AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is entered into between The City of Norman (OWNER) and Wilson & Company, Inc., Engineers & Architects (CONSULTANT) for the following reasons:

1. OWNER intends to construct Sutton Wilderness Lake Dam & Spillway Repair Project (the Project); and,
2. OWNER requires certain professional survey, design, analysis and engineering services in connection with the Project (the Services); and,
3. CONSULTANT is prepared to provide the Services.

In consideration of the promises contained in this Agreement, OWNER and CONSULTANT agree as follows:

ARTICLE 1 - EFFECTIVE DATE
The effective date of this Agreement shall be 10th day of September, 2013.

ARTICLE 2 - GOVERNING LAW
This Agreement shall be governed by the laws of the State of Oklahoma.

ARTICLE 3 - SCOPE OF SERVICES
CONSULTANT shall provide the Services described in Attachment A, Scope of Services.

ARTICLE 4 - SCHEDULE
CONSULTANT shall exercise its reasonable efforts to perform the Services described in Attachment A according to the Schedule set forth in Attachment B.

ARTICLE 5 -COMPENSATION
OWNER shall pay CONSULTANT in accordance with Attachment C, Compensation, on Cost Plus with a Maximum basis. Invoices shall be due and payable upon receipt. OWNER shall give prompt written notice of any disputed amount and shall pay the remaining amount.

Payments for those services outlined in ARTICLE 3 will be based on direct labor cost times the current labor multiplier, plus reimbursable direct expenses. The labor multiplier includes overhead (currently 1.831) and profit (10%), and is currently 3.114. The labor multiplier is subject to review and change annually, based on changes in overhead rates. Charges for services and expenses incurred under SECTION I will be based on the rates and charges in effect at the time services are performed and expenses are incurred.

ARTICLE 6 - OWNER'S RESPONSIBILITIES
OWNER shall be responsible for all matters described in Attachment D, OWNER'S Responsibilities. OWNER hereby represents that it owns the intellectual property rights in any plans, documents or other materials provided by OWNER to CONSULTANT. If OWNER does not own the intellectual property rights in such plans, documents or other materials, prior to providing same to CONSULTANT, OWNER shall obtain a license or right to use, including the right to sublicense to CONSULTANT. OWNER hereby grants CONSULTANT the right to use the intellectual property associated with plans, documents or other materials it owns or has the right to use for the limited purpose of performing the Services. OWNER represents that CONSULTANT'S use of such documents will not infringe upon any third parties' rights.

ARTICLE 7 - STANDARD OF CARE

The same degree of care, skill, and diligence shall be exercised in the performance of the Services as is ordinarily possessed and exercised by a member of the same profession, currently practicing, under similar circumstances. No other warranty, express or implied, is included in this Agreement or in any drawing, specification, report, opinion, or other instrument of service, in any form or media, produced in connection with the Services.

ARTICLE 8 -INDEMNIFICATION AND LIABILITY

Indemnification. The CONSULTANT and the OWNER each hereby agree to defend, indemnify, and hold harmless the other party, its officers, servants, and employees, from and against any and all liability, loss, damage, cost, and expense (including attorneys' fees and accountants' fees) caused by an error, omission, or negligent act of the indemnifying party in the performance of services under this Agreement. The CONSULTANT and the OWNER each agree to promptly serve notice on the other party of any claims arising hereunder, and shall cooperate in the defense of any such claims. In any and all claims asserted by any employee of the CONSULTANT against any indemnified party, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONSULTANT or any of the CONSULTANT'S employees under workers' compensation acts, disability benefit acts, or other employee benefit acts. The acceptance by OWNER or its representatives of any certification of insurance providing for coverage other than as required in this Agreement to be furnished by the CONSULTANT shall in no event be deemed a waiver of any of the provisions of this indemnity provision. None of the foregoing provisions shall deprive the OWNER of any action, right, or remedy otherwise available to the OWNER at common law.

Survival. The terms and conditions of this Article shall survive completion of the Services, or any termination of this Agreement.

ARTICLE 9 - INSURANCE

During the performance of the Services under this Agreement, CONSULTANT shall maintain the following insurance:
(a) General Liability Insurance, with a limit of
$1,000,000 per occurrence and $2,000,000 annual aggregate.
(b) Automobile Liability Insurance, with a combined single limit of $1 ,000,000 for each person and $1,000,000 for each accident.
(c) Workers' Compensation Insurance in accordance with statutory requirements and Employers' Liability Insurance, with a limit of $500,000 for each occurrence.
(d) Professional Liability Insurance, with a limit of
$1,000,000 per claim and annual aggregate.

CONSULTANT shall, upon written request, furnish OWNER certificates of insurance which shall include a provision that such insurance shall not be canceled without at least thirty days' written notice to OWNER. OWNER shall require all Project contractors to include OWNER, CONSULTANT, and its parent company, affiliated and subsidiary entities, directors, officers and employees, as additional insureds on their General and Automobile Liability insurance policies, and to indemnify both OWNER and CONSULTANT, each to the same extent

ARTICLE 10 - LIMITATIONS OF RESPONSIBILITY

CONSULTANT shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project; (b) the failure of any contractor, subcontractor, vendor, or other Project participant, not under contract to

CONSULTANT, to fulfill contractual responsibilities to OWNER or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to CONSULTANT in Attachment A, Scope of Services. In the event the OWNER requests CONSULTANT to execute any certificates or other documents, the proposed language of such certificates or documents shall be submitted to CONSULTANT for review at least 15 days prior to the requested date of execution. CONSULTANT shall not be required to execute any certificates or documents that in any way would, in CONSULTANT's sole judgment, (a) increase CONSULTANT'S legal or contractual obligations or risks; (b) require knowledge, services or responsibilities beyond the scope of this Agreement; or (c) result in CONSULTANT having to certify, guarantee or warrant the existence of conditions whose existence CONSULTANT cannot ascertain.

ARTICLE 11 - OPINIONS OF COST AND SCHEDULE

Because CONSULTANT has no control over the cost of labor, materials, or equipment furnished by others, or over the resources provided by others to meet Project schedules, CONSULTANT's opinion of probable costs and of Project schedules shall be made on the basis of experience and qualifications as a practitioner of its profession. CONSULTANT does not guarantee that proposals, bids, or actual Project costs will not vary from CONSULTANT'S cost estimates or that actual schedules will not vary from CONSULTANT'S projected schedules.

ARTICLE 12 - REUSE OF DOCUMENTS

All documents, including, but not limited to, plans, drawings, and specifications prepared by CONSULTANT as deliverables pursuant to the Scope of Services are instruments of service in respect to the Project. They are not intended or represented to be suitable for reuse by OWNER or others on modifications or extensions of the Project or on any other project. Any reuse without prior written verification or adaptation by CONSULTANT for the specific purpose intended will be at OWNER'S sole risk and without liability or legal exposure to CONSULTANT. OWNER shall indemnify and hold harmless CONSULTANT and its subconsultants against all judgments, losses, damages, injuries, and expenses, including reasonable attorneys' fees, arising out of or resulting from such reuse. Any verification or adaptation of documents will entitle CONSULTANT to additional compensation at rates to be agreed upon by OWNER and CONSULTANT.

ARTICLE 13 - OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

Except as otherwise provided herein, documents, drawings, and specifications prepared by CONSULTANT and furnished to OWNER as part of the Services shall become the property of OWNER; provided, however, that CONSULTANT shall have the unrestricted right to their use. CONSULTANT shall retain its copyright and Ownership rights in its design, drawing details, specifications, data bases, computer software, and other proprietary property. Intellectual property developed, utilized, or modified in the performance of the Services shall remain the property of CONSULTANT.

ARTICLE 14 - TERMINATION AND SUSPENSION

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement; provided, however, the nonperforming party shall have 14 calendar days from the receipt of the termination notice to cure or to submit a plan for cure acceptable to the other party. OWNER may terminate or suspend performance of this Agreement for OWNER'S convenience upon written notice to CONSULTANT. CONSULTANT shall terminate or suspend performance of the Services on a schedule acceptable to OWNER, and OWNER shall pay CONSULTANT for all the Services

performed. Upon restart of suspended Services, an equitable adjustment shall be made to CONSULTANT'S compensation and the Project schedule.

ARTICLE 15 - DELAY IN PERFORMANCE

Neither OWNER nor CONSULTANT shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the nonperforming party. For purposes of this Agreement, such circumstances include, but are not limited to, abnormal weather conditions; floods; earthquakes; fire; epidemics; war, riots, and other civil disturbances; strikes, lockouts, work slowdowns, and other labor disturbances; sabotage; judicial restraint; and delay in or inability to procure permits, licenses, or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses, or services required to be provided by either OWNER or CONSULTANT under this Agreement. CONSULTANT shall be granted a reasonable extension of time for any delay in its performance caused by any such circumstances.
Should such circumstances occur, the nonperforming party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement.

ARTICLE 16 - NOTICES

Any notice required by this Agreement shall be made in writing to the address specified below:
OWNER:

Richard L. Schlechter, P.E.
Storm Water Engineer
City of Norman
P.O. Box 370
Norman, OK 73070
rick.schlechter@normanok.gov

Wilson & Company, Inc., Engineers & Architects:

Douglas G. Danaher, PE, CFM
Operation Manager
2420 Springer Drive, Suite 210
Norman, Oklahoma 73069
405-579-3229 (office)
913-205-1977 (cell)
doug.danaher@wilsonco.com

Nothing contained in this Article shall be construed to restrict the transmission of routine communications between representatives of OWNER and CONSULTANT.

ARTICLE 17 - DISPUTES

In the event of a dispute between OWNER and CONSULTANT arising out of or related to this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. If the parties cannot thereafter resolve the dispute, each party shall nominate a senior officer of its management to meet to resolve the dispute by direct negotiation or mediation.

Should such negotiation or mediation fail to resolve the dispute, either party may pursue resolution of the dispute by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association; provided, however, in the event the parties are unable to reach

agreement to arbitrate under terms reasonably acceptable to both parties, either party may pursue resolution in any court having jurisdiction. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder.

ARTICLE 18 - EQUAL EMPLOYMENT OPPORTUNITY

CONSULTANT hereby affirms its support of affirmative action and that it abides by the provisions of the "Equal Opportunity Clause" of Section 202 of Executive Order 11246 and other applicable laws and regulations. CONSULTANT affirms its policy to recruit and hire employees without regard to race, age, color, religion, sex, sexual preference/orientation, marital status, citizen status, national origin or ancestry, presence of a disability or status as a Veteran of the Vietnam era or any other legally protected status. It is CONSULTANT'S policy to treat employees equally with respect to compensation, advancement, promotions, transfers and all other terms and conditions of employment. CONSULTANT further affirms completion of applicable governmental employer information reports including the EEO-1 and VETS-1 00 reports, and maintenance of a current Affirmative Action Plan as required by Federal regulations.

ARTICLE 19 - WAIVER

A waiver by either OWNER or CONSULTANT of any breach of this Agreement shall be in writing. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

ARTICLE 20 - SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this Agreement or the occurrence of any event rendering any portion or provision of this Agreement void shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if it did not contain the particular portion or provision held to be void. The parties further agree to amend this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this Article shall not prevent this entire Agreement from being void should a provision which is of the essence of this Agreement be determined void.

ARTICLE 21 - INTEGRATION

This Agreement, including Attachments A, B, C, and D incorporated by this reference, represents the entire and integrated agreement between OWNER and CONSULTANT. It supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this Agreement.

ARTICLE 22 - SUCCESSORS AND ASSIGNS

OWNER and CONSULTANT each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to the successors, executors, administrators, permitted assigns, legal representatives, and partners of such other party in respect to all provisions of this Agreement.

ARTICLE 23 - ASSIGNMENT

Neither OWNER nor CONSULTANT shall assign any rights or duties under this Agreement without the prior written consent of the other party, which consent shall not be unreasonably withheld; provided, however, CONSULTANT may assign its rights to payment without OWNER'S consent. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this Agreement. Nothing contained in this

Article shall prevent CONSULTANT from engaging independent CONSULTANTS, associates, and subcontractors to assist in the performance of the Services.

ARTICLE 24 - NO THIRD PARTY RIGHTS

The Services provided for in this Agreement are for the sole use and benefit of OWNER and CONSULTANT. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than OWNER and CONSULTANT.

IN WITNESS WHEREOF, OWNER and CONSULTANT have executed this Agreement.

DATED this 10th day of September 2013.

The City of Norman
(OWNER)

Signature Cindy Rosenthal

Name Cindy Rosenthal

Title Mayor

Date 9/10/13

Attest:

Brenda Hall
City Clerk

Wilson & Company, Inc., Engineer & Architects (CONSULTANT)

Signature Douglas G Danaher

Name Douglas G DANAHER

Title OPERATION MANAGER

Date 9/10/13

Attest:

David Creason
Secretary

CITY OF NORMAN CORPORATE SEAL OKLAHOMA

Approved as to form and legality this 4 day of Sept. 2013.

City Attorney

Attachment A –
Scope of Services
City on Norman, Oklahoma
Sutton Wilderness Lake Dam & Spillway Repair Project

ENGINEER – Wilson & Company, Inc., Engineers & Architects (WCI) (Prime Consultant)
Terracon (Sub-Consultant – Geotechnical Services)
Meshek & Associates, PLC (Meshek) (Sub-Consultant – Field Survey, Bathymetric Survey and QC Hydrologic Analysis)
Enercon Services, Inc. (Enercon) (Sub-Consultant – Environmental and Public Involvement)
That Dam Engineer LLC (Bearden) (Sub-Consultant – Background Information and Permitting Support)
CITY – The City of Norman, Public Works Department
Sutton Urban Wilderness Area Committee, SUWAC
OWRB – Oklahoma Water Resources Board, Dam Safety Program
USACE – United States Army Corps of Engineers, Tulsa District

General Scope of Services

This document defines the ENGINEER's scope of services necessary to bring the Sutton Wilderness Lake Dam structure into compliance with current OWRB dam safety rules and standards while maintaining or enhancing the environmental amenities in the Sutton Urban Wilderness Area Committee.

Engineer will complete an assessment of the dam to:

- Determine existing physical condition of dam
- Confirm previously completed hydrologic analysis and findings
- Assess foundation and embankment stability
- Assess environmental amenities and understand new SUWAC Management Plan
- Establish improvements alternatives with corresponding cost
- Coordinate with Stakeholders
- Develop final improvement recommendations with project cost and schedule

Engineer will complete final design services necessary for construction documents (plans, specifications and cost estimate) to facilitate construction of the recommended improvements.

Engineer will coordinate with OWRB, USACE and Oklahoma Department of Environmental Quality as necessary to secure construction permits and to ensure the dam will be in compliance with all applicable dams safety standards once construction is completed.

Engineer will develop an Operation and Maintenance Manual for the post construction conditions. The Operation and Maintenance Manual will be coordinated with the recently completed SUWAC Management Plan.

Engineer will provide construction related services, including bidding support services, shop drawing review, periodic construction site visits, and a final inspection.

Engineer will develop an Emergency Action Plan utilizing the previously completed breach inundation analysis.

Detailed Scope of Services

Section 1 – Improvement Alternative Analysis

1.a Develop Project Plan, Data Collection and Kick-off Meeting

1.a.1 Engineer will develop a project plan that documents:

- Project Goals and Objectives
- Communication Plan with Contact List
- Design Criteria
- Critical Path Schedule
- Staffing Plan
- QA/QC Plan
- Safety Plan

1.a.2 Data Collection and Review

Engineer will collect data beneficial to the project (both dam safety and environmental) from City, SUWAC, OWRB, FEMA, USGS, NRCS OK, USACE Tulsa. Data collected may include: aerial photography; elevation contours; GIS data (parcels, utilities, watersheds, land use, etc.); recent construction cost data; utility company contact information; information on City owned utilities; City design criteria, standard drawings and standard construction specifications; previous inspection reports, previously completed breach inundation analysis and hazard classification determination, historical performance data, as-built drawings, survey datum, FEMA Flood Insurance Program resources, Operation and Maintenance Manual, Emergency Action Plan, previously completed studies, SUWAC Management Plan, correspondence, soil data, land use data, etc. Engineer will bring all data collected into digital format, organize and name data properly, review the data, and submit to City at completion of project.

City and SUWAC will assist Engineer to collect all beneficial data available and provide background knowledge beneficial for the assessment and design.

1.a.3 Kick-off Meeting

Engineer will coordinate with City for a kick-off meeting with the City and SUWAC. Engineer will present the project plan and data collected and solicit input from attendees. Engineer will revise project plan one time. Engineer will collect additional data if any is identified during the kick-off meeting.

City will provide a meeting room.

1.b Conduct Dam Safety and Environmental Inspection

Engineer will conduct an OWRB compliant dam safety inspection and develop an inspection report that can be submitted to OWRB to satisfy the City's annual dam inspection requirement. Engineer will document existing conditions utilizing ground level photos, handheld GPS unit to document locations and OWRB approved field inspection checklist. The dam inspection will document condition of embankment (crest, upstream slope, downstream slope and abutments), signs of seepage, earth spillway, erosion protection, vegetation, outlet channel, pool, development (upstream or down

Engineer will assess the environmental conditions of the site including inventorying the environmental amenities and documenting conditions.

Completed by: WCI, Enercon QC Review by: WCI (Independent)

1.c Field & Boundary Survey

Engineer will complete field survey services necessary to complete the improvement alternative analysis and subsequent final design services, as illustrated on the attached "Survey Limits" map.

The detailed topographic survey will be completed in NAD 1983 State Plane Oklahoma North FIPS 3501 (feet) horizontal datum and NAVD88 vertical coordinate systems and tied to existing City monuments. Two permanent control points (with X, Y and Z datum) will be set for this project, one on each side of the dam embankment, alongside (not in) the existing trail, far enough back from planned construction so as not to be damaged or shifted during construction.

All surveying and related services will meet the Minimum Standards for Property Surveys in the State of Oklahoma.

1.c.1 Ownership Survey

The ownership surveys will follow City format and procedures. When performing ownership surveys, Engineer will provide the following services:

- Title Reports. Engineer will obtain and research title reports for the two parcels potentially affected by this project. City will provide contact information for City preferred abstract company from which to obtain certified property reports.

  City will advise Engineer on method of obtaining the needed two title reports.

- Monument Locations. Engineer will search for monuments that identify the property boundary. Monuments and evidence of occupation, including fences, will be located. Existing easements will be located.

- Ownership Survey Drawing. Engineer will develop CADD drawing illustrating the property boundary and easements (if any) needed. This work will be prepared per standards for property surveying in Oklahoma. The property boundary and easements (if any) will be included on the construction plan drawings for the proposed improvements.

  It's assumed that no property acquisition will be required for this project, therefore no meets and bound legal descriptions are included. If it's determined this service is needed, it will be completed through a supplemental agreement.

- Monumentation. It's assumed that no property acquisition will be required for this project, therefore no property monumentation services are included. If it's determined this service is needed, it will be completed through a supplemental agreement.

Completed by: Meshek QC Review by: WCI

1.c.2 Design and Topographic Surveys

For design and topographic surveys, Engineer will utilize the combination of RTK and total station collection instruments to collect topographic data. Engineer will locate and verify underground utilities with radio frequency locators.

Engineer will complete the following tasks:

- Digital Terrain Modeling. Engineer will define "breaklines" to model grade breaks. Spot elevations will be obtained with sufficient density to complete the design and constructions.

- Utility Locating. Prior to beginning design survey, Engineer will contact One Call requesting utility locates. Visible utilities such as water valves, manholes, vaults, overhead electric fire hydrants, and underground utilities defined by locates will be surveyed. Planimetric lines will be drawn connecting the utility features. Manholes will be opened, and inverts and pipe sizes are measured.

- Structures. Existing inlets, pipes, box culverts, walls, etc. will be detailed by locating the inverts, abutments, pipe sizes, and materials, etc. Planimetrics will be incorporated into the drawings. Photographs and sketches will be collected and provided.

- Planimetric Features. Existing planimetric features such as fences, edge of trees, edge of water, buildings, and trails will be located and provided as part of the design survey as "existing conditions". Trees will be shown as clouded areas, opposed to individual trees.

It is assumed for this scope and corresponding fee that the dense vegetation on the site will not be removed prior to the field survey services being completed, and that the field survey will be completed prior to the leaves falling (before January 2014).

Completed by: Meshek QC Review by: WCI (Independent)

1.d Stakeholder Coordination Meetings (3- Three)

Engineer will assist City coordinate and facilitate three meetings with the project Stakeholders, which may include:

- City of Norman, Public Works Department
- City of Norman, Parks Department
- Sutton Urban Wilderness Area Committee
- State of Oklahoma, Department of Mental Health
- State of Oklahoma, Tourism and Recreation Department
- State of Oklahoma, Water Resources Board (OWRB)
- Park Users such as local school (as directed by City)
- Others if requested by City

Engineer will provide visual aids (such as concept site drawings illustrating proposed improvements), agendas and minutes.

City will provide the meeting facility and assist Engineer coordinate and facilitate.

The first stakeholder coordination meeting will be conducted early in the alternative analysis study to discuss the project purpose, goals and potential improvements, discuss the information collected, and receive comments.

The second stakeholder coordination meeting will be conducted later in the alternative analysis study to present the conditions assessment findings (environmental and dam safety), discuss conceptual improvement alternatives that are mutually beneficial and receive comments.

The third stakeholder coordination meeting will be conducted after preliminary design plans have been developed to review plans and receive comments.

Engineer will coordinate with OWRB sufficiently to receive approval of planned improvements and to ensure the dam will be a legal dam at the completion of the project.

Engineer will coordinate with Sutton Urban Wilderness Area Committee as necessary for timely progression of the project and to establish mutually beneficial improvement recommendations.

Engineer will coordinate with affected Utilities (City and private) regarding potential improvements and schedule, as necessary for timely progression of the project.

Completed by: WCI, Enercon

1.e Geotechnical Investigations & Analysis

Engineer will drill 3 borings to 35 feet along the crest of the dam and in the earth spillway and up to 4 borings 5 feet deep located at the borrow source for the fill material. Engineer will prepare a report which will include the following:

- Boring Location Plan
- Computer generated boring logs with soil stratification based on visual soil classification
- Subsurface exploration procedures
- Summarized laboratory data
- Groundwater levels observed during and after completion of drilling
- Estimated stability of existing dam foundation materials
- Estimated settlement of added embankment
- Suitability of proposed borrow source
- Seismic Site Classification per International Building Code 2003.
- Earthwork Recommendation

The geotechnical investigations, analysis and recommendations will be completed and developed per current OWRB standards.

Completed by: Terracon QC Review by: WCI

1.f Environmental Study

Engineer will review the recently completed SUWAC Management Plan, complete an environmental assessment of the site to identify and document existing amenities, including downstream wetland, downstream pool area, two upstream sedimentation basins, trails, wildlife, vegetation, etc.

Engineer will identify methods to minimize negative impacts of necessary dam improvements, as well as research opportunities to achieve goals of the SUWAC Management Plan within the construction project, without adding significant cost.

Engineer will summarize the study, findings and recommendations.

Completed by: Enercon QC Review by: WCI

1.g Alternative Analysis (Dam Safety)

Engineer will complete an alternative analysis to identify two (2) alternative improvements that satisfy current OWRB dam safety standards for high hazard dams, with cost estimates. One alternative will include a principal spillway riser and new conduit through the embankment and an improved earth spillway. The second alternative will include utilizing the existing conduit through the embankment and an improved earth spillway. Engineer will consider the City's project budget while developing the recommended improvements.

1.g.1 Sediment Capacity Analysis. Engineer will utilize recently collected depth data from the Oklahoma Department of Wildlife Conservations – Fisheries Division and empirical sedimentation rates to estimate sediment storage life (years) remaining in the pool. Upstream sediment forebays will be reviewed and considered in analysis and recommendations.

1.g.2 Hydrology and Hydraulic Modeling. Engineer will complete hydrology and hydraulic modeling of the watershed and dam structure, per OWRB rules and regulations. Previously completed analysis will be reviewed and considered. Care will be taken not to modify storm discharges out of the dam structure significantly to have negative impact on the downstream wetlands. Engineer will utilize HEC-HMS and NRCS SITES design software to complete the hydrology and hydraulic analysis and establish recommend improvements for the dam (principal spillway capacity, earth spillway width and armoring, top of dam elevation, etc.)

1.g.3 Establish Recommended Improvements. Engineer will develop a summary report documenting the alternative analysis and recommendations with corresponding costs.

Completed by: WCI QC Review by: Meshek

1.h Engineering Alternative Analysis Report

Engineer will provide an Engineering Alternative Analysis Report documenting the analysis, findings, improvement alternatives and the final recommendations. Conceptual Drawings will be provided to illustrate the final recommended dam safety and environmental improvements.

Engineer will provide a draft report to the Stakeholders for review and comment. The contents of the draft report will be presented and discussed during the second Stakeholder Coordination meeting. Engineer will revise per direction of City and submit a final report.

Completed by: WCI, Terracon, Enercon, Meshek QC Review by: WCI (Independent)

Section 2 – Preliminary and Final Design Services

2.a Preliminary Design and Construction Documents

Engineer will complete preliminary design and develop preliminary construction documents, including plans, technical specifications and cost estimate.

Plan sheets may include:

- Title
- General Notes and Quantities
- Survey (with horizontal and vertical control)
- Tree Removal and Clearing Plan
- Site Plan
- Embankment Plan & Profile
- Earth Spillway Plan & Profile
- Principal Spillway Plan & Profile (if needed)
- Environmental Features Plan
- Landscaping Plan
- Miscellaneous Details
- Standard Details
- Temporary Erosion Control Plan
- Cross Sections (Embankment)
- Cross Sections (Earth Spillway)

Technical specifications may include: site clearing and preparation, soil materials, concrete materials, steel materials, storm drainage structures, excavation, embankment, trenching, backfilling, final grading, seeding, landscaping, temporary erosion control, rip rap.

Engineer will utilize recent construction cost data for similar construction from City, ODOT, NRCS OK and USACE Tulsa to develop a construction cost estimate that reflects current cost trends.

Engineer will provide 8 sets of 11" x 17" plan drawings, technical specifications and cost estimate for distribution to stakeholders. Engineer will submit electronic (PDF) files of the same material.

After submitting Preliminary Plans, Specifications and Cost Estimate, Engineer will attend a review meeting (per scope item 1.e) to present the material and receive comments. Engineer will revise the documents per City direction one time prior to proceeding to the subsequent scope items.

Completed by: WCI, Terracon, Enercon QC Review by: WCI (Independent)

2.b Submit and Coordinate Construction Permits

Engineer will coordinate with City to submit construction permits to OWRB, USACE (Section 404 – Nationwide), OK DEQ (NPDES).

Engineer will provide follow up communications up to 8 hours to respond to questions and provide additional information as necessary to secure the construction permits.

Completed by: WCI

2.c Utility Coordination

Engineer will provide construction plans to utility companies potentially affected by the proposed construction and coordinate improvements and schedule. Engineer will receive and document comments from utilities to review with City.

City will assist Engineer with utility coordination if necessary for timely progression.

Completed by: WCI

2.d Final Design Services

After receiving comments from Stakeholders, Permitting Agencies and Utilities and reviewing the comments with the City, Engineer will revise the preliminary plans as directed by the City.

Engineer will develop final construction documents including plan drawings, technical specifications and cost estimate, sufficient for construction.

Construction documents will be sealed by a Professional Engineer licensed by the State of Oklahoma.

City will assist in the development of the Project Manual (Construction Specifications) for the non-technical (or "Up-Front") components.

Completed by: WCI QC Review by: WCI (Independent), Terracon, Enercon

Section 3 – Construction Related Services

3.a Bidding Services

Engineer will provide support (up to 20 hours) for bidding services such as: attend Pre-Bid Conference, answer contractor questions, assist City with addendums, attend Bid Opening, assist reviewing bids and recommendation for award.

3.b Consultation During Construction

Engineer will provide support (up to 20 hours) to review shop drawing submittals, answer questions from City's full time inspector, review and comment on change order requests, review and comment on inspection testing results.

3.c Periodic Site Visits

Engineer will provide 6 periodic site visits total during construction. Engineering will provide City with documentation (inspection report and photos) for each site visit. Engineer will coordinate with City's full time Construction Inspector to ensure the site visits are timely and effective.

Engineer will complete one inspection at time of substantial completion and one inspection at time of final inspection. Engineer will provide a punch list to City following the final inspection.

This task is based on assumption that the City will provide full time construction inspection.

3.d As-Built Drawings

Engineer will provide As-Built Record Drawings. These drawings will be based on the City's full time inspector's "Red Lined" mark-ups, field measurements, and field survey (if necessary).

Section 4 – Post-Construction Services

4.a Operation and Maintenance Manual

Engineer will provide an Operation and Maintenance Manual included Record As-Built Drawings as appendix. The manual will be developed per OWRB rules and standards, and will be coordinated with the recently completed SUWAC Management Plan. The manual will provide guidance on proper operation and maintenance practices necessary to ensure the facility will perform as designed for the duration of its design life.

4.b Emergency Action Plan Update

Engineer will develop an Emergency Action Plan (EAP) to reflect the breach inundation analysis and improvements constructed. City will provide all necessary non-technical information to be updated. The EAP will be compliant with OWRB rules and standards once updated.

Section 5 – Quality Control and Project Management

5.a Quality Control Reviews

Quality control reviews are imbedded throughout the project as documented in each task.

In addition, prior to each major submittal (Alternative Study Report, Preliminary Construction Documents and Final Construction Documents) a quality control review will be completed by a Senior Wilson & Company Civil Engineer, qualified in dam improvements.

The WCI QA/QC Manager will ensure all quality control measures are completed.

5.b Project Management

Engineer will submit to CITY a Detailed Project Progress Report every 4 weeks, accompanying the invoice to document services completed and upcoming activities.

Engineer will communicate via email and telephone with City' Project Manager at frequency necessary to ensure adequate coordination for timely progression of the project. Engineer will respond to all CITY inquiries within 24 hours.

Design Software:

ESRI ArcGIS software will be utilized to complete the Engineering Alternative Analysis.

HEC-HMS and USDA NRCS SITES software will be utilized for Hydrology, Hydraulic Modeling and Dam Design.

MicroStation CADD software will be utilized to complete Preliminary Plans, Final Plans and As-Built Plans.

Deliverables:

Engineering Alternative Analysis: Six (6) copies of the paper report and one (1) USB flash drive with the corresponding electronic files.

Preliminary Design: One (1) 24" x 36" set of plan drawings and Six (6) sets of 11" x 17" plan drawings. Six (6) copies of the Technical Specifications and the Construction Cost Estimate.

Final Design: Six (6) sets of 11" x 17" plan drawings, Six (6) Project Manuals (Construction Specifications) and Six (6) Construction Cost Estimates.

Construction Services: Six (6) sets of 11" x 17" As-Built Record Drawings one (1) USB flash drive with construction records.

Operation and Maintenance Manual: Three (3) paper copies of updated manual and (1) USB flash drive with corresponding electronic files.

Emergency Action Plan: Three (3) paper copies of updated EAP and (1) USB flash drive with corresponding electronic files.

City of Norman

Contract No. K-1314-39

Wilson Co[illegible]y, Inc.
July 26, 2013

Sutton Wilderness Lake Dam
and Spillway Repairs

ATTACHMENT B

PROJECT SCHEDULE

Scope Item	Task Description	2013					2014											
		Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
	Notice To Proceed																	
1.	**Improvement Alternative Analysis**																	
1.a.1	Develop Project Plan																	
1.a.2	Data Collection																	
1.a.3	Kick-off Mtng																	
1.b	Dam Safety and Environmental Inspection																	
1.c	Field & Boundary Survey																	
1.d	Stakeholder Coordination Meeting (1st)																	
1.e	Geotechnical Investigation & Analysis																	
1.f	Environmental Study																	
1.g.1	Sediment Capacity Analysis																	
1.g.2	Hydrology & Hydraulic Modeling																	
1.g.3	Establish Recommended Improvements																	
1.d	Stakeholder Coordination Meeting (2nd)																	
1.h	Engineering Alternative Analysis Report																	
2.	**Prelim & Final Design Services**																	
2.a	Preliminary Design & Construction Documents																	
	(Plan, Specs and Estimate)																	
2.b	Construction Permitting																	
2.c	Utility Coordination																	
1.d	Stakeholder Coordination Meeting (3rd)																	
2.d	Final Design Services																	
3.	**Construction Related Services**																	
	(Bidding, Consultations, Site Visits, As-Builts)																	
4.	**Post-Construction Services**																	
	(O & M Plan and EAP)																	
5.	**Quality Control, PM and Deliverables**																	

City of Norman

Sutton Wilderness Lake Dam
and Spillway Repairs

Contract No. K-1314-39
ATTACHMENT C - COMPENSATION

Wilson Company, Inc.
July 26, 2013

SUMMARY -
ENGINEERING SERVICES

FEE SUMMARY

Scope Item	Task Description	Direct Labor Cost	Overhead Cost	Markup	Direct Expense	Task Sub-Totals	Subconsultant					Total Fee
							Terracon	Meshek	Enercon	Dam Engr	Total Sub	
1	Improvement Alternative Analysis	$11,550.64	$21,137.67	$3,268.83	$2,165.50	**$38,122.64**	$6,500.00	$26,980.00	$15,000.00	$1,000.00	**$49,480.00**	**$87,602.64**
2	Prelim & Final Design Services	$20,063.92	$36,716.97	$5,678.09	$1,845.00	**$64,303.98**	$0.00	$0.00	$2,500.00	$1,500.00	**$4,000.00**	**$68,303.98**
3	Construction Related Services	$4,614.88	$8,445.23	$1,306.01	$2,802.50	**$17,168.62**	$0.00	$0.00	$1,500.00	$0.00	**$1,500.00**	**$18,668.62**
4	Post-Construction Services	$3,375.36	$6,176.91	$955.23	$106.00	**$10,613.50**	$0.00	$0.00	$0.00	$0.00	**$0.00**	**$10,613.50**
5	Quality Control, PM and Deliverables	$1,234.56	$2,259.24	$349.38	$70.00	**$3,913.18**	$0.00	$0.00	$0.00	$0.00	**$0.00**	**$3,913.18**
	PROJECT TOTALS	$40,839.36	$74,736.02	$11,557.54	$6,989.00	**$134,121.92**	$6,500.00	$26,980.00	$19,000.00	$2,500.00	**$54,980.00**	**$189,101.92**

USE **$189,100.00**

ENGINEERING MANHOURS - ENGINEERING SERVICES

Scope Item			Task Description	DGD Project Manager P5	TMM Asst PM / QA P5	MHL Project Engr. P4	CDL Intern Engineer P2	CDP CADD Tech. PD2	CRA Clerical OA2			Total Hours
1.			**Improvement Alternative Analysis**	53	10	124	80	64	8	0	0	339
	a.	**1**	Develop Project Plan	2								2
		2	Data Collection	2		4		8				14
		3	Kick-off Mtng	4	2	8						14
	b.		Dam Safety and Environmental Inspection	4		20	24		8			56
	c.		Boundary & Topographic Survey	2		4		8				14
	d.		Stakeholder Coordination Meetings (2)	12	8	20		16				56
	e.		Geotechnical Investigation & Analysis	4		4		4				12
	f.		Environmental Study	4		4		8				16
	g.	**1**	Sediment Capacity Analysis	1		4						5
		2	Hydrology & Hydraulic Modeling	8		24	40	8				80
		3	Establish Recommended Improvements	8		16	8					32
	j.		Engineering Alternative Analysis Report	2		16	8	12				38
2.			**Prelim & Final Design Services**	90	12	176	74	258	0	0	0	610
	a.		Preliminary Design & Construction Documents (34 Shts)									
			Title Sheet	1			2	4				7
			General Notes & Quantities	2		4	8	4				18
			Survey Sheet (with hor. and vert. control)	1		2		4				7
			Tree Removal and Clearing Plan	2		4		8				14
			Site Plan	8		16		24				48
			Embankment Plan & Profile	4		8		16				28
			Earth Spillway Plan & Profile	4		8		16				28
			Principal Spillway Plan & Profile (Emb cross section)	4		8		16				28
			Environmental Features Plan	4		8		16				28
			Landscaping Plan	2		4		8				14
			Miscellaneous Details	4		16		24				44
			Standard Details	2		8		8				18
			Temporary Erosion Control Plan	2		4		12				18
			Cross Sections (Embankment)	2		4		10				16
			Cross Sections (Earth Spillway)	2		4		10				16
			Technical Specifications	4		8	24					36
			Construction Cost Estimate	2		16		8				26
1.	**d.**		Stakeholder Coordination Meeting (1)	6	4	10		8				28
2.	**b.**		Construction Permitting	16			16					32
	c.		Utility Coordination	2		4	8	2				16
	d.		Final Design Services	16	8	40	16	60				140
3.			**Construction Related Services**	24	20	20	4	24	0	0	0	112
	a.		Bidding Services	8	4	4	2	2				20
	b.		Consultation During Construction	8	4	4	2	2				20
	c.		Periodic Site Visits & Final Inspection (3 trips total)	24	12							36
	d.		As-Built Drawings	4		12		20				36
4.			**Post-Construction Services**	32	0	0	64	0	8	0	0	104
	a.		Operation and Maintenance Manual	16			32		4			52
	b.		Emergency Action Plan Update	16			32		4			52
5.			**Quality Control, PM and Deliverables**	16	0	4	4	8	0	0	0	32
	a.		Quality Control Reviews	8								8
	b.		Project Management & Deliverables	8		4	4	8				24
			Totals	**235**	**42**	**324**	**226**	**364**	**16**	**0**	**0**	**1197**

1197

City of Norman

Sutton Wilderness Lake Dam
and Spillway Repairs

Contract No. K-1314-39
APPENDIX C - COMPENSATION

Wilson Company, Inc.
July 26, 2013

ENGINEERING COST - ENGINEERING SERVICES

LABOR COST - ENGINEERING

Scope Item	Task Description	Project Manager P5 $48.48	Asst PM / QA P5 $51.00	Project Engr. P4 $36.92	Intern Engineer P2 $26.28	CADD Tech. PD2 $25.76	Clerical OA2 $17.76			Total Hours	Direct Labor Cost	Overhead Cost 1.83	Markup 10%	Total Labor Cost
1	Improvement Alternative Analysis	53	10	124	80	64	8	0	0	339	$11,550.64	$21,137.67	$3,268.83	$35,957.14
2	Prelim & Final Design Services	90	12	176	74	258	0	0	0	610	$20,063.92	$36,716.97	$5,678.09	$62,458.98
3	Construction Related Services	44	20	20	4	24	0	0	0	112	$4,614.88	$8,445.23	$1,306.01	$14,366.12
4	Post-Construction Services	32	0	0	64	0	8	0	0	104	$3,375.36	$6,176.91	$955.23	$10,507.50
5	Quality Control, PM and Deliverables	16	0	4	4	8	0	0	0	32	$1,234.56	$2,259.24	$349.38	$3,843.18
	Totals	235	42	324	226	354	16	0	0	1197	$40,839.36	$74,736.02	$11,557.54	$127,132.92
										1197				$127,132.92

DIRECT EXPENSES - ENGINEERING

Item / Description	Unit	Unit Cost	Scope Item 1		Scope Item 2		Scope Item 3		Scope Item 4		Scope Item 5		Total Expenses
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Mileage	miles	$0.65	2,250	$1,462.50	1500	$975.00	3250	$2,112.50	0	$0.00	0	$0.00	$4,550.00
Meals	days	$30.00	7	$210.00	4	$120.00	7	$210.00	0	$0.00	0	$0.00	$540.00
Lodging	days	$90.00	3	$270.00	2	$180.00	3	$270.00	0	$0.00	0	$0.00	$720.00
Printing	each	$50.00	2	$100.00	1	$50.00	1	$50.00	1	$50.00	1	$50.00	$300.00
Data Collection Cost	each	$50.00	1	$50.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	$50.00
Plotting	each	$0.60	55	$33.00	600	$360.00	200	$120.00	60	$36.00	0	$0.00	$549.00
Postage & Miscellaneous Costs	LS	$20.00	2	$40.00	8	$160.00	2	$40.00	1	$20.00	1	$20.00	$280.00
Sub-Total (Direct Expenses)				$2,165.50		$1,845.00		$2,802.50		$106.00		$70.00	$6,989.00
Sub-Consultant Expense (Terracon)				$6,500.00		$0.00		$0.00		$0.00		$0.00	$6,500.00
Sub-Consultant Expense (Meshek)				$26,980.00		$0.00		$0.00		$0.00		$0.00	$26,980.00
Sub-Consultant Expense (Enercon)				$15,000.00		$2,500.00		$1,500.00		$0.00		$0.00	$19,000.00
Sub-Consultant Expense (Dam Engr)				$1,000.00		$1,500.00		$0.00		$0.00		$0.00	$2,500.00
Sub-Total (Sub-Consultants)				$49,480.00		$4,000.00		$1,500.00		$0.00		$0.00	$54,980.00
Markup on Expenses & Subconsultants (N/A)				0		0		0		0		0	$0.00
Total Direct Expenses				$51,645.50		$5,845.00		$4,302.50		$106.00		$70.00	$61,969.00

Attachment D –
OWNER's Responsibilities
City on Norman, Oklahoma
Sutton Wilderness Lake Dam & Spillway Repair Project

ENGINEER – Wilson & Company, Inc., Engineers & Architects (WCI) (Prime Consultant)
Terracon (Sub-Consultant – Geotechnical Services)
Meshek & Associates, PLC (Meshek) (Sub-Consultant – Field Survey, Bathymetric Survey and QC Hydrologic Analysis)
Enercon Services, Inc. (Enercon) (Sub-Consultant – Environmental and Public Involvement)
That Dam Engineer LLC (Bearden) (Sub-Consultant – Background Information and Permitting Support)
OWNER – The City of Norman, Public Works Department
Sutton Urban Wilderness Area Committee, SUWAC
OWRB – Oklahoma Water Resources Board, Dam Safety Program
USACE – United States Army Corps of Engineers, Tulsa District

OWNER's Responsibilities:

- Provide available data as listed in Section 1.a.2 of Attachment A and additional data helpful for the project
- Provide site access to Engineer adequate for timely progression of all tasks
- Provide and schedule a facility for the stakeholder coordination meetings and assist with Coordination
- Submit Construction Permits and corresponding Fees. Engineer will prepare the permit applications and provide them to the City to sign, include fee and submit.
- Provide "up-front" construction specifications to be included in Project Manual
- Provide contact information for City's preferred abstract company from which to obtain certified property reports.
- Provide full time Construction Inspection and Testing services
- Provide "red-lined" plan drawings following construction to be used to create As-Built Drawings
- Provide input necessary to update Operation and Maintenance Manual and Emergency Action Plan