LAKE JUNALUSKA Assembly, INC

Request for Proposals — Resilient Debris Boom Engineering

RFP

Lake Junaluska Assembly Inc

RFP Number	RFP-2025-LJA 003
Issue Date	5/8/2026
Proposal Due Date	6/22/2026 — 2:00 PM EST
Project Location	Lake Junaluska Assembly, Inc, Lake Junaluska, NC 28745
Owner / Issuing Authority	Lake Junaluska, NC
Project Manager	Junior Woody, 828-452-5911 Email: cwoody@lakejunaluska.com
Estimated Project Budget	$30,000.00
Anticipated Contract Type	Fixed price
Site Visit	Mandatory: Must be scheduled with the project manager. Meet at the specified location.

1. Introduction & Project Background

The Lake Junaluska Assembly, Inc., a Not-for Profit Corporation Located at Lake Junaluska, North Carolina (hereinafter "Owner"), invites qualified general contractors and engineering firms to submit proposals for the design, analysis, and engineering of two debris boom systems at the Richland Creek entrance to Lake Junaluska.

The main purpose of the boom is to gather large debris during major rain events, such as hurricanes or their remnants. During these storms, stream flows increase, carrying debris like tree trunks, 100-gallon propane tanks, tires, and building materials. The main goal of the boom is to prevent storm debris from partially blocking the spillway of the Junaluska Dam. Spillway blockage may result from extreme weather conditions, causing damage to the Dam.

The primary function of the ancillary or upstream room is to collect debris from normal stream flows so it can be removed from the right-hand bank of the inlet area. The upstream boom collects small debris under normal conditions, including tree limbs, logs, and common litter such as bottles. In extreme weather events, the water flow will overwhelm this boom; therefore, a designed weak point will allow the right end of the boom to disconnect from the anchor via an engineered “weak link” to protect the anchor systems.

This project involves performing the necessary engineering analysis and calculations to determine the load on the anchors for the two booms, based on the provided design conditions. Appropriate safety factors should be applied to detail the design of the concrete block-type anchoring system. Land surveying to identify the exact locations should be included in the proposal. The deliverables from this will include a detailed bill of materials and the required drawings for each of the two booms. Specifications for the concrete block anchors, including detailed drawings for reinforcement steel, should also be provided. Any additional subcontracts needed to achieve these results should be detailed in the proposal.

The funding for this project comes from two grants: one from the state of North Carolina, and a second from Haywood County. This project is the first stage of this fully funded project. This project is subject to NCGS §143C-6-23.

Figures 1 and 2 show the location and preliminary design configurations.

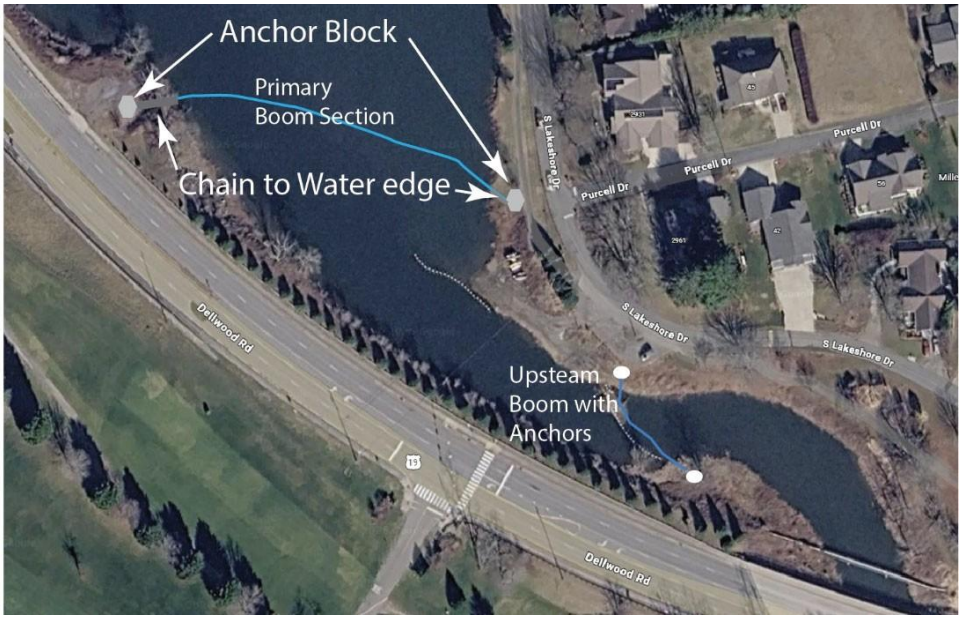


Figure 1. Location of booms at the Richland Creek entrance to Lake Junaluska. The primary boom is anchored at each end with a concrete anchor block. And the upstream or auxiliary book is anchored on each end by a pile or concrete block. The highway shown is NC 19, also known as Dellwood Road.

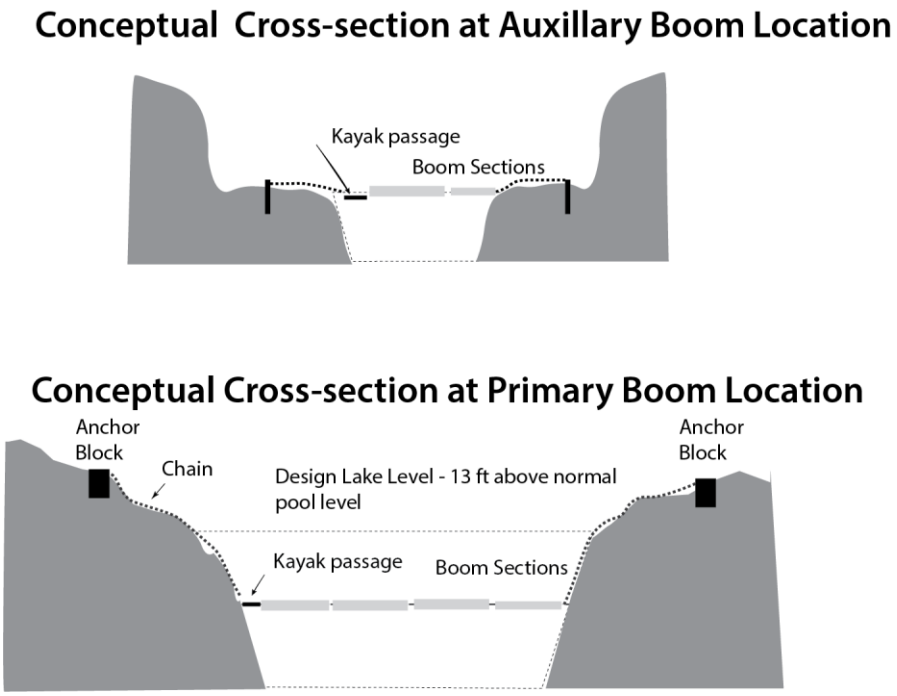


Figure 2: Cross sections in a conceptual view showing the key components of the two booms.

2. Project Scope of Work

2.1 Overview

Number	Description	Activity	Deliverable
1.0	Design analysis by a Professional Engineer	Evaluate concept design, engineering force loadings on anchors and boom for the primary and new upstream boom. Lany surveying to locate the position of the anchors. This may include borings or other field work to verify soil and rock conditions.	Design loadings for anchors with positions, with a specification for anchors and PE-stamped drawings. Detail the order-ready bill of materials for boom sections, chains, and other materials. Prepare materials for informing necessary agencies – LJA will be responsible for communication and interaction with the North Carolina Dept of Natural Resources and USACE. Prepare contract-ready documents. Obtain quotations for the final design from the boom supplier.
2.0	Not included in this RFQ— Ordering Boom materials	LJA will order materials directly according to the bill of materials provided	Purchase order and lead time to arrival
3.0	Not included in this RFQ- Anchor installation	Install concrete block anchors or alternatives as specified .	Construction is complete, and as-built drawings have been delivered.
4.0	Not included in this RFQ- Boom installation	Offload booms delivered and install sections	Booms installed and site clean-up.

The primary boom is expected to include sections with a polymer wall, foam fill, and end caps with a connection between boom sections. The sections are yellow, approximately 24 inches in diameter and 39 ft long. The connections between sections allow movement but have a bib to prevent debris from penetrating between sections.
The anchor point may be of several designs; the anticipated design is a dead man block or a metal pile. The anchor point and connecting chain are designed to handle the load caused by dynamic forces acting on the elements.

The kayak passage allows personal watercraft to pass around the debris boom on the left side, which is very close to shore. This minimizes bypass of debris. The detailed design is to be approved and mutually agreed upon. This is expected to be hot-dipped galvanized steel members approximately 48 inches wide and will have sufficient rigidity to retain the boom connection to the anchor blocks and chain. The watercraft is presumed to have passed over a 16-inch form the water surface.

The ends above the normal water line are connected to the anchors with a heavy chain. The anticipated anchors are either concrete blocks or metal piling anchors.

Boom float Specifications

- **Material:** ASTM D3350 HDPE (PE44544 C/E)
- **Wall Thickness:** 32 mm
- **Diameter:** 24 inches
- **Internals:** Solid core closed cell polymeric foam fill
- **Length:** 39 ft
- **Color:** Yellow per FS13655
- **Connection:** Flanged ends (flange to flange or flange to end plate) with chain inter-connections
- **Durability:** Expected lifetime 50 years

Such as Worthington Waterway Barriers, OmniBoom™,(www.tuffboom.com), or equivalent

The firm in this section refers to the firm submitting a proposal.

2.1.1. Boom design analysis, specifications, and Anchor Design

Generate a layout drawing based on a land survey of the suggested locations and elevations of the proposed anchor points for each of the two booms. Consolidate the information on the flows and design requirements, along with the bottom profile, as the basis for further analysis. Submit for approval.

Design Basis:

The main debris boom is designed to handle the lake's design flow of 43,000 CFS. This extreme condition will raise the lake level by approximately 10 to 15 feet above the normal pool level of 2556 ft. The secondary upstream debris boom is designed for a once-in-a-decade event (annual exceedance probability, or AEP, of 0.1) with a flow of 5500 CFS and an increase in lake level of less than 3 feet above normal pool level.

The cross-section for flow analysis is shown in Figure 3. Because this is expected to vary over time, this will be the basis for design in terms of flow area and lake level.

The modeling to identify these flows was conducted by a Professional Engineer using the latest USACE watershed modeling tools.

Figure 3: flow area cross-sections

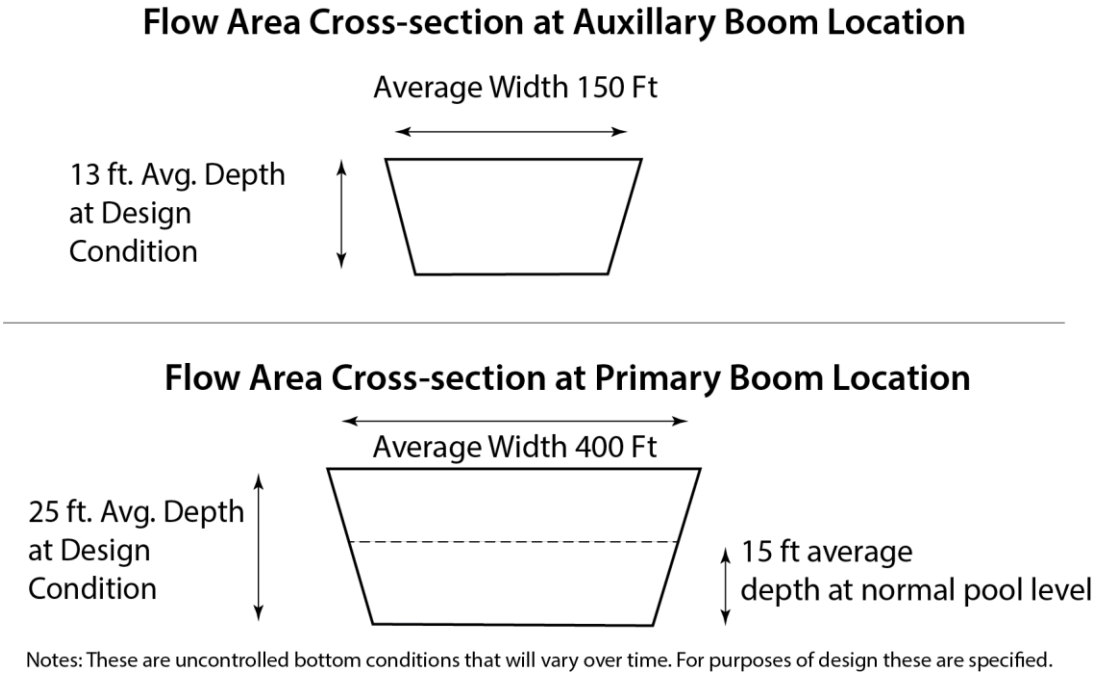
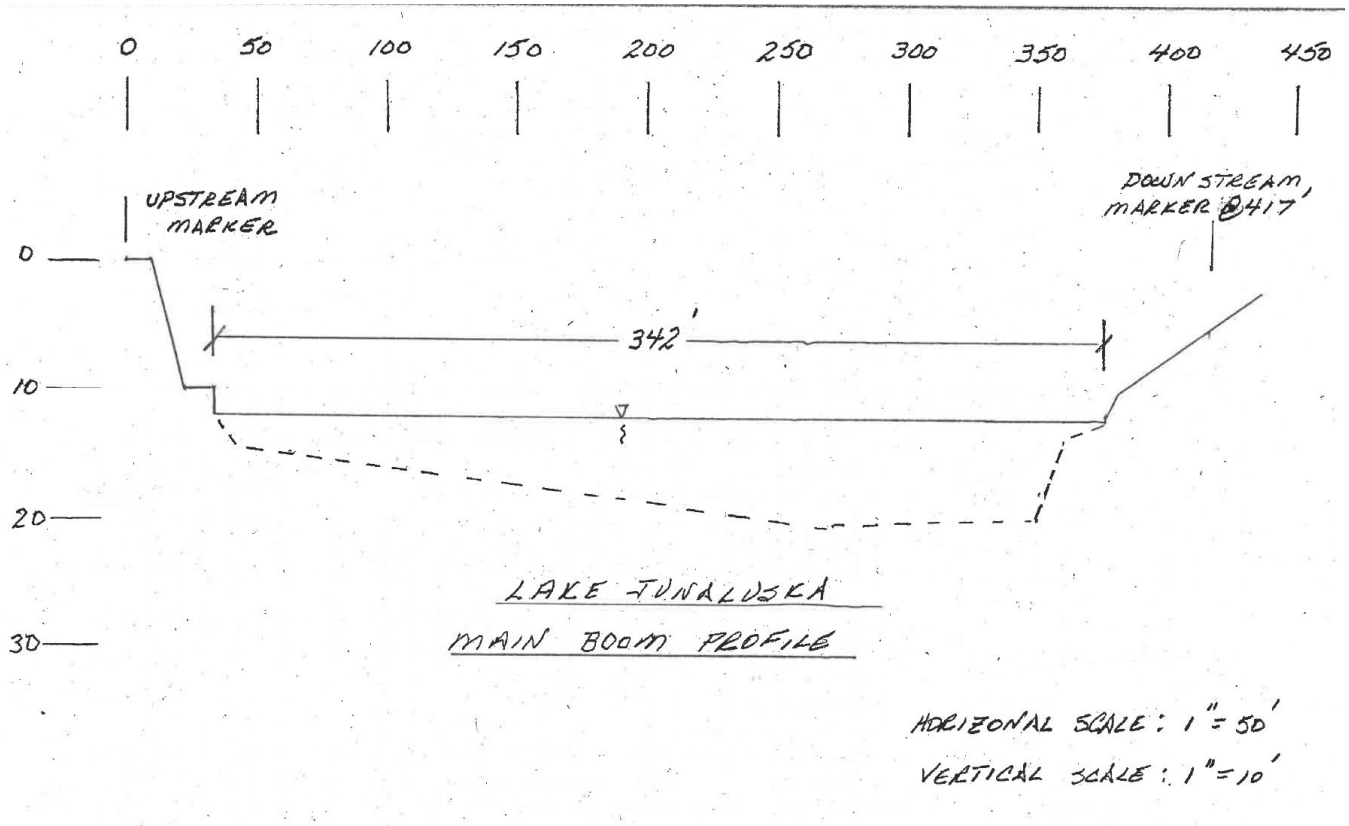
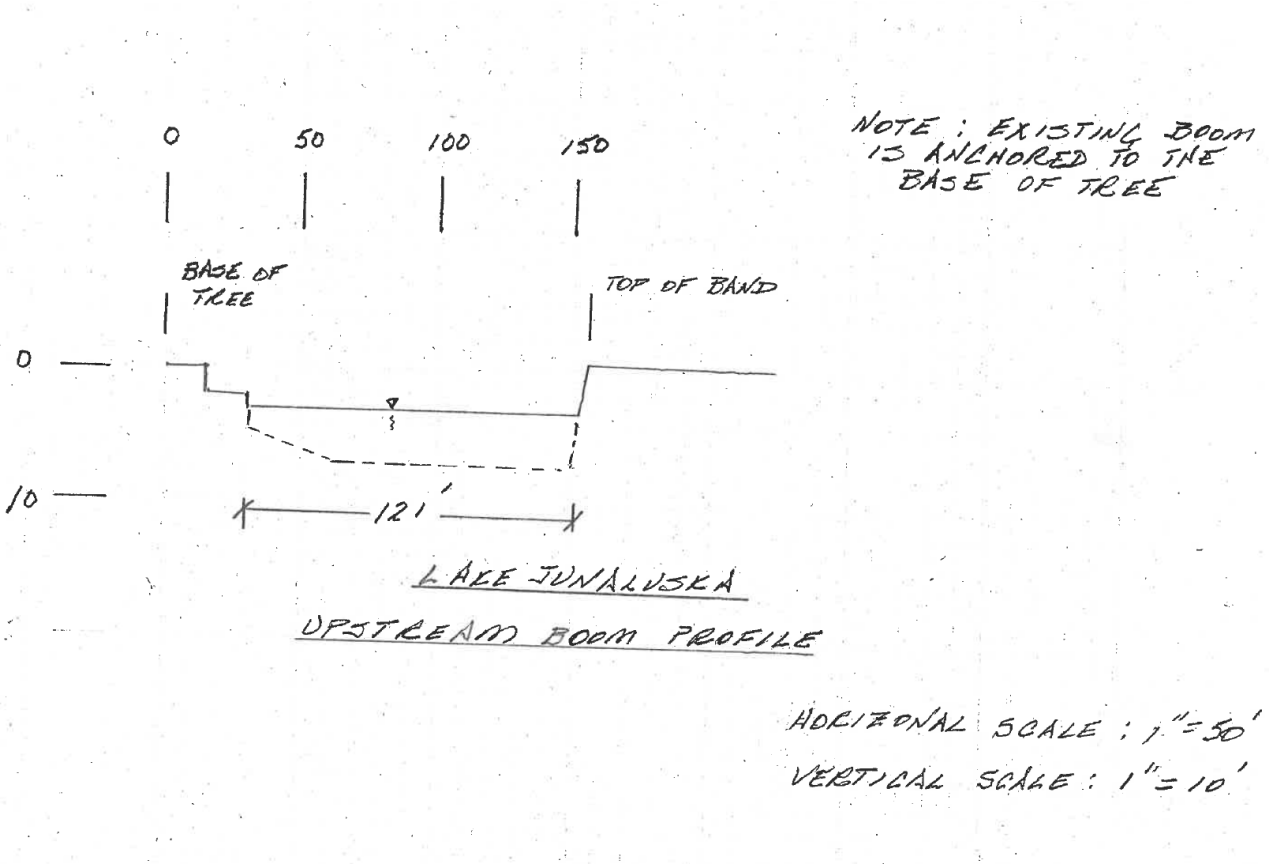


Figure 3 A and B. Cross sections showing normal pool level, width, and approximate current bottom profile.





Analysis of our proposed system includes determining static and dynamic loads, anchor loads, and other critical factors to inform anchor design. This ensures an appropriate engineering safety factor for each load on the anchors. Provide engineering B-size drawings of anchors and the final system layout. The auxiliary or upstream boom system will have an engineered weak link.

Grade of Chain: NACM (National Association of Chain Manufacturers & ASTM (American Society for Testing and Materials) classify chains in various grades. The higher the grade, the higher the working load limit for the same size of chain. Hot-dipped galvanized is required.

If the design calculations indicate a substantial change, approval by LJ is required before finalizing the design. Summarize load calculations, anchorage design, and system load capability checks so that, during construction or installation, any required modifications can be readily analyzed.

The ascetics of the concrete mounting blocks must be considered to ensure the blocks are not only functional but also have exposed portions above ground minimized and aesthetically pleasing. (not an eyesore)
Generate a specification document for the anchor system, ready for contractor bidding and construction.

This work should be done under the authority and supervision of a licensed professional engineer with Anchorage design. The drawings and specifications are to be approved and stamped by this professional engineer licensed in the state of North Carolina.

Provide a final bill of materials and specifications for the boom and the necessary components, fasteners, and chain to complete the installation.

Provide a cost estimate for preparing as-built drawings upon project completion as a separate line item.

Figure 4. Example on anchor block under construction. Backfill would be expected to minimize the aesthetic distraction of the concrete block.

2.1.2 Cost estimates for completion of the project

The Firm shall prepare an opinion on probable construction costs based on the recommended scope of work, anticipated construction methods, and available pricing information. The cost estimate shall be developed to a level of detail appropriate to the design phase and shall identify major cost components, assumptions, allowances, and contingencies. Each estimate shall be presented in a clear format suitable for the Owner's budgeting, funding, and project planning purposes.

The selected engineering firm shall provide complete professional services for all phases of the project.

- Technical specifications conforming to CSI MasterFormat

The following are NOT included in the proposal

- Construction administration, inspection, and materials testing oversight
- As-built documentation and record drawings

2.2 Project Deliverables

The project is structured in the following sequential deliverable phases.

1. Anchor system design, including design methods, loadings, safety factors, and calculations
2. Land survey to specify the locations, elevations of anchors, and a necessary description of subsurface conditions.
3. Design detail for anchors and specifications for construction suitable for a bid package
4. Drawings of the system described in deliverables
5. Complete bill of materials for booms with quotations suitable for ordering.
6. Cost estimate for project construction, purchase of booms, and installation.
7. Detailed listing of subcontractors suitable for audit under NCGS §143C-6-23

The proposal should include a phase timeline using the description below for each item outlined in section 2.1. All activities must be complete by 3/31/2027.

2.3 Drawing Requirements

All engineering drawings shall be prepared in AutoCAD Civil 3D (or approved equivalent) and submitted in both DWG and PDF formats. At a minimum, the following drawing sheets are expected in the final construction document set:

- Cover Sheet — Project title block, location map, vicinity map, index of drawings, general notes
- Existing Conditions
- Overall Site Plan
- Structural Details (reinforcing, connections, anchor bolts)

All drawings shall carry a licensed NC Professional Engineer's stamp and signature. The title block shall include the owner's name, the project name, the drawing number, the revision history, the scale, and the date.

3.0 Technical Approach

Provide a brief narrative (3–5 pages) describing the firm's technical approach to the following:

- Quality control process for engineering documents

3.1 Schedule

Provide a preliminary schedule showing the anticipated duration for each deliverable phase from Notice to Proceed to submittal of Final Construction Documents.

4 Insurance & Licensing Confirmation

- Confirm the firm holds an active NC Certificate of Authorization to practice engineering
- Confirm the firm can provide Professional Liability (E&O) coverage of not less than $1,000,000
- Confirm the firm can provide General Liability coverage of not less than $1,000,000

5. Qualifications

With the submission, the qualifications of the Firm and Professional engineers must be complete. Experience with boom anchor design to ensure functionality and durability is expected.

6. Mandatory Site Visit

A mandatory pre-proposal site visit must be scheduled with the project manager. All prospective proposers must attend. Meeting point: APW office in Sleepy Hollow. The site visit will include to the proposed site for boom and anchors.. Background documents (prior inspection reports and, where available, as-built drawings) will be distributed during the site visit.

Proposers who do not attend the mandatory site visit will be disqualified from submitting a proposal. Questions arising from the site visit must be submitted in writing to Junior Woody cwoody@lakejunaluska.com no later than 6/8/2026.

7. Proposal Requirements

7.1 Technical Proposal

- Cover letter (1 page max) — firm name, principal contact, license number(s)
- RFP--Firm qualifications — minimum 5 years of engineering experience, list of similar projects
- RFP--Project team — resumes for key personnel, identify PE of record
- Technical approach — narrative describing approach to each deliverable phase
- Project schedule — Gantt chart or equivalent showing milestones for each deliverable
- References — minimum projects of similar scope

7.2 Fee Proposal

Fee proposals shall be submitted in a separate sealed envelope (or separate PDF) and shall include:

- Lump sum fee
- Hourly rate schedule for out-of-scope additional services
- Expense allowance (subconsultants, travel, printing, borings) is to be included in the proposal.

8. Evaluation Criteria

Proposals will be evaluated using the following weighted criteria:

Evaluation Criterion	Weight
Firm Qualifications & Relevant Boom Experience	25%
Key Personnel Experience (PE of Record, Project Manager)	20%
Technical Approach & Understanding of Scope	25%
Proposed Project Schedule	10%
Fee Proposal	20%
TOTAL	**100%**

9. Submittal Instructions

Submission Deadline: 6/22/2026, 2:00 PM Eastern Standard Time

Delivery Method: Electronic PDF submission to Junior Woody, 828-452-5911 Email: cwoody@lakejunaluska.com WITH a follow-up phone call or reply email

Late proposals will not be accepted. The Owner reserves the right to reject any or all proposals, to waive informalities, and to accept the proposal deemed most advantageous to the public interest.

10. Terms & Conditions

- This RFP does not obligate the Owner to award a contract.
- All proposal materials become the property of the Owner upon submission.
- Proposers shall bear all costs of proposal preparation.
- The selected firm must maintain Professional Liability, General Liability, and Workers' Compensation insurance per Owner requirements.
- The contract will be based on the Owner's standard Professional Services Agreement.
- The project is subject to NC General Statutes Chapter 143, Article 3D (Engineering Services Procurement).

11. Please use this format in the proposal submission related to qualifications:

CONTRACTOR QUALIFICATION STATEMENT

The proposal should include the following qualifications information.

Project: _____
Owner/Organization: _____
RFQ/RFP No.: _____
Date Submitted: _____

1. Contractor Information

Legal Company Name: _____
Address: _____

Primary Contact: _____
Title: _____
Phone: _____ **Email:** _____
Website: _____

2. Firm Profile

Type of Firm: ☐ Corporation ☐ LLC ☐ Partnership ☐ Sole Proprietor ☐ Other
Year Established: _____
Years in Business Under Current Name: _____
Number of Employees: _____
Office Location(s): _____

3. Scope Capabilities

Indicate your firm's capabilities relevant to this project:
☐ Engineering design
☐ Structural/mechanical/civil design
☐ Procurement/fabrication
☐ Construction management
☐ Field construction
☐ Equipment/hardware installation

Brief description of relevant capabilities:

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4. Relevant Project Experience

List up to three similar projects completed within the last five years.

Project 1: _____
Owner: _____ Contract Value: _____
Completion Date: _____
Scope: _____

Project 2: _____
Owner: _____ Contract Value: _____
Completion Date: _____
Scope: _____

Project 3: _____
Owner: _____ Contract Value: _____
Completion Date: _____
Scope: _____

5. Key Personnel

Project Manager: _____
Lead Engineer(s): _____
Construction Manager / Superintendent: _____
Installation Lead: _____

6. Licensing, Safety, and Insurance

Professional Licenses Held: _____
Contractor License No.(s): _____
Insurance Carrier: _____
Bonding Capacity: Single _____ Aggregate _____

7. References

Reference 1: _____ Phone/Email: _____
Reference 2: _____ Phone/Email: _____
Reference 3: _____ Phone/Email: _____

8. Certification

I certify that the information provided is true and complete to the best of my knowledge.

Authorized Signature: _____
Printed Name / Title: _____
Date: _____

Addenda, if issued, will be distributed to all registered plan holders and posted at [website/location].