



DATE: July 21, 2026

TO: Darrel Pyle, City Manager
Shannon Stevenson, Assistant City Manager

FROM: Michele Loudenback, Environmental and Sustainability Manager *MLL*

SUBJECT: Approval of Work Order No. ES001 for On-Call Contract K-2324-136
Geotechnical Assessment of Sequoyah Trails Pond

BACKGROUND:

Contract K-2324-136 was approved on February 27, 2024, with Burgess Engineering and Testing to provide on-call professional services. Under this contract, work orders are to be assigned for work to be completed. Geotechnical assessment of the Sequoyah Trails pond is necessary before the water quality retrofit design can move forward.

DISCUSSION:

Design of the retrofit for water quality benefits of the Sequoyah Trails pond, located within the Woodcrest Creek basin of the Lake Thunderbird watershed; this basin is one of the highest sources of nutrients in the City. Before design work can continue, a geotechnical assessment of the pond is necessary. Burgess Engineering and Testing provided an acceptable and reasonable proposal to accomplish this assessment.

Staff recommends approval of Work Order No. ES001 to Contract K-2324-136 in the amount not-to-exceed \$6,600 for geotechnical testing services with funding from the Lake Thunderbird TMDL Project (50599968-46201 / DR0061) which has an available balance of \$1,710,294.76.

Reviewed by: Chris Mattingly, Director of Utilities *CM*

7-23-26
Date

[Signature]
Signature

☒ APPROVED
☐ DISAPPROVED

BY: ☒ Darrel Pyle, City Manager
☐ Shannon Stevenson, Assistant City Manager

cc: Anthony Purinton, Assistant City Attorney *AP*

office memorandum

WORK ORDER NO. ES001 – Sequoyah Pond Retrofit Geotechnical Assessment

This Work Order, dated the 21st day of July, 2026 (the “Effective Date”), between the Norman Utilities Authority (“City”) and Burgess Engineering and Testing (“Contractor”) (City and Contractor, together, the “Parties”), adopts and incorporates by reference the terms and conditions of the Agreement for On-Call Professional Services Contract K-2324-136 entered into on February 27, 2024, (“Agreement”) by the Parties. Capitalized terms used by not defined in this Work Order shall have the meanings set out in the Agreement.

WHEREAS, pursuant to Section 3.1 of the Agreement, the Parties wish to enter into this Work Order for purposes of setting forth the rights and obligations regarding the provision of Services by Contractor for geotechnical assessment of the Sequoyah Trails detention pond prior to completion of water quality retrofit design hereinafter described as “Project” for purposes of this specific Work Order).

NOW THEREFORE, for good and valuable consideration contained herein, the exchange, receipt, and sufficiency of which are acknowledged, the parties agree as follows:

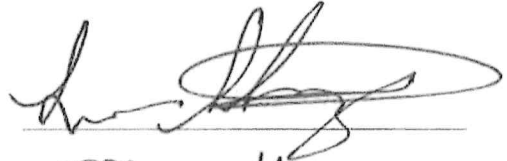
1. Scope of Services. Contractor shall perform those services set forth in Exhibit A attached hereto (“Services”).
2. Compensation and Payment. In consideration for the performance of Services under this Work Order, City shall pay to Contractor in an amount and manner as set forth in Exhibit A attached hereto.
3. Schedule. Contractor shall perform the Services in accordance with the schedule set forth in Exhibit A attached hereto.
4. Termination. The term of this Work Order shall commence on the “Effective Date” and end upon the completion of the Services unless otherwise terminated in accordance with the Agreement.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Contractor has caused this Work Order No. ES001 to be duly executed.

**Burgess Engineering and Testing
(CONTRACTOR)**

By:



Title:

Office Manager

Attest:

Corporate Secretary

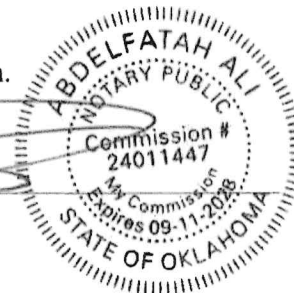
ACKNOWLEDGEMENT

STATE OF OKLAHOMA)
COUNTY OF Cleveland) ss.

Before me, the undersigned, a Notary Public in and for said County and State, on this 21 day of July, 2026, personally appeared Leanna Stephens to me known to be the identical person who executed the foregoing instrument as an authorized representative of the Contractor, and acknowledged to me that they executed the same as their free and voluntary act for the uses and purposes therein set forth.

Witness my hand and official seal the day and year above written.

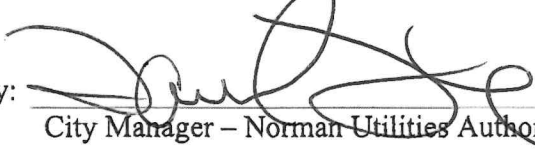

Notary Public

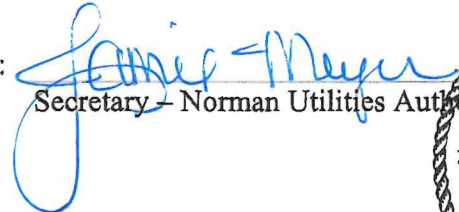


My Commission Expires: 9-11-2028
My Commission Number: 24011447

IN WITNESS WHEREOF, the City has caused this Work Order No. ES0001 to be duly executed this 23 day of July, 2026.

NORMAN UTILITIES AUTHORITY

By: 
City Manager – Norman Utilities Authority

Attest: 
Secretary – Norman Utilities Authority



Reviewed as to form and legality this 23 day of July, 2026.


City Attorney

BURGESS ENGINEERING AND TESTING

July 14, 2026

City of Norman
Division of Environmental Resilience and Sustainability
Utilities Department, City of Norman
225 N. Webster Ave.
Norman, Oklahoma 73069

Attention: Michele Loudenback, RPES, CFM
Environmental and Sustainability Manager

RE: Subsurface Exploration and Recommendations
For LID Sequoyah Trails Pond Retrofit
For City of Norman, on Sequoyah Trail and Wildwood Ln
Norman, Oklahoma 73071
Proposal No.: 26184

Dear Ms. Loudenback:

In response to your request, Burgess Engineering and Testing (BET) is pleased to submit the following proposal for performing a subsurface exploration and foundation recommendations at the site of the referenced project. The subsurface exploration and recommendations will be conducted to provide information needed for the LID Sequoyah Trails Pond Retrofit, for City of Norman, location on Sequoyah Trail and Wildwood Ln in Norman, Oklahoma.

PROPOSED SCOPE OF WORK

Based on the provided information, the construction of the LID Sequoyah Trails Pond Retrofit, for City of Norman, location on Sequoyah Trail and Wildwood Ln in Norman, Oklahoma. As requested, BET will explore the subsurface materials and ground water conditions at the site by drilling two (2) test borings in the area of the proposed project, at locations specified by the client. Location and its respective depth is presented in the following table:

Location	Boring Number	Estimated GPS Coordinates	Depth (ft)
LID Sequoyah Trails Pond Retrofit	B-1	35.251299°, -97.432051°	20
	B-2	35.251142°, -97.432291°	20

Test borings will be located by BET. BET will notify Call OKIE to locate the utilities on publicly owned property or easements. The owner is responsible for locating private utility lines on its property. Within the test borings, penetration resistance testing and sample collection will be performed in general accordance with ASTM Designation D-1586 and D-1587, respectively. Additionally, Texas Cone Penetration test is used to evaluate the bedrock (if needed) ASTM D3431. Grouting will be performed according to the OWRB specifications. Elevations at boring locations will be determined by others during the design phase of the project.

The laboratory testing schedule will consist of moisture content and soil classification tests involving Atterberg Limits and gradation (#10, #40, and #200 sieves) tests. Moisture content and soil classification tests will be performed on representative samples of soils.

The scope of work will include:

Subsurface Field Exploration

- Drill a total of 2 borings to a depth of 20 feet deep on the dam crest, one near the outfall structure and one near the inlet structure. Samples will be collected intermittently using hollow stem augers and either split-spoon or tube samplers. Rock and rock-like materials, if encountered, will be tested insitu using a Standard Penetration Test. At completion, the boreholes will be backfilled with bentonite chips.
- Mark the 2 boring locations and contact Oklahoma OneCall, the City and other agencies to request location and marking of existing underground utilities. Direct the drilling and log the borings.
- Performing Standard Penetration Tests (SPT) when split-spoon sampling is used
- Performing Texas Cone Penetration testing for bedrock evaluation if needed (ASTMD3431)

Laboratory Testing

- Visual and textural soil classification
- Atterberg limits and Plasticity Index (PI)
- Sieve analysis (including # 200 sieve)
- Particle Size Gradation

- Moisture content testing
- Unconfined Compression test
- Bearing capacity evaluation (as needed)
- Select samples for laboratory testing and assign tests.
- Determination of permeability of the subsurface at the bottom of the pond
- Suitability of existing soils for embankment construction

Engineering Analysis and Recommendations

Provide recommendations and technical memorandum of the geotechnical investigation for Pond construction including:

- Appendix with the boring locations, boring logs, laboratory test results, and a key to the symbols used.
- Develop shear strength characterizations and geotechnical design parameters based on the boring logs and laboratory test data.
- Evaluate the overturning stability of the existing outfall structure based on the proposed improvements.
- Perform slope stability analysis for the detention pond. Evaluate and analyze one representative cross section at the maximum section of the pond. Steady-state and rapid drawdown conditions will be modeled for existing conditions and proposed alternative.
- The memorandum will include a summary of the existing conditions, soil properties and shear strength parameters, geotechnical design parameters, results and summaries of the analyses performed.
- Subgrade preparation requirements
- Suitable fill materials and compaction recommendations
- Settlement considerations
- Slope stability considerations (if applicable)
- Groundwater conditions and recommendations

All testing and report preparations will be under the direct supervision of a registered professional engineer. Two (2) copies of the report will be provided to your firm.

ESTIMATED COST

It is proposed that the fee for the performance of the above outlined services be determined on a unit price basis, according to the attached Schedule of Services and Fees and the work be performed pursuant to Burgess Engineering and Testing General Conditions. Copies of the Burgess Engineering and Testing Schedule of Services and Fees are enclosed herewith and incorporated into this proposal. On the basis of the estimated quantities, it is estimated that the total fees of the geotechnical services will be \$6,599.23.

This estimated cost assumes that the site is readily accessible to our truck-mounted drilling equipment. Any bulldozer or wrecker services required to provide access pathways or mobility assistance to our truck mounted drilling rig are not included in this proposal.

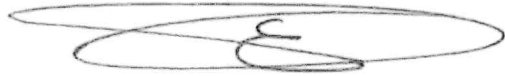
SCHEDULE AND AUTHORIZATION

We can commence fieldwork within eighteen (18) working days after acceptance of this proposal, weather permitting. Following the completion of field exploration and laboratory testing, the final geotechnical report and test results will be provided within seven (7) working days.

Accordingly, the anticipated project turnaround time is approximately twenty-one (21) working days from authorization to proceed to delivery of the final report. Please note that laboratory testing schedules may vary depending on soil specifications and project requirements.

Again, I would like to thank you for the opportunity to submit this proposal and look forward to working with you on this project. Please do not hesitate to contact me, if clarification or additional information is required.

**Respectfully,
BURGESS ENGINEERING AND TESTING**



Abdelfatah Ali, Ph.D.
Project Manager

7-14-26 

Dalia N. Maraqa, M.Sc., P.E.
Operations Manager

Attachments: Fee Schedules
General Conditions
Bores Location

AGREED TO THIS _____ DAY OF _____, 2026

BY: _____

BY (print): _____

TITLE: _____

FIRM: _____

ESTIMATED FEE SCHEDULE

WORK TYPE	QUANTITY	UNIT PRICE	TOTAL
Mobilization	1	50.00	50.00
Soil Drilling	40	15.88	635.20
Penetration Tests (SPT)	10	33.08	330.80
Soil Boring Grouting	1	85.00/project	85.00
	40	3.00/ft.	120.00
Classification (Atterberg Limits, LL, PL, & PI)	8	88.00	704.00
Sieve analysis (including # 200 sieve)	6	67.06	402.36
Particle Size Gradation	2	170.00	340.00
Moisture Determination Content	12	15.31	183.72
Unconfined Compression Test	8	78.75	630.00
Permeability Test	1	361.25	361.25
Field Technician	10	65.69	656.90
Staff Engineer	15	140.00/hr	2100.00
TOTAL			6,599.23

GENERAL CONDITIONS

1. **PARTIES AND SCOPE OF WORK:** Burgess Testing Company LLC (hereinafter referred to as BET) performing work. "Work" means the specific geotechnical, testing or other services to be performed by BET as set forth in BET's proposal, the client's acceptance thereof if accepted by BET and these General Conditions. "Client" refers to the person or business entity ordering the work to be done by BET. If the client is ordering the work on behalf of other, the client represents and warrants that the client is duly an authorized agent of said party for the purpose of ordering and directing said work. Unless otherwise stated in writing, the client assumes sole responsibility for determining whether the quantity and the nature of the work ordered by the client is adequate and sufficient for the client's intended purpose. Clients shall communicate these General Conditions to each and every third party whom the client transmits any part of BET's work. BET shall have no duty or obligation to any third party greater than that set forth in BET's proposal, clients' acceptance thereof and these General Conditions. The ordering of work from BET shall constitute acceptance of the terms of BET's proposal and these General Conditions.
2. **TESTS AND INSPECTIONS:** The client shall cause all tests and inspections of the site, materials and work performed by BET or others to be timely and properly performed in accordance with the plans, specifications and contract documents and BET's recommendations. No claim for loss, damage or injury shall be brought against BET by client or any third party unless all tests and inspections have been so performed and unless BET's recommendations have been followed. The client agrees to indemnify, defend and hold BET, its officers, employees and agents harmless from any claims, suits, losses, cost and expenses, including, but not limited to, court costs and reasonable attorney fees in the event that all such tests and inspections are not so performed or BET's recommendations are not so followed except to the extent that such failure is the result of the negligence, willful or wanton act or omission of BET, its offices, agents or employees, subject to the limitation contained in paragraph nine.
3. **SCHEDULING OF WORK:** The services set forth in BET's proposal and client's acceptance will be accomplished in a timely, workmanlike and professional manner by BET personnel at the prices quoted. If BET is required to delay commencement of the work or if, upon embarking upon its work, BET is required to stop or interrupt the progress of its work as a result of changes in the scope of the work requested by the client to fulfill the requirements of third parties, interruptions in the progress of construction, or other causes beyond the direct reasonable control of BET, additional charges will be applicable and payable by client.
4. **ACCESS TO SITE:** The client will arrange and provide such access to the site as is necessary for BET to perform the work. BET shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as the result of its work or the use of its equipment; however, BET has not included in its fee the cost of restoration of damage which may occur. If client desires or requires BET to restore the site to its former condition, upon written request BET will perform such additional work as is necessary to do so and the client agrees to pay BET the cost of thereof.
5. **CLIENT'S DUTY TO NOTIFY ENGINEER:** The client represents and warrants that he has advised BET of any known or suspected hazardous materials, utility lines and pollutants at any site at which BET is to do work hereunder, and unless BET has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits, the client agrees to defend, indemnify and save BET harmless from all claims, suits, losses, costs and expenses, including reasonable attorneys' fees as a result of personal injury, death or property damage occurring with respect to BET's performance of its work and resulting to or caused by contact with subsurface or latent objects, structures, lines or conduits where the actual or potential presence and location thereof were not revealed to BET by client.
6. **RESPONSIBILITY:** BET's work shall not include determining, supervising or implementing the means, methods, techniques, sequences or procedures of construction. BET shall not be responsible for evaluating, reporting or affecting job conditions concerning health, safety or welfare. BET's work or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from performance of its work in accordance with the contract documents. BET has no right or duty to stop the contractor's work.
7. **SAMPLE DISPOSAL:** Unless otherwise agreed, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of BET's report.
8. **PAYMENT:** The client shall be invoiced upon completion of work performed. The client agrees to pay each invoice upon its receipt. The client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause in writing within thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under the applicable law), until paid. The client agrees to pay BET's cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorneys' fees. BET shall not be bound by any provision or agreement requiring or providing for arbitration of disputes or controversies arising out of this agreement, any provision wherein BET waives any rights to a mechanic's lien, or any provision conditioning BET's right to receive payment for its work upon payment to client by any third party. These General Conditions are noticed, where required, that BET shall file a lien whenever necessary to collect past due amounts. Failure to make payment within thirty (30) days of invoice shall constitute a release of BET from any and all claims which the client may have, either in tort or contract, and whether known or unknown at the time.
9. **WARRANTY:** BET'S SERVICES WILL BE PERFORMED, ITS FINDINGS OBTAINED AND ITS REPORTS PREPARED IN ACCORDANCE WITH THIS AGREEMENT AND WITH GENERALLY ACCEPTED PRINCIPALS AND PRACTICES. IN PERFORMING SERVICES, BET WILL USE THAT DEGREE OF CARE AND SKILL ORDINARILY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY MEMBERS OF ITS PROFESSION. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATIONS, EITHER EXPRESS OR IMPLIED. STATEMENTS MADE IN BET REPORTS ARE OPINIONS BASED UPON ENGINEERING JUDGMENT AND ARE NOT TO BE CONSTRUED AS REPRESENTATIONS OF FACT. SHOULD BET OR ANY OF ITS PROFESSIONAL EMPLOYEES BE FOUND NEGLIGENT IN PERFORMANCE OF ITS WORK, OR TO HAVE MADE AND BREACHED ANY EXPRESSED OR IMPLIED WARRANTY, REPRESENTATION OR CONTRACT, CLIENT, ALL PARTIES CLAMMING THROUGH CLIENT AND ALL PARTIES CLAMMING TO HAVE IN ANY WAY RELIED UPON BET'S WORK AGREE THAT THE MAXIMUM AGREEMENT AMOUNT OF THE LIABILITY OF BET, ITS OFFICERS, EMPLOYEES AND AGENTS SHALL BE LIMITED TO \$20,000 OR THE TOTAL AMOUNT OF THE FEE PAID TO BET FOR ITS WORK PERFORMED WITH RESPECT TO THE PROJECT, WHICHEVER AMOUNT IS GREATER. IN THE EVENT CLIENT IS UNWILLING TO LIMIT BET'S LIABILITY IN ACCORDANCE WITH THE PROVISION SET FORTH IN THIS PARAGRAPH, CLIENT MAY, UPON WRITTEN REQUEST OF CLIENT RECEIVED WITHIN FIVE (5) DAYS OF CLIENT'S ACCEPTANCE HEREOF, INCREASE THE LIMIT OF BET'S LIABILITY TO \$100,000.00 OR THE AMOUNT OF BET'S FEE, WHICHEVER IS THE GREATER, BY AGREEING TO PAY BET A SUM EQUIVALENT TO AN ADDITIONAL AMOUNT OF 15% OF THE TOTAL FEE TO BE CHARGED FOR BET'S SERVICES. THIS CHANGE IS NOT TO BE CONSTRUED AS BEING A CHARGE FOR INSURANCE OF ANY TYPE, BUT IS INCREASED CONSIDERATION FOR THE GREATER LIABILITY INVOLVED.
10. **INDEMNITY:** Subject to the forgoing limitations, BET agrees to indemnify and hold client harmless from and against any and all claims, suits, costs and expenses including reasonable attorneys' fee and court costs arising out of BET's negligence to the extent of BET's negligence. The client shall provide the same protection to the extent of its negligence. In the event that client or client's principal shall bring any suit, cause of action, claim or counterclaim against BET, the party initiating such action shall pay to BET the cost and expenses incurred by BET to investigate, answer and defend it, including reasonable attorneys' and witness fees and court costs to the extent that BET shall prevail in such suit.
11. **TERMINATION:** This agreement may be terminated by either party upon seven days' prior written notice, BET shall be compensated by client for all services performed up to and including the termination date, including reimbursable expenses, and for the completion of such services and records as are necessary to place BET's files in order and/or protect its professional reputation.
12. **WITNESS FEES:** BET's employees shall not be retained as expert witnesses except by separate, written agreement. The client agrees to pay BET's legal expenses, administrative costs and fees pursuant to BET's then current fee schedule for BET to respond to any subpoena.
13. **HAZARDOUS MATERIALS:** Nothing contained within this agreement shall be construed or interpreted as requiring BET to assume the status of an owner, operator, scorer, generator, transporter, treater or disposal facility as those terms appear within RCRA or within any Federal or State statute or regulation governing the generation, transportation, treatment, storage and disposal of pollutants. Client assumes full responsibility for compliance with the provisions of RCRA and any other Federal or State statute or regulation governing the hauling, treatment, storage and disposal of pollutants.
14. **PROVISIONS SEVERABLE:** In the event any of the provisions of these General conditions should be found unenforceable, it shall be stricken and the remaining provisions shall be enforceable.
15. **ENTIRE AGREEMENT:** This agreement constitutes the entire understanding of the parties, and there are no representations, warranties or undertakings made other than as set forth herein. This agreement may be amended, modified or terminated only in writing, signed by each of the parties hereto.



Estimated Pond Area ~20 feet

LID SEQUOYAH TRAILS POND RETROFIT, FOR CITY OF NORMAN
ON SEQUOYAH TRAIL AND WILDWOOD LN
NORMAN, OKLAHOMA 73071

BORING LOCATION DIAGRAM
BET PROPOSAL NO.: 731-26184

**BURGESS ENGINEERING
AND TESTING**