by law in any designs and work product developed under this Contract. Copies may be retained by Engineer. Engineer shall be liable to City for any loss or damage to any such documents while they are in the possession of or while being worked upon by Engineer or anyone connected with Engineer, including agents, employees, Engineers or subcontractors. All documents so lost or damaged shall be replaced or restored by Engineer without cost to City.

Upon execution of this Contract, Engineer grants to City permission to reproduce Engineer's work and documents for purposes of constructing, using and maintaining infrastructure or facilities for which said work and documents were prepared, provided that City shall comply with its obligations, including prompt payment of all sums when due, under this Contract. Engineer shall obtain similar permission from Engineer's subcontractors consistent with this Contract. If and upon the date Engineer is adjudged in default of this Contract, City is permitted to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the work and documents for the

purposes of completing, using and maintaining infrastructure or facilities for which said work and documents were prepared.

City shall not assign, delegate, sublicense, pledge or otherwise transfer any permission granted herein to another party without the prior written agreement of Engineer. However, City shall be permitted to authorize a contractor, subcontractors and material or equipment suppliers to reproduce applicable portions of the Instruments of Service appropriate to and for use in their execution of work for the City. Submission or distribution of Instruments of Service to meet official regulatory requirements or for similar purposes is permitted. Any unauthorized use of the Instruments of Service shall be at City's sole risk and without liability to Engineer and its Engineers.

Prior to Engineer providing to City any Instruments of Service in electronic form or City providing to Engineer any electronic data for incorporation into the Instruments of Service, City and Engineer shall by separate written agreement set forth the specific conditions governing the format of such Instruments of Service or electronic data, including any special limitations not otherwise provided in this Contract. Any electronic files are provided by Engineer for the convenience of City, and use of them is at City's sole risk. In the case of any defects in electronic files or any discrepancies between them and any hardcopy of the same documents prepared by Engineer, the hardcopy shall prevail. Only printed copies of documents conveyed by Engineer shall be relied upon.

Engineer shall have no liability for changes made to Engineer's Instruments of Service by other engineers subsequent to the completion and delivery of the Instruments of Service to the City. Any such change shall be sealed by the engineer making that change and shall be appropriately marked to reflect what was changed or modified.

#### **ARTICLE 15** **PERSONNEL, EQUIPMENT AND MATERIAL**

Engineer shall furnish and maintain, at its own expense, quarters for the performance of all Engineering Services, and adequate and sufficient personnel and equipment to perform the Engineering Services as required. All employees of Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Engineer who, in the opinion of City, is incompetent or whose conduct becomes detrimental to the Engineering Services shall immediately be removed from association with this Contract when so instructed by City. Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Engineering Services required under this Contract, or will obtain such personnel from sources other than City. Engineer may not change the Project Manager without prior written consent of City.

#### **ARTICLE 16** **SUBCONTRACTING**

Engineer shall not assign, subcontract or transfer any portion of the Engineering Services under this Contract without prior written approval from City. All subcontracts shall include the provisions required in this Contract and shall be approved as to form, in writing, by City prior to Engineering Services being performed under the subcontract. No subcontract shall relieve Engineer of any responsibilities under this Contract.

**ARTICLE 17**  
**EVALUATION OF ENGINEERING SERVICES**

City, or any authorized representatives of it, shall have the right at all reasonable times to review or otherwise evaluate the Engineering Services performed or being performed hereunder and the premises on which it is being performed. If any review or evaluation is made on the premises of Engineer or a subcontractor, then Engineer shall provide and require its subcontractors to provide all reasonable facilities and assistance for the safety and convenience of City or other representatives in the performance of their duties.

**ARTICLE 18**  
**SUBMISSION OF REPORTS**

All applicable study reports shall be submitted in preliminary form for approval by City before any final report is issued. City's comments on Engineer's preliminary reports shall be addressed in any final report.

**ARTICLE 19**  
**VIOLATION OF CONTRACT TERMS/BREACH OF CONTRACT**

Violation of contract terms or breach of contract by Engineer shall be grounds for termination of this Contract, and any increased costs arising from Engineer's default, breach of contract, or violation of contract terms shall be paid by Engineer.

**ARTICLE 20**  
**TERMINATION**

This Contract may be terminated as set forth below.

- (1) By mutual agreement and consent, in writing, of both parties.
- (2) By City, by notice in writing to Engineer, as a consequence of failure by Engineer to perform the Engineering Services set forth herein in a satisfactory manner.
- (3) By either party, upon the failure of the other party to fulfill its obligations as set forth herein.
- (4) By City, for reasons of its own and not subject to the mutual consent of Engineer, upon not less than thirty (30) days' written notice to Engineer.
- (5) By satisfactory completion of all Engineering Services and obligations described herein.

Should City terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to Engineer. In determining the value of the Engineering Services performed by Engineer prior to termination, City shall be the sole judge. Should City terminate this Contract under Subsection (4) immediately above, then the

amount charged during the thirty-day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If Engineer defaults in the performance of this Contract or if City terminates this Contract for fault on the part of Engineer, then City shall give consideration to the actual costs incurred by Engineer in performing the Engineering Services to the date of default, the amount of Engineering Services required which was satisfactorily completed to date of default, the value of the Engineering Services which are usable to City, the cost to City of employing another firm to complete the Engineering Services required and the time required to do so, and other factors which affect the value to City of the Engineering Services performed at the time of default.

The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of City and Engineer under this Contract, except the obligations set forth herein in Article 21 entitled "Compliance with Laws." If the termination of this Contract is due to the failure of Engineer to fulfill his/her/its contractual obligations, then City may take over and prosecute the Engineering Services to completion. In such case, Engineer shall be liable to City for any additional and reasonable costs incurred by City.

Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurements made by Engineer in support of the Engineering Services under this Contract.

## **ARTICLE 21**

### **COMPLIANCE WITH LAWS**

**(1) Compliance.** Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including without limitation, minimum/maximum salary and wage statutes and regulations, and licensing laws and regulations. Engineer shall furnish City with satisfactory proof of his/her/its compliance.

Engineer shall further obtain all permits and licenses required in the performance of the Engineering Services contracted for herein.

**(2) Taxes.** Engineer will pay all taxes, if any, required by law arising by virtue of the Engineering Services performed hereunder. City is qualified for exemption pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise, and Use Tax Act.

**ARTICLE 22**  
**INDEMNIFICATION**

Engineer shall save and hold harmless City and its officers and employees from all claims and liabilities due to activities of his/her/itself and his/her/its agents or employees, performed under this Contract, which are caused by or which result from the negligent error, omission, or negligent act of Engineer or of any person employed by Engineer or under Engineer's direction or control.

Engineer shall also save and hold City harmless from any and all expenses, including but not limited to attorneys fees which may be incurred by City in litigation or otherwise defending claims or liabilities which may be imposed on City as a result of such negligent activities by Engineer, its agents, or employees.

**ARTICLE 23**  
**ENGINEER'S RESPONSIBILITIES**

Engineer shall be responsible for the accuracy of his/her/its Engineering Services and shall promptly make necessary revisions or corrections to its work product resulting from errors, omissions, or negligent acts, and same shall be done without compensation. City shall determine Engineer's responsibilities for all questions arising from design errors and/or omissions. Engineer shall not be relieved of responsibility for subsequent correction of any such errors or omissions in its work product, or for clarification of any ambiguities until after any construction project or maintenance performed pursuant to the Engineering Services provided under this Contract has been satisfactorily completed.

**ARTICLE 24**  
**ENGINEER'S SEAL**

The responsible engineer shall sign, seal and date all appropriate engineering submissions to City in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

**ARTICLE 25**  
**NON-COLLUSION, FINANCIAL INTEREST PROHIBITED**

(1) **Non-collusion.** Engineer warrants that he/she/it has not employed or retained any company or persons, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that he/she/it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, City reserves and shall have the right to annul this Contract without liability or, in its discretion and at its sole election, to deduct from the contract price or compensation, or to otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

(2) **Financial Interest Prohibited.** Engineer covenants and represents that Engineer, his/her/its officers, employees, agents, consultants and subcontractors will have no financial interest, direct or indirect, in the purchase or sale of any product, materials or equipment that

will be recommended or required for any construction project or maintenance performed pursuant to the Engineering Services provided under this Contract.

## **ARTICLE 26** **INSURANCE**

**(1) Insurance.** Engineer, at Engineer's sole cost, shall purchase and maintain during the entire term while this Contract is in effect professional liability insurance coverage in the minimum amount of One Million Dollars per claim from a company authorized to do insurance business in Texas and otherwise acceptable to City. Engineer shall also notify City, within twenty-four (24) hours of receipt, of any notices of expiration, cancellation, non-renewal, or material change in coverage it receives from its insurer.

**(2) Subconsultant Insurance.** Without limiting any of the other obligations or liabilities of Engineer, Engineer shall require each subconsultant performing work under this Contract to maintain during the term of this Contract, at the subconsultant's own expense, the same stipulated minimum insurance required in Article 26, Section (1) above, including the required provisions and additional policy conditions as shown below in Article 26, Section (3).

Engineer shall obtain and monitor the certificates of insurance from each subconsultant in order to assure compliance with the insurance requirements. Engineer must retain the certificates of insurance for the duration of this Contract, and shall have the responsibility of enforcing these insurance requirements among its subconsultants. City shall be entitled, upon request and without expense, to receive copies of these certificates of insurance.

**(3) Insurance Policy Endorsements.** Each insurance policy shall include the following conditions by endorsement to the policy:

- (a) Each policy shall require that thirty (30) days prior to the expiration, cancellation, non-renewal or reduction in limits by endorsement a notice thereof shall be given to City by certified mail to:

City Manager, City of Round Rock  
221 East Main Street  
Round Rock, Texas 78664

- (b) The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by City, to any such future coverage, or to City's Self-Insured Retentions of whatever nature.

**(4) Cost of Insurance.** The cost of all insurance required herein to be secured and maintained by Engineer shall be borne solely by Engineer, with certificates of insurance evidencing such minimum coverage in force to be filed with City. Such Certificates of Insurance are evidenced as Exhibit D herein entitled "Certificates of Insurance."

**ARTICLE 27**  
**COPYRIGHTS**

City shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, any reports developed by Engineer for governmental purposes.

**ARTICLE 28**  
**SUCCESSORS AND ASSIGNS**

This Contract shall be binding upon and inure to the benefit of the parties hereto, their successors, lawful assigns, and legal representatives. Engineer may not assign, sublet or transfer any interest in this Contract, in whole or in part, by operation of law or otherwise, without obtaining the prior written consent of City.

**ARTICLE 29**  
**SEVERABILITY**

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

**ARTICLE 30**  
**PRIOR AGREEMENTS SUPERSEDED**

This Contract constitutes the sole agreement of the parties hereto, and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein. This Contract may only be amended or supplemented by mutual agreement of the parties hereto in writing.

**ARTICLE 31**  
**ENGINEER'S ACCOUNTING RECORDS**

Records pertaining to this Contract, and records of accounts between City and Engineer, shall be kept on a generally recognized accounting basis and shall be available to City or its authorized representatives at mutually convenient times. The City reserves the right to review all records it deems relevant which are related to this Contract.

**ARTICLE 32**  
**NOTICES**

All notices to either party by the other required under this Contract shall be personally delivered or mailed to such party at the following respective addresses:

**City:**

City of Round Rock  
Attention: City Manager  
221 East Main Street  
Round Rock, TX 78664

and to:

Stephan L. Sheets  
City Attorney  
309 East Main Street  
Round Rock, TX 78664

**Engineer:**

AECOM Technical Services  
9400 Amberglen Boulevard  
Austin, TX 78729

**ARTICLE 33**  
**GENERAL PROVISIONS**

**(1) Time is of the Essence.** Engineer understands and agrees that time is of the essence and that any failure of Engineer to complete the Engineering Services for each phase of this Contract within the agreed Work Schedule may constitute a material breach of this Contract. Engineer shall be fully responsible for his/her/its delays or for failures to use his/her/its reasonable efforts in accordance with the terms of this Contract and the Engineer's standard of performance as defined herein. Where damage is caused to City due to Engineer's negligent failure to perform City may accordingly withhold, to the extent of such damage, Engineer's payments hereunder without waiver of any of City's additional legal rights or remedies.

**(2) Force Majeure.** Neither City nor Engineer shall be deemed in violation of this Contract if prevented from performing any of their obligations hereunder by reasons for which they are not responsible or circumstances beyond their control. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

**(3) Enforcement and Venue.** This Contract shall be enforceable in Round Rock, Williamson County, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Contract shall be governed by and construed in accordance with the laws and court decisions of the State of Texas.

**(4) Standard of Performance.** The standard of care for all professional engineering, consulting and related services performed or furnished by Engineer and its employees under this Contract will be the care and skill ordinarily used by members of Engineer's profession practicing under the same or similar circumstances at the same time and in the same locality. Excepting Articles 25 and 34 herein, Engineer makes no warranties, express or implied, under

this Contract or otherwise, in connection with the Engineering Services.

**(5) Opinion of Probable Cost.** Any opinions of probable project cost or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost Engineer prepares.

**(6) Opinions and Determinations.** Where the terms of this Contract provide for action to be based upon opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

**ARTICLE 34**  
**SIGNATORY WARRANTY**

The undersigned signatory for Engineer hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the firm. The above-stated representations and warranties are made for the purpose of inducing City to enter into this Contract.

**IN WITNESS WHEREOF**, the City of Round Rock has caused this Contract to be signed in its corporate name by its duly authorized City Manager or Mayor, as has Engineer, signing by and through its duly authorized representative(s), thereby binding the parties hereto, their successors, assigns and representatives for the faithful and full performance of the terms and provisions hereof.

CITY OF ROUND ROCK, TEXAS

APPROVED AS TO FORM:

By: \_\_\_\_\_  
Alan McGraw, Mayor

\_\_\_\_\_  
Stephan L. Sheets, City Attorney

**ATTEST:**

By: \_\_\_\_\_  
Sara L. White, City Clerk

LAN, INC.

By: \_\_\_\_\_  
Signature of Principal  
Printed Name: \_\_\_\_\_

**List of Exhibits Attached**

Exhibit A	Services to be Provided by the City
Exhibit B	Services to be Provided by the Engineer
Exhibit C	Work Schedule
Exhibit D	Fee Schedule
Exhibit E	Certificates of Insurance

Exhibit A

**Services to be Provided by the City**

The City will provide the following information and other assistance to the Engineer (Insert Engineer Name) that the City deems appropriate and necessary:

1. Any readily available pertinent existing information relating to the services to be performed by the Engineer; the City will provide one copy of such information in a format chosen by the City.
2. Clear direction and/or response to questions or requests made by the Engineer in the course of the Engineer's performance of services.
3. Timely review of deliverables that have been properly completed and submitted by the Engineer; and timely provisions of comments, if any, to the Engineer resulting from said reviews.
4. City to contract with and coordinate Cambrian Environmental.

## **EXHIBIT B**

### **Services to be Provided by the Engineer**

### **Proposed AECOM Scope of Work (SOW)**

### **City of Round Rock - Dam 101 - 30 Percent Design**

**rev July 6, 2016**

The following is a proposal prepared by AECOM Technical Services, Inc. and is based on our understanding of the project gathered from our recent City of Round Rock contracts as well as the recent concept modeling work conducted under other contract mechanisms. This work is further explained in the Project Description section.

## **1. PROJECT DESCRIPTION**

### **Background:**

The City of Round Rock (City) and the Upper Brushy Creek Water Control and Improvement District (WCID or District) are jointly pursuing flood control and mitigation projects within the Lake Creek Watershed. The City wishes to design and construct Dam 101 as part of this effort. The proposed Dam 101 would be located in Williamson County, Texas generally located northwest of the intersection of McNeil Rd and SH 45, and just north of the existing Dam 9. The purpose of this proposal is to provide geotechnical and environmental field investigation, agency coordination, and design services for the preliminary (30 percent) design of Dam 101.

The general criteria for the concept design of the combined tandem of Dam 101 and 102 was to provide improvements to divert and/or detain flood water such that finished floor elevations of existing residential structures along Lake Creek within the City Limits of Round Rock and upstream of IH-35, will be at least 1 foot higher than the projected 1 percent Annual Chance Flood Hazard Area based on:

- The Phase 2 Risk Mapping, Assessment, and Planning (MAP) hydrologic and hydraulic (H&H) models submitted to the Federal Emergency Management Agency (FEMA) by AECOM;
- Estimated future development of the Robinson Ranch property, located in the upstream watersheds of Dams 101 and 102, based on the annexation agreement with the City of Austin dated June 28, 2004 (and later determined to consist of approximately 80 percent impervious cover);
- Existing land use conditions for all other property located upstream of the dams;
- Existing quarries owned/operated by Austin White Lime being left unfilled and therefore not altering the hydrologic/hydraulic model; and
- Modeling refinements as described in the Modeling Assumptions and Results Comparison Memo (URS, May 2016).

To date AECOM has completed the following work:

- Initial field reconnaissance;
- Lake Creek watershed hydrology and hydraulics;
- Concept refinement studies for both Dam 101 and Dam 102;
- A materials investigation study;
- A limited geophysical study of the Dam 101 foundation;
- Design Workshops with WCID and City of Round Rock; and
- Presentations to the Dam 101 and 102 landowner (Robinson family), culminating in their approval of the general dam concepts and approval to proceed with field investigations.

The current concept design for Dam 101 includes the following conceptual design elements:

- General
  - ID: Alternative No. 12;
  - Alignment 'B' – shifted upstream, to minimize karst feature impacts;
  - 100-year peak outflow = 505 cfs at the Auxiliary Spillway Crest Elevation (782);
  - Top of Dam (Crest) Elevation = 789 ft;
  - Embankment Length = approx. 3800 ft;
  - Max Embankment Height = approx. 40 ft; and
  - Approximate Embankment Volume = 231,000 CY.
- Auxiliary Spillway (Preliminary)
  - Spillway Crest Elevation = 782 ft;
  - Labyrinth Floor Elevation = 764.2 ft;
  - Labyrinth Weir Width = 400 ft;
  - Labyrinth Weir Depth = 49 ft;
  - Number of Labyrinth Cycles = 15;
  - Stilling Basin Length = 95 ft; and
  - Stilling Basin Wall Height = 18 ft.
- Principal Spillway/Outlet Works
  - No. of Conduits = 1;
  - Diam. of conduits = 60 in.; and
  - Impact Basin.
- Category: Intermediate; High Hazard.
- Minimum Design Flood Hydrograph per Texas Commission on Environmental Quality (TCEQ) = 76 percent of PMF (to be confirmed during design).

Dam 101 lies within the property of Austin White Lime Company on the Robinson family ranch and undertaking the investigations described herein will require coordination with the property owners, via the District. The site is an environmentally sensitive area within the current jurisdiction of the City of Austin and Williamson County.

## 2. SCOPE OF WORK

The Scope of Work (SOW) for this project has been divided into the major tasks listed below.

- Task 1 – Project Management and Meetings.
- Task 2 – Auxiliary Spillway Siting and General Arrangement.
- Task 3 – Field Investigations.
- Task 4 – Environmental Investigations/Permit Support.
- Task 5 – 30 Percent Design Package.

The work breakdown structure, detailed task description, and assumptions associated with the work are presented in the following sections. AECOM's estimates of labor and ODCs are based on the assumptions and descriptions provided for each task, as well as the General Assumptions at the end of this scoping document.

## **Task 1 - Project Management and Meetings**

### **Task 1.1 Project Management**

This task will consist of project management and meeting time necessary for project setup and execution of the project. This task consists of managing and scheduling AECOM resources and project team members and performing administrative tasks during the execution of the work. This will include the following:

1. Initial project setup/contract/accounting system;.
2. Subcontract preparations and setup; subcontract management and invoicing.
3. Monthly Invoicing/Progress Reporting.
4. Client Communications - AECOM will assist the City with Owner communications/coordination via the WCID. It is anticipated that meetings/conference call will be scheduled to review Project progress and discuss concept refinements.
5. Project Progress Monitoring. AECOM will monitor budget and schedule progress for field, design tasks, and drawing development.
6. Project Coordination. AECOM will conduct cross-discipline progress/coordination meetings and conference calls for engineering and environmental coordination.
7. Health and Safety Plan development.

### **Task 1.2 Property Owner Coordination**

AECOM understands that the City and WCID will endeavor to keep the Robinson family informed of project developments, and continue to maintain the good working relationship it has already established. To that end, AECOM will coordinate their site efforts with the City, as well as WCID/Robinsons, and provide time for answering property owner questions through the City/WCID.

- Coordinate with the City/WCID/Robinsons to obtain right of entry as well as calendar coordination with the Robinsons for field investigations. It is understood that the Robinsons will need to utilize their property and the City/WCID may wish AECOM to honor the family's wishes and arrange field activities around the owner's schedules for periods such as hunting season. Due to the nature of these activities, it will not be possible to identify owner conflicts, except to coordinate in advance with the property

owners and assess within the weeks leading up to specific efforts. It should be understood that this may result in re-scheduling and/or alteration of the field work durations.

- Ad-hoc emails and conference calls (no meetings anticipated), with the City/WCID to support their communication/coordination with property owner. Estimated at approximately 2 per month.
- Additional contingency support for this work is identified in Task 6.

#### **Assumptions:**

- The WCID General Manager or other WCID Representative will provide point of contact with the Robinson family, and coordinate meetings and communications;
- AECOM will provide support role for same;

### **Task 1.3 Meetings**

AECOM will hold milestone meetings with the City as indicated below. AECOM will subsequently develop/submit meeting notes for review and approval. Additional ad hoc meetings may be requested by the City. The following meetings will be held based on the project schedule:

- Project Kickoff Meeting - AECOM will hold a project kickoff meeting after the Notice to Proceed is issued.
- Auxiliary Spillway Creek Discharge – AECOM will hold a meeting and/or conference call with City and WCID to discuss the results of the modeling efforts regarding impact to Rattan and Lake Creek, based on the location of the auxiliary spillway in these creeks, as described in Task 2. The results of that meeting will inform the selection of the auxiliary spillway arrangement.
- Preferred Auxiliary Spillway Arrangement – AECOM will hold a meeting/conference call to discuss the results of the draft memorandum on the preferred arrangement of the auxiliary spillway, as described in Task 2. The results of this meeting will define the auxiliary spillway location and arrangement, for purposes of identifying spillway-associated field borings and test pits.
- 30 Percent Design Meeting – AECOM will hold a 30 Percent Design meeting after the City has completed their review of the project deliverables. AECOM will respond to and address the comments from the City and District; implementing comments and associated responses will not be included in this phase, but in subsequent design phases. Discussion will include detailed treatment of the design's project elements; construction cost will be discussed, and design and construction schedule.

#### **Deliverables:**

- Project meeting minutes.

**Assumptions:**

- The Principal, Project Manager, and selected task or technical leads will attend the Kickoff meeting and 30 Percent Design review meeting. Other technical staff may attend via conference call. Meeting anticipated to be held at City offices.
- The Project Manager and selected task leaders will attend the informal progress meetings, either by conference call or at the City office. Denver staff who may attend will do so via conference call.
- Per discussions with City staff, this scope does not include meetings with City of Austin – see Section 6 – General Assumptions

**Task 2 – Auxiliary Spillway Siting and General Arrangement**

Note that whenever hydraulic and hydrologic (H&H) modeling (HECRAS or HECHMS) is referenced in this SOW, the models used will be based upon the Phase 2 Risk MAP models submitted to FEMA by AECOM.

**Task 2.1 Initial TCEQ Hydrology Submittal**

The hydrology that has been performed for the concept design to date will be documented, with the requisite TCEQ summary forms, into a report for TCEQ review. A letter will be drafted, requesting TCEQ review and stating the presented hydrology is the hydrology AECOM is considering for design. The model to be used will be a hydrologic model per a configuration to be confirmed with the City (with Dam 8 improvements, etc). Minor adjustments may be made to the dam safety model to address specific TCEQ report needs.

A draft deliverable will be sent for client review, and comments addressed in the final document. It is assumed no meeting will be necessary with TCEQ (these reports do not typically require in person presentation/ discussion).

**Deliverables:**

- Draft and Final Hydrology Letter.

**Task 2.2 Comparison of Rattan Creek and Lake Creek Auxiliary Spillway Discharges**

The auxiliary spillway (AS) can be located to discharge either directly into Lake Creek or indirectly into Lake Creek via Rattan Creek downstream of Dam 9. All of the modeling to date has assumed that the AS discharges into Rattan Creek, and has focused on the one percent annual chance (1% AC) and dam safety flood scenarios. This task will investigate two issues associated with AS location:

- **Effects on principal spillway (PS) hydraulics** - Direct discharge into Lake Creek versus Rattan Creek may have some minor effect on PS hydraulics, because of slight changes in flowrate of the immediate tailwater.

- **Effects on downstream flood levels for floods in excess of the 1% AC flood** - Dam 101 will be designed to detain the 1% AC flood without AS discharge. Greater floods will discharge through the AS. For example, if the AS were located on Rattan Creek, 0.2% AC flood levels will increase along Rattan Creek downstream of the AS, relative to the before Dam 101 condition, but not necessarily relative to the current condition. Keeping in mind that Dam 101 is to be built after Dam 102, the combined effect of Dam 102 (reduction in 0.2% AC flood level) with a Dam 101 AS location on Rattan Creek (increase in 0.2% AC flood level) is uncertain.

In this task, the project effect of a direct AS discharge into Lake Creek will be compared to direct AS discharge into Rattan Creek, using HEC-HMS and HEC-RAS software. Flood plain levels for the following events:

- 1% AC flood with ultimate developed landuse (estimate future percent impervious using assumptions documented in the District Flood Protection Plan).
- 0.2% AC (500-year) flood with existing landuse (existing percent impervious per Phase 2 Risk MAP models submitted to FEMA by AECOM).

The above flood events will be mapped for the following scenarios:

- Existing condition;
- With Dams 101 and 102 in place and Dam 101 AS discharge into Lake Creek; and
- With Dams 101 and 102 in place and AS discharge into Rattan Creek.

In addition, any changes in impacts to property (encroachment of flood extent on parcel boundaries and/or structures) for each scenario will be noted on maps and tabulated in a technical memorandum. A tabulation will also be made on the effect on principal spillway tailwater.

It is not expected that this information alone will suffice to allow for recommendation for AS location. A recommendation will be made as part of Task 2.3, after considering cost comparisons, permitting impacts, and client preferences.

A contingency line item is included in the fee (see Task 6) in case the City or District wish to model two additional scenarios, in which they may to simulate variations or combinations of the following:

- Proposed Dam 101/102 design alternatives;
- Existing quarries filled or modified;
- 0.4% AC (250-year) flood; or
- Ultimate developed/Robinson developed landuse conditions.

#### **Deliverables:**

- Brief memorandum (Draft and Final) describing Task 2.2.
- Meeting to discuss Draft memo and AS discharge location.

### **Task 2.3      Selection of the Preferred Auxiliary Spillway Arrangement**

It is understood that, for the City/WCID and the landowner, it is desirable to have a “low impact” auxiliary spillway arrangement for Dam 101. It is likely that with this arrangement substantial borrow materials will need to be imported for construction at significant cost to the project.

The “low impact” arrangement would likely comprise of siting the spillway to minimize excavation and disturbance in the spillway approach and exit channel. It is assumed that acceptable hydraulic conditions are achievable with this arrangement but this will be confirmed during this task. It is likely that some excavation and impact to achieve acceptable hydraulic conditions will be necessary but this will be kept to a minimum.

AECOM will use completed environmental studies and readily-available GIS to identify potential environmental constraints which may influence permitting scenarios. This includes a review of karst features (as provided by Cambrian), potentially jurisdictional waters, sensitive habitat, and cultural resources. AECOM will prepare a table that summarizes the constraints by alternatives. AECOM will also prepare a separate table summarizing how these alternatives will generally affect the permitting process under Section 404 of the Clean Water Act and Edwards Aquifer Rules. The information will be considered in light of current regulations and draft regulations proposed for the U.S. Army Corps Nationwide Permits (NWP).

Several arrangements for the spillway will be considered with a view to economizing construction cost. The most economical arrangement, with respect to cost, that meets with the performance criteria will be offered as the preferred arrangement. A conceptual design for the spillway will then be developed with a preliminary cost estimate. The conceptual designs would be accompanied by a memorandum in Draft.

#### **Deliverables:**

- Conceptual design drawings for the “low impact” arrangement. Up to four drawings will be developed.
- Preliminary cost estimates for the spillway only.
- Brief memorandum (Draft and Final) describing the arrangements considered, initial review of environmental impacts, general effects on permitting scenarios, assumptions and cost estimates.
- Meeting with conference call to discuss draft deliverables.

#### **Assumptions:**

- It is assumed that the City / WCID do not wish to consider a higher impact, lower cost arrangement, due to property owner desires and permitting impacts.
- The NWPs will be reissued on March 17, 2017. Draft guidance will be considered if this work product is developed before the NWP. Where possible, temporary and permanent impacts (based upon restoration of pre-construction contours) will be estimated.
- A separate, more detailed Section 404(b)(1) analysis will be prepared under a future phase.

### **Task 3      Field Investigations**

#### **Task 3.1      Site Survey**

The Wallace Group will contract to AECOM to perform initial survey work. The following are the primary elements of the survey:

- Set horizontal/vertical control;
- Title Search for existing easements;
- Survey the three ground-truth test holes from the geophysical work, performed under a separate contract.
- Survey and stake proposed locations for the geotechnical investigation borings and test pits. We expect some locations may need to be moved during preliminary design, due to access, or due to other reasons as found by our field geologists. Hole or test pit locations that have moved will be re-surveyed.
- Survey Lake Creek bed/banks in the vicinity of the dam footprint and principal spillway location, and for the anticipated auxiliary spillway location.
- Survey crest of existing Dam 9 auxiliary spillway, and location where Dam 101 connects to Dam 9.

The need for any additional ground survey required for final design will be identified.

#### **Deliverables:**

- CAD and pdf of the survey(s) will be provided to the City.
- Survey information to be incorporated into project drawings and test hole logs.

#### **Task 3.2      Geotechnical Investigation**

The geotechnical investigation will include data review, site reconnaissance, test pit excavation, drilling, laboratory testing, and geotechnical data report. The following sections present each of the subtasks.

##### **Task 3.2.1      Data Review and Site Reconnaissance**

A desktop data review of the results of electrical resistivity geophysical surveys and confirmation borehole logs will be performed before any field work is done. Packer test data from the confirmation boreholes drilled during the geophysical survey will be reduced and the results analyzed. The purpose of the data review will be to help set the initial location and arrangement of test holes and test pits to have the best probability of detecting subsurface voids and other foundation defects that may have an impact on the design and construction costs for the dam.

A site reconnaissance will be performed at the beginning of the field program. The purpose of the reconnaissance will be to evaluate site access and the location of proposed test holes and test pits with respect to known or suspected karst sinkhole features. The areas will also be reviewed

for equipment access related to the landowner's desires to avoid damage to existing land features, trees, etc. A work plan will be developed for submittal to City/WCID.

It is understood that the landowner and City/WCID wish to avoid future borrow excavation activities behind Dam 101 do not intend to utilize Dam 102 as a borrow source; as a result, the investigation for borrow source will not be conducted in the Dam 101 vicinity. However some test pits will still be conducted at Dam 101 associated with the foundation investigation.

Once the locations of excavations/borings are marked, a utility locate will be required before any excavations can be made. AECOM will also provide information to support the City's existing permit with the Williamson County Conservation Foundation (WCCF) for Geotechnical Drilling mitigation of karst features. Cambrian (under separate contract to City) will provide additional input on karst-specific information for City's review, if necessary.

**Deliverables:**

- Work Plan

**Assumptions:**

- It is assumed an updated WCCF permit will not be necessary;
- It is assumed that the City will remit fees to the WCCF, if necessary

**Task 3.2.2 Field Investigation**

Field investigations will include drilling test holes, performing packer testing, installing up to three monitoring wells and excavating test pits. Austin Geo- Logic will be supporting AECOM related to drilling, packer testing and test pit excavation and TRI laboratory will be supporting AECOM related to laboratory materials testing. Field investigations will also include collecting samples from the Austin White Lime quarry spoil piles for laboratory testing.

**Drilling:**

Approximately 14 test holes will be drilled with a total footage of approximately 700 feet. Test holes will be drilled using conventional hollow stem augers and diamond bit fluid coring methods to characterize the karst limestone foundation with a focus to detect and characterize subsurface voids and also subsurface rock properties that will be used to design the embankment.

All of the recovered core from these test holes will be kept in core boxes. Core boxes will be labeled with the following information:

- Project Number;
- Project Name;
- Test Hole Number;
- Sample Number;
- Sample Depth; and
- Date Sampled.

Test hole logs will be prepared for each hole drilled. The logs will describe the material encountered in general accordance with the Unified Soil Classification System and International Society of Rock Mechanics rock descriptions. The logs will identify the different geologic strata encountered. General drilling comments will also be included on the field logs. Photographs will be taken of the representative material observed in the cuttings of the holes and the rock core. Photographs will be labeled with the name of the hole, depth and date.

The test holes will be used to characterize the soil and subsurface rock properties that will be used to design the embankment and in particular foundation treatments that may be required. The test holes will be logged and in-situ water testing, or packer testing, will be conducted in test holes with in the limestone bedrock. A vibrating wire pore pressure sensor may be used for packer testing, if karst conditions are encountered that result in low head measured during testing. Results from the packer tests will be used to evaluate seepage potential in the foundation and may be used to develop a grout curtain design to reduce potential for seepage, if needed. Near surface packer testing will also be performed to help evaluate near surface foundation defects which may influence the design and treatment of the embankment foundation contact with respect to piping of material into the foundation.

Groundwater observation wells will be installed in up to three of the test holes. The purpose of the wells is to monitor seasonal fluctuations in groundwater at the proposed dam site for incorporation in the design of the dam and for construction. The wells will consist of a 10-foot section of 2-inch diameter screened PVC with solid 2-inch diameter riser pipe to approximately 1 foot above the ground surface. The location of the screened section will be determined upon completion of the test hole and packer testing to target zones of interest (i.e., those where groundwater is encountered during drilling and/or where higher takes during the packer testing are observed). A sand pack will be placed around and above the screened interval and a bentonite seal placed above the sand pack. The remainder of the test hole will be backfilled with cement bentonite grout to the surface.

Groundwater measurements will be taken manually with a groundwater monitoring device quarterly for a time period of 1 year.

Test holes not completed with a groundwater observation/monitoring well will be backfilled with cement-bentonite grout upon completion of coring and packer testing. Cement-bentonite grout backfill will be mixed onsite and placed using tremie methods. If karst conditions are encountered that result in large grout takes, a gravel mixture may be added to the test holes to help facilitate backfilling with grout. Groundwater observation wells would be decommissioned in the same manner during construction of Dam 101.

#### **Test Pits:**

Approximately 20 test pits will be excavated as part of the Dam 101 design. The purpose of the test pits will be to assess the thickness, type, and engineering properties of the clay soil above the limestone bedrock within the footprint of the dam. This does not include any borrow source investigation within Dam 101 or Dam 9.

The test pits have two main objectives. The first objective of the test pits will be to characterize the soil and rock conditions along the resistivity lines or previous borings to help correlate the geophysical data to actual ground conditions. In addition, any anomalous data from the geophysical surveys will be investigated.

The second goal of the test pits will be to assess the thickness, type and engineering properties of the soil above the limestone bedrock. Test pits will be excavated to a maximum depth of approximately 10 feet below ground surface and logged in accordance with the USCS.

The test pits will be excavated using a conventional rubber tire backhoe. Laboratory testing may be performed on the material to help characterize different layers based on field observations and visual classifications.

Test pits will be backfilled with the spoils excavated from the hole. The material will be placed in two-foot lifts. Each lift will be compacted by tamping the material using the bucket of the backhoe. The finished surface around the test pits will be leveled, raked and restored to existing grade as close as possible using the backhoe bucket and metal rake. The disturbed surface area may be approximately 10' x 10' in size. The disturbed area will be re-seeded.

#### **Quarry Spoil Piles:**

Up to six bulk samples will be collected from the Austin White Lime quarry spoil piles and tested in accordance with Task 3.2.3.

#### **Contingency**

Additional Owner contingency is provided in Task 6 to account for the potential for additional required site restoration efforts, as well as potential additional offsite borrow sources.

#### **Deliverables:**

- Field notes and logs which will be presented in the geotechnical data report.

#### **Assumptions:**

- Every effort and practical attempt will be made to locate test holes and test pits where access will not be hindered by trees or require tree removal, pruning, or other special requirements related to property owner coordination for boring location access. In an instance where it is not possible to relocate a test hole or test pit, the drilling company, under the supervision of AECOM, will carefully prune or remove trees, branches or bushes to provide access to the investigation location, taking care to minimize disturbance to the site.

#### **Task 3.2.3 Laboratory Testing**

Soil and rock samples will be sent to a local laboratory for testing. Laboratory testing will include triaxial tests, unconfined compression, consolidation tests, grain size analysis, Atterberg Limits, soil permeability tests and others as needed. Triaxial tests will be consolidated,

undrained, three point tests with pore pressure measurements. Unit weight and moisture content will be recorded for each sample. The material testing program will be developed and finalized during the field investigation program after more detail of the foundation is known based on the field investigations. Additional testing may be completed if judged appropriate. All testing will be done according to applicable ASTM standards.

**Deliverables:**

- Test results which will be presented in the Geotechnical Data Report.

**Task 3.2.4 Geotechnical Data Report**

The Geotechnical Data Report will be used as the basis of design and will present the suitability of the foundation and will address issues regarding suitability and quantity of material available for construction of the dam as designed. The report shall include the following:

- A geological characterization of the dam and reservoir site will be presented in the report. The geological characterization will present the regional geologic setting; local and site geology; geologic suitability of the dam foundation and reservoir area; seismic history and potential; and other potential geological hazards posed by the site and proposed construction. The geological characterization shall include the preparation of a site-specific geological map based upon field observations and mapping by an AECOM geologist.
- The Geotechnical Data Report will present logs of borings and test pits; standard penetration or other field density tests; field and laboratory classification of soils; measurement of the water level in each drill hole; in-situ permeability tests; gradation tests of foundation materials, especially at the locations of proposed drains; determination of liquefaction potential; and whether clay type foundation materials exhibit residual strength properties and may have the potential to be dispersive.

The boring logs in the geotechnical report will include detailed written descriptions of each sample and stratum encountered including observations of the drilling activity, drilling and sampling methods and any other observations pertinent to developing a detailed understanding of the subsurface conditions, such as sudden loss of drilling fluid.

**Deliverables:**

- Draft and Final Geotechnical Data Reports that will include information obtained from the investigations, including test pit logs, test hole logs, a stratigraphic column, location plans and profiles, and summary tables with borrow laboratory test results.

**Task 4 Environmental Investigations/Permit Support**

The following tasks are based upon the current understanding of the project and likely permitting requirements. Although the suggested activities are based upon best professional practice and

prior experience, the results of field work, the project's refined design and operations, and agency discussions may alter the proposed work approaches.

The final authority for permitting decisions rests with individual agencies which have the discretion to grant or not grant variances. Any agency contact or meetings will be pre-approved by the City and that meetings and appropriate attendee lists will be coordinated with the City. The District PM will be invited to all agency meetings.

Unless stated otherwise, deliverable drafts will be submitted electronically; three hard copies and one electronic version each will be submitted for the final.

#### **Task 4.1 Task Management**

- It is estimated another three meetings with the City will occur to discuss general status and permitting issues. For budgeting purposes, it is assumed that two of these meetings will involve at least one more Permitting Team member.
- AECOM's Permitting Task Manager and individual task leaders will review the draft 30 percent design and provide internal feedback to the Design Team on potential constraints and issues affecting permitting. The team will participate in an internal workshop.
- The City Project Manager and the District Project Manager will coordinate on meeting attendance.

#### **Task 4.2 Assessment of Potential Habitat for Protected Species for Dam 101**

- AECOM will research the Texas Parks and Wildlife Department (TPWD) web site to identify threatened and endangered species present in the county and evaluate if any other species other than those specified below require further evaluation.
- URS will participate in a meeting with the Williamson County Conservation Fund (WCCF) to confirm the study area. The meeting will be scheduled to allow attendance by both the City and District PMs as applicable.
- For costing purposes, it is assumed that the Dam 101 Environmental Investigation Area (attached figure, herein Environmental Investigation Area) will include the conceptual Limits of Construction (LOC) and inundation area east of O'Connor per agreement with the City.
- During the site visit, biologists will evaluate if any potential habitat for endangered Golden-cheeked Warblers (GCWA) and Black-capped Vireo (BCVI), migratory birds and/or freshwater mussels is present. This effort will allow the project to obtain necessary information without missing regulatory windows for biological surveys.
  - Potential habitat for GCWA and BCVI will be evaluated based on habitat descriptions documented by TPWD (Campbell, 1995) as specified in the Section

10 U.S. Fish and Wildlife Service (USFWS) Permit held by current AECOM staff.

- Potential habitat for freshwater mussels will be evaluated based upon the requirements of Texas Parks and Wildlife Department's (TPWD) state-protected and U.S. Fish and Wildlife Service (USFWS) federal Candidate species freshwater mussels.
- Karst invertebrates and Jollyville Plateau Salamanders (JPS) are excluded from this scope. These studies will be performed by Cambrian Environmental, LLC (Cambrian) under a separate contract with the City.
- AECOM will also identify migratory birds with potential habitat in the county so that later construction plans can include compliance measures under the Migratory Bird Treaty Act of 1917.
- Biologists will prepare a short letter report summarizing the results of the review including maps of areas with potential habitat as well as the need for compliance with the potential sand and marl regulations of TPWD.
- If potential habitat for federal-listed species or state-listed species is found during the field visit, the letter report will clearly summarize regulatory requirements and state restrictions for those species.
- If required, an absence and presence survey for BCVI and GCWA within the Environmental Investigation Area will be conducted.
- Should a habitat assessment implemented during the initial site visit warrant conducting presence/absence surveys for endangered GCWA, URS will conduct presence/absence surveys in accordance with the USFWS Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys and Habitat Assessments for Endangered Golden-cheeked Warblers (January 13, 2010) and related requirements. Reports would be prepared in compliance with GCWA reporting for 10(a)(1)(A) Scientific Research and Recovery Permits (January 26, 2011). Constraint mapping will be provided to the Engineering Team.
  - GCWA surveys must be conducted between March 15 and June 1 with 60 percent of the surveys conducted prior to May 15.
- Should a habitat assessment conducted during the initial site visit warrant also conducting presence/absence surveys for endangered BCVI, URS will conduct presence/absence surveys in accordance with the Section 10(a)(1)(A) Scientific Research and Recovery Permit. Reports will be prepared summarizing data and constraint maps will be prepared.
  - BCVI surveys must be conducted between April 10 and July 1. A minimum of 50 percent of the surveys must take place between April 10<sup>th</sup> and May 31.

**Deliverables:**

- Meeting minutes for WCCF meeting.
- Brief letter reports summarizing the results of the research (draft submitted electronically and 6 hard copies each will be submitted for the final).
- If necessary, brief letter reports of BCVI and GCWA absence and presence surveys.

**Assumptions:**

- The Environmental Investigation Area will not exceed approximately 178 acres as shown in the attached investigation figure. This includes approximately 22 acres for the conceptual dam footprint. The remaining investigation area includes approximately 156 acres of inundation area and haul roads with buffer, which may potentially be affected by construction activities. The study area will not extend west of O'Connor per agreement with the City for basic tasks.
- Reports and GIS data prepared by Cambrian will be provided to AECOM for design purposes. AECOM will review deliverables but will not verify data provided by Cambrian. It is assumed that reviews will require no more time than estimated and that up to four coordination meetings with Cambrian will be required.
- Data from Cambrian will be provided in a timely manner to support this effort.
- All site access will be acquired and individual site visits coordinated under Task 1.2.
- Two staff members will conduct the field investigation for potential habitat over three business days.
- Both the BCVI and GCWA surveys will require a sub-meter accuracy GPS and assumes 6 surveys by a 2-person team (5 planned visits with 1 contingency visit if a survey is abandoned due to weather conditions) for each species. It is assumed that the site can be surveyed within a 2-day period for each site visit.
- Absence and presence surveys have specific regulatory windows for field work. The potential habitat assessment will be completed in advance of that window, and ROE will be secured prior to these windows.
- Conversations with regulatory agencies may alter the Environmental Investigation Area. Changes in the Environmental Investigation Area may require a supplemental amendment.
- The BCVI and GCWA absence and presence survey summary report will be a short summary of work with a tabular summary of data and figures.

**Task 4.3 Water Resources Evaluation**

- AECOM will prepare a delineation of potentially jurisdictional waters of the U.S. (WOTUS including wetlands in compliance with the U.S. Army Corps of Engineers' (USACE) *1987 Wetlands Delineation Manual* and the USACE's *Great Plains Regional Supplement*. This will be supplemented by the prior delineation for the conceptual dam footprint. AECOM will document the functional conditions of streams in compliance with the Texas Rapid Assessment Method (TXRAM) Module. The potential jurisdictional boundaries of WOTUS will be delineated by a sub-meter GPS unit and documented on the required forms.

- A draft Water Resources Evaluation Report, including potentially jurisdictional waters, will be prepared.
  - To expedite schedule, the draft and final report will be prepared without calculation of impacts which would then be updated once the 30 percent design is available.
- Following approval of the final Water Resources Evaluation by the City, AECOM will prepare the Preliminary Jurisdictional Determination (PJD) Form, and, following the City's acceptance, submitted to Regulatory Division of the Fort Worth USACE (herein Fort Worth Regulatory USACE).
- Following completion of 30 percent design, URS will prepare a brief memo summarizing impact calculations of temporary and permanent impacts to potentially jurisdictional waters.

#### **Deliverables:**

- Water Resources Evaluation Report (draft submitted electronically and six hard copies each will be submitted for the final).
- PJD Form and associated background information (draft submitted electronically and the final submitted as two hard copies [one to the Fort Worth Regulatory USACE and one to the City] and electronic discs to the Fort Worth Regulatory USACE and City.
- Brief memorandum summarizing impact calculations for the 30 percent design.

#### **Assumptions:**

- The report will leverage prior investigations.
- All site access will be acquired and individual site visits coordinated under Task 1.2.
- Delineations will be conducted within the Environmental Investigation Area. AECOM will visually observe areas immediately downstream and upstream of waterbody crossings. Changes in the conceptual design or Environmental Investigation Area may require a supplemental agreement.
- A two-person team will require up to five days for the field delineation.
- A bullet list and graphics summarizing the alternatives analysis for the project will be prepared with input from the engineering team to support discussions with the Fort Worth Regulatory USACE for compliance with Section 404(b)(1). This is intended to be an internal team document.
- The impact calculations for the draft report will be based upon the draft 30 percent design.
- Research on potential compensatory mitigation options, in preparation for the USACE meeting, will be limited to a review of Regulatory In Lieu Fee and Bank Information Tracking System (RIBITS). Design of compensatory mitigation is excluded from this task.

#### **Task 4.4 Cultural Resources Background Review**

This task consists of conducting a cultural resources background review of the Area of Potential Effect (APE) that is defined by the Texas Historical Commission (THC)/Texas State Historic Preservation Officer (SHPO). Cultural resources include structures, buildings, archeological sites, cemeteries, and objects that are 45 years of age or older from the anticipated letting data for construction.

- For project undertakings associated with federal public funds or permits, or on lands owned or controlled by the State of Texas or its political subdivisions, compliance with the National Historic Preservation Act (NHPA) of 1966 and/or the Antiquities Code of Texas involves consultation with the THC/SHPO.
- The purpose of this consultation is to assess the project's effects on any significant cultural resources that may be present, and to determine any necessary mitigation measures.
- The background review will include natural and cultural aspects of the study area and surrounding region, as well as a summary of the prehistoric and historic cultural history. The Texas Archeological Sites Atlas (TASA) and Texas Historic Sites Atlas (THSA) will be queried in order to identify all previously recorded archaeological sites, historic properties, cemeteries, previous investigations, and otherwise archaeologically-sensitive areas within the APE.
- The background review will examine the natural conditions that can affect the preservation and integrity potential of archaeological sites, including previous disturbances, geologic setting, and soil types.
- The archeological background research will also evaluate portions of the study areas (defined below) that may be more likely to have archeological resources based upon soil types and geology.
- A brief letter report of the background research will be prepared for coordination with the THC.
- One in-person meeting with the THC will be conducted to clarify the APE/study area boundaries or unresolved issues related to the methodology for any cultural resources surveys that may be required as a result of the background review.
- Following the THC meeting and completion of the 30 percent design, AECOM will prepare a draft and final Texas Antiquities Permit. The permit will allow a survey under a future task order.

#### **Deliverables:**

- Brief letter reports (archeology and historic-age resources) summarizing the results of the research (draft submitted electronically and 4 hard copies of each final report [2 to the City, one to the District, and one to THC]).

- Draft and final Texas Antiquities Permit.
- Summaries of communications with THC/SHPO in meeting minutes or email.

#### **Assumptions:**

- A majority of prior research for the WCID dams in the vicinity of this project can be used to prepare this report.
- The archeological APE will be determined in consultation with THC following completion of Task 2.3. The inundation area has been limited per conversations with the City. For costing purposes, this level of effort is based upon the Environmental Investigation Area. A change in the proposed APE may require reevaluation of the SOW and Cost Estimate.
- The APE for historic-age structures will be determined in consultation with THC following completion of Task 2.3. For costing purposes, the approach is the same as the archeological background research. A change in the proposed APE may require reevaluation of the SOW and Cost Estimate.
- Any meetings or phone conversations with THC will be scheduled to allow the City and District Project Managers to attend.
- Any required Texas Antiquities Permit or other consultation with SHPO/THC is not included in this SOW and Cost Estimate.
- No cultural resources field surveys are included in this proposal. Further studies, including archeological and historical surveys, may be necessary prior to submittal of the USACE application and would be a part of a separate work authorization.

#### **Task 4.5 Permitting Strategy**

Following the pre-application meetings with key agencies, field investigations identified in this scope, and completion of the 30 Percent Design, AECOM will prepare a Permitting Strategy including schedule and summary of data needs for pre-bid permits in a tabular format. The Final Permitting Strategy, with Schedule, will be prepared following receipt of City's comments.

- The strategy will identify the anticipated major permits, typical submittal content, and an overview of the approval process.
- The resulting Final Permitting Schedule will be integrated into the project master schedule.
- This will be incorporate as an appendix to the Preliminary Design Report (PDR) (Task 5.7 below).

#### **Deliverables:**

- Draft and Final Permitting Strategy – within Draft and Final PDR.

**Assumptions:**

- Detailed impact calculations will not be included in the Permitting Strategy. General statements regarding the eligibility of the project, based upon the 30 percent design, for a specific type of USACE permit will be provided.
- The schedule will be conceptual in nature and based upon typical permitting durations rather than optimistic or pessimistic scenarios.
- USACE requirements for Nationwide Permits (NWP) will be updated in March 2017. It is anticipated that during the 30 percent design effort that the project's eligibility for the NWP will be determined.

**Task 5      30 Percent Design**

Hydrologic, hydraulic, geotechnical, and other analyses will be completed to support the design of the embankment dam, outlet works, and spillway. The design will be described in the design report and shown on the design drawings.

**Task 5.1      Project Design Criteria**

Working with the City, AECOM will develop the design criteria that will describe the major design features and will be used as a basis for the 30 percent design. The criteria will include selection of applicable design codes and standards for the hydrologic, hydraulic, structural and geotechnical design commensurate with the 30 percent design being developed. The design criteria will be included in the draft design report. The design criteria is intended to be a live document that can be updated as required throughout the design process.

**Deliverables:**

- Draft design criteria, provided early in the project.
- City and District comments will be incorporated in the draft that is included in the Preliminary Design Report (PDR) of Task 5.7 below.

**Task 5.2      H&H Refinement with Selected AS Location**

Once the AS is sited per Task 2.3, refinements to the H&H models will be made. These refinements will include:

- Task 5.2.1 Adjusting the HEC-HMS model to address the effect of the AS backwater on the capacity of the Dam 9 spillway. Per the current concept, the peak stage in the Dam 101 pond is slightly above the existing AS crest elevation of Dam 9. During the dam safety flood, there will likely be a brief period when the pond for Dam 101 is near its peak when flow out of the Dam 9 AS will be restricted. The effect of this condition on flows into the Dam 101 pond, and on peak elevation within the Dam 9 pond during the dam safety flood will be estimated.
- Task 5.2.2 Developing tailwater profile for the AS stilling basin and for the PS. A tailwater profile for the AS stilling basin and for the PS will be derived using hydrologic

model flows (which vary slightly based upon AS configuration), for two AS flow scenarios (0.2%, State dam safety flood). These profiles will be used to adjust hydraulic capacity curve for the PS if needed, and to refine design of the AS spillway stilling basin.

- Task 5.2.3. Document timing for draining for Dam 101 flood pool. The time to drain the Dam 101 flood pool will be documented.
- Task 5.2.4. Modeling to confirm project benefits, estimate easements required. A 1% AC run will be made to confirm project benefits, given adjustments associated with the above. Project benefits will be identified per the task below:
  - Comparison of post-project flood plains to Phase 2 Risk MAP floodplains submitted to FEMA;
  - Estimation of flow/inundation easements required; and
  - Confirmation of achievement of project goals for downstream risk centers.

**Deliverables:**

- Draft and Final Technical Memo documenting the above tasks.

**Task 5.3      Hydraulic Design**

The hydraulic task includes further development of the design for the principal and auxiliary spillway based on the preferred arrangement.

Specific work includes:

- Design and sizing of the principal spillway crest and chute/stilling basin and the auxiliary spillway.
- Development of a spillway rating table based on published methods.
- Development of tailwater rating table and impact on operation of the principal and auxiliary spillways.
- Update of previous wind and wave runup calculations (if required) to establish embankment freeboard requirements based on TR-69 and State requirements.
- Riprap sizing calculations for embankment protection against erosion and wind and wave runup based on TR-69. Alternative methods for embankment erosion protection will also be considered if necessary but not designed as part of the 30 percent design.

**Deliverables:**

- Draft and final design report sections presenting the assumptions, methodologies, and results for the hydraulic design of project elements.

#### **Task 5.4      Structural Design**

The structural design task will include conceptual sizing and structural analysis of major project features to enable preliminary quantity estimates for construction cost estimation purposes. This will be undertaken by an experienced structural engineer.

#### **Task 5.5      Geotechnical Analyses and Design**

The following task includes embankment stability analysis for the required loading cases, liquefaction analysis and design, and internal seepage analysis and design.

##### **Geotechnical Analysis**

The data gathered from the geotechnical investigations and existing data review will be used to complete the preliminary geotechnical analysis consisting predominantly of seepage and stability analyses. The maximum section at the 101 dam will be analyzed for the design in addition to one section on Dam 9. Preliminary analysis will also be completed to evaluate liquefaction potential of dam and foundation materials.

- The seepage analysis will be conducted to evaluate the phreatic condition within the dam section under flood conditions. The results will also be used to evaluate the capacity and design of the internal drainage system (if required) of the dam.
- Preliminary liquefaction potential will be evaluated for foundation materials using blow count information from the field investigation and empirical correlations.
- The maximum dam section will be developed and analyzed for stability under the relevant loading conditions.
- Preliminary evaluation of potential suitable material within the AWL Quarry.

##### **Deliverables:**

- Draft and final design report sections presenting the assumptions, methodologies, and results for the geotechnical analyses with supporting calculations and computer output.

#### **Task 5.6      30 Percent Design Drawings**

30 percent design drawings will be developed for preparation of the construction documents. It is anticipated that a maximum of 20 drawings will be prepared for the 30 percent design. The drawings will be prepared in the latest version of AutoCAD in standard 22-inch by 34-inch size paper. During the design, AECOM will perform quality control checks. The 30 percent design will show the general layout of the major project features and preliminary easement layouts. The impacts to the site will be defined but may not be final. The purpose of this submittal is to communicate the design intent to the City and other stakeholders prior to final design. Attached is a preliminary list of anticipated drawings for the 30 Percent Design.

##### **Deliverables:**

- 30 percent design drawings.

## **Task 5.7      Draft Preliminary Design Report**

AECOM will prepare a draft Preliminary Design Report (PDR) summarizing the investigations undertaken. The report would be considered a progress report on the design developed to date and will form the basis for final design and permitting actions. The report will include the following:

- A description of the local and regional geological conditions, along with recommendations for additional field investigations for final design, if required.
- Recommendations for hydraulic, structural, and geotechnical design criteria that will govern the sizing of the features of the facilities and will be used for final design and detailing of the project features.
- Summaries of the project data, site observations, and the design analyses performed.
- 30 percent design drawings.
- Discussions on construction cost and construction schedule.
- Recommendations on additional investigations required for final design.
- The estimate of probable construction cost will be considered a Class 4 estimate by the Association for the Advancement of Cost Engineering (AACE). The construction cost will be developed based on a bid schedule comprising of an estimate of quantities from the 30 percent design drawings, unit pricing, lump sum items and contingencies and allowances. Generally accepted industry criteria and engineering judgment will be used to develop the construction cost. Unit pricing and lump sum items will be based on AECOM's historical database, labor and material costs, previous dam construction projects and on published data.. Appropriate contingencies and allowances will be applied, based on the level of the design. The estimated construction will be provided in 2016 U.S. dollars, and it will be assumed that the work would be bid using an open, competitive procurement process. A preliminary construction schedule will also be developed.

### **Deliverables:**

- Draft Design Report.
- Estimate of probable construction cost.
- Preliminary construction schedule.
- Comment responses from 30 Percent Design meeting.

## **Task 6      Owner Contingency**

Specific work under this task will be authorized by the City. The following estimates are approximate. The Owner Contingency tasks are described below.

### **Task 6.1      Contingency for Property Owner Coordination and Support**

AECOM will provide services, including conference calls, general research, ad hoc graphic production, support for landowner meetings, as desired by the City up to the hours identified in this estimate.

### **Task 6.2 Contingency for As-Needed Services**

AECOM will provide supplemental services, including conference calls, ad hoc meetings, general research, and graphic production, as desired by the City on an as-needed basis up to the hours identified in this estimate. Potential uses may include ad-hoc meetings with City or other organizations, City of Austin discussions, and will be by City request.

### **Task 6.3 Contingency for Comparison of Rattan and Lake Creek AS Discharge Locations**

A contingency line item is included for Task 2.2 in case the City or District wish to model two additional scenarios, in which they may to simulate variations or combinations of the following:

- Proposed Dam 101/102 design alternatives,
- Existing quarries filled or modified,
- 0.4% AC (250-year) flood, or
- Ultimate developed/Robinson developed landuse conditions.

### **Task 6.4 Contingency Labor for Site Restoration**

Additional Owner contingency is provided to account for the potential for additional required labor for site restoration efforts in Task 3.2.2, as desired by the City up to the hours identified in this estimate.

### **Task 6.5 Contingency for Assessment of Potential Habitat for Inundation Area West of O'Connor**

Under a separate authorization, AECOM will complete the same scope as potential habitat assessment portion of Subtask 4.2 but instead for the Environmental Investigation Area west of O'Connor.

#### **Deliverables:**

- Draft and Final Potential Habitat Reports.

#### **Assumptions:**

- The Environmental Investigation Area west of O'Connor is 38.70 acres.
- Field work can be completed on the site within 2 days using a 2-person crew.
- If authorized with sufficient notice, the two deliverables (basic and contingency scope) will be combined into one document.

#### **Task 6.6      Contingency for GCWA Absence and Presence for the Inundation Area West of O'Connor**

Under a separate authorization, AECOM will complete the same scope as the GCWA absence and presence portion of Subtask 4.2 but instead for the Environmental Investigation Area west of O'Connor.

##### **Deliverables:**

- Draft and final GCWA Report.

##### **Assumptions:**

- If authorized with sufficient notice, the two deliverables (basic and contingency scope) will be combined into one document.
- Individual survey visits can be accomplished for this portion of the site in one day or less using a two-person crew.

#### **Task 6.7      Contingency for BCVI Absence and Presence for the Inundation Area West of O'Connor**

Under a separate authorization, AECOM will complete the same scope as the BCVI absence and presence portion of Subtask 4.2 but instead for the Environmental Investigation Area west of O'Connor.

##### **Deliverables:**

- Draft and Final BCVI Reports.

##### **Assumptions:**

- If authorized with sufficient notice, the two deliverables (basic and contingency scope) will be combined into one document.
- Individual survey visits can be accomplished for this portion of the site in one day or less using a two-person crew.

#### **Task 6.8      Contingency for Water Resources Evaluation for Inundation Area West of O'Connor**

Under a separate authorization, AECOM will complete the same scope as Subtask 4.3 but instead for the Environmental Investigation Area west of O'Connor.

##### **Deliverables:**

- Draft and Final Water Resources Evaluation Reports.

**Assumptions:**

- If authorized with sufficient notice, the two deliverables (basic and contingency scope) will be combined into one document.
- Field work for delineation can be accomplished for this portion of the site in three days or less using a two-person crew.

**Task 6.9 Contingency for Cultural Resources Background Review for Inundation Area West of O'Connor**

Under a separate authorization, AECOM will complete the same scope as Subtask 4.4 but instead for the Environmental Investigation Area west of O'Connor.

**Deliverables:**

- Draft and final Cultural Resources Background Review.

**Assumptions:**

- If authorized with sufficient notice, the two deliverables (basic and contingency scope) will be combined into one document.

**Task 6.10 Contingency for Potential Borrow Source other than Robinson Quarry Material**

With a "low impact" design, it is likely that material for construction of the dam will have to be brought in from off site. Current assumptions are that borrow material may be acceptably provided by Robinson quarry spoil. There is the potential that this material is either not available in the quantities needed, or testing may prove that it is unsuitable for portions of the work.

If the quarry material is not available, then additional borrow source material is necessary. While it is understood that an additional borrow source may not be readily available, or that the borrow sources may change or be unavailable by the time construction begins, this contingent task is for preliminary identification of additional borrow sources for purposes of design and costing of the project. As a contingency, AECOM will perform a limited borrow study to identify the potential for additional borrow sources and material types, up to the estimated amount in this task. This investigation will consist of the following:

1. Identify nearby quarries and potential borrow sources via review of aerial imagery, Google maps search and any other readily available resources.
2. Contact local agencies as to upcoming projects, borrow sources, or excess borrow material from current or future projects.
3. It is assumed that a potential source(s) can be identified, that right of entry is readily available, and that samples can be collected from that source and tested in accordance with Task 3.2.3 as part of the field investigations.

4. Preliminary costs and quantities of the potential borrow materials, haul costs and any other associated costs will be estimated for use in the 30 percent design.

**Deliverables:**

- Draft and final desktop borrow study, to be provided with the Preliminary Design Report

### 3. KEY PERSONNEL

The AECOM Project Manager for this work will be Mr. Darrell Jones, PE (Telephone: 512-419-5897, E-mail: Darrell.Jones@AECOM.com). Mr. Jeff Irvin, PE will serve as the Project Principal for this work (Telephone: 512-419-6523, E-mail: Jeff.Irvin@AECOM.com). We will utilize other staff from our Austin and Denver offices as necessary to support the work and conduct project management. Selected personnel for various design disciplines are presented in Table 1.

**TABLE 1  
SUMMARY OF KEY DESIGN TEAM PERSONNEL**

NAME	TITLE	HOME OFFICE
Jeff Irvin, PE (AECOM)	Project Principal	Austin
Darrell Jones, PE (AECOM)	Project Manager	Austin
Ed Toms, PE (AECOM)	Principal/Lead Dam Designer	Denver
Mike Lenherr, PE (AECOM)	Deputy Project Manager and Civil Engineering Task Leader	Austin
Jennifer Williams (AECOM)	Sr. Dam Geotechnical Engineer	Denver
Casey Robertson, (AECOM)	Dam Hydraulics	Denver
Dale Baures (AECOM)	Senior Dam Geologist	Denver
Kristi Ainslie (AECOM)	Dam Geologist	Denver
Mike Zusi/Scott Jones (AECOM)	Dam Structural Engineer	Denver
Chris Wright, PE (AECOM)	Site H&H Task Leader	Austin
Lara Zuzak, AICP, PMP (AECOM)	Permitting Task Leader	Austin

### 4. GENERAL ASSUMPTIONS

This proposal is based in part on the following general assumptions:

- This proposal is based on AECOM' understanding of the project requirements, as demonstrated by the proposal text and specific assumptions presented in this proposal. AECOM will perform the work consistent with the approved SOW and AECOM's assumptions contained in our proposal for the negotiated price.

- Per City discussions, this scope does not include meetings, engineering/environmental investigations, or design components that would meet applicable City of Austin development codes or related criteria (such as Drainage and Environmental Criteria Manuals, among others); inclusion of these items of scope will require additional services.
- The District is required to submit copies of all final reports and studies to the Robinson Ranch. Copies will be made available for submittal by the District to the property owners after accepted by the City. The City will provide environmental reports prepared by other contractors to the District. For costing purposes, it is assumed that reports will not be modified following acceptance by the City.
- City will pay for all fees, including permit fees, if applicable.
- The SOW does not include costs associated with engineering design of compensatory mitigation for impacted WOTUS, CEFs, or other environmental or cultural resources. It also does not address engineering design of conservation and recovery measures for threatened/endangered species.
- Changes in scientific investigations or manuals by agencies following scoping may require a modification of scope.
- Permit requirements are both site and activity specific, and the results of field work and early agency coordination may modify work approaches and timelines for permitting. Preparation of permit applications and additional agency coordination will require a work authorization amendment.
- Car rental includes truck rental to make field work more efficient.
- Dye testing, groundwater modeling, and related services are excluded from this Scope of Services.
- Preparation of documents to comply with the National Environmental Policy Act is excluded from this scope of services.
- Contingency tasks will be authorized by the City with sufficient time to maintain the project schedule.
- A CLOMR or LOMR or breach analysis will not be required for this phase of the project.
- Weather and property owner access has the potential to affect the field schedule, and therefore overall schedule.
- The cost proposed is based on work conducted within the approximate schedule identified.
- The cost estimates included in this proposal are valid for 3 months from the date of submittal. If the proposal is accepted after said period, the AECOM reserves the right to review and retain or modify the cost estimate stated herein to appropriately reflect changing costs and salaries and similar economic considerations.

PRELIMINARY

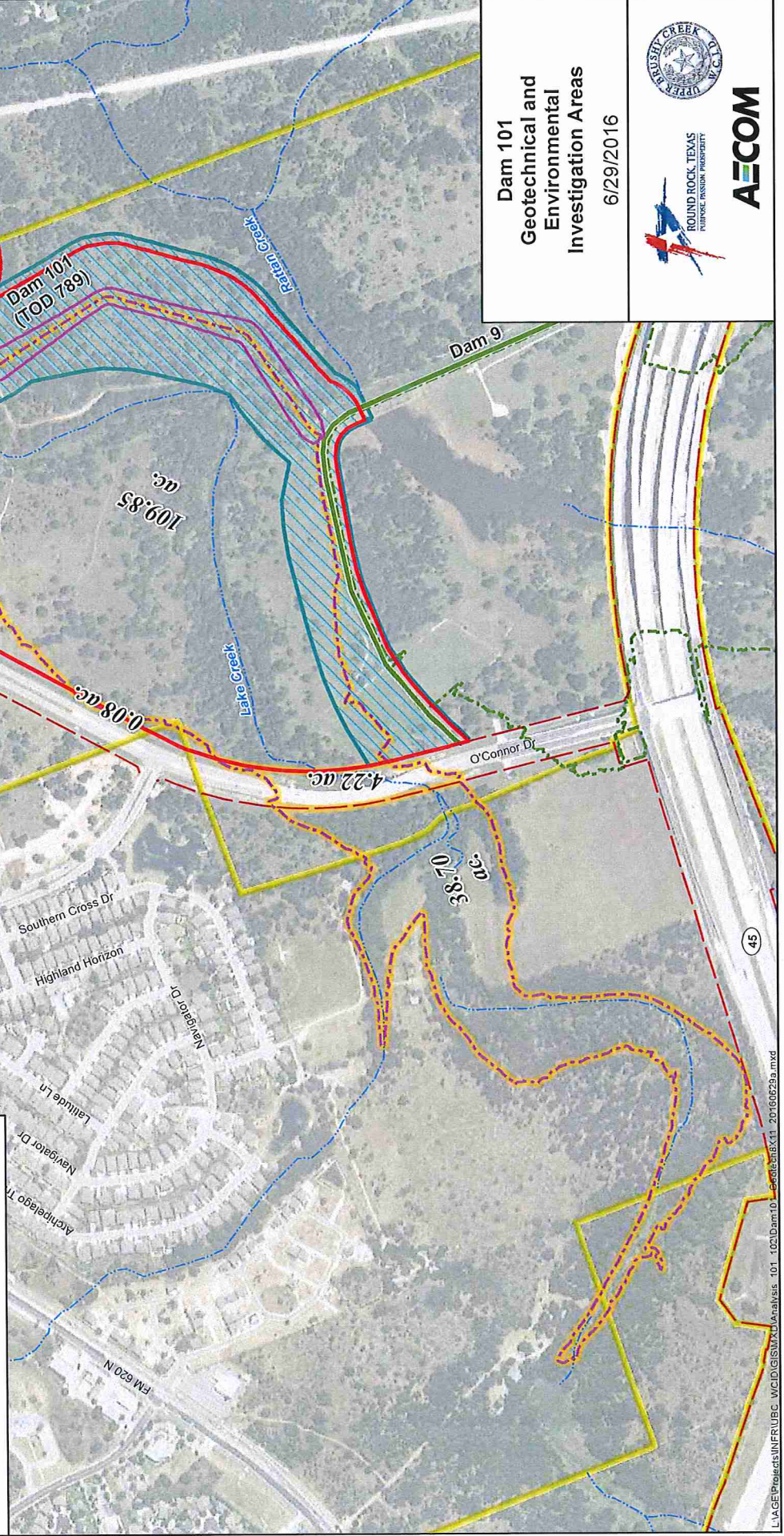
Dam 101  
Geotechnical and  
Environmental  
Investigation Areas

6/29/2016



Legend

- Environmental Investigation Area
- Geotechnical Investigation Area
- Proposed Dam
- Proposed Impoundment at Auxiliary Spillway Crest
- Existing Dam
- Existing Dam Inundation Easement
- Robinson Ranch PUD
- Intermittent Stream (USGS NHD)
- Right-of-Way (Major Roads)



**EXHIBIT C**

**Work Schedule**

The attached schedule below provides approximate durations associated with the anticipated milestones. The durations are approximate, and are dependent on field work, which may be subject to weather events and property owner access conditions. As such, the durations may extend beyond that shown.

Award Est                      7/28/16 (City Council)

NTP / Executed contract      8/3/16

Task	Approx. Duration	Approx. Start	Approx. End
1. Project Management	12 mos.	8/4/16	8/30/17
2. Auxiliary Spillway Siting	3 mos.	8/15/16	11/15/16
3. Field Investigations	7 mos.	8/15/16	3/15/17
4. Env. Invest/ Permit Support	12 mos.	8/25/16	8/30/17
5. Preliminary/30% Design	11 mos.	9/27/16	8/30/17

**EXHIBIT D**  
**Fee Schedule**

AECOM proposes to perform the scope of work described above on a time and materials basis in accordance with mutually-agreed to terms and conditions in a Contract between AECOM Technical Services, Inc. and City of Round Rock. The estimated cost for this work is presented in the table below.

<b>Task</b>	<b>Task Description</b>	<b>Estimated Cost</b>	<b>% of Project</b>
1	Project Management, Landowner Coord., Meetings	\$119,799	14.5%
2	Auxiliary Spillway Siting and General Arrangement	\$43,050	5.2%
3	Field Investigations	\$100,624	12.2%
4	Environmental Investigations/ Permit Support	\$131,858	16.0%
5	30% Design	\$245,243	29.8%
	Total Subcontracting (including 5% markup)	\$154,350	18.7%
	Total Reimbursable Expenses (including 5% markup)	\$29,039	3.5%
	Project Total without Contingency	\$823,963	100%
6	Owner Contingency	\$99,595	
	<b>Project Total with Contingency:</b>	<b>\$923,558</b>	

- See attached Rate Schedule

## Exhibit D

### Rate Schedule

Hourly rates to be billed on a time and materials basis per the following rates:

Category	Category	Staff Members
	2016 Rates	
Project Principal/ PM	181	J. Irvin, D. Jones
Principal Dam Design Lead	231	E. Toms
Sr. Dam Structural Engineer	200	M. Zusi; S. Jones
Sr. Dam Geotechnical Engineer	187	J. Williams, C Young
Sr. CFD Modeler	185	F. Lan
Sr. Dam Hydraulics	197	G. Glunz
Sr. Dam Geologist	146	D. Baures
Sr. Dam Env. QA/QC	181	A. Parker, M. Jensen
Sr. Dam Construction Cost Estimator	160	R. Watts
Sr. Dam Engineer / Dam Hydraulics	145	C. Robertson
Sr. Dam Designer/Project Engineer	135	TBD
Dam Geotechnical Engineer	105	B. Ananth
Dam Geologist	105	K.Ainslee
Dam Structural Engineer	111	TBD
Dam Design Engineer	91	C Shrimpton
Dam Specifications	123	B. Snyder
PM/ Task Leader	151	M. Lenherr, L. Zuzak, M Wedo
PM/ Senior Engineer	113	C.Wright, L Finnefrock
Project Engineer (PE)	91	C. Kimball, V. Benavides
Staff Engineer	78	M. Polter, C. Burkett, D. Johnson, J. Baker
Sr. Designer	110	S Santos-Colon
Principal GIS	125	K. Teykl
Senior GIS	101	J. Wade
GIS Analyst	79	J. Presas, A. Branch
Cultural Resources Lead	140	S. Ahr
Sr. Cultural Resources Investigator	109	T. McDougald
Cultural Resources Investigator	99	S Hartsfield
Cultural Resources Specialist	80	V. Weddell
Hydrogeologist	124	B Schafer
Sr. Environmental Scientist	100	J. King, R. Ingram, N Durish
Environmental Scientist	88	J. Orr, J. Stewart,
Clerical/ Proj Administrator	80	P. Sanders, P.Bradley
Contract Adminstrator	105	S. Young
Sub Contract Admin	90	P. Ruiz

\* Rates may be amended once between Jan. 1, 2017 and Dec. 31, 2017, not to exceed a 3% increase.

**Exhibit E**

**Certificates of Insurance**

(Attached)



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
04/25/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Marsh Risk & Insurance Services CA License #0437153 777 South Figueroa Street Los Angeles, CA 90017 Attn: LosAngeles.CertRequest@Marsh.Com 06510 *-ECOM--16-17 Austin PL 04 2016	<b>CONTACT NAME:</b> <b>PHONE (A/C, No, Ext):</b> <b>E-MAIL ADDRESS:</b> <b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> N/A <b>INSURER B:</b> N/A <b>INSURER C:</b> Illinois Union Insurance Co <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>	<b>FAX (A/C, No):</b> <b>NAIC #</b> N/A N/A 27960
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**COVERAGES** **CERTIFICATE NUMBER:** LOS-002000038-01 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WYD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG \$ \$ \$ \$ \$ \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) \$ \$ \$ \$
	UMBRELLA LIAB EXCESS LIAB DED RETENTION \$						EACH OCCURRENCE AGGREGATE \$ \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input type="checkbox"/> N/A					PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT \$ \$ \$
C	ARCHITECTS & ENG. PROFESSIONAL LIAB.			EON G21654693 ""CLAIMS MADE""	04/01/2016	04/01/2017	Per Claim/Agg Defense Included \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Contract for Engineering Services,

Evidence of insurance.

<b>CERTIFICATE HOLDER</b> City of Round Rock 221 East Main Street Round Rock, TX 78664-5299	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE of Marsh Risk & Insurance Services James L. Vogel
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