



PROFESSIONAL SERVICES AGREEMENT

AMENDMENT #1

City of Shawnee

FNI Project:

SWN24427

222 N. Broadway Ave

Client Contract:

Shawnee, Oklahoma 74081

Date:

4/30/2025

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Project Name:	Shawnee Twin Lake Dam #1 Rehabilitation
Description of Services:	Design, Environmental Permitting, Bidding Assistance and Construction Phase Services per attached Scope of Services and Fee (Attachment SC)
Deliverables:	See attached Scope of Services and Fee (Attachment SC)
Schedule:	See attached Scope of Services and Fee (Attachment SC)
Compensation Type:	Lump Sum Fee
Current Contract Amount:	\$262,000
Amount of this Amendment:	\$329,700
Revised Total Amount Authorized:	\$591,700

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*The services described above shall proceed as amended upon execution of this Amendment. All other provisions, terms, and conditions of the Professional Services Agreement which are not expressly amended shall remain in full force and effect.*

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City of Shawnee, Oklahoma

FREESE AND NICHOLS, INC.

By: 

By: 

Name: Mark Simpson

Name: Victor M. Vasquez

Title: Interim City Manager

Title: Principal

Date: May 22, 2025

Date: 04-29-2025

## SCOPE OF SERVICES AND FEE

### PROJECT UNDERSTANDING

Shawnee Twin Lakes #1 and #2 serve as the primary public water supply source to the City of Shawnee (City) and the surrounding area. The scope of this project covers Amendment #1 to the original contract and includes dam breach modeling and inundation mapping, as well as dam safety engineering professional services on Shawnee Twin Lake Dam #1 to address degraded riprap on the upstream slope and in the spillway, and clearing and grubbing of vegetation on the lower slope and toe of the dam. The riprap project will include repaving the road across the dam and replacement of the upstream guardrail.

Engineering services will yield two separate design packages, riprap and clearing and grubbing. Bid and construction phase services are only included for the clearing and grubbing project. Those services may be added for the riprap project by a future amendment. Environmental permitting services will be completed covering both projects combined, but additional permitting efforts may be required depending on the funding source for the construction of the riprap project.

### ARTICLE I

**BASIC SERVICES:** FNI shall provide professional services in this phase as follows:

- A. BREACH MODELING/INUNDATION MAPPING: FNI shall provide professional services for this task as follows:
1. Gather necessary data for hydraulic model inputs, including topography data from available LiDAR and dimensions of road crossings downstream from each dam from field gathered data.
  2. Develop dam breach model in HEC-RAS using two-dimensional unsteady flow capabilities to evaluate following scenarios – normal pool (Sunny Day) breach, Design Flood (1/2 PMP) with and without breach, and Barely Overtopping with and without breach (capacity). Model will be defined based on gathered topography data, and results from the Hydrologic Assessment in the Preliminary Engineering Report will provide inflow hydrographs for the model. Downstream model extents will be defined based on breach attenuation down to less than one foot incrementally between breach and barely overtopping breach scenarios. Based on initial empirical estimates, the breach inundation length is likely not to exceed 20 miles downstream of the dam.
  3. Based on results from the dam breach model, evaluate the downstream hazard classification according to OWRB Dam Safety criteria. According to the Dam Inventory of Oklahoma, the dam is currently classified as high hazard.
  4. Prepare breach inundation maps of the final breach scenarios including maps for depth and depth x velocity. The inundation extents will be delineated based on the available topography data, and the maps will use aerial imagery as the background with appropriate basemap layers and labels.
  5. Furnish one (1) digital copy of a draft technical report (PDF format) documenting the processes, assumptions, and findings of the Dam Breach Analysis. Upon receipt of comments, incorporate the comments and furnish up to five (5) hard copies of the final report to City.

6. For documents submitted for OWRB Dam Safety review, comments will be addressed, and documents finalized within one month of receipt of comments. If regulatory review extends beyond the estimated 6-month timeframe, additional time may be required for addressing comments due to project staff availability. In this case, an updated plan and schedule will be communicated to the City upon receipt of regulatory comments.

B. DESIGN PHASE: FNI shall provide professional services as follows:

1. Project Management

- Establish schedule, coordinate information between FNI and City, and other efforts in support of this project.
- Coordinate Quality Control (QC)/Quality Assurance (QA) by Senior Management and Technical Staff consistent with FNI's established internal quality review processes. Note that an internal constructability review will be performed by FNI's Construction Services group as part of the quality control process.
- Coordinate and facilitate project meetings through the design phase as follows:
  - Kick-off meeting (teleconference)
  - Periodic progress meetings as needed (teleconference)
  - 90% design review meeting (in person)
  - 100% design review meetings, with City (teleconference)

2. Prepare drawings, specifications, Construction Contract Documents, designs, and layouts of improvements to be constructed.
3. Submit drawings, specifications, and Construction Contract Documents to OWRB Dam Safety for approval.
4. Furnish such information necessary to utility companies whose facilities may be affected or services may be required for the Project.
5. Prepare revised opinion of probable construction cost.
6. Prepare bidder's proposal forms (project quantities) of the improvements to be constructed.
7. Provide design submittals at **90% and 100%** design. Two separate packages will be developed; one for the riprap repair project and one for the clearing and grubbing project.
8. Furnish City three (3) sets of printed copies and one (1) electronic copy (.pdf format) of drawings, specifications, and bid proposals marked "Preliminary" for approval by City, for each design submittal as described above. Upon final approval by City, FNI will provide City one (1) set of reproducible "Final" drawings and one (1) loose set of specifications for reproduction by City.

C. ENVIRONMENTAL PERMITTING PHASE: For this scope of services, it is assumed the proposed dam rehabilitation project will require Section 404 permit authorization from the United States Army Corps of Engineers (USACE), as the action will involve the discharge of dredged or fill material into assumed waters of the U.S. It is also assumed that the proposed project can be designed and constructed to meet the terms and conditions of a Nationwide Permit with a requirement to submit an Aquatic Resources Delineation Report and Pre-Construction Notification (PCN) to the Tulsa District USACE. If a Section 404 Individual Permit (IP), a compensatory mitigation plan, or Formal Section 7

Consultation under the Endangered Species Act are determined by the USACE to be required for the project, those environmental services can be prepared as additional services. The following environmental services are proposed for the proposed project.

1. **Furnish Gather and Review Existing Information and Conduct Site Visit:** Prior to conducting a pedestrian survey within the proposed project area, FNI will assemble and review data such as aerial photographs, USGS topographic maps, National Wetlands Inventory (NWI) maps, the USGS National Hydrography Dataset (NHD), and soils data within the proposed project area. FNI will then conduct a site visit to make observations within the proposed project area to document existing environmental conditions and assess potential project impacts. The presence and locations of waters of the U.S., including wetlands, potential threatened/endangered species habitat, and vegetation cover types will be identified within the project area.
2. **Aquatic Resources Delineation Report:** FNI will prepare an Aquatic Resources Delineation Report in accordance with USACE guidance to document potential waters of the U.S., including wetlands. The Report will include data forms and maps.
3. **Prepare PCN:** FNI will prepare a Pre-Construction Notification (PCN) in accordance with requirements of NWP General Condition 32. FNI's understanding is the intent of the proposed project is to meet the terms of NWP 3, Maintenance, although design criteria could necessitate a different Section 404 permitting strategy. A draft PCN for NWPs will be prepared for the City's review and comment. The PCN will include the USACE's NWP application, Aquatic Resources Delineation Report, and required supporting documentation and engineering drawings depicting the proposed impacts to waters of the U.S. The final PCN will be prepared by incorporating the City's comments and will be submitted to the USACE Tulsa District.

The lead federal agency (assumed to be the USACE) will perform preliminary evaluation services required under Section 106 of the National Historic Preservation Act (NHPA) to evaluate potential archeological/cultural resources associated with the proposed project. It is assumed that a cultural resources survey for the proposed project will not be required due to previous disturbances related to prior construction activities, but the federal agencies have sole discretion of making Section 106 determinations. If it is determined that a cultural resources survey is required, that can be provided as an additional service. Additionally, it is assumed that an endangered species presence/absence survey for the proposed project will not be required. If it is determined that an endangered species presence/absence survey is required, that can be provided as an additional service.

In general, the USACE will evaluate existing Nationwide Permits (NWPs) every five years from their effective date and either propose to modify, revoke, or reissue those NWPs. The current version of NWP 3 is set to expire on March 14, 2026. If authorization for the proposed project is received from the USACE prior to the expiration date under the current version of NWP 3, the authorized activities must have commenced (i.e., are under construction), or be under contract to commence, in order to remain authorized provided that construction activities are completed within 12 months from the expiration date. If these conditions cannot be satisfied, the proposed project would likely need to be reverified for coverage under the modified or reissued version of NWP 3 to determine if the proposed activities are still authorized. If the proposed project requires reverification from the USACE, that can be provided as an additional service.

D. **BID PHASE (CLEARING AND GRUBBING PROJECT ONLY):** Upon completion of the design services and approval of "Final" drawings and specifications by City, FNI shall provide professional services in this phase as follows:

1. Assist City in securing bids. Issue a Notice to Bidders to prospective contractors and vendors listed in FNI's database of prospective bidders, and to selected plan rooms. Provide a copy of the notice to bidders for City to use in notifying construction news publications and publishing appropriate legal notice. The cost for publications shall be paid by City.
2. Print Bid Documents and distribute them to selected virtual plan rooms.
3. Assist City by responding to questions and interpreting bid documents. Prepare and issue addenda to the bid documents to plan holders if necessary.
4. At City request, FNI will assist City in the opening, tabulating, and analyzing the bids received. Review the qualification information provided by the apparent low bidder to determine if, based on the information available, they appear to be qualified to construct the project. Recommend award of contracts or other actions as appropriate to be taken by City.
5. Assist the City in conducting a pre-bid conference for the construction projects and coordinate responses with City. Response to the pre-bid conference will be in the form of addenda issued after the conference. Attend the tour of the project site after the pre-bid conference.
6. Assist City in the preparation of Construction Contract Documents for construction contract. FNI will provide electronic versions of the Construction Contract Documents to the construction contractor and City as necessary. Hard copies can be provided on request.
7. Furnish contractor copies of the drawings and specifications for construction pursuant to the General Conditions of the Construction Contract.

D. **CONSTRUCTION PHASE SERVICES (CLEARING AND GRUBBING PROJECT ONLY):** Upon completion of the bid phase services, FNI will proceed with the performance of construction phase general representation and resident project representative (RPR) services as described below.

In performing these services, it is understood that FNI does not guarantee the Contractor's performance, nor is FNI responsible for the supervision of the Contractor's operation and employees. FNI shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, or any safety precautions and programs relating in any way to the condition of the premises, the work of the Contractor or any Subcontractor. FNI shall not be responsible for the acts or omissions of any person (except its own employees or agents) at the Project site or otherwise performing any of the work of the Project.

These services are based on the use of FNI's standard General Conditions for construction projects. Modifications to these services required by use of other general conditions or contract administration procedures are an additional service. If General Conditions other than FNI's standard are used, the City agrees to include provisions in the General Conditions that require Contractor to include FNI: (1) as an additional insured and in any waiver of subrogation rights with respect to such liability insurance purchased and maintained by Contractor for the Project (except workers' compensation and

professional liability policies); and (2) as an indemnified party in the Contractor's indemnification provisions where the City is named as an indemnified party.

1. Assist City in conducting pre-construction conference(s) with the Contractor(s), review construction schedules prepared by the Contractor(s) pursuant to the requirements of the construction contract and prepare a proposed estimate of monthly cash requirements of the Project from information provided by the Construction Contractor.
2. Establish communication procedures with the City and contractor. Submit monthly reports of construction progress.
3. Establish and maintain a project documentation system consistent with the requirements of the construction contract documents. Monitor the processing of contractor's submittals and provide for filing and retrieval of project documentation. Review contractor's submittals, including, requests for information, modification requests, shop drawings, schedules, and other submittals in accordance with the requirements of the construction contract documents for the projects.
4. Determine the amount that FNI recommends Contractor be paid on monthly and final estimates, pursuant to the General Conditions of the Construction Contract.
5. FNI's Certifying Engineer shall make **3** visits to the construction site (as distinguished from the continuous services of a Resident Project Representative) to observe the progress and the quality of work and to attempt to determine in general if the work is proceeding in accordance with the Construction Contract Documents. FNI will report any observed defects or deficiencies in the work to City. Visits to the site in excess of the specified number are an Additional Service.
6. Notify the City of non-conforming work observed on site visits. Review quality related documents provided by the contractor such as test reports, equipment installation reports or other documentation required by the Construction contract documents.
7. Interpret the drawings and specifications for City and Contractor(s). Investigations, analyses, and studies requested by the Contractor(s) and approved by City, for substitutions of equipment and/or materials or deviations from the drawings and specifications is an additional service.
8. Establish procedures for administering changes to the construction contracts. Process contract modifications and negotiate with the contractor on behalf of the City to determine the cost and time impacts of these changes. Prepare change order documentation for approved changes for execution by the City. Documentation of field orders, where cost to City is not impacted, will also be prepared. Investigations, analyses, studies or design for substitutions of equipment or materials, corrections of defective or deficient work of the contractor or other deviations from the construction contract documents requested by the contractor and approved by the City are an additional service. Substitutions of materials or equipment or design modifications requested by the City are an additional service.
9. Prepare documentation for contract modifications required to implement modifications in the design of the project. Receive and evaluate notices of contractor claims and make recommendations to the City on the merit and value of the claim on the basis of information submitted by the contractor or available in project documentation. Attempt to negotiate a settlement value with the Contractor on behalf of the City if appropriate. Claims supported by causes not within the control of FNI would be an additional service.

10. Conduct, in company with City's representative, a final review of the Project for conformance with the design concept of the Project and general compliance with the Construction Contract Documents. Prepare a list of deficiencies to be corrected by the contractor before recommendation of final payment. Assist the City in obtaining legal releases, permits, warranties, spare parts, and keys from the contractor. Review and comment on the certificate of completion and the recommendation for final payment to the Contractor(s).
11. Revise the construction drawings in accordance with the information furnished by construction Contractor(s) reflecting changes in the Project made during construction. Furnish City three (3) sets of printed copies and one (1) electronic copy (.pdf format) of "Record Drawings."
12. Provide Representative Project Representation: FNI will provide a qualified inspector (Resident Project Representative) on the site throughout significant construction activities in accordance with Oklahoma Administrative Code 785:25-7-4. RPR is the Certifying Engineer's agent at the site, will act as directed by and under the supervision of the Certifying Engineer.
  - a. FNI has assumed 20 hours on-site per week for a construction duration of 2 months. The RPR will be experienced in the construction of earthen dams/heavy civil construction and will act as directed by the Certifying Engineer for the project to provide regular and more extensive representation at the Project site during the construction phase.
  - b. RPR's dealings in matters pertaining to the on-site work shall in general be with Certifying Engineer and Contractor, with regular reports to the City as necessary or requested. Resident Project Representative's communications with subcontractors shall only be through or with full knowledge and approval of Contractor.
  - c. Review of Work, Rejection of Defective Work, Inspections and Tests
    - i. Conduct on-site observations of the Work in progress to determine if the Work is proceeding in accordance with the Contract Documents.
    - ii. Report whenever RPR believes that any Work will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise of Work the RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
    - iii. Implement quality assurance testing plan developed by Certifying Engineer to monitor Contractor's quality control testing and products. Coordinate time and location of tests and survey. Communicate with Contractor the results of the tests as necessary.
    - iv. Verify that tests are conducted in the presence of appropriate personnel, and the Contractor maintains adequate records thereof; and observe, record, and report appropriate details relative to the test procedures and start-ups.
  - d. Reports:

- i. Furnish written daily reports of progress of the work and of Contractor's compliance with the progress schedule and schedule of Shop Drawings and Sample submittals.
  - ii. Consult with the City and Certifying Engineer in advance of scheduled major tests, inspections or start of important phases of the construction.
  - iii. Report, in writing, immediately to the City and Certifying Engineer of the occurrence of any accident.
- e. FNI's RPR shall not:
  - i. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless approved by the City.
  - ii. Exceed limitations of the City's and FNI's authority as set forth in this Agreement or the Contract Documents.
  - iii. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's superintendent.
  - iv. Advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
  - v. Advise the Contractor, issue directions regarding or assume control over safety precautions and programs in connection with the construction or any activities or operations of Contractor.
  - vi. Accept shop drawing or sample submittals from anyone other than the Contractor.
  - vii. Participate in specialized field or laboratory tests or inspections conducted by others, except as specifically authorized by the City and FNI.
  - viii. The RPR shall not have stop-work authority except for worker or public safety reasons.

## ARTICLE II

**SPECIAL SERVICES:** FNI shall render the following professional services, which are not included in the Basic Services described above, in connection with the development of the Project:

1. None

## ARTICLE III

**ADDITIONAL SERVICES:** Any services performed by FNI that are not included in the Basic Services or Special Services described above are Additional Services. Additional Services to be performed by FNI, if authorized by City, are described as follows:

1. Section 106 Cultural Resources field studies. Basic services for Environmental Permitting assume that desktop studies only will be required based on experience with USACE Tulsa District on similar projects.



2. Additional environmental permitting services for riprap project depending on source funding requirements and timing of that project. The PCN obtained in Basic Services may expire before the project proceeds to construction and in that case USACE may require a new PCN or updated information.

#### ARTICLE IV

**TIME OF COMPLETION:** FNI is authorized to commence work on the Project upon execution of this Agreement and agrees to complete the services in accordance with Table 1.

**Table 1. Project Schedule**

Dam Breach Inundation Mapping	Within 180 days of NTP
Clearing and Grubbing 90% Submittal	Within 90 days of NTP
Clearing and Grubbing 100% Submittal	Within 30 days of review comment resolution by City of Shawnee.
Riprap Replacement 90% Submittal	Within 180 days of NTP
Riprap Replacement 100% Submittal	Within 30 days of review comment resolution by City of Shawnee

If FNI's services are delayed through no fault of FNI, FNI shall be entitled to adjust contract schedule consistent with the number of days of delay. These delays may include but are not limited to delays in City or regulatory reviews, delays on the flow of information to be provided to FNI, governmental approvals, etc. These delays may result in an adjustment to compensation as outlined on the face of this Agreement.

#### ARTICLE V

**FEES:** Proposed engineering services fees, including direct costs, for the tasks described in this scope of work are as shown in Table 2 for a fee not to exceed \$329,700.

**Table 2 – Design, Permitting, Bid, and Construction Phase Services Fees**

<b>TASK</b>	<b>DESCRIPTION</b>	<b>FEE <sup>(1)</sup></b>
<b>A</b>	Breach Modeling and Inundation Mapping	\$40,800
<b>B</b>	Design Phase	\$199,400
B.1	Riprap Replacement and Roadway Design and Specs	\$149,200
B.2	Downstream Clearing Design and Specs	\$50,200
<b>C</b>	Environmental Permitting	\$29,400
<b>D</b>	Bid Phase (Clearing and Grubbing Only)	\$10,800
<b>E</b>	Construction Phase (Clearing and Grubbing Only)	\$49,300 <sup>(2)</sup>
	<b>TOTAL LUMP SUM FEE</b>	<b>\$329,700</b>

Notes:

(1) Invoicing will be monthly on a percent complete basis according to the lump sum fee by major task above (i.e. Task A, Task B).

(2) Assumes construction duration of 2 months.

## ARTICLE VI

**DESIGNATED REPRESENTATIVES:** FNI and City designate the following representatives:

City's Designated Representative – Seth Barkhimer, PE  
Phone: (405) 878-2506  
Email: seth.barkhimer@shawneeok.org

FNI's Designated Representative – Colin Young, PE  
Phone: (539) 302-2634  
Email: colin.young@freese.com

FNI's Accounting Representative – Billy Metzger  
Phone: (512) 617-3177  
Email: billy.metzger@freese.com